Manual

N-TRACKING 22-4

-

NAVBLUE ACADEMY

2022

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1   Getting started

1.1   Getting started

1.1.1   Logging in and out of N-Tracking

1.1.1.1   Introduction

Logging in and out of N-Tracking

In this topic, you learn how to log in and out of the N-Tracking application.

We estimate that this will take 3 minutes to complete.

1.1.1.2   Detailed explanation
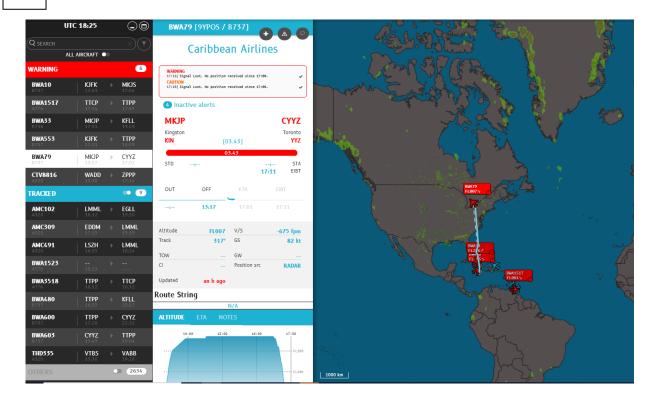
Welcome to N-Tracking

N-Tracking provides

- real-time aircraft tracking
- frequent flight position updates
- event alerting
- worldwide weather coverage and
- meets ICAO Recommendation 2018

It enables proactive management of Dispatch operations and features both Administrator and individual user views.

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Your first time logging in

N-Tracking is accessed on the Internet using a standard modern browser.

Use this URL:

https://ntracking.navblue.aero

During your N-Tracking implementation, NAVBLUE sets up user accounts, including an account for at least one Administrator. After that, your N-Tracking administrator will add other user records as needed. You will receive an automated email with your username and password when your account has been created.

If you don't have an account ask your airline N-Tracking administrator to create one for you.

Contact your administrator if a password reset does not work for you.

> ♀ Add the N-Tracking URL to your list of bookmarks in whichever browser you are using.

> ⓘ If you don't have your email address already recorded in N-Tracking, the lost password process will not work for you.

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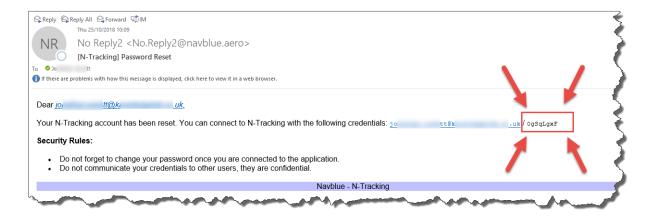
> If you have problems, please use the NAVBLUE N-Tracking support portal to contact our support desk. Use www.navblue.aero/support and then click the N-Tracking icon. If you don't already have access to these support portals then please contact your NAVBLUE implementation project manager or email support@navblue.aero

After you request a password reset, the new password will be emailed to you. The message will look something similar to the one below. Within the message body is your initial password.
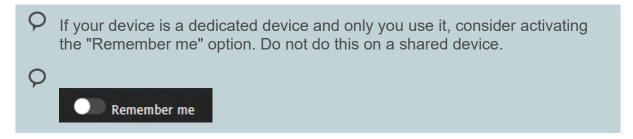
For instructions on resetting your password in N-Tracking, review the **Resetting your password** topic.

1 Click the **Sign in** button.

For the purposes of this demonstration, we have pre-filled the **Username** and **Password** fields for you.

> If your device is a dedicated device and only you use it, consider activating the "Remember me" option. Do not do this on a shared device.
>
>
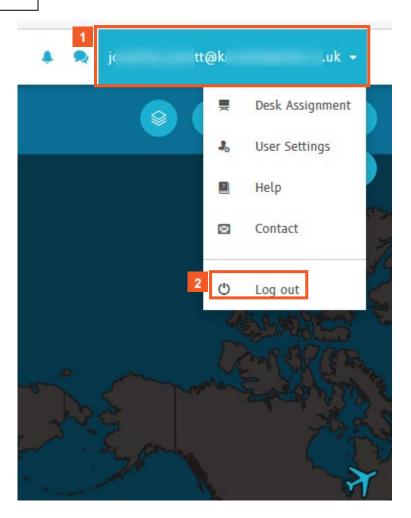
The Map screen is shown when you log in.

Your username is shown at the top right of the screen (in this example, jxxxxxxxxxxtt@kxxxxxxxx.uk).

If you have been granted administrator access rights there will also be a small box with the word "ADMIN" in it as shown below.

1 Click the **username** dropdown button.

2 Click the **Log out** menu item.

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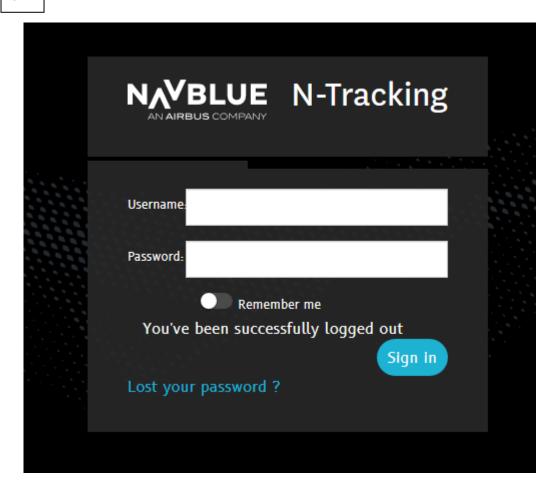
When you have successfully logged out, the Login screen displays again.

1.1.2   User interface orientation

1.1.2.1 Introduction

User interface orientation

In this topic, you learn about the main N-Tracking interface elements and how to navigate around the application to do your job.

We estimate that this will take 13 minutes to complete.

Getting to know the N-Tracking user interface (UI)

The N-Tracking user interface is designed to be intuitive and easy to use.
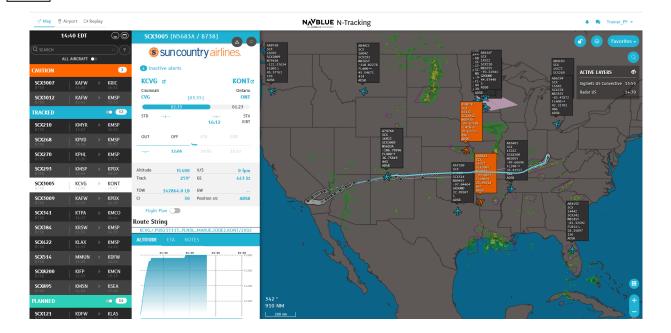
In this topic, you explore the following main interaction elements:

- **Tabs** - Navigate between screens and main functions.
- **Buttons, icons, and sliders** - Perform or enable actions or display menus of options.
- **Data tables and graphs** - View information relevant to your task. Clicking on cells in a table may also display more detailed information.

Let's review the main tabs and panes to gain familiarity with using different tools.

In other topics, you'll learn more about features and functionality.

1.1.2.2 Detailed Explanation

The map is your primary aircraft tracking tool.

You display different weather information on the map by adding "layers", which you'll learn about shortly.

You can also customize text labels that include aircraft information such as flight number, flight level, and other details.

You'll spend most of your time on the map. You can always tell which of the main N-Tracking screens you are on, because the corresponding tab for is underlined and highlighted in **blue**. In this example, you're on the **Map** tab, which shows the map, the Flight list, and other details.
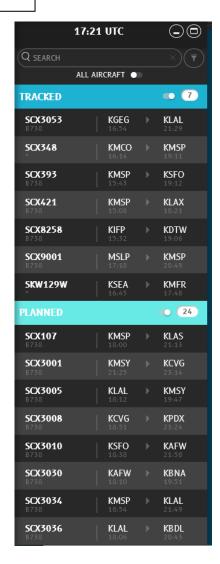
The areas masked in gray and red (such as Greenland, the Sinai, and area D33) represent "user defined areas" (UDAs). You learn more about them in the topic, *Draw airspaces to indicate areas where flight constraints apply*.

Access flight information using the **Flight list** or by clicking aircraft icons on the map.

Depending on your configuration, your map scale is in kilometers (km) or nautical miles (nm).

The map currently uses a 1,000 nm zoom level.

To "pan" around the map to focus on a different geographical area, click on the map and drag to the desired position.

Use the zoom controls (lower right) to zoom in (+) on the map, focusing on a smaller area or to zoom out (-) to see a larger one. You can also use your mouse scroll wheel to adjust the zoom level.

Zoom in far enough to focus on the United States.

1 Click the **Zoom in (+)** button.

Users who are also using N-Flight Planning (NFP) for desk assignment and have deployed desk assignment in N-Tracking also see a "Desk assignment" dropdown menu at the top of the map. Its initial setting displays all flights.

For detailed instructions on reviewing flight desk assignments, consult *Reviewing flight desk assignments (For N-FP users only)* in **Working with flights on the map**.

You can use the **Brightness** slider available in the **Layers** menu to change the contrast between the land and water areas on the map.

1 Click the **Layers** button.

1 Click and drag the **Brightness** slider to adjust the contrast between land and water.

For the next part of this orientation, zoom back out to a zoom of 500 nm.

1 Click the **Zoom out (-)** button.

You can identify aircraft on the map by their labels. In this example, the two aircraft use two different customized labels.

The small arrow at the bottom of the label points at the aircraft.

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Click the label for aircraft AB19DF on the map and see the result.

1 Click **the label for aircraft AB19DF**.

The label moves from being above (north), to the right (east) of the aircraft. In N-Tracking, this is described as manually re-positioning aircraft labels. You can continue to click the label to move it around an imaginary compass of north (above), east (to the right), and so on.
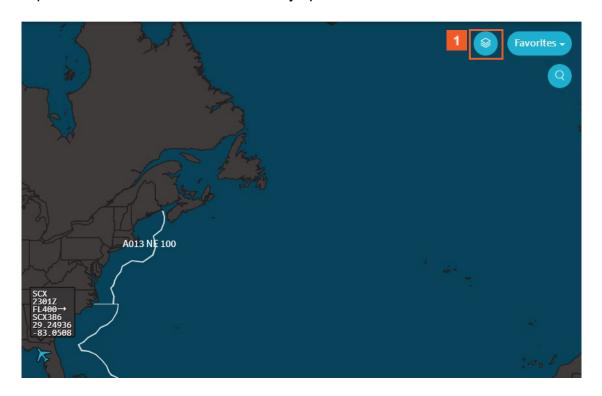
1 Click **the AB19DF aircraft label**.

The final re-positioning brings the label to the left, or west of the aircraft.

You have **manually** re-positioned the aircraft label.

A pointer on the side of the label always points at the associated aircraft.

1 Click the **Layers** button.

Access the **GENERAL** tab of the **Layers** menu to use the option that enables you to **automatically** re-position aircraft labels every 10 minutes.
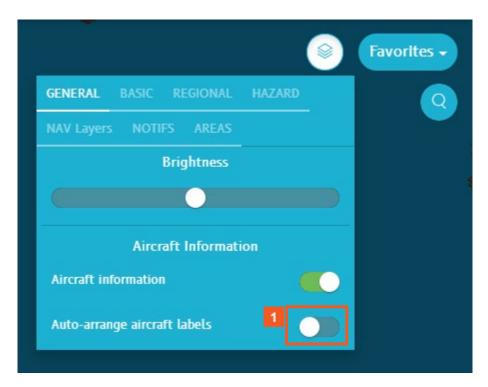
By default, the **Auto-arrange aircraft labels** is off.

Click the slider to activate this feature. In this example, you don't see the immediate effect.

In your operational environment, any overlapping aircraft labels re-position themselves every 10 minutes, resulting in a clearer display.

The labels also automatically re-position themselves when you zoom in or out using the zoom controls.

For more details on this operation, consult the topic, *Automatically re-arrange aircraft labels on the map* (in User Settings).

1 Click the **Auto-arrange aircraft labels** slider.

Next, let's look at the tools available to you in the **Palette**.

1 Click the **Palette** button.

Use the **Route list** icon to view a list of routes that you can analyze.

Use the **Drawing tool** to create and manage shapes known as User Defined Areas to identify restricted flight zones or other areas with special flight rules.

Use the **Measure tool** to measure distances on the map.

You learn how to use these tools in other topics. For now, let's explore the **Layers** menu at the top of the screen.
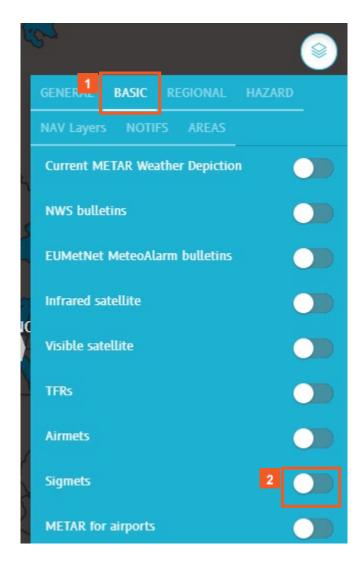
1 Click the **Layers** button.

Use the BASIC, REGIONAL, and HAZARD layers to add weather overlays to the map.

Use the NAV Layers to add information such as airport locations to the map.

For more information on all these layers, including NOTIFS and AREAS, consult the related topics in the *Adding information to the map* section.

1 Click the **BASIC** tab.
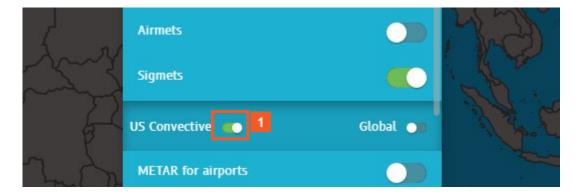
Use the sliders to enable basic weather options that are relevant to your flights.

For this example, explore Sigmets.
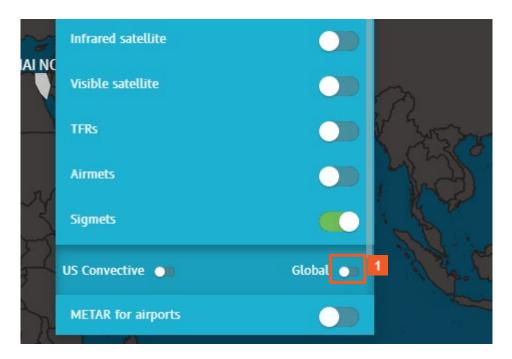
2 Click the **Sigmets** slider.

Within the **Sigmets** weather option, you can choose either US Convective or Global ones. In this example, **US Convective** is active. Click the slider to deactivate it momentarily.

1 Click the **US Convective** slider.

1 Click the **Global** slider.

Enable **global** SIGMETs instead.

N-Tracking displays colored shapes that represent SIGMETs around the globe.

For this example, disable the **Global** slider and enable the **US Convective** slider to see the difference in the display.
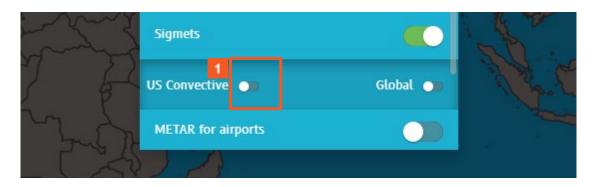
HINT

You learn more about weather SIGMETs in the *Display basic weather information (US only)* or (for non-U.S. users) *Display EUMetNet bulletins, infrared or visible satellite images and global SIGMETs* topics.

1 Click the **Global** slider.

1 Click the **US Convective** slider.
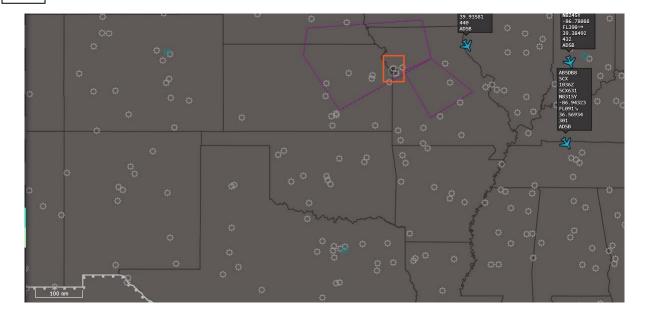
You can see the American Convective SIGMETs on the map at this zoom level but zoom in for better visibility.

1 Click **Zoom in (+)**.

At the 100 nm zoom level, you see white, round, gear- (or cog-) like icons that represent airports on the map.

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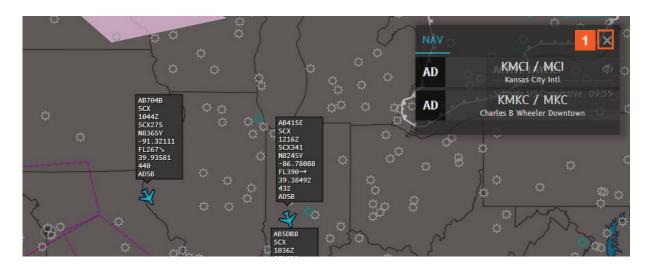
The outlines (a thick white line with blocks) for FIRs also display on the map.

For more detailed information on setting the zoom levels at which you want to enable various navigational layers, consult the topic, *Adjust default zoom levels for navigational layers* in the **User settings** section.

Hover your mouse over the two airports on the state border in the largest SIGMET area.

The NAV pane displays the airport codes and names of those airports. Close the pane when you're done with this information,

1 Click the **Close** button.

Hover your mouse over one of the purple outlines of the largest SIGMET (for this example, the upper top left side).

N-Tracking displays detailed SIGMET information directly on the map.

Access the SIGMETs layer again and disable it for now.
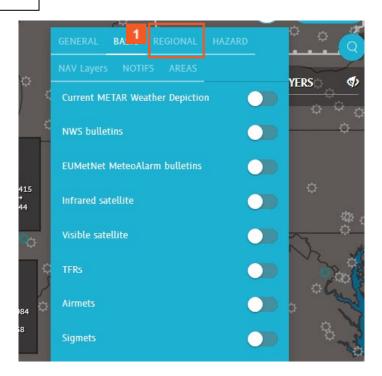
1 Click the **Layers** button.

Disable the display of all SIGMETs information by clicking the "global" **Sigmets** slider.

1 Click the **Sigmets** slider.

1 Click the **REGIONAL** tab.
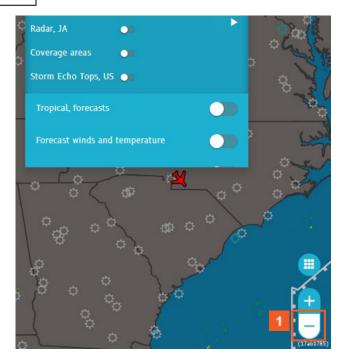
1 Click the **Radar, US** slider.
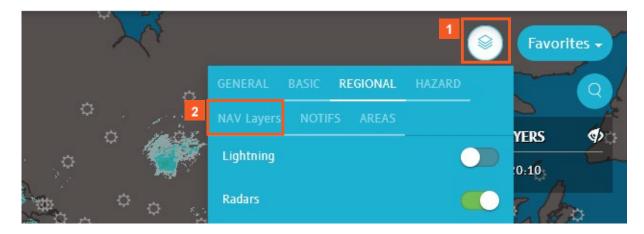
Zoom out again to 200 nm for better map visibility.

1 Click **Zoom out (-)**.
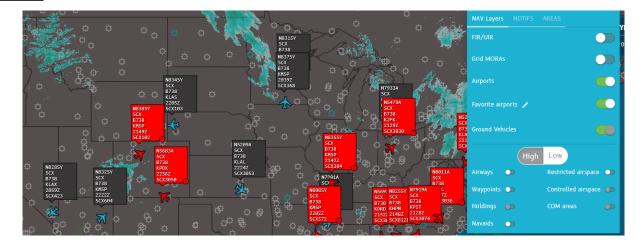
Next, explore the **NAV Layers** tab within the Layers menu.

1 Click the **Layers** button.

2 Click the **NAV Layers** tab.

In this example, at this zoom level, both Airports and Favorite airports are enabled. Airports are represented by the gray "gear" icon on the map and favorite airports, by the teal "gear" icon.
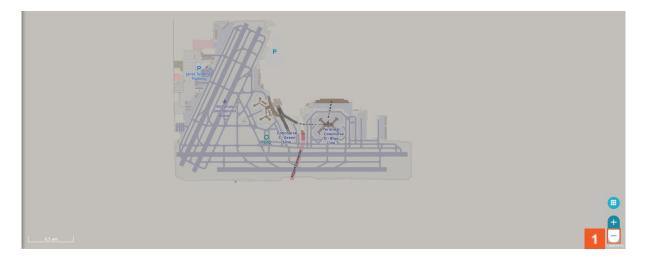
If you are a Surface Tracking user, you see another option on the **NAV Layers** tab -- **Ground Vehicles**.

By default, airport surface maps display on the main map at a zoom level of 2 nm or lower. You can use this slider to hide ground vehicles from displaying when you are zoomed in to that level.

The next image provides an example of that display.

At the 0.5 nm level, you can confirm that the airport runways are clear. Ground vehicles, when present, display in yellow.

For more information on this operation, consult the *Surface Tracking* topic.
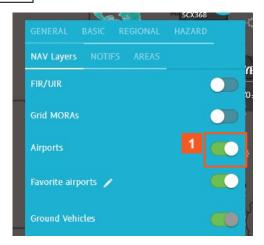
Zoom out again and continue your tour of the N-Tracking user interface.
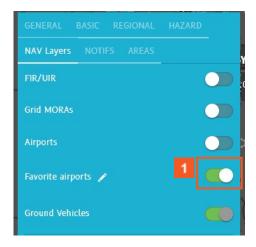
1 Click the **Zoom out (-)** button.

Zoomed back out on the main map (in this example, to the 100 nm level), you can now disable the Airports and Favorite airports sliders and continue to explore the N-Tracking user interface.

1 Click the **Airports** slider.
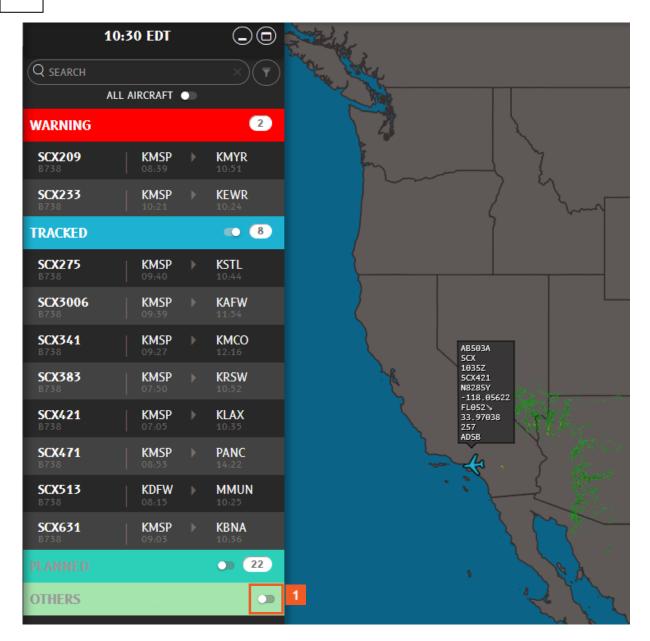
1 Click the **Favorite airports** slider.

Next, turn your attention to the Flight list on the left of the screen.

Your N-Tracking administrator configures the information, such as flight number, point of departure, and destination displaying for each tracked flight in the Flight list. You can display even more information on the Flight Details pane.

You may have guessed that the colors used for the aircraft icons that display on the map match the section headers of the Flight list.

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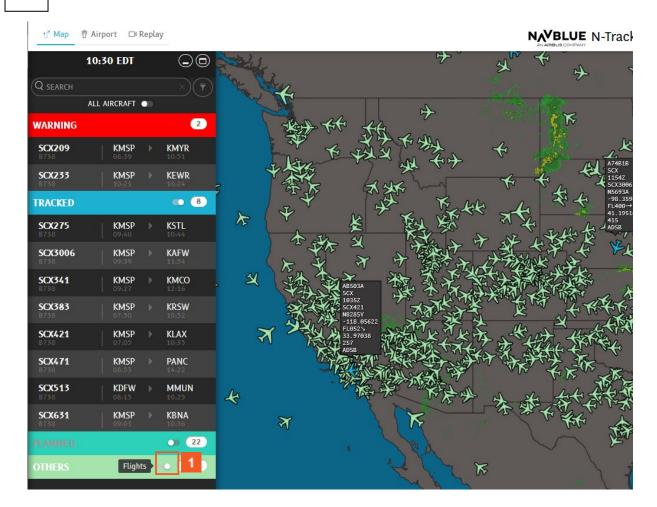
1 Click the **OTHERS** slider.

By default, the display of aircraft not in your fleet and not being tracked is off. To display those aircraft on the map, enable the slider for the **OTHERS** section.
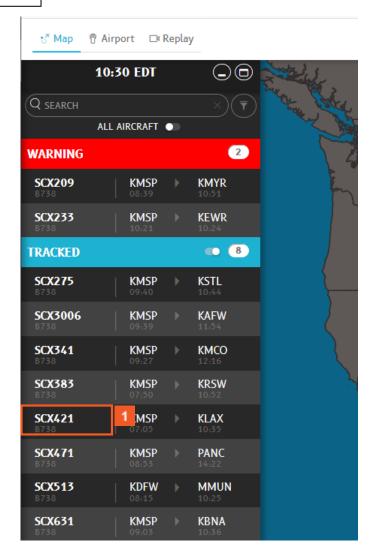
With the **Flights** slider enabled, N-Tracking also displays a count of the "OTHERS" flights. If you don't want to see these aircraft on the map, disable the slider.

The TRACKED and PLANNED sections of the Flight list also have a **Flights** slider that you can use to enable the display of the flights.

1 Click the **OTHERS Flights** slider.

Next, take some time to see the detailed information for each flight available to you in the **Flight details** pane.

1 Click the **SCX421** table cell.

When you are focused on a single flight in the **Flight Details** pane, you can click the "unlocked" **Lock** icon on the map to lock on that flight, to monitor for updates.

Click the **Lock** icon again to unlock the pane.
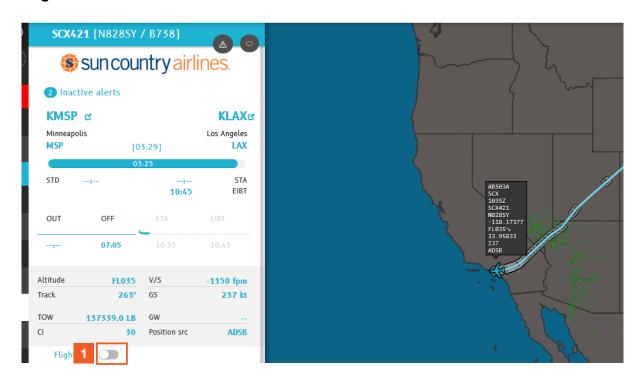
Not shown in this image, the ⊞ icon displays in the **Flight Details** pane for those

users with Reporter rights. Reporters can click ⊞ to add manual reports about the flight, such as position reports.

Flight plans typically display on the map only when the **Flight Details** pane is open. If you want a flight plan to remain on the map after you close the pane, enable the **Flight Plan** slider.

1 Click the **Flight Plan** slider.

2 Click **anywhere on the map**.

The flight plan continues to display on the map. You can zoom in to verify the way-points remaining for the flight.
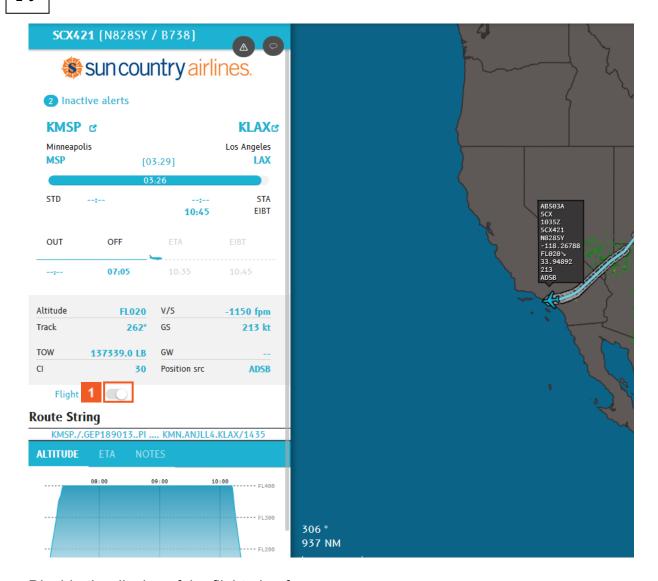
You can also access flight details by clicking on a specific aircraft icon on the map.

1 Click **the aircraft icon for SCX421**.

Notice that in addition to the altitude chart at the bottom of the **Flight Details** pane, you also have access to an **ETA** burn down chart, and a **Notes** area on the pane.

You might use the **Notes** area to enter information about ground service requirements upon landing.

Disable the display of the flight plan for now.

1 Click the **Flight Plan** slider.

Let's look at another **optional** function that you can launch from the **Flight Details** pane -- surface tracking. (Because it is optional, surface tracking may not be included in your environment.)

Click the **Surface map** icon ⧉ to navigate to the surface map for the KLAX airport.
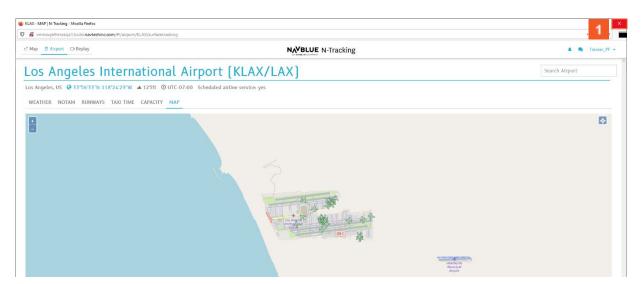
1 Click the **Surface Map** button.

This new browser window opens containing the surface map for the selected airport. This window overlaps the main N-Tracking map, so you never lose the context of your previous map focus when you temporarily open a surface map.

At this point, you can perform all the tasks documented in the topic, *Surface tracking*.

When you're done with the surface map, close the extra window.

1 Click the **Close** button.

Click anywhere on the map to close the **Flight Details** pane again.

2 Click **anywhere on the map**.
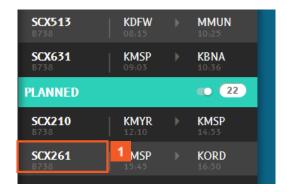
Having already reviewed the **Flight Details** pane, let's move on and see how it works in the PLANNED section of the **Flight list**. It works slightly differently, as less information is available for planned flights.

Click the **Flights** slider in the PLANNED section header.

1 Click the **Flights** slider.

1 Click **SCX261**.
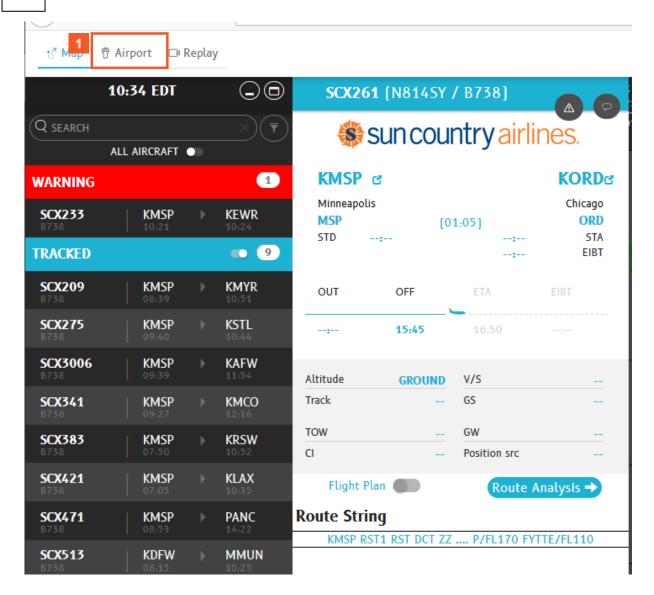
Basic city-pair, departure time, and flight distance information displays.

You learn about these flights in the *Working with planned flights* topic.

You can use the **Route Analysis** button to launch that function from directly within the **Flight Details** pane of planned flights.
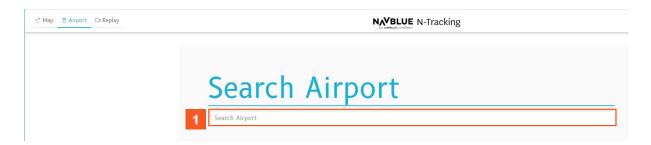
For more details on doing route analysis in N-Tracking consult the related topic.

At this point, let's explore some of the aspects of the **Airport** tab.

1 Click the **Airport** tab.

1 Click the **Search Airport** input field.

1 Enter **KMSP** into the **Search Airport** field.

1 Click **KMSP/MSP - Minneapolis-St Paul International/Wold-Chamberlain Airport**.
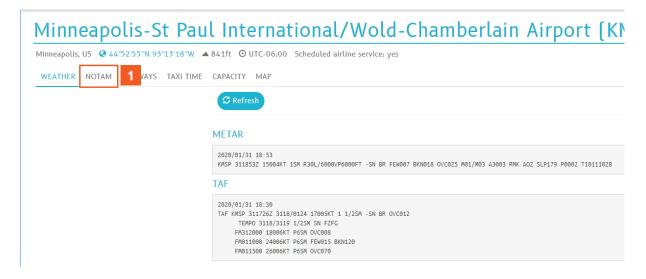
Depending on your subscription, for each airport, N-Tracking displays information on different tabs.

The WEATHER tab also shows details such as the airport's coordinates, elevation, and local time zone.

This example includes: WEATHER, NOTAM, RUNWAYS, TAXI TIME, CAPACITY and MAP.
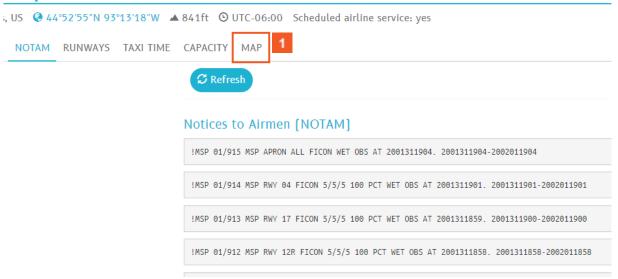
The MAP tab displays if your subscription includes surface tracking. For more details, consult the *Surface tracking* topic.

Minneapolis-St Paul International/Wold-Chamberlain Airport [KN

Minneapolis, US   🌐 44°52'55"N 93°13'18"W   ⛰ 841ft   🕓 UTC-06:00   Scheduled airline service: yes

WEATHER   NOTAM   **1** WAYS   TAXI TIME   CAPACITY   MAP

🔄 Refresh

METAR

```
2020/01/31 18:53
KMSP 311853Z 15004KT 1SM R30L/6000VP6000FT -SN BR FEW007 BKN018 OVC025 M01/M03 A3003 RMK A02 SLP179 P0002 T10111028
```

TAF

```
2020/01/31 18:30
TAF KMSP 311726Z 3118/0124 17005KT 1 1/2SM -SN BR OVC012
     TEMPO 3118/3119 1/2SM SN FZFG
     FM312000 18006KT P6SM OVC008
     FM011000 24006KT P6SM FEW015 BKN120
     FM011500 26006KT P6SM OVC070
```

1 Click the **NOTAM** tab.

eapolis-St Paul International/Wold-Chamberlain A

, US   🌐 44°52'55"N 93°13'18"W   ⛰ 841ft   🕓 UTC-06:00   Scheduled airline service: yes

NOTAM   RUNWAYS   TAXI TIME   CAPACITY   MAP   **1**

🔄 Refresh

Notices to Airmen [NOTAM]

```
!MSP 01/915 MSP APRON ALL FICON WET OBS AT 2001311904. 2001311904-2002011904
```

```
!MSP 01/914 MSP RWY 04 FICON 5/5/5 100 PCT WET OBS AT 2001311901. 2001311901-2002011901
```

```
!MSP 01/913 MSP RWY 17 FICON 5/5/5 100 PCT WET OBS AT 2001311859. 2001311900-2002011900
```

```
!MSP 01/912 MSP RWY 12R FICON 5/5/5 100 PCT WET OBS AT 2001311858. 2001311858-2002011858
```

1 Click the **MAP** tab.

On the **MAP** tab of the **Airport** tab, you can visualize the traffic on the ground at the selected airport -- whether you are tracking those planes or not.

You can find more information about working on this tab in the *Surface tracking* topic.

Surface tracking is an optional feature and may not be implemented by your airline.

The colors used to depict the planes on the surface map match the colors used in the Flight list. (This color is chosen by your N-Tracking administrator).

You can click an aircraft icon to see its registration, flight number and other details.

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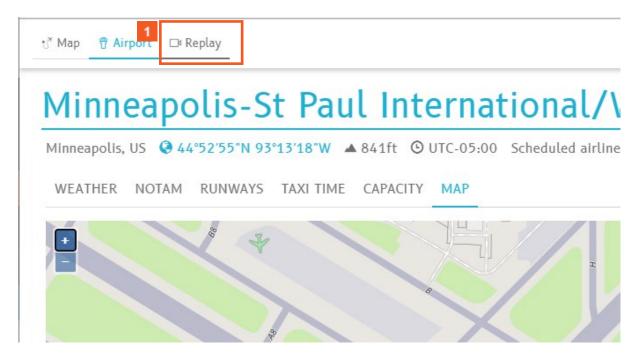
'Wold-Chamberlain Airport [KMSP/MSP]

ne service: yes

Next, use the **Replay** tab and learn how to replay flight recordings. N-Tracking retains flight recordings for six months.
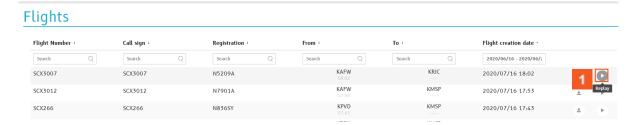
1 Click the **Replay** tab.

On the **Flights** page, you can download a log of flight events or play back flights that have been recorded.

Use the **Download** or **Replay** icons to download or replay a flight recording.

For this example, replay the events of flight **SCX3007**.

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Flights

Flight Number ⁞	Call sign ⁞	Registration ⁞	From ⁞	To ⁞	Flight creation date ·
Search 🔍	Search 🔍	Search 🔍	Search 🔍	Search 🔍	2020/06/16 - 2020/06/:
SCX3007	SCX3007	N5209A	KAFW 18:02	KRIC	2020/07/16 18:02
SCX3012	SCX3012	N7901A	KAFW 17:53	KMSP	2020/07/16 17:53
SCX266	SCX266	N836SY	KPVD 17:43	KMSP	2020/07/16 17:43

1 Click the **Replay** button.

The **Replay** feature includes its own video controls.

Replay 📹	16 Jul 18:02	N5209A B738	SCX3007	SCX3007
Search				

18:02:01
ADSB
97°18'45"W 32°57'52"N
Altitude: FL017
Speed: 0 kt
Vertical speed: 0 fpm
Track: 168°
Flown Distance: 0 nm
Remaining Distance: 50 nm

2000 nm

For detailed information on working with the flight **Replay** feature, consult the topic, *Replay flights*.

SUCCESS

Congratulations! You have toured all the major features of the N-Tracking interface and have familiarized yourself with which tool to use for your various daily tasks.

1.1.3   Searching for waypoints and other navigational elements on the map

1.1.3.1 Introduction

Searching for waypoints and other navigational elements on the map

In this topic, you learn how to search for navigational elements, such as FIRs, airports, airways, or waypoints and navaids on the map.

We estimate that this will take 5 minutes to complete.

Using the Search function

In N-Tracking, you can use the Search function 🔍 on the map to search for Flight Information Regions (FIRs), airports, airways, or waypoints and navaids.

For example: find a particular waypoint that you know is part of a flight plan; find and

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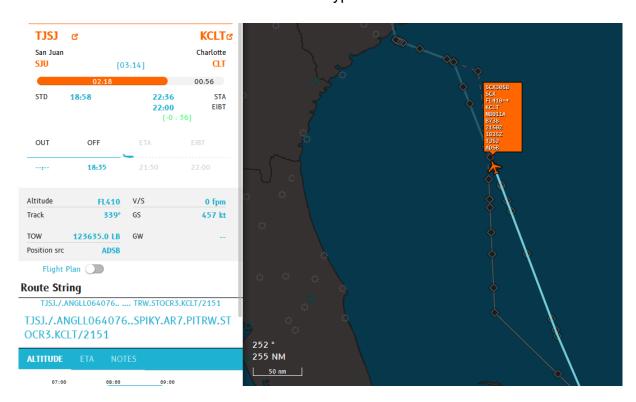
re-focus the map on a particular airport; or find the the waypoint at which a flight would enter an airway.

1.1.3.2 Detailed explanation
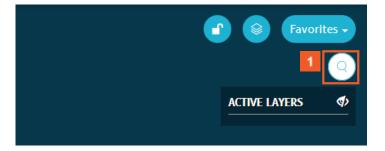
In this scenario, you are investigating the flight plan of flight SCX3058, flying from the San Juan (TJSJ) airport to the Charlotte (KCLT) airport. You have already opened the Flight Details pane to view the details of the flight route string.

You want to know the location of enroute waypoint **SPIKY**.

You can see the expanded route string in Flight Details.

1 Click the **Search** button.
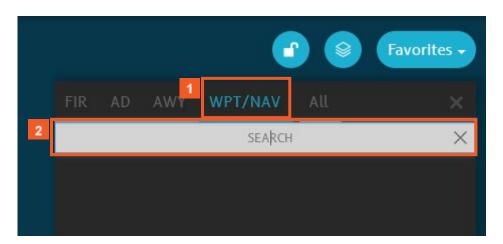
If you don't know the specific type (airport, airway, or waypoint, etc.,) of the navigational element you are searching, search on the **All** tab.

2 Click the **WPT/NAV** tab.
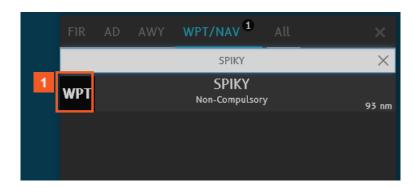
HINT

You can also use the asterisk (*) as a "wildcard" character in your searches. For example, searching **KL*** under **AD** will retrieve a list of all aerodromes whose IATA codes begin with the letters KL.

The search term JFK (in AD) retrieves airport IATA code KJFK.

1 Click the **Search** input field.

2 Enter **spiky** into the **Search** field.

1 Click **WPT**.
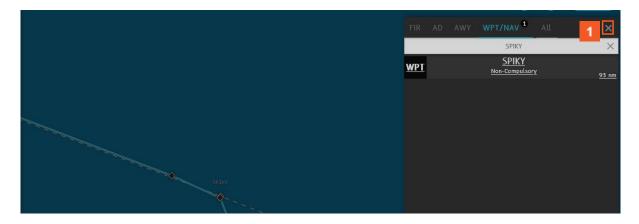
View the detailed information provided about the waypoint.

Click **WPT** again to zoom in on the waypoint.

1 Click **WPT**.

Your zoom level automatically changes to a level at which you can clearly identify the waypoint on the map.

1 Click the **Close** button.

Insert your explanation here.
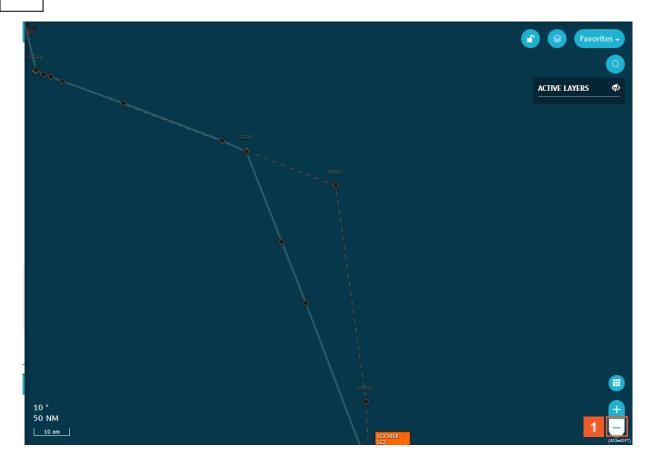
The map focuses on the SPIKY waypoint.

Optionally, zoom out until you can see where the flight is in its trajectory, in relation to this waypoint.

In this example, you zoom from the 5 nm zoom level to the 20 nm zoom level.

2 Click the **Zoom out (-)** button.
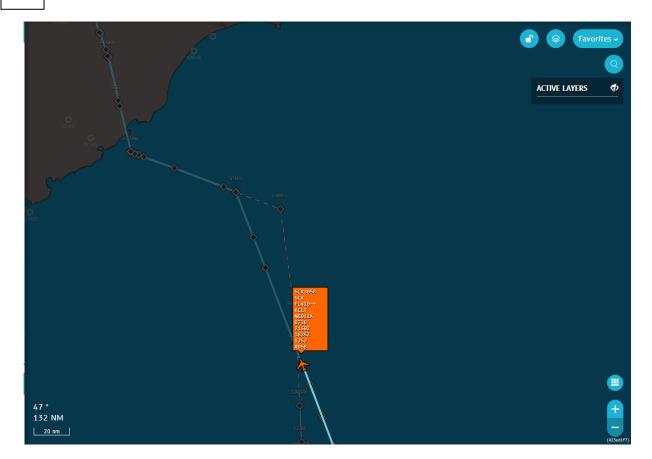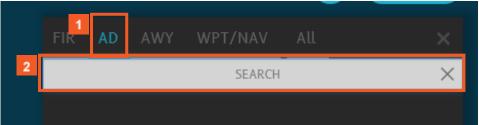
1 Click the **Zoom out (-)** button.

Imagine that plans change: the aircraft will fly to KFLO airport instead of KCLT. Locate the KFLO airport.

1 Click the **AD** tab.

To search for airports, use the **AD** (Aerodrome) tab.

2 Click the **Search** input field.
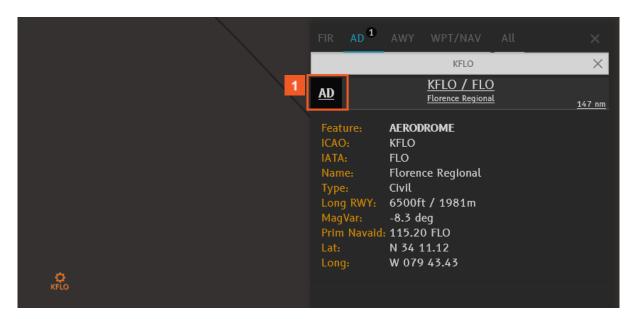
3 Enter **kflo** into the **Search** field.

1 Click **AD**.
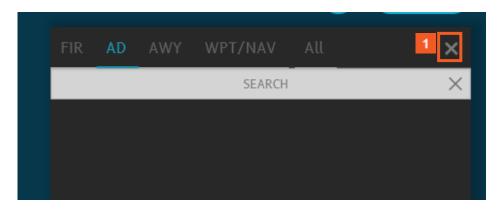
Clicking the navigational element type (in this example, AD), a second time causes your zoom to adjust to highlight the airport on the map.

1 Click **AD**.

When you're finished with your search, close the **Search** pane.

1 Click the **Close** button.

Let's look at one more example: you want a flight to join a particular airway. You want to determine at which waypoint to make the flight path change.

Flight SCX3057 is flying from the Richmond airport to the San Juan airport.
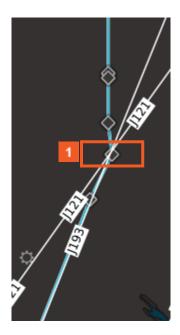
The flight path for flight SCX3057 is almost due north of the waypoint where it would join airway J193.

What waypoint should be used as an entry way?

The flight path and airway J193 intersect at this (unknown) waypoint.

1 Click **the waypoint**.

You can read in the NAV pane that J193 runs from WEAVR to ILM waypoints.

1 Click the **Close (X)** button.

1 Click the **Search** button.
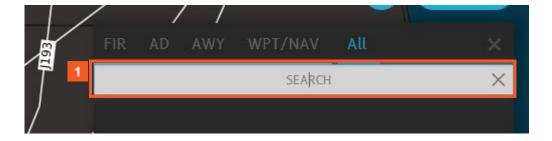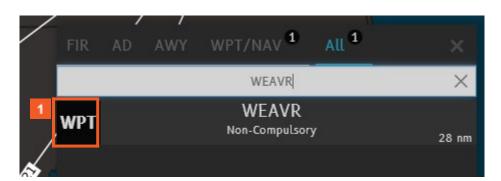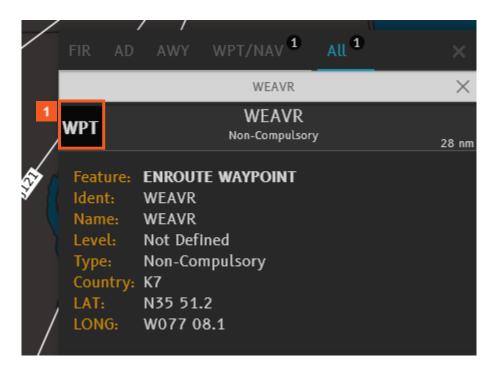
1 Click the **Search** input field.

2 Enter **weavr** into the **Search** field.

1 Click **WPT**.
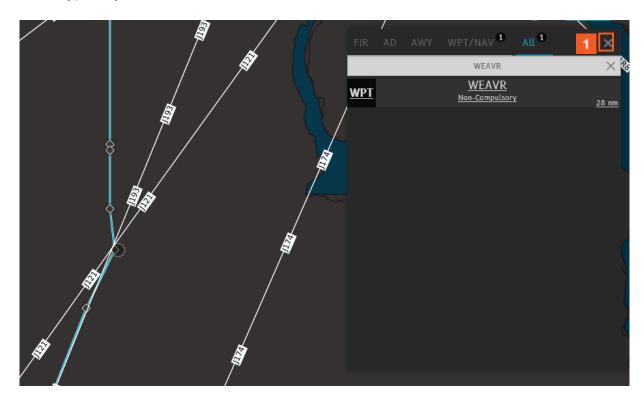
The **NAV** pane displays the latitude and longitude for the WEAVR waypoint.

1 Click **WPT**.

By clicking WPT a second time, you zoom in and focus on the map location of the waypoint you searched.

Close the **Search** pane.

1 Click the **Close (X)** button.

SUCCESS

Congratulations! You have successfully searched for various navigational elements using the Search function.

2 User settings

2.1 Settings

2.1.1 Map settings: Set your map background and display major city names on the map

2.1.1.1 Introduction

Map settings: Set your map background and display major city names on the map

In this topic, you learn how to configure map details such as which map background to use and whether or not to display major city names on the map.

We estimate that this will take 1 minute to complete.

2.1.1.2 Detailed explanation
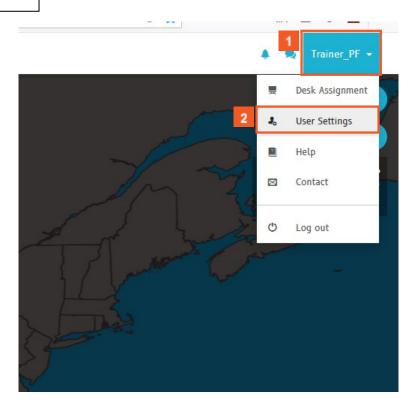
Map Settings

The map in N-Tracking provides a geographic background on which flights and other data are overlaid. It gives geographic perspective to the location of the flights. You can use its zoom in and out controls and "pan" around the map. Currently, N-Tracking supports only one type of map (a topographic map). In the future we will expand on this to include satellite and road maps. Optionally, you can display the names of larger cities on the map.

You control these features through the **Map** option in the **User Settings** menu.

To learn how to configure the different map user settings, access the **User Settings** menu.

1 Click the **username (Trainer_PF)** dropdown button.
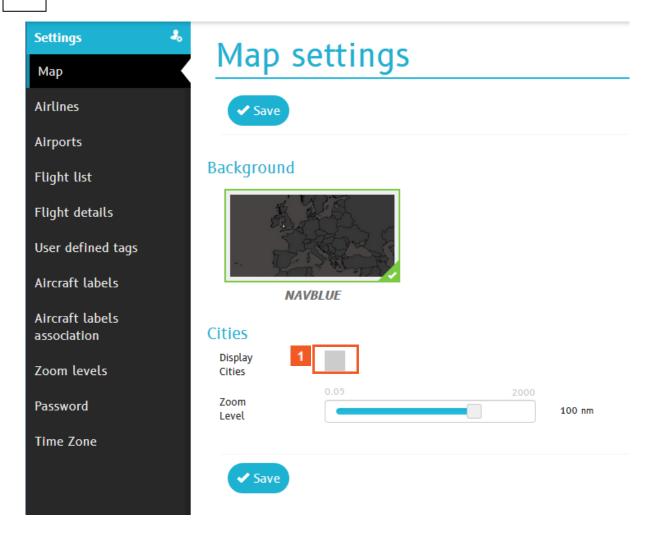
2 Click the **User Settings** menu item.

Currently, there is only one background option for the map (a topographic map). In the future, NAVBLUE will add road map and satellite map backgrounds.

After you select a map background, click the **Save** button to save that setting.

By default, the option to display city names on the map is off. Click the **Display Cities** checkbox to enable this option.

1 Click the **Display Cities** check box.

By default, city names display on the map at a 100 nm zoom level.

You can use the slider to have names display at a different zoom level.
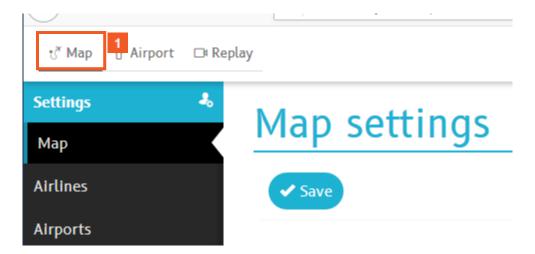
HINT

Both of the **Save** buttons on this screen work. For this example, click the lower one.

1 Click the **Save** button.
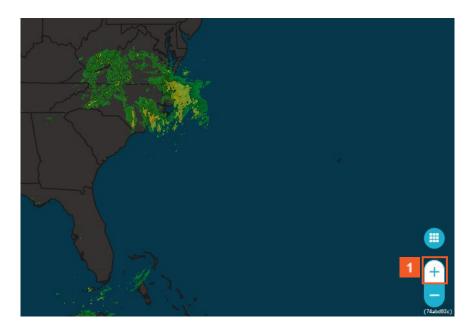
N-Tracking displays the message **Successfully updated** after you save your changes. Let's see how that works on the map.

1 Click the **Map** tab.

Change your zoom level to 100 nm.

1 Click the **Zoom in (+)** button.

You have learned how to display the names of major cities on the N-Tracking map.

You can continue with other configuration steps or other work.

2.1.2 Display airport map (for Surface Tracking users only)

2.1.2.1 Introduction

Display airport map (for Surface Tracking users only)

In this topic, you learn how to display the airport map while zoomed in on the main map.

We estimate that this will take 2 minutes to complete.
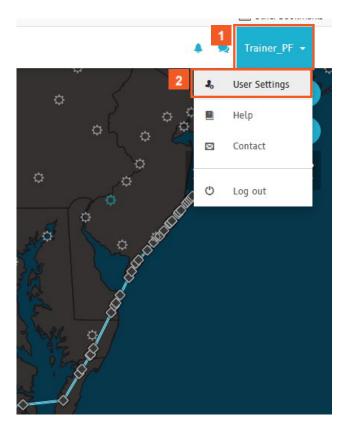
2.1.2.2 Detailed explanation

Displaying an airport map

If your airline's N-Tracking license includes surface tracking, you can display airport maps directly on the main map to check surface congestion and/or gate availability.

Enable the **Display Airport Surface Map** toggle in **Map Settings** to activate this functionality.

1 Click the **Username (Trainer_PF)** dropdown button.
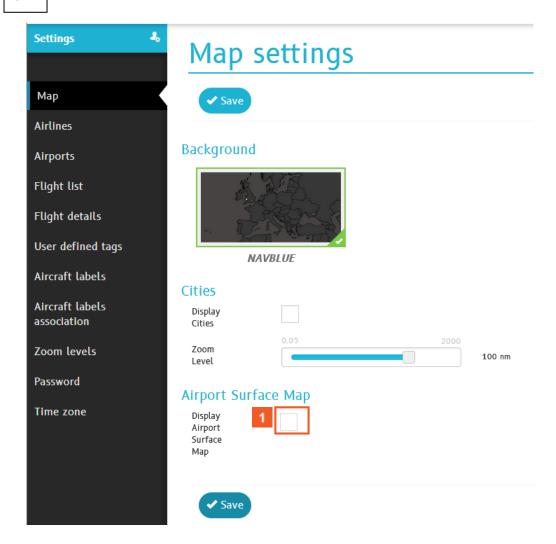
2 Click the **User Settings** menu item.
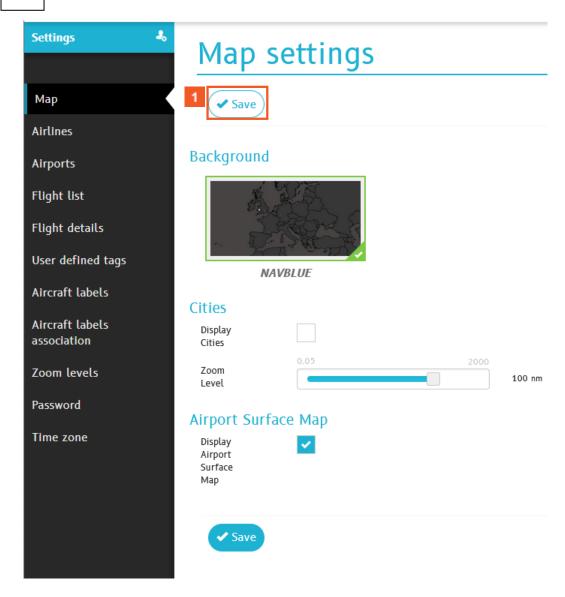
HINT

The Airport Surface Map option displays only for those airlines subscribed to Surface Tracking.

Map settings

✔ Save

Background

NAVBLUE

Cities

Display Cities ☐

Zoom Level | 0.05 ━━━━━━●━━━━ 2000 | 100 nm

Airport Surface Map

Display Airport Surface Map **1** ☐

✔ Save

---
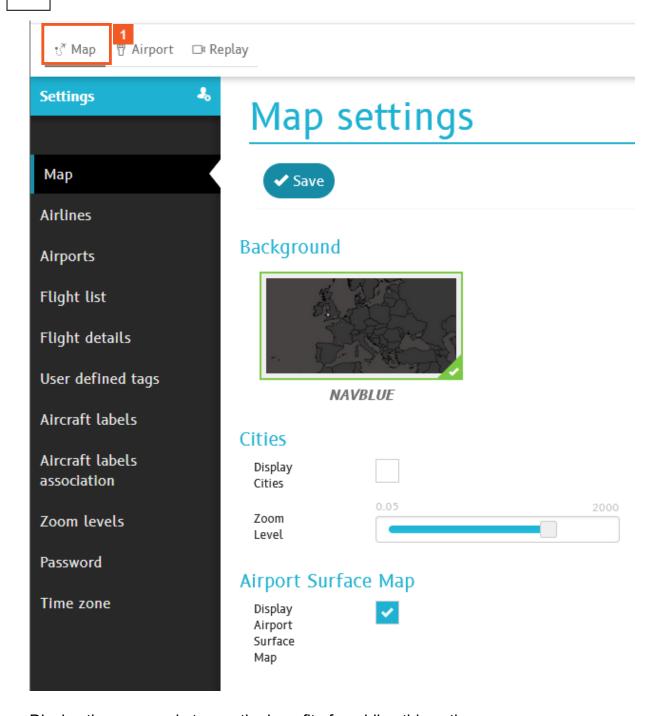
1 Click the **Display Airport Surface Map** check box.

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Map settings

1 ✔ Save

Background

NAVBLUE

Cities

| Display Cities | ☐ |
| Zoom Level | 0.05 ———————⬤———— 2000   100 nm |

Airport Surface Map

| Display Airport Surface Map | ✔ |

✔ Save

---

1 Click the **Save** button.

Display the map again to see the benefit of enabling this option.
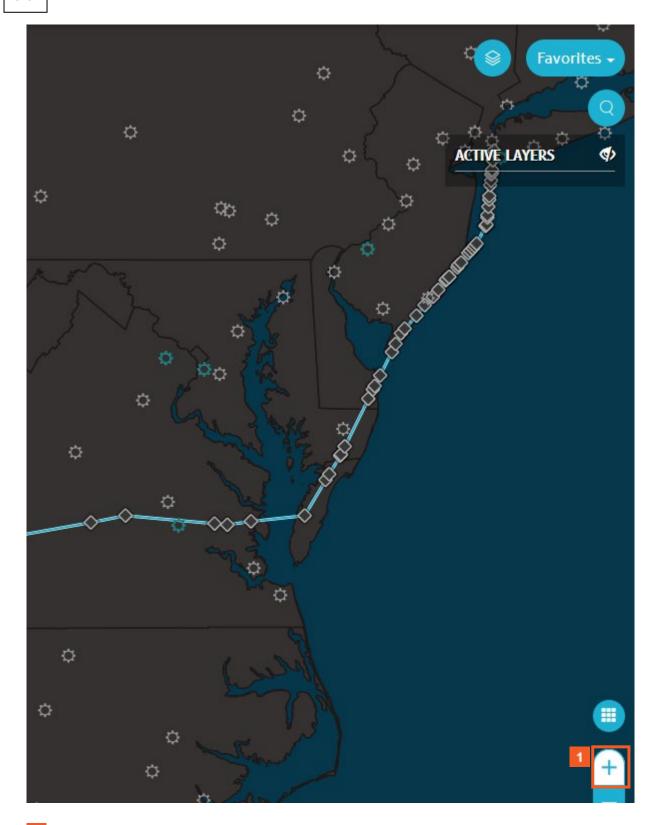
1 Click the **Map** tab.

Zoom in and pan on the map to the location of the destination airport (in this example, KJFK).

Use the **Zoom in** button or your mouse scroll wheel to zoom in to a 2 nm zoom level.
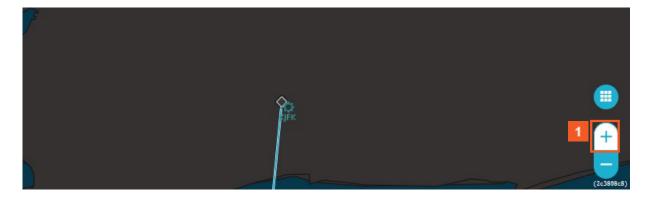
For airlines using the metric map scale, zoom to 2 km.

1 Click the **Zoom in (+)** button.

For some airports, you may need to zoom in further than 2 NM or 2 km to see the airport map.

HINT

To further clarify the zoom level at which you can expect to see airport maps on the main map: Airports located closest to the equator are more likely to display at the 2 km or 2 nm zoom level. For airports located increasingly north of the equator, you may have to zoom in further.

1 Click the **Zoom in (+)** button.
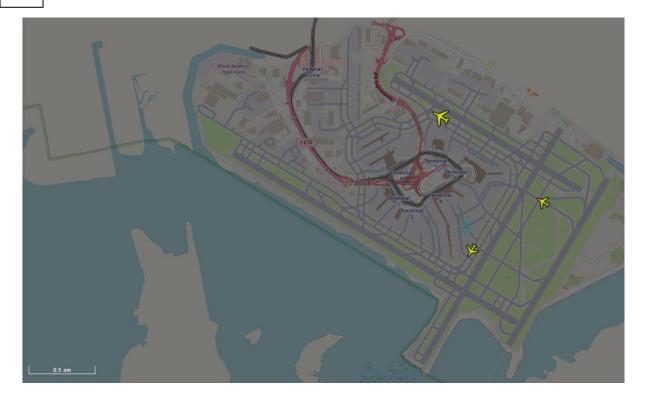
In this example (JFK airport), you can see the airport map at a zoom level of 1 nm, but that's not zoomed far enough if you want to check terminal gates.

Zoom in to the level that provides the detail you need.

1 Click the **Zoom in (+)** button.

1 Click the **Zoom in (+)** button.

1 Click the **Zoom in (+)** button.
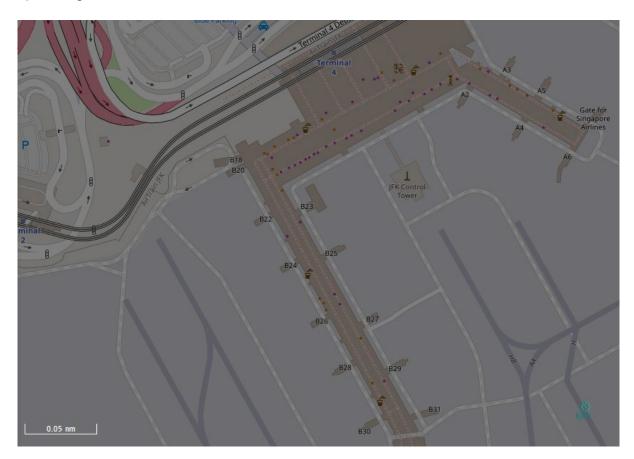
ATTENTION

Gate information is public information and is not controlled by NAVBLUE. It may not be available or complete for **all** airports.

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NAVBLUE cannot guarantee the completeness nor accuracy of this data.

For this airport, at the .05 nm zoom level, you can see activity (if there is any) around specific gates.

SUCCESS

Congratulations! You now know how to display an airport map and to zoom to an appropriate level to see the level of detail you need to complete your task.

2.1.3 Airline and airport settings

2.1.3.1 Introduction

Airline and airport settings

In this topic, you learn to set parameters that control airline and airport information that displays on the N-Tracking map to assist you with aircraft tracking.

We estimate that this will take 5 minutes to complete.

Working with N-Tracking airline and airport settings

N-Tracking provides you with the ability to configure:

- the airlines whose fleets you want to track
- which airports to monitor
- the content and display of the Flight list on the map
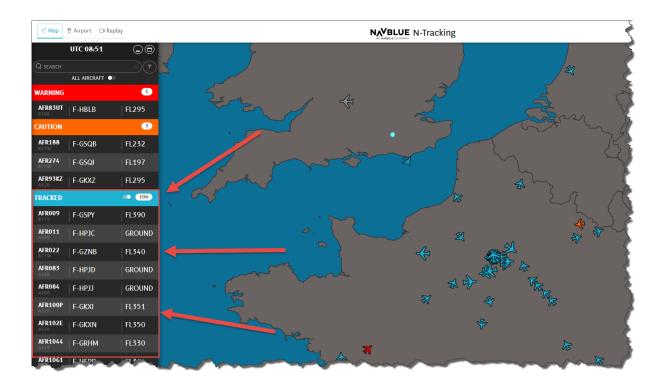
2.1.3.2 Detailed explanation

Airline settings

When you configure airline settings, you determine the aircraft that you want to track in the **TRACKED** section of the Flight list as highlighted by the arrows in the image. You can track only those fleets that you have access to in your subscription.

Aircraft in the **TRACKED** list display on the map in a color selected by your N-Tracking administrator (in this example, blue).
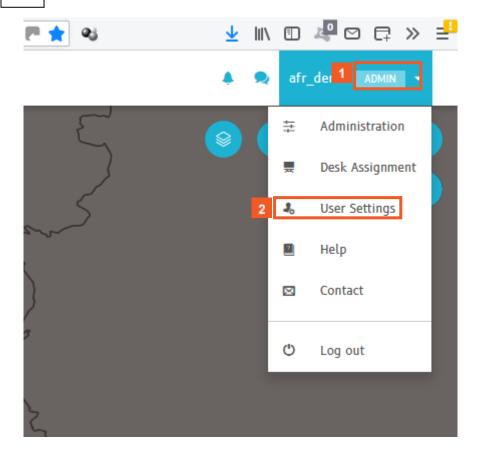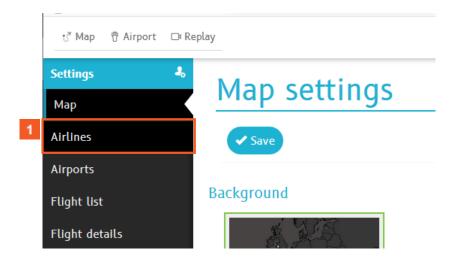
Notice that the **Flight list** shows no **TRACKED** section at the moment?

Let's learn how to add one.

1 Click the **User name (ADMIN)** dropdown button.

2 Click the **User Settings** menu item.

1 Click the **Airlines** menu item.
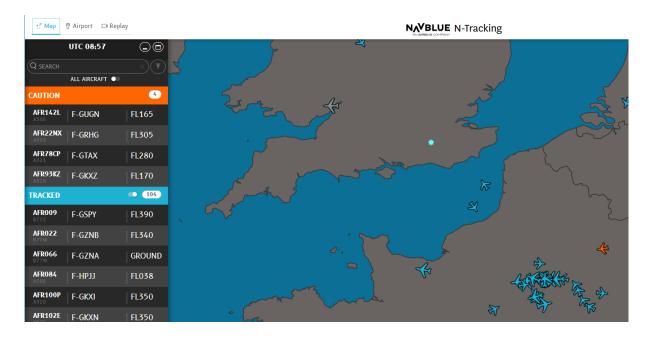
In this example, you have access to only one airline and because the slider is "off", that fleet doesn't display on the map.

Let's change that.

1 Click the **AFR** slider.

2 Click the **Save** button.

Let's check what changed on the map as a result of this update...

3 Click the **Map** tab.

Your Flight list now includes a **TRACKED** section and Air France aircraft display on the map in blue. (The color used to identify tracked flights is chosen by your N-Tracking Administrator.)

One orange aircraft icon represents an aircraft for which a caution alert has been emitted. You can find more information on alerts in the *Alert Management* topic.

Airport settings

When your airline deployed N-Tracking, a set of relevant airports was configured for you. You can track all the aircraft either arriving at, or departing from those airports,
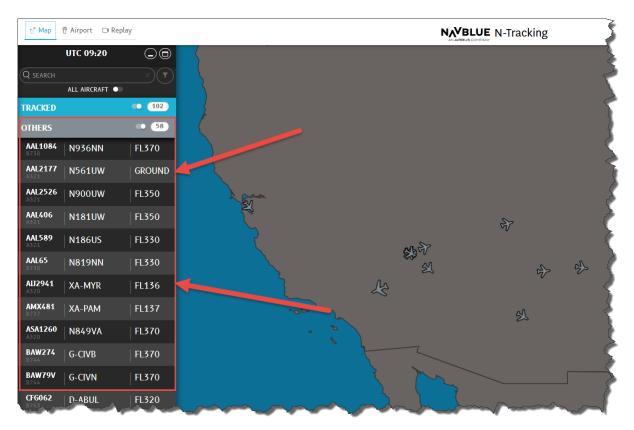
which can help you assess the relative congestion in an airspace.

An airline N-Tracking Administrator identifies which airports to track in **Airport Settings**.

The relevant aircraft are listed in the **OTHERS** section of the Flight list and display in gray on the map.
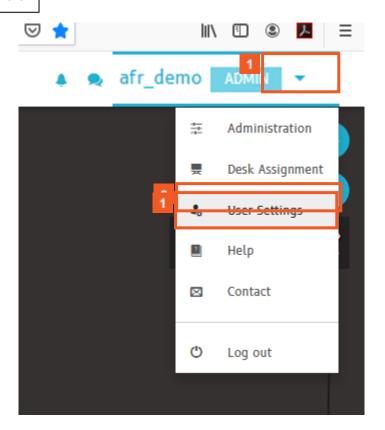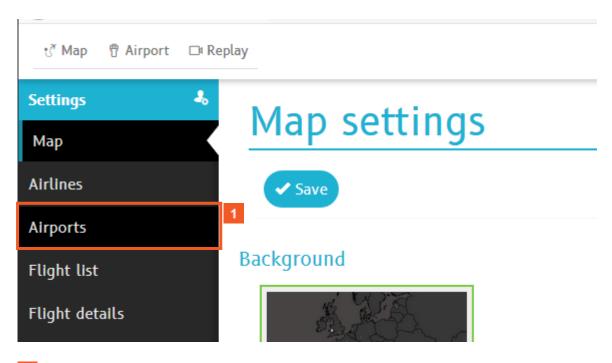
> ⓘ   If an airport that interests you is not available for tracking, contact your N-Tracking administrator and ask them to add it.

Let's activate aircraft tracking for flights in and out of McCarran International Airport (KLAS).
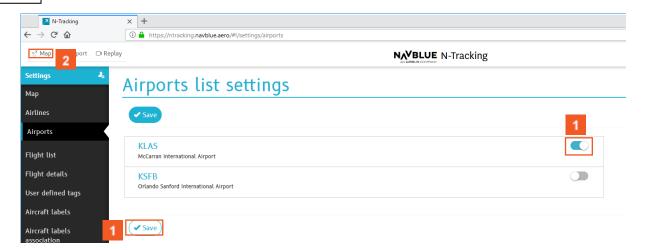
1 Click the **username (ADMIN)** dropdown button.

2 Click the **User Settings** menu item.

1 Click the **Airports** menu item.

1 Click the **KLAS** slider.

> KLAS (McCarran International Airport) is just outside of Las Vegas.

As mentioned earlier, the airports included in this list were identified when your airline implemented N-Tracking.
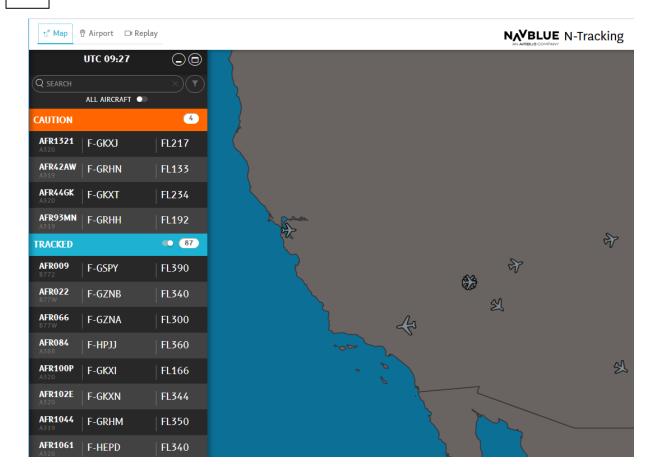
Clicking the sliders makes the aircraft around these airports visible on the map.

2 Click the **Save** button.

Now, let's check the map and see what this has done to the Flight list -- the list of tracked aircraft.

3 Click the **Map** tab.

As a result of your change, flights in and out of KLAS are now being tracked and shown on the map.

In this example, the **OTHERS** section of the Flight list does not display. It's in this section that you would see the flights flying in and out of KLAS.

Airport settings (continued)

After you enable an airport, you see it on the map in a highlighted blue/green color. In the accompanying image, it is also surrounded by a red rectangle to help you recognize it more easily. For the map screen to work this way, you must enable one of the navigational layers -- the **Airports** layer.

Let's explore this briefly now. For more information on navigational layers, consult the topic, *Airports, flights, Upper Information Regions, and favorite airports*.
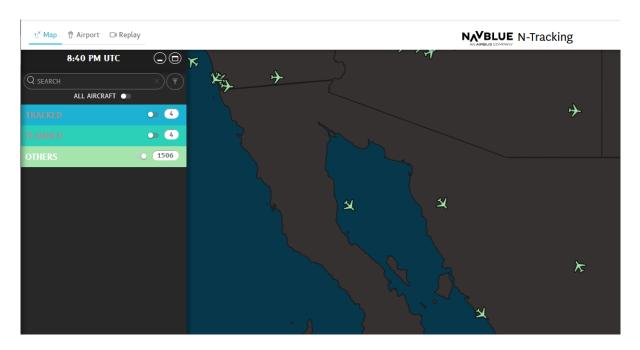
Currently, no airports display on the map.

Let's change this by adding a layer of navigational data (airports) using the map **Layers** options.
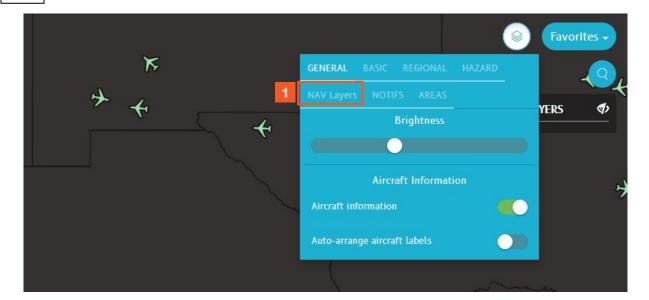
> Different from planes in your own fleet, which may be using aircraft labels to display details on the map, the planes in the Flight list **OTHERS** section have no labels associated with them.

1 Click the **Layers** button.

1 Click the **NAV Layers** tab.
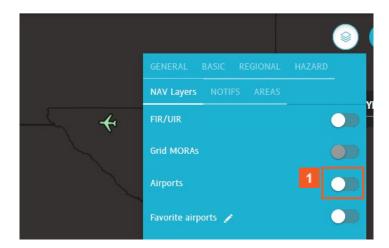
1 Click the **Airports** slider.

The round, hub-like symbols on the map represent airports. You can hover your mouse over any of them to see their name and ICAO code.

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For example, hover your mouse over the airport in the highlighted area at the lower left of the map.

An information pane displays in the upper right corner of the map, showing this is the Francisco Sarabia airport.
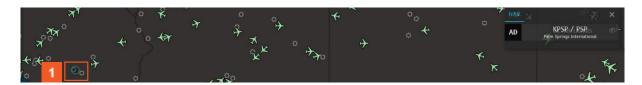
Close the NAV information pane.

1 Click the **Close** button.

Click on the teal colored airport symbol in the highlighted area and a navigational information pane displays to show you this is the Palm Springs International airport..

1 Click **the teal airport icon**.

If you are familiar with American air traffic, you might guess that his busy hub is KLAX.

You now know how to choose the airlines that you want to track in your **Flight list** and how to display airport symbols on the map. You can use the **NAV** information pane to identify those airports.

2.1.4   Select a preferred time zone for use on the map

2.1.4.1 Introduction

Select a preferred time zone for use on the map

In this topic, you learn how to change the default time zone (UTC) used on the map and on the Flight Details pane to a preferred time zone.

We estimate that this will take 3 minutes to complete.

2.1.4.2 Detailed explanation

Change the time zone used on the N-Tracking map

By default, N-Tracking displays information in the **Flight Details** pane and on the **ACTIVE LAYERS** pane using UTC time.
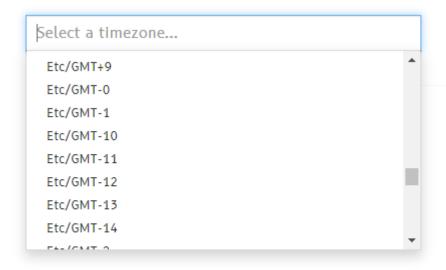
If you are planning and tracking primarily domestic flights, flying in and out of the same airport, you may find it more useful to have times displayed in your local time zone.

Conversely, OCC users typically prefer to use UTC as their default time zone.

Time zone settings

✔ Save

12:27 EDT

Select a timezone...
Etc/GMT+9
Etc/GMT-0
Etc/GMT-1
Etc/GMT-10
Etc/GMT-11
Etc/GMT-12
Etc/GMT-13
Etc/GMT-14
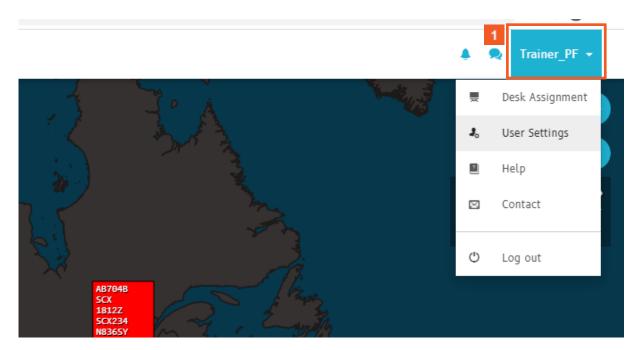
When you begin your exploration of how to set a preferred time zone for use on the N-Tracking map, notice that the **Flight list** header shows the time in the UTC time
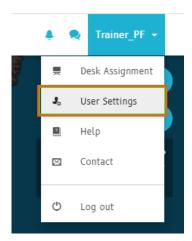
zone.

Similarly, the time stamp on the **ACTIVE LAYERS** pane reflects the last time the weather layer was updated, based on UTC time.

1 Click the **user name (Trainer_PF)** dropdown button.
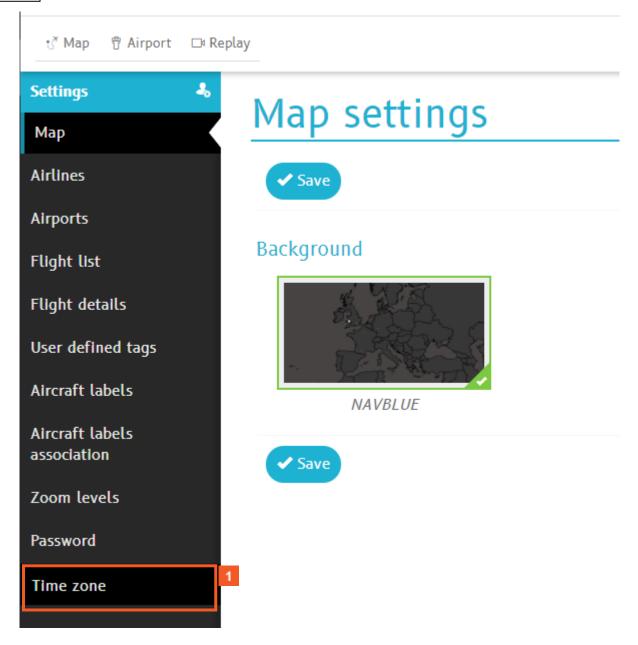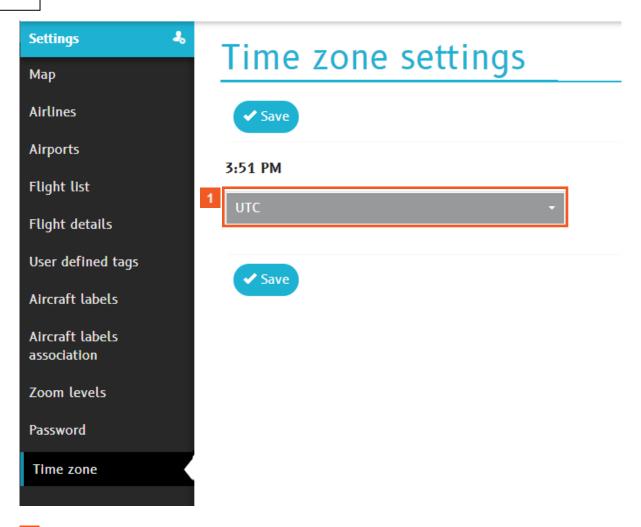
1 Click the **User Settings** menu button.
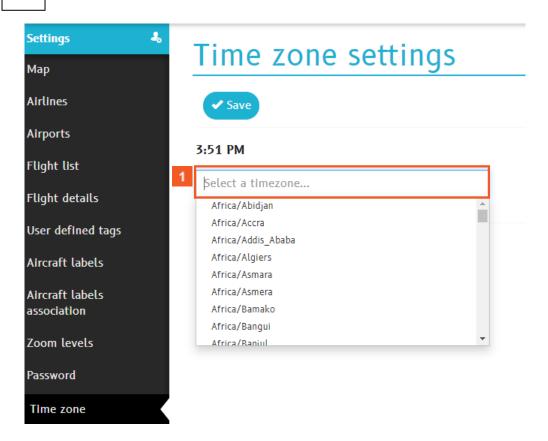
1 Click the **Time zone** menu item.

By default, N-Tracking uses the UTC time zone.

Settings

- Map
- Airlines
- Airports
- Flight list
- Flight details
- User defined tags
- Aircraft labels
- Aircraft labels association
- Zoom levels
- Password
- **Time zone**

Time zone settings

✔ Save

3:51 PM

1 UTC ▾

✔ Save
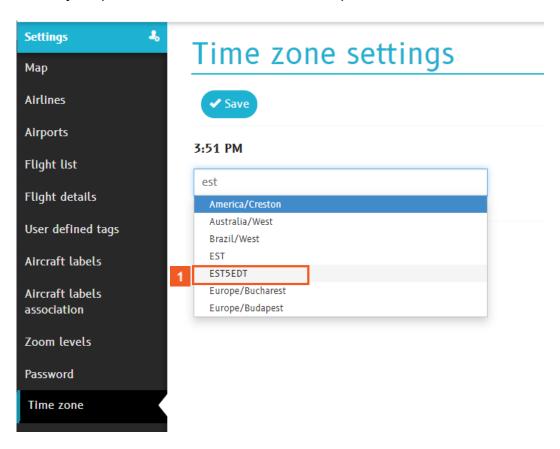
1 Click the **Time zone** dropdown button.

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1 Enter **est** into the **Time zone** field.
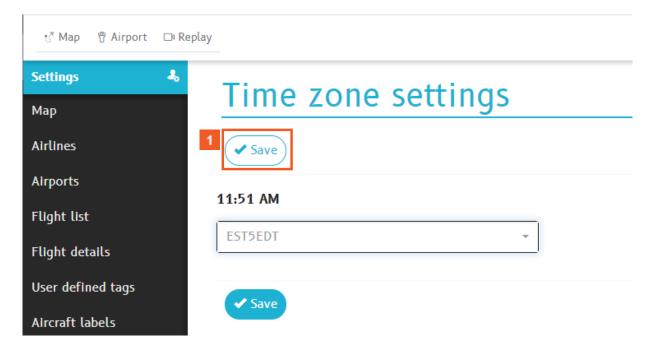
Select your preferred time zone; for this example, **EST5EDT**.

1 Click the **EST5EDT** list item.
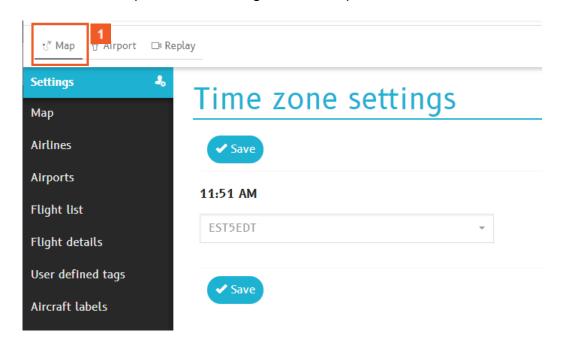
> ⓘ Both **Save** buttons work.
> For this example, use the upper one.

1 Click the **Save** button.

Let's see the impact of that change on the map.
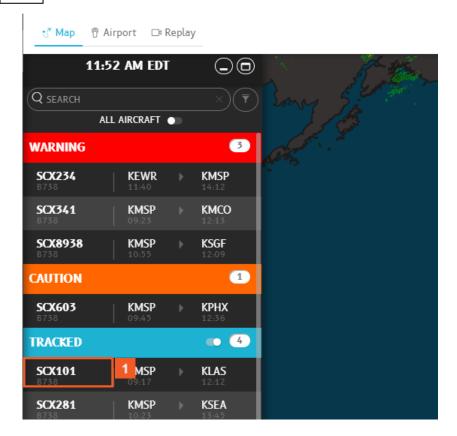
1 Click the **Map** tab.

The time on the **Flight List** header reflects your selected time zone.

The **ACTIVE LAYERS** pane shows the last time the weather layer was updated, based on your preferred time zone.
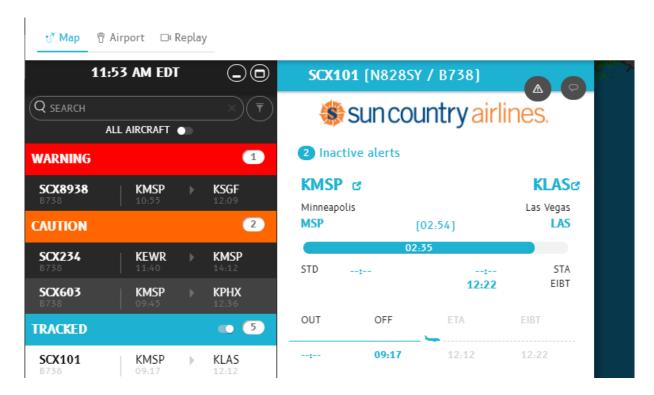
Select a flight in the **Flight list**.

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1 Click the **SCX101** table cell.

N-Tracking displays STD and ETA times based on your preferred time zone.

2.1.5 Automatically re-arrange aircraft labels on the map

2.1.5.1 Introduction

Automatically re-arrange aircraft labels on the map

In this topic, you learn how to enable a control that automatically re-arranges aircraft labels displaying on the map to improve the information display in areas of high air traffic volume.

We estimate that this will take 3 minutes to complete.

2.1.5.2 Detailed explanation

Setting aircraft labels to automatically re-arrange on the map

You learned about customizing the content and display of aircraft labels in another topic (*Customize and display aircraft labels* or for N-Tracking administrators, *Aircraft labels)*. You know that you can click on the labels on the map to re-position them, moving clockwise, in cardinal directions. A pointer from the body of the label always points at the associated aircraft.

In areas of high air traffic, particularly if you are using aircraft labels that contain the maximum number of data elements (10), you may encounter situations in which those labels overlap. Clicking the labels to change their positions around the associated aircraft icon may still not resolve the issue if there are many aircraft in a relatively small area.

N-Tracking provides you with one more tool -- a control that you can set to automatically re-arrange the aircraft labels on the map every 10 minutes. Review the following example to learn how to set that toggle.

In this topic, you learn how to set N-Tracking to automatically re-arrange aircraft labels. When aircraft are flying relatively close to each other, labels that include several flight data elements may overlap, making them less helpful.

When you set the Auto arrange option, N-Tracking automatically re-distributes and re-draws the displayed aircraft labels every 10 minutes, in addition to the rearranging that happens whenever you zoom in or out on the map.

First, see what you can do with the label display by "manually" re-positioning them.

Click the label on the right (**AFR842**) of the two aircraft over the Atlantic.

1 Click **aircraft label AFR842**.

You re-positioned the label from above the aircraft (north) to the right of the aircraft (east).

You can see the label pointer on the left side of the label, pointing at the **AFR842** icon. The label on the left has a pointer that points south at the **AFR852** icon.

The two labels are readable, but you can improve on this display.

Click the aircraft label for **AFR852** enough times to better position the label for visibility.

1 Click **the AFR852 aircraft label**.

In this example, the **AFR852** label is quite hidden after the first click. The label is east of the icon.

Be sure to click right near its bottom edge this time.

1 Click **the AFR852 aircraft label**.

The label moves to the south position.

1 Click **the AFR852 aircraft label**.

Your last click moves the label to the west position and at the 500 nm zoom level, the two labels are finally distinct from each other.

As you can see, these flights are quite close to each other, so you will have the over-lap issue again shortly.

A better approach to solving the label overlap issue is to use the **Auto-arrange air-craft labels** slider, which you find in the **Layers** pane.
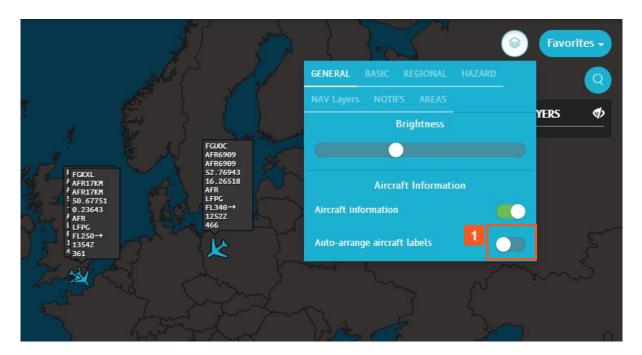
1 Click the **Layers** button.

The **Auto-arrange aircraft labels** slider is off by default.

The first time you enable the slider, re-drawing all the flights on the map may take some time, but from then onwards, the aircraft labels will be automatically re-arranged every 10 minutes (as well as when you zoom in and out on the map).
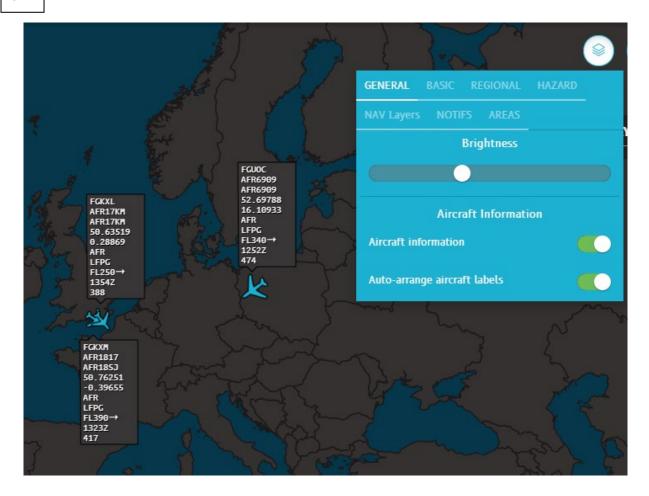
Notice this other pair of aircraft flying over the English Channel. Their labels overlap.

1 Click the **Auto-arrange aircraft labels** slider.

Despite the proximity of the two aircraft, the labels for the two flights over the English Channel are now completely readable.

2.1.6   Configure Flight List content

2.1.6.1   Introduction

Configure Flight List content
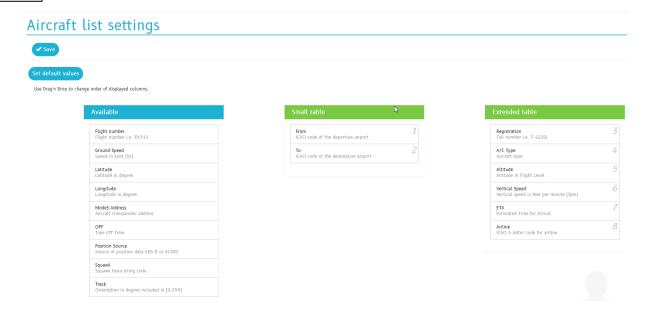
In this topic, you learn how to set the data elements that display in different Flight List layouts.

We estimate that this will take 4 minutes to complete.

2.1.6.2   Detailed explanation

Flight List Settings Overview

Aircraft list settings

✔ Save

Set default values

Use Drag'n Drop to change order of displayed columns.

Available
Flight number — Flight number i.e. 'DY311'
Ground Speed — Speed in knot [kt]
Latitude — Latitude in degree
Longitude — Longitude in degree
ModeS Address — Aircraft transponder address
OFF — Take Off Time
Position Source — Source of position data ADS-B or ACARS
Squawk — Squawk hexa string code
Track — Orientation in degree included in [0;359]

Small table	
From — ICAO code of the departure airport	1
To — ICAO code of the destination airport	2

Extended table	
Registration — Tail number i.e. 'F-GLZQ'	3
A/C Type — Aircraft type	4
Altitude — Altitude in Flight Level	5
Vertical Speed — Vertical speed in feet per minute [fpm]	6
ETA — Estimated Time for Arrival	7
Airline — ICAO 3-letter code for airline	8

On the **Aircraft list settings** page, it is possible to configure the Flight List based on available data elements. You can choose whether selected data elements display when the list is minimized or maximized. The one identifier that cannot be removed from displaying is the Flight ID.

Data elements you can display include:

- From
- To
- Registration
- A/C Type
- Airline
- ETA
- Altitude
- Position Source (ADS-B (terrestrial), SADS-B (Aireon space based), Transoceanic, Radar (ATC radar) and ACARS (ADS-C))
- Vertical Speed
- ModeS Address
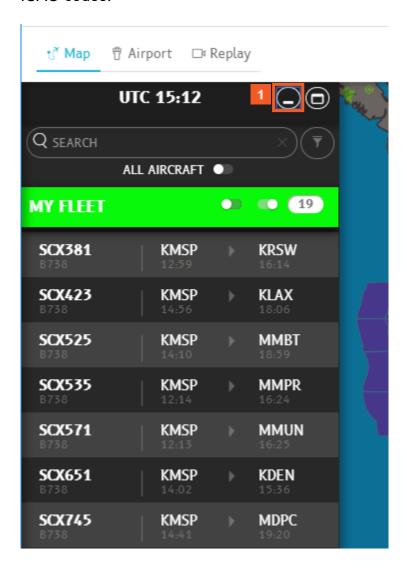
You can also display:

- Latitude
- Longitude
- OFF
- Ground Speed
- Squawk
- Ground track

The "standard" layout for the Flight List displays the flight ID and two other fields.

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In this example, those fields are the departure airport and the destination airport ICAO codes.
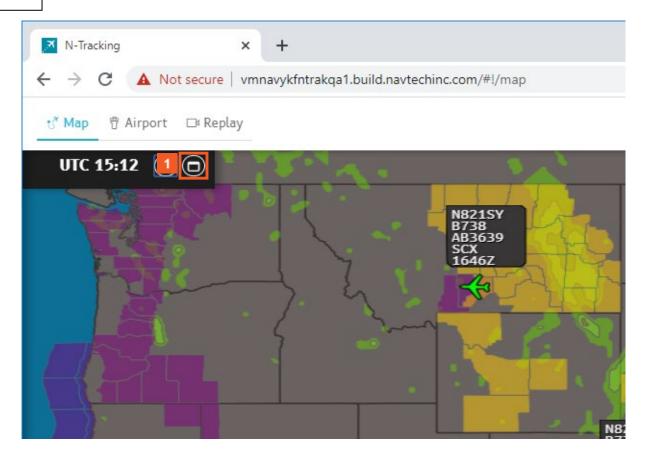
Click the **minimize** icon to see the Flight List in its smallest layout.

1 Click **the minimize icon**.

When you minimize the Flight List, only time zone information displays.

Hiding the content of the Flight List can be helpful when you have lots of other information on-screen already.
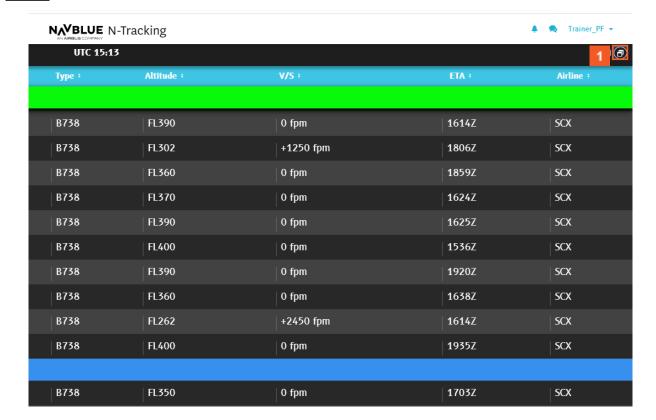
1 Click **the maximize icon**.

When you click the **restore** icon, the Flight List displays in the "extended" (full-screen) layout.
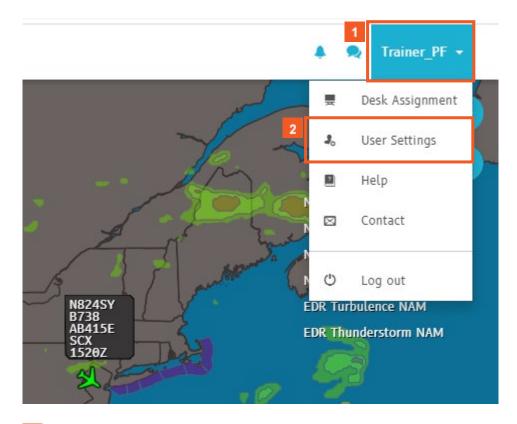
Use the **restore** icon to display the standard layout again.

1 Click **the restore icon**.
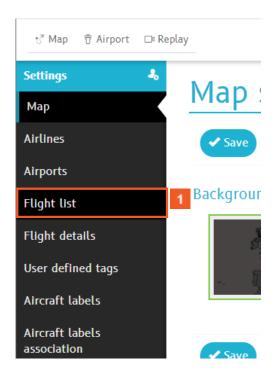
Now that you know how to change between the different table layouts, let's look at how to choose which data elements display in each of the different layouts.

1 Click the **user name (Trainer_PF)** dropdown button.

2 Click the **User Settings** list item.

1 Click the **Flight list** menu item.

> Flight ID does not display for selection in the **Available** list. It always remains visible in the Flight List.

Change the standard layout by removing data elements from the Small table column and replacing them with other data elements (a maximum of two).
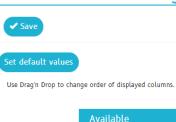
For this example, remove "From" and replace it with "ETA".
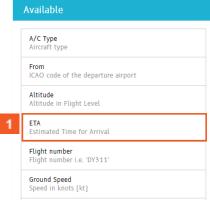
1 Click and drag the **From** table cell onto the **Available** column.

> Remember that flight ID always displays.
>
> Depending on your company's practices, flight number and flight ID may match. In this case, do not add Flight number to the small table, as it will replicate Flight ID and not add information.

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Aircraft list settings

✔ Save

Set default values

Use Drag'n Drop to change order of displayed columns.

Available	
A/C Type Aircraft type	
From ICAO code of the departure airport	
Altitude Altitude in Flight Level	
1 **ETA** Estimated Time for Arrival	
Flight number Flight number i.e. 'DY311'	
Ground Speed Speed in knots [kt]	

Small table	
2 **To** ICAO code of the destination airport	*1*

1 Click and drag the **ETA** table cell onto the **Small table** column.

Use Drag'n Drop to change order of displayed columns.

Available	
A/C Type Aircraft type	
From ICAO code of the departure airport	
Altitude Altitude in Flight Level	
Flight number Flight number i.e. 'DY311'	
Ground Speed Speed in knots [kt]	
Latitude Latitude in degrees	

Small table	
1 **ETA** Estimated Time for Arrival	*1*
To ICAO code of the destination airport	*2*
2	

1 Click and drag the **ETA** table cell below the **To** table cell.

Let's move on to setting the data elements to display in the Flight List extended layout.

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Use Drag'n Drop to change order of displayed columns.

Available
- A/C Type — Aircraft type
- From — ICAO code of the departure airport
- Altitude — Altitude in Flight Level
- Flight number — Flight number i.e. 'DY311'
- **1** Ground Speed — Speed in knots [kt]
- Latitude — Latitude in degrees
- Longitude — Longitude in degrees
- ModeS Address — Aircraft transponder address
- OFF — Take Off Time
- Position Source — Source of position data ADS-B or ACARS

Small table
- To — ICAO code of the destination airport 1
- ETA — Estimated Time for Arrival 2

Extended table
- **2** Registration — Tail number i.e. 'F-GLZQ' 3
- Airline — ICAO 3-letter code for airline 4

1 Click and drag the **Ground Speed** table cell onto the **Extended table column**.
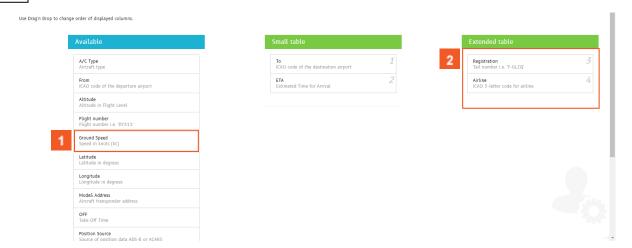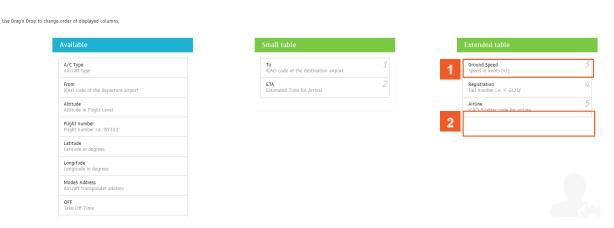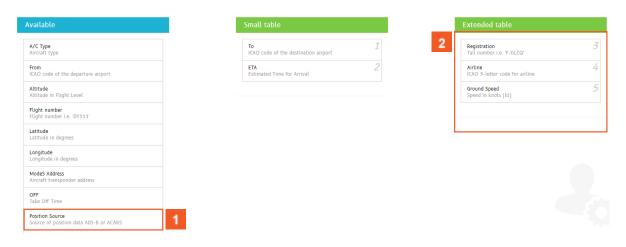
Use Drag'n Drop to change order of displayed columns.

Available
- A/C Type — Aircraft type
- From — ICAO code of the departure airport
- Altitude — Altitude in Flight Level
- Flight number — Flight number i.e. 'DY311'
- Latitude — Latitude in degrees
- Longitude — Longitude in degrees
- ModeS Address — Aircraft transponder address
- OFF — Take Off Time

Small table
- To — ICAO code of the destination airport 1
- ETA — Estimated Time for Arrival 2

Extended table
- **1** Ground Speed — Speed in knots [kt] 3
- Registration — Tail number i.e. 'F-GLZQ' 4
- Airline — ICAO 3-letter code for airline 5
- **2**

1 Click and drag **Ground Speed** to the **bottom of the Extended table column**.

Available
- A/C Type — Aircraft type
- From — ICAO code of the departure airport
- Altitude — Altitude in Flight Level
- Flight number — Flight number i.e. 'DY311'
- Latitude — Latitude in degrees
- Longitude — Longitude in degrees
- ModeS Address — Aircraft transponder address
- OFF — Take Off Time
- **1** Position Source — Source of position data ADS-B or ACARS

Small table
- To — ICAO code of the destination airport 1
- ETA — Estimated Time for Arrival 2

Extended table
- **2** Registration — Tail number i.e. 'F-GLZQ' 3
- Airline — ICAO 3-letter code for airline 4
- Ground Speed — Speed in knots [kt] 5

1 Click and drag the **Position Source** table cell onto the **Extended table** column.
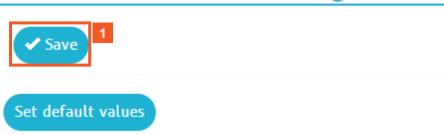
Use drag & drop again to re-order the data elements in the Extended table -- move **Position Source** to the last position in the table.
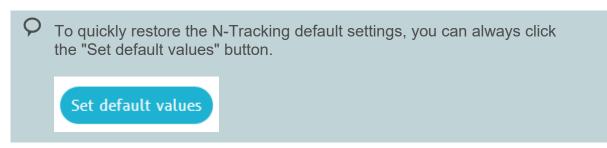
1 Click and drag the **Position Source** table cell onto the **bottom of the Extended table** column.
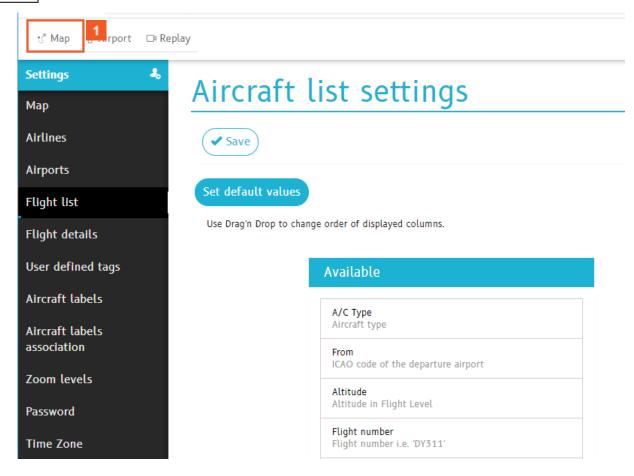

1 Click the **Save** button.

> 💬 To quickly restore the N-Tracking default settings, you can always click the "Set default values" button.
>
> Set default values
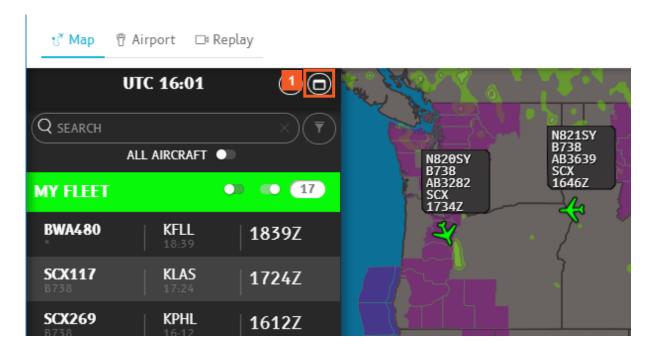
Let's see how that affects the Map screen.

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1 Click the **Map** tab.

With the changes to the settings in place, the Flight List displays the flight ID, the destination airport code, and the ETA.

Click the **maximize** icon to display the extended Flight List.
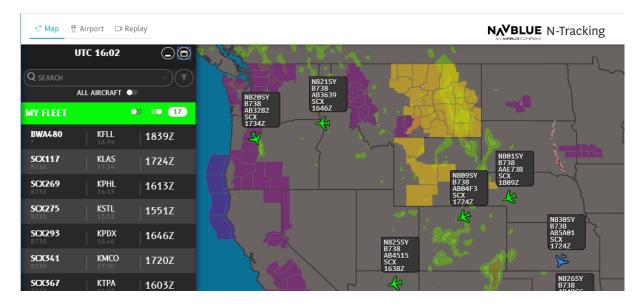
1 Click **the maximize icon**.

Based on the changes to the settings you made, the extended layout of the Flight List displays the

- flight ID,
- the destination airport code,
- the ETA,
- the plane registration number,
- the airline ICAO code,
- the plane's ground speed (GS) and
- its position source.

Click the **restore** icon to view the Flight List in its standard layout again.

1 Click **the restore icon**.

Having read this topic, you now know how to display the Flight List in a standard, minimized, and extended layout -- and how to choose the fields that display in each of those layouts.

The one data element that always displays is the flight ID.

Use the layout that best suits the task at hand.

2.1.7   Configure Flight Details pane content

2.1.7.1   Introduction

Configure Flight Details pane content

In this topic, you learn how to update the flight information that displays on the Flight Details pane to help you monitor flights.

We estimate that this will take 3 minutes to complete.

2.1.7.2   Detailed explanation

Displaying flight details for listed flights

Use the **Flight Details** pane to configure the information that displays for flights.

Your options include:

- Flight number
- Cost index
  (currently not available as GW and Takeoff Weight come from the flight plan)
- Position Source
- GW
- Takeoff Weight
- Track
- Ground Speed
- Vertical Speed
- Altitude
- Flown distance (in km or nm)
- Updated
- Remaining distance (in km or nm)

Displayed Graph tabs provide graphical representations of your flight.
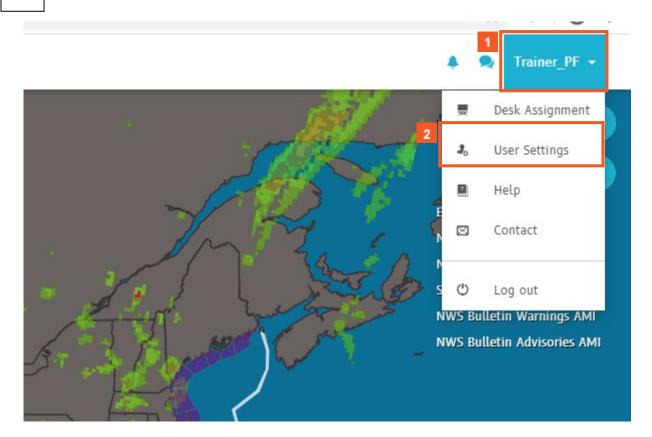
Tabs include:

- Altitude
- ETA
- Notes (text only)

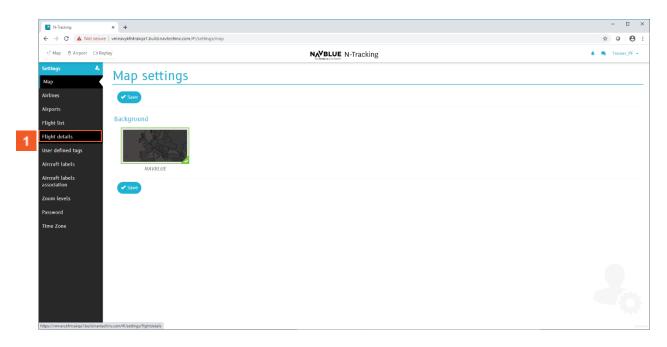| Flight Num | AF144 | Altitude | FL360 |
| Flown dist. | 777 NM | Position src | ADSB |
| V/S | 0 fpm | RMNG dist. | 5,290 km |

As you learned in the *User Interface Orientation* topic, the flights that display in your **Flight List** depend on your desk assignment (configured by your N-Tracking Administrator).

For individual flights, you can add and remove data fields on the **Flight Details** pane independently -- to hone in on your information requirements.

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1 Click the **user name (Trainer_PF)** dropdown button.

2 Click the **User Settings** menu item.

1 Click the **Flight details** menu item.

> The fields that display in the **Visible** list are those that show in the **Flight Details** pane.
>
> If you are setting up the flight detail display for the first time, the **Visible** table is empty.

In that case, drag your first field choice on to the first cell of the **Visible** table.
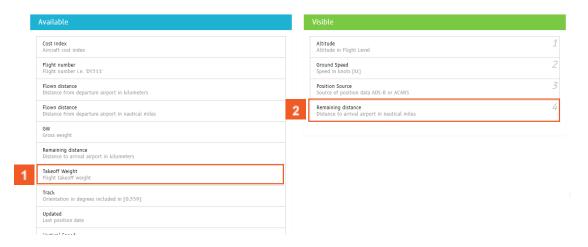
Flight details settings

✔ Save

Displayed Information

Use Drag'n Drop to change order of displayed data cell.

Available		Visible	
Cost Index — Aircraft cost index		Altitude — Altitude in Flight Level	1
Flight number — Flight number i.e. 'DY311'		Ground Speed — Speed in knots [kt]	2
Flown distance — Distance from departure airport in kilometers	**2**	Remaining distance — Distance to arrival airport in nautical miles	3
Flown distance — Distance from departure airport in nautical miles			
GW — Gross weight			
1 Position Source — Source of position data ADS-B or ACARS			
Remaining distance — Distance to arrival airport in kilometers			

1 Click and drag the **Position Source** table cell onto the **Remaining distance** table cell.

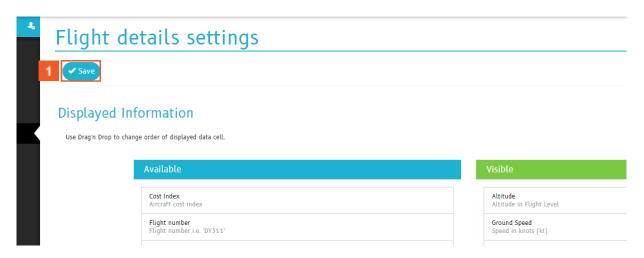| Available		Visible	
Cost Index — Aircraft cost index		Altitude — Altitude in Flight Level	1
Flight number — Flight number i.e. 'DY311'		Ground Speed — Speed in knots [kt]	2
Flown distance — Distance from departure airport in kilometers		Position Source — Source of position data ADS-B or ACARS	3
Flown distance — Distance from departure airport in nautical miles	**2**	Remaining distance — Distance to arrival airport in nautical miles	4
GW — Gross weight			
Remaining distance — Distance to arrival airport in kilometers			
1 Takeoff Weight — Flight takeoff weight			
Track — Orientation in degrees included in [0;359]			
Updated — Last position date			
Vertical Speed			

1 Click and drag the **Takeoff Weight** table cell onto the **Remaining distance** table cell.

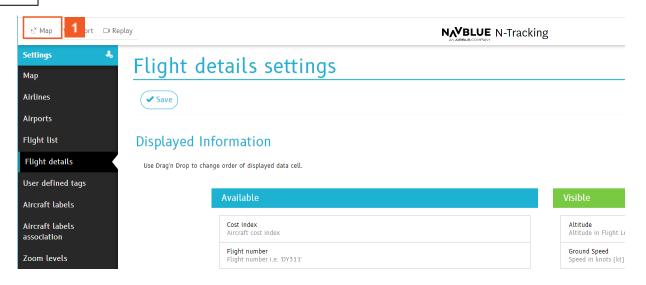To change the order of the data elements, drag and drop the cell entries to re-position them.

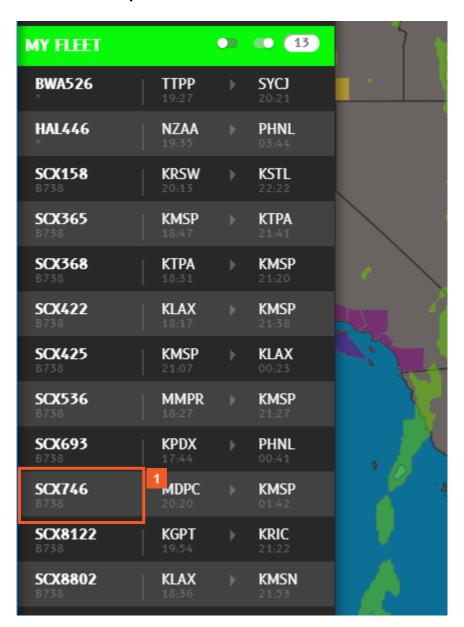**1** Drag the **Takeoff Weight** table cell above the **Remaining distance** table cell.

1 Click the **Save** button.
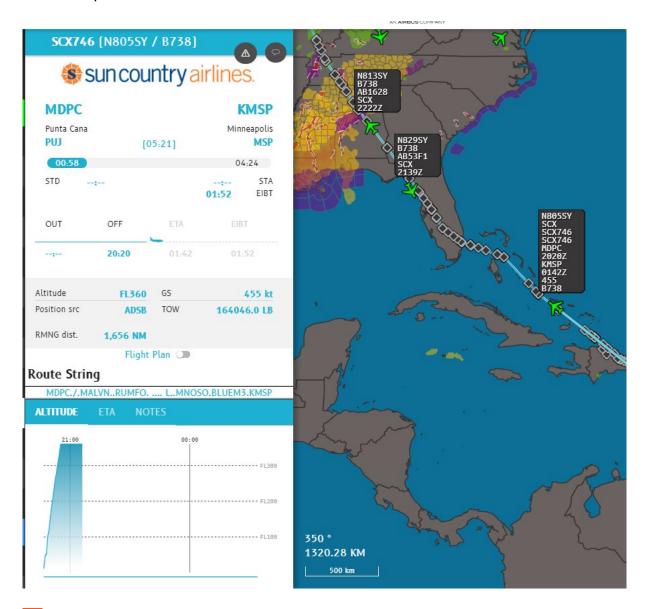
Let's see how that looks on the map.

1 Click the **Map** tab.
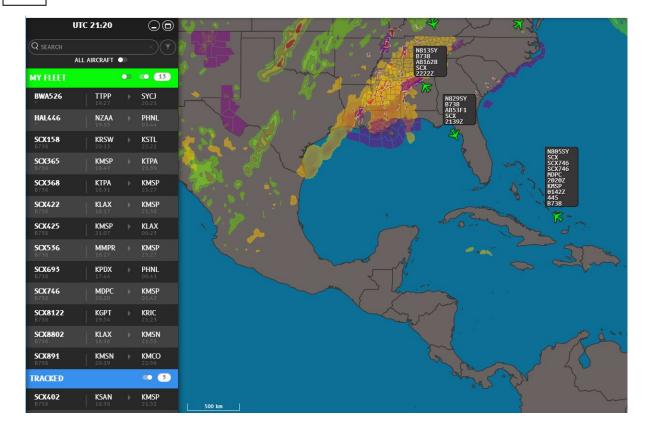

1 Click the **SCX746** table cell.

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The fields you chose display on the **Flight Details** pane, in the order you set.

The opening of the **Flight Details** pane also causes the aircraft's flight plan to display on the map.

1 Click **anywhere on the map**.
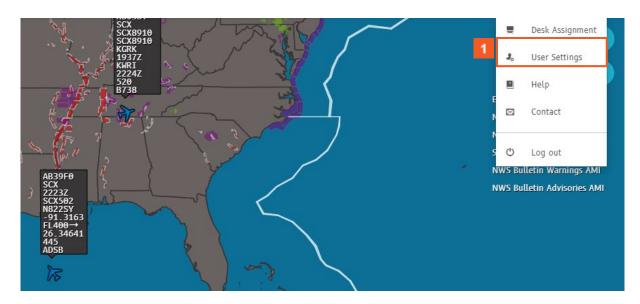
When you close the **Flight Details** pane, the flight plan for flight **SCX746** no longer displays.

The **Flight Details** pane closes and you're ready to move on to your next task or for more practice with these settings.

Let's change the graphs that display at the bottom of the **Flight Details** pane. In this scenario, you're logged in as an Administrator.
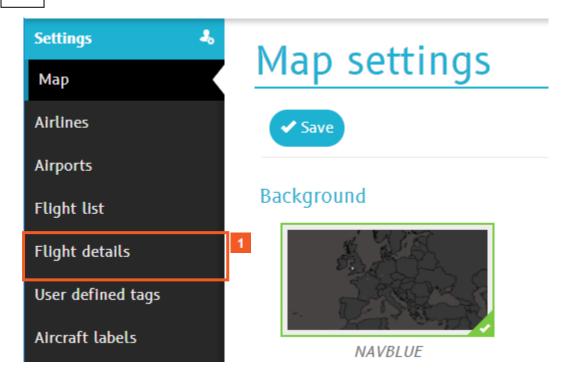
Do you remember the menu item to access when you want to update the **Flight Details** pane?

Use the **User Settings** menu item to access **Flight details** to update your display.

1 Click the **User Settings** menu item.
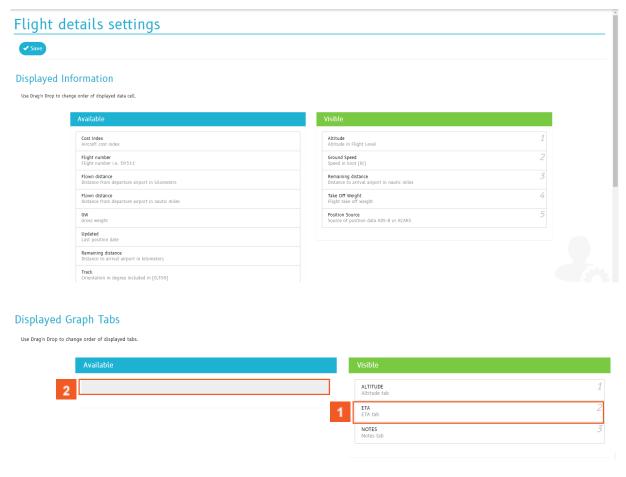
1   Click the **Flight details** menu item.

Scroll to the bottom of the page to work on the Displayed Graph Tabs section of the page.

1   Click and drag the **ETA** table cell onto the **empty cell** in the **Available** table.
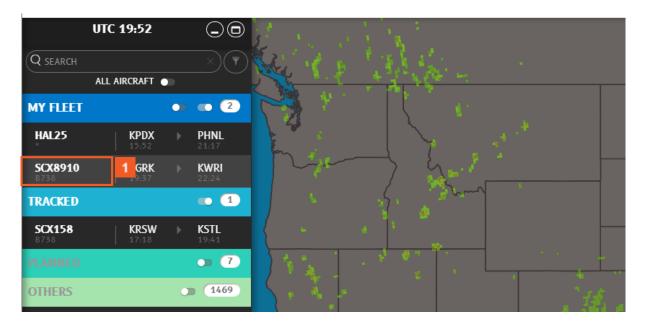
Displayed Graph Tabs

Use Drag'n Drop to change order of displayed tabs.

Available		Visible
ETA ETA tab		ALTITUDE Altitude tab
		NOTES Notes tab

✔ Save **1**

1 Click the **Save** button.

Let's see how that change affects the **Flight Details** pane.
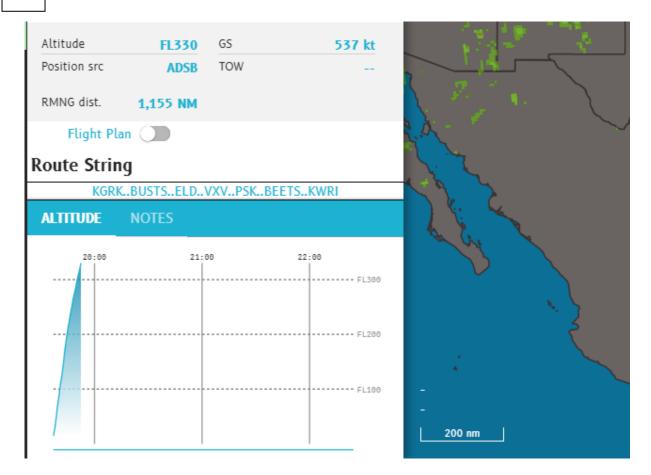
Click one of the flights (**SCX8910**) listed in the **Flight List**.

1 Click the **SCX8910** table cell.

ETA is hidden.

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Altitude	FL330	GS	537 kt
Position src	ADSB	TOW	--
RMNG dist.	1,155 NM		

Flight Plan ⬤

Route String

KGRK..BUSTS..ELD..VXV..PSK..BEETS..KWRI

ALTITUDE   NOTES
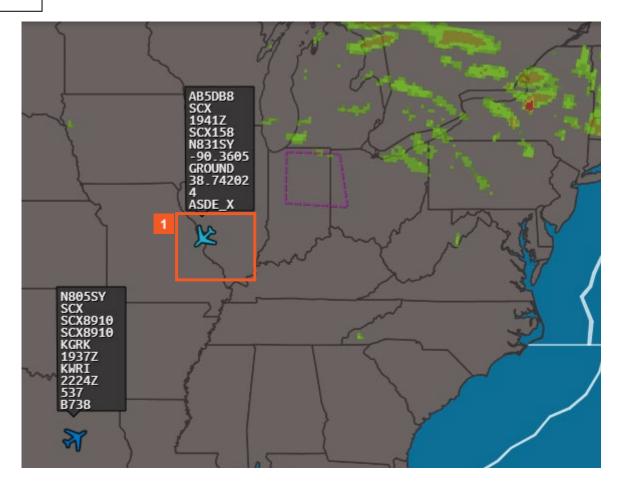
1 Click **anywhere on the map**.

As you know, you can also display the **Flight Details** pane by clicking on an aircraft icon on the map.

For this example, click the plane icon representing flight **SCX158**.
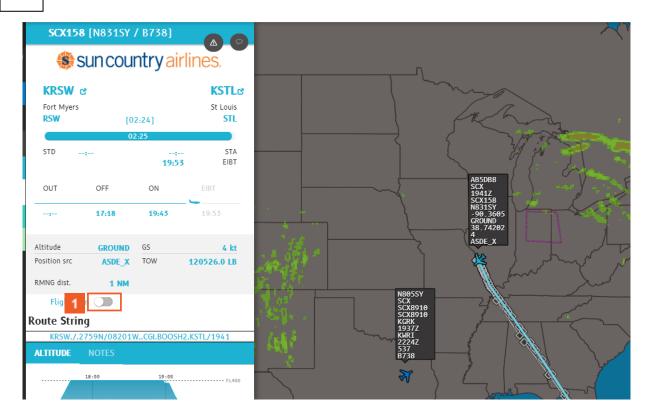
1 Click **the aircraft icon (flight SCX158)**.

All the configured data elements display in the **Flight Details** pane and the display of ETA in the lower screen is disabled.

Let's use another feature on the **Flight Details** pane -- the **Flight Plan** slider.

1 Click the **Flight Plan** slider.
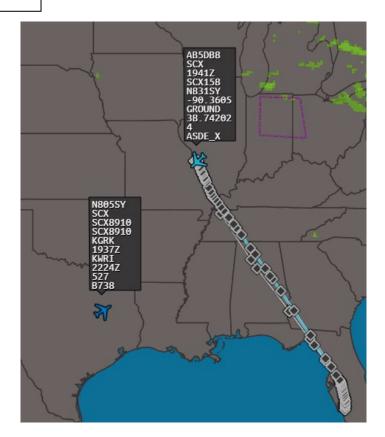
2 Click **anywhere on the map**.

The flight plan for **SCX158** continues to display on the map after you close the **Flight Details** pane.

You have learned how to tailor the information that displays in both the upper and lower sections of the **Flight Details** pane and how to display that pane on the map. You have also seen that you can use the **Flight Plan** slider to make flight plans display on the map after you close the **Flight Details** pane.

2.1.8   Define and assign tags to aircraft for use in searching and filtering aircraft

2.1.8.1 Introduction

Define and assign tags to aircraft for use in searching and filtering aircraft

In this topic, you learn how to define custom tags and then assign those tags to aircraft so that you can use them as search or filter criteria to narrow your search to only those aircraft with the tagged characteristics.

We estimate that this will take 5 minutes to complete.
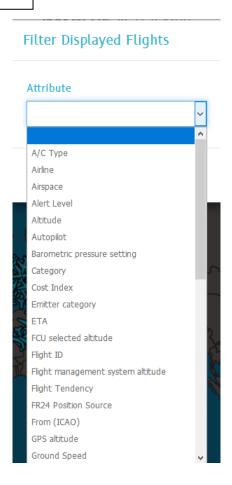
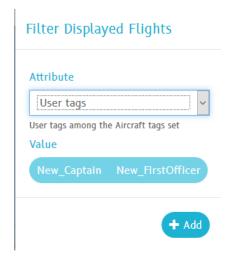### 2.1.8.2 Detailed explanation

Tags Overview

Within N-Tracking, users can filter aircraft based on certain attributes. The standard list of attributes is extensive and includes characteristics, such as aircraft type, airline, flight ID, etc.. As an N-Trackingadministrator, you can also create custom tags which can be used for more *ad hoc* filtering and that focus on characteristics other than the standard ones. A user-defined tag allows you to create groupings of aircraft based on criteria that you are interested in.

This image shows some of the many aircraft attributes you can use to filter the aircraft that display on the map (and in the Flight list).

Filter Displayed Flights

Attribute

| A/C Type |
| Airline |
| Airspace |
| Alert Level |
| Altitude |
| Autopilot |
| Barometric pressure setting |
| Category |
| Cost Index |
| Emitter category |
| ETA |
| FCU selected altitude |
| Flight ID |
| Flight management system altitude |
| Flight Tendency |
| FR24 Position Source |
| From (ICAO) |
| GPS altitude |
| Ground Speed |

This image shows two custom tags you can define and use to filter the Flight list.

Filter Displayed Flights

Attribute

User tags

User tags among the Aircraft tags set

Value

New_Captain   New_FirstOfficer

+ Add
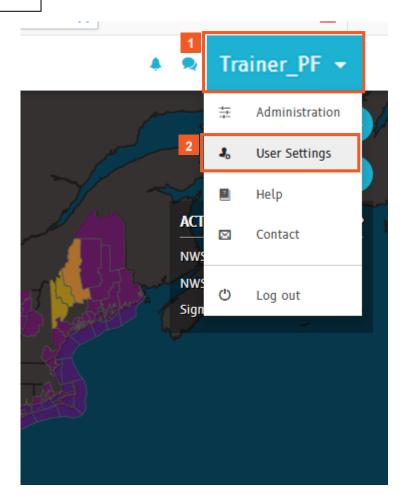
It might be worthwhile for you to take some time to think about the criteria you would include in user-defined tags. How would you want to filter your aircraft lists above and beyond the standard attributes?

In this example, you define custom tags and assign them to aircraft for filtering purposes.
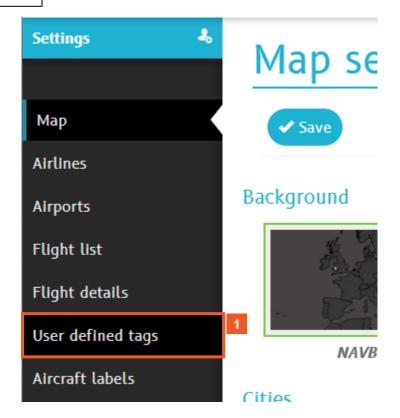
For more details on searching or filtering flights using standard aircraft characteristics, consult the topic, *Searching and filtering flights in the Flight list*.

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1 Click the **Username (Trainer_PF)** dropdown button.

2 Click the **User Settings** menu item.
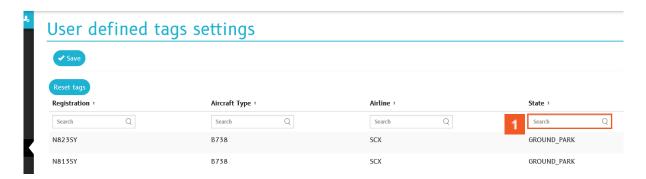
1 Click the **User defined tags** menu item.

For this example, imagine that there are three new recruits to your airline, two new captains and one new first officer. They are working on flights that are all in the air at the moment. Tag the aircraft on which the new employees are working.

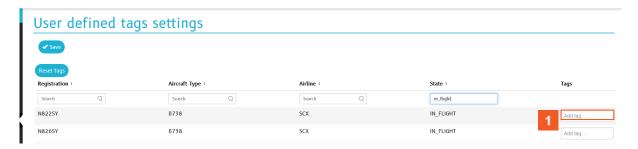You can start your task by narrowing the list of aircraft to those in the air.

1 Click the **State (Search)** input field.

Depending on the states used by your airline, you can enter search criteria as short as "flight" or "ground".

State ‡	Tags
1 [Search]	
GROUND_PARK	[Add tag...]
GROUND_PARK	[Add tag...]
GROUND_PARK	[Add tag...]
GROUND_PARK	[Add tag...]

1 Enter **in_flight** into the **Search** field.

User defined tags settings

[✔ Save]

[Reset tags]

Registration ‡	Aircraft Type ‡	Airline ‡	State ‡	Tags
[Search 🔍]	[Search 🔍]	[Search 🔍]	[in_flight]	
N822SY	B738	SCX	IN_FLIGHT	**1** [Add tag...]
N826SY	B738	SCX	IN_FLIGHT	[Add tag...]
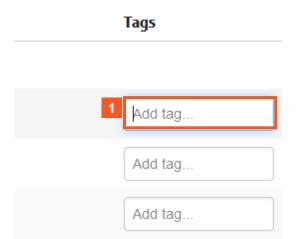
1 Click the **Tags (Add tag...)** input field.

For this example, the first new captain is the flight associated with tail number **N822SY**.
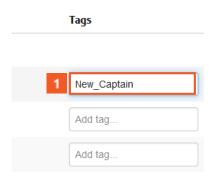
HINT

Tags cannot contain spaces. If you wish to use a phrase, such as 'New Captain' as a tag, separate the words with an underscore (as in 'IN_FLIGHT').

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Tags
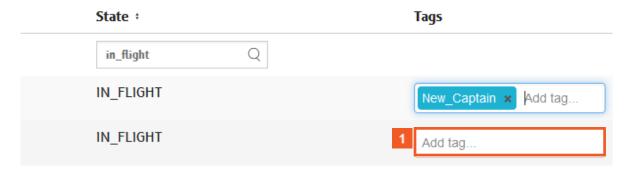
1 Enter **New_Captain** into the **Add tag...** field.

1 Press the ⏎ key.
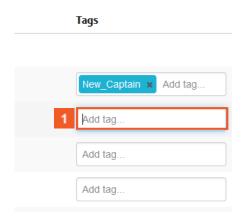
Notice that you can add more than one tag to an aircraft.

Add the same tag to the aircraft with tail number N826SY, the aircraft on which the second new pilot is flying.

State ⇕	Tags
in_flight	
IN_FLIGHT	New_Captain ✕ Add tag...
IN_FLIGHT	**1** Add tag...

1 Click the **Add tag...** input field.

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Tags
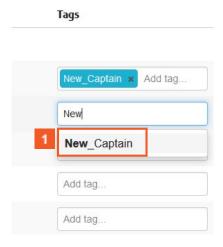
1 Enter **New** into the **Add tag...** field.

Tags

N-Trackingprompts from a list of previously defined tags, and you can select from that list.

1 Click **New_Captain**.
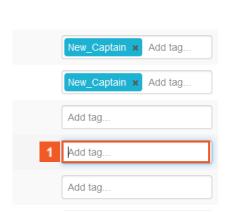
The third new recruit, a new first officer, is on board aircraft N834SY.

Registration ↕	Aircraft Type ↕	Airline ↕	State ↕	Tags
Search 🔍	Search 🔍	Search 🔍	in_flight 🔍	
N822SY	B738	SCX	IN_FLIGHT	New_Captain ✕ Add tag...
N826SY	B738	SCX	IN_FLIGHT	New_Captain ✕ Add tag...
N832SY	B738	SCX	IN_FLIGHT	Add tag...
N834SY	B738	SCX	IN_FLIGHT	Add tag...

1 Click the **Add tag...** input field.

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Tags
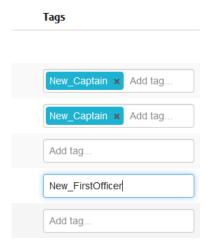
1 Enter **New_FirstOfficer** into the **Add tag...** field.

Tags
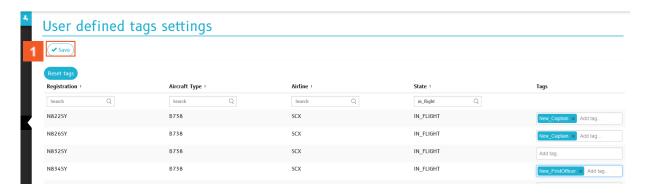
1 Press the ⎆ key.

If, while you are assigning tags to aircraft, you decide you don't want a particular tag, simply click the **X** associated with a single tag to remove it.

To remove all user-defined tags, click **Reset tags** .

User defined tags settings

1 ✔ Save

Reset tags

Registration ‡	Aircraft Type ‡	Airline ‡	State ‡	Tags
Search	Search	Search	in_flight	
N822SY	B738	SCX	IN_FLIGHT	New_Captain × Add tag...
N826SY	B738	SCX	IN_FLIGHT	New_Captain × Add tag...
N832SY	B738	SCX	IN_FLIGHT	Add tag...
N834SY	B738	SCX	IN_FLIGHT	New_FirstOfficer × Add tag...

1 Click the **Save** button.

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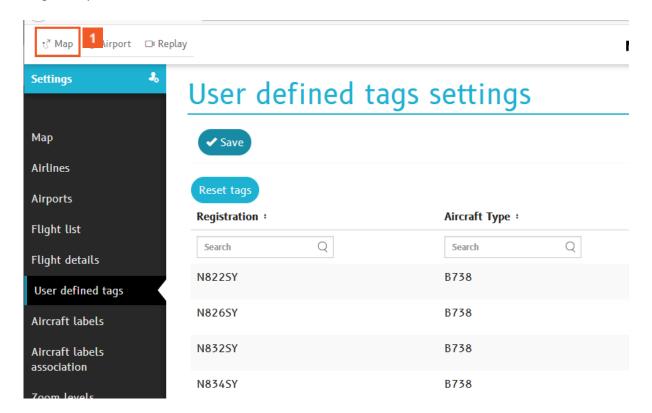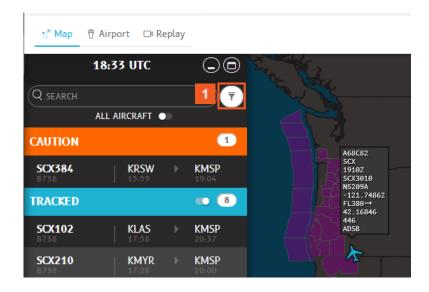
Next, use your custom tags to filter the flights that display on the map (and in the Flight list).
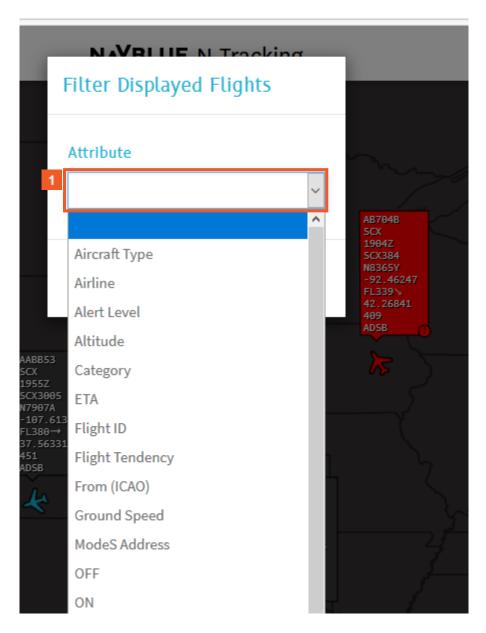
**1** Click the **Map** tab.

1 Click the **Filter** button.
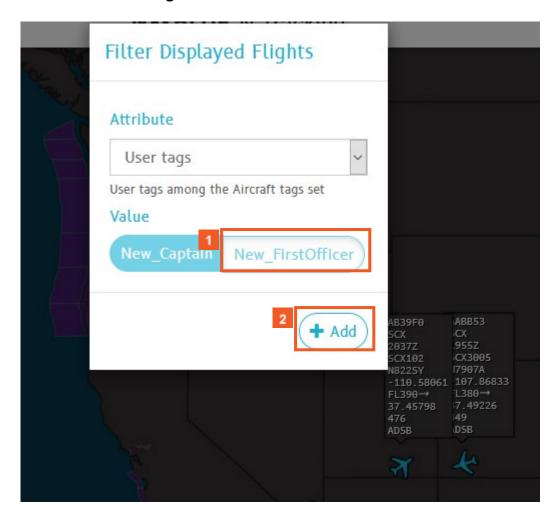
1 Click the **Attribute** dropdown button.
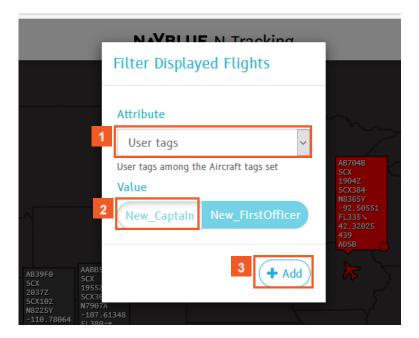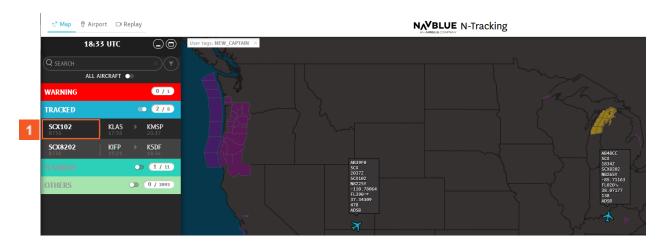
1 Enter **u** into the **Attribute** field.

1 Click the **User tags** list item.

2 Click the **New_Captain** button.

3 Click the **Add** button.
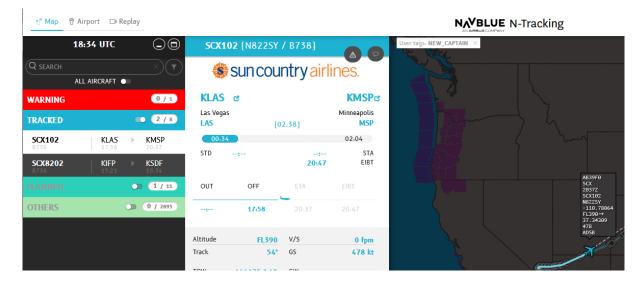
The map and the Flight list show only those flights you tagged with "New_Captain".

1 Click the **SCX102** list item.
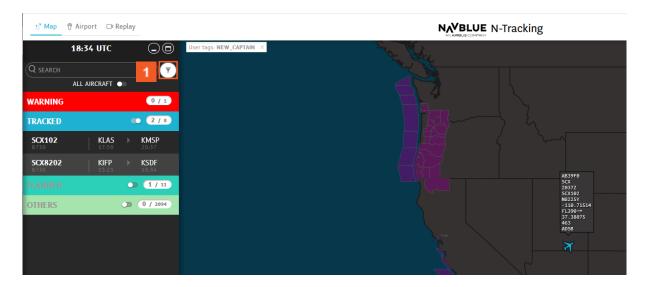
Tail number N822SY applies to flight SCX102.
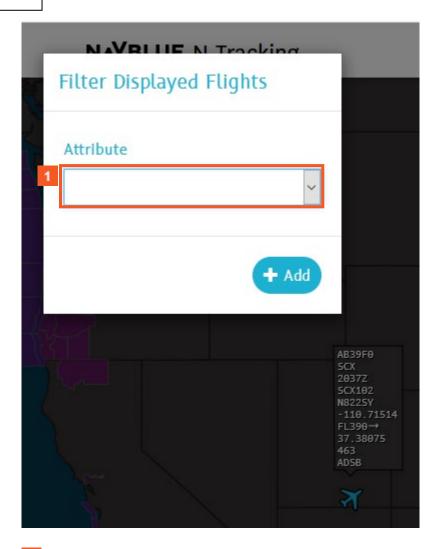
1 Click **anywhere on the map**.

Try adding another filter to use your other tag (New_FirstOfficer).
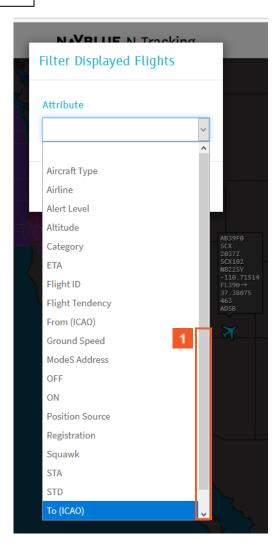
1 Click the **Filter** button.

1 Click the **Attribute** dropdown button.
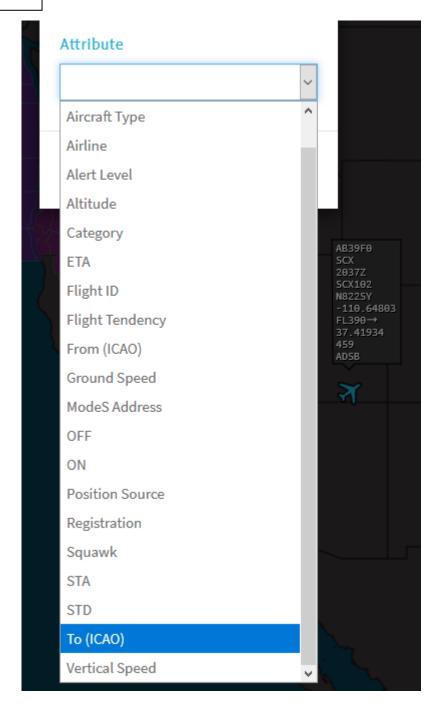
1 Click the **vertical** scroll bar.
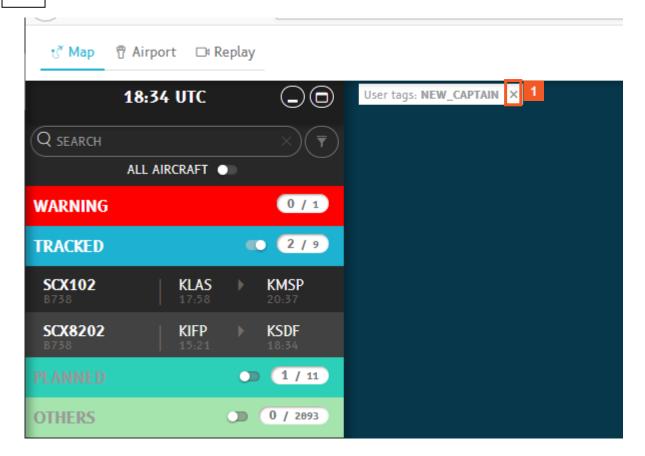
"User tags" is no longer in the list. You cannot combine a second filter with the currently applied filter.
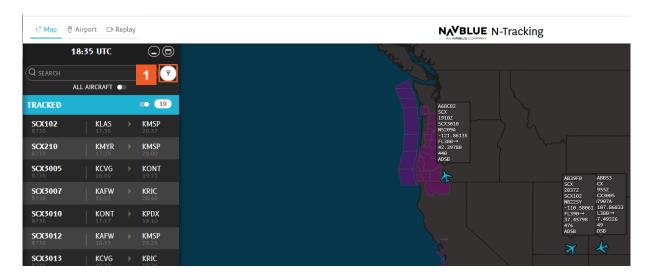
Remove the current filter.

1 Click the **X (Close)** button.

Filter the flights again to find the flight to which the new first officer was assigned.
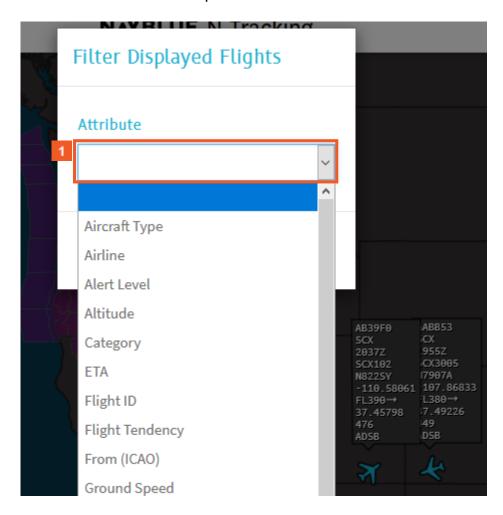
1 Click the **Filter** button.

1 Click the **Attribute** dropdown button.

1 Enter **u** into the **Attribute** field.

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1 Click the **User tags** list item.
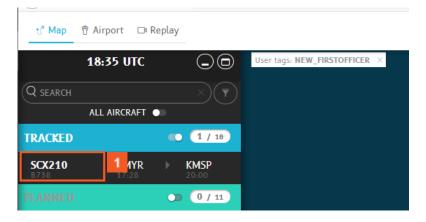
1 Click the **New_FirstOfficer** button.

2 Click the **Add** button.
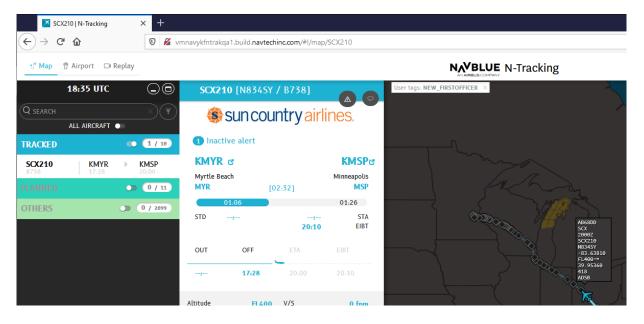
The single aircraft showing on the map is the one you tagged with "New_FirstOfficer".
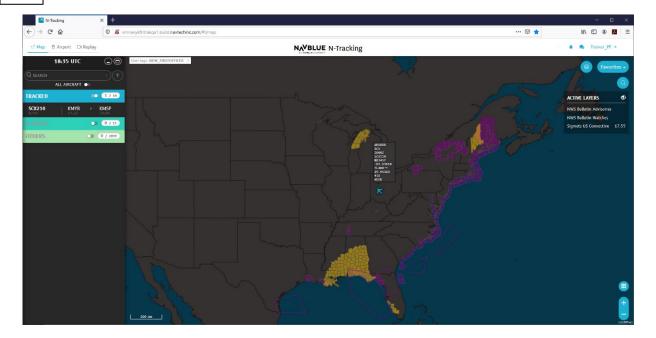
1 Click the **SCX210** list item.

Flight SCX210 is operating on tail number N834SY.

1 Click **anywhere on the map**.

Clear the filter when you no longer need it to find a specific flight.

SUCCESS

Congratulations! You have defined tags to use as filters in controlling which flights display on the map.

2.1.9   Customize and display aircraft labels

2.1.9.1 Introduction

Customize and display aircraft labels

In this topic, you learn how to assign different aircraft data elements to create an informative label that displays with each aircraft on the Map screen. You also learn how to adjust the size of the font used in those labels.
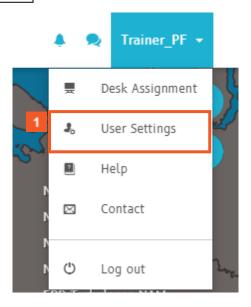
We estimate that this will take 4 minutes to complete.
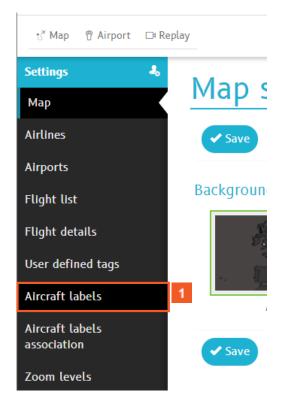
2.1.9.2 Detailed explanation

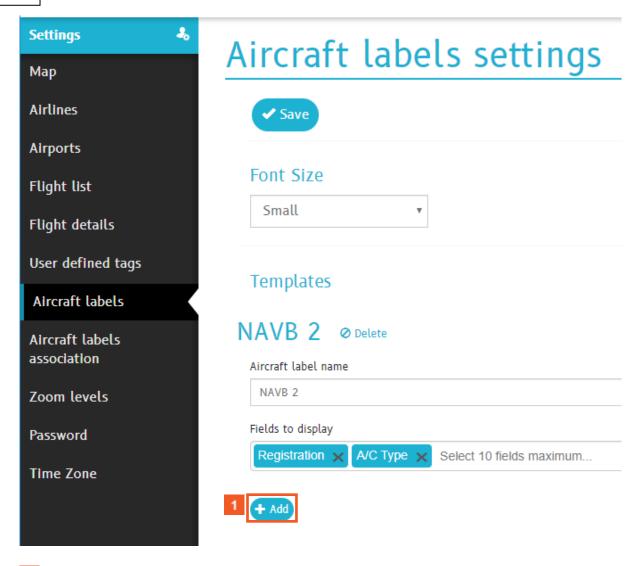
1 Click the **user name (Trainer_PF)** dropdown button.

1 Click the **User Settings** list item.

1 Click the **Aircraft labels** menu item.

When you first access this screen, there will be no labels listed. Click **Add** to add one.
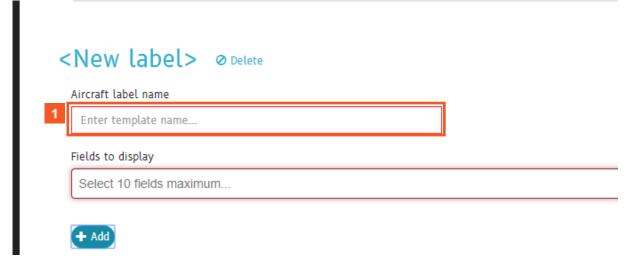
1 Click the **Add** button.

The font size you choose applies to **all** labels. Consequently, if you create labels that include a large number of data elements, using a small font may be the best option.

> 💬 If you decide later that a particular aircraft label is no longer needed, you can always access this screen again and click **Delete** (beside the label name) to delete it.

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<New label> ⊘ Delete

Aircraft label name

1 Enter template name...

Fields to display

Select 10 fields maximum...

+ Add

1 Click the **Aircraft label name** input field.

<New label> ⊘ Delete

Aircraft label name

1 Enter template name...

Fields to display

Select 10 fields maximum...

1 Enter **FULL** into the **Aircraft label name** field.

FULL ⊘ Delete

Aircraft label name

FULL

Fields to display

1 Select 10 fields maximum...

1 Click the **Fields to display** input field.

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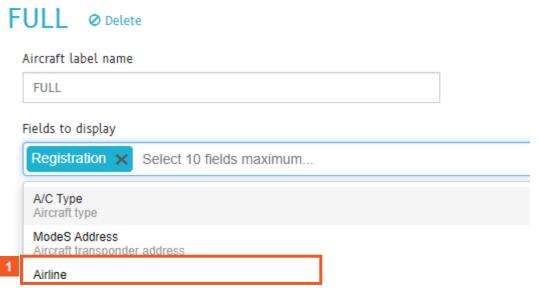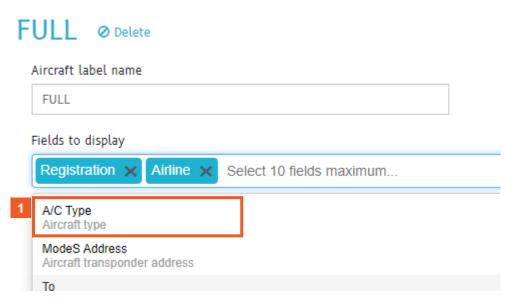
1 Click the **Registration** list item.

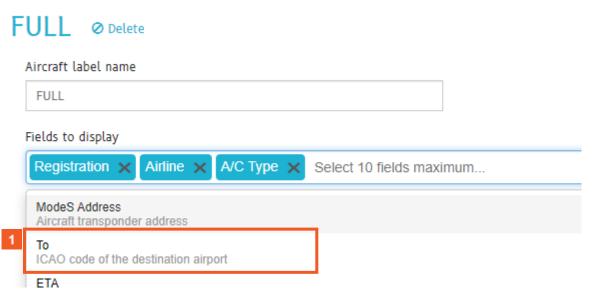Scroll through the list as needed to find the data elements you want to include in the label.

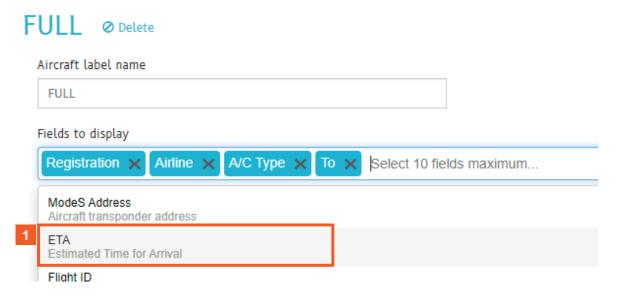

1 Click the **Airline** list item.
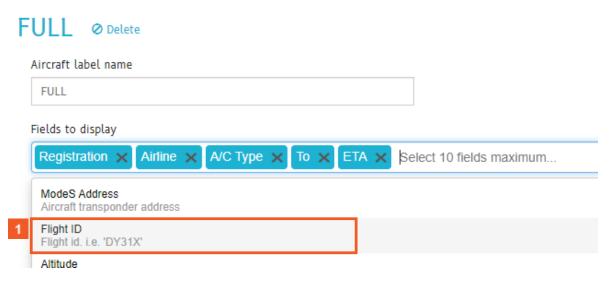
1 Click the **A/C Type** list item.

1 Click the **To** list item.
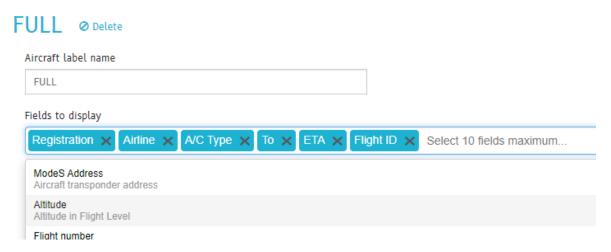
1 Click the **ETA** list item.

1 Click the **Flight ID** list item.
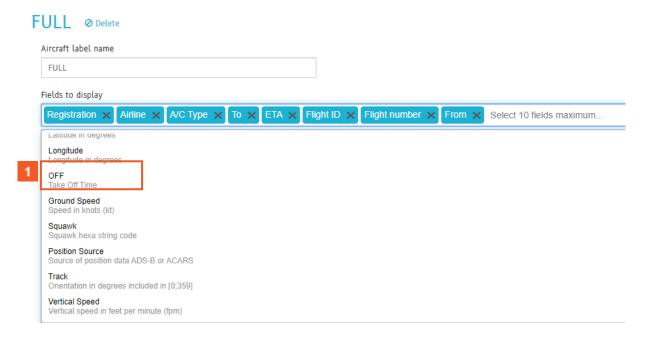
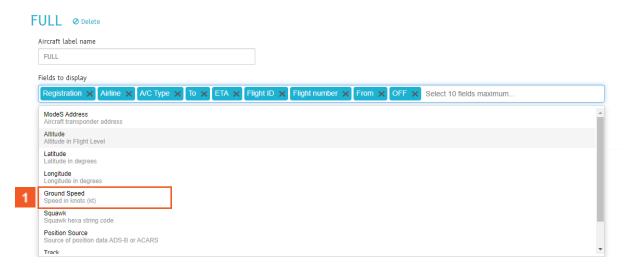**1** Click the **Flight number** list item.

1 Click the **From** list item.

1 Click the **OFF** list item.

1 Click the **Ground Speed** list item.

For this example, you have selected the maximum number of data elements you can include in a label.

To replace one of those elements with a different one, click the associated **X** to remove it and then add the new data element.
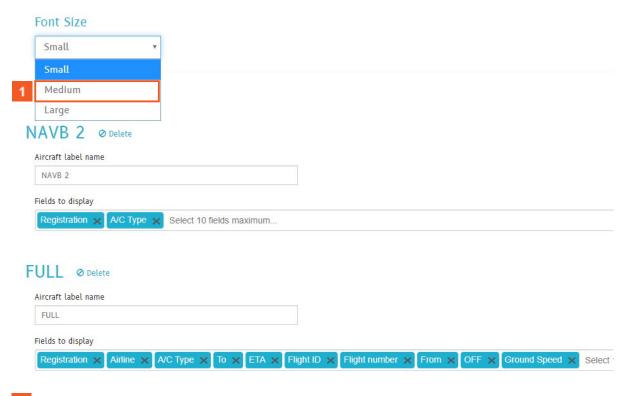
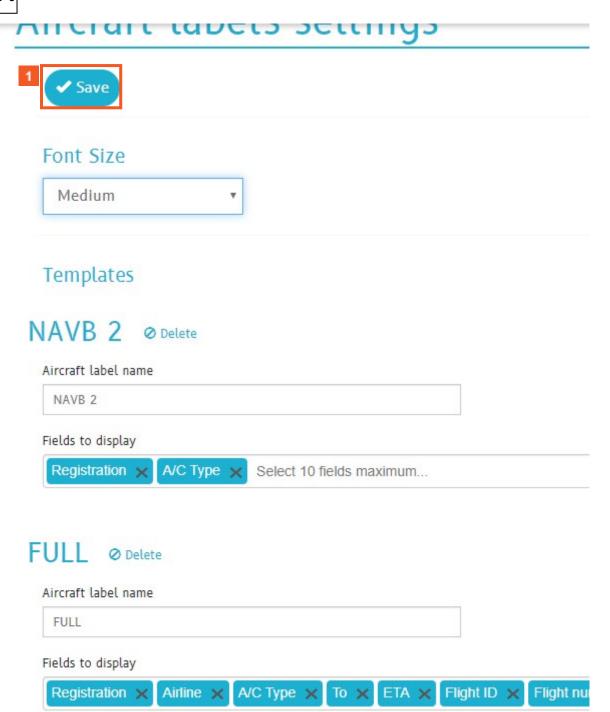Give some thought to the font size that works with the labels you create.

The default font size is "small", but depending on the monitor you use -- and the number of elements in your labels, you may choose to use a larger font size for display.
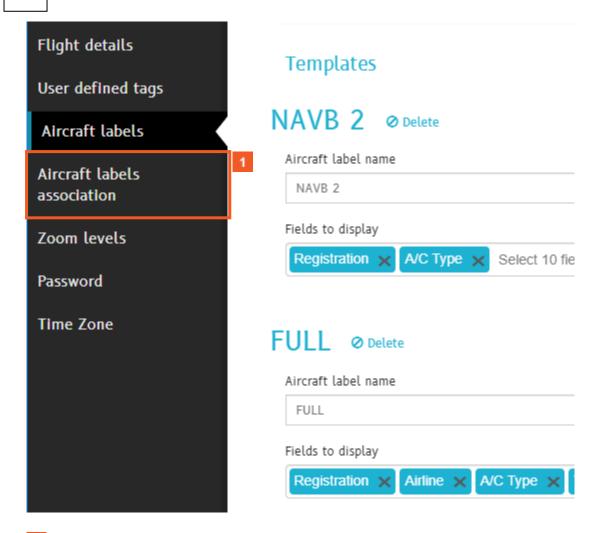
1 Click the **Font Size** dropdown button.

1 Click the **Medium** list item.

Aircraft labels settings

1 ✔ Save

Font Size

Medium ▾

Templates

NAVB 2 ⊘ Delete

Aircraft label name

NAVB 2

Fields to display

Registration ✕   A/C Type ✕   Select 10 fields maximum…

FULL ⊘ Delete

Aircraft label name

FULL

Fields to display

Registration ✕   Airline ✕   A/C Type ✕   To ✕   ETA ✕   Flight ID ✕   Flight nu

1 Click the **Save** button.

The next part of this process is to associate the new label with particular aircraft or types of aircraft.

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1 Click the **Aircraft labels association** menu item.

You can search by aircraft registration number to assign a label to a specific aircraft, if that number is not already shown on this screen.does not display on this screen, you can search by registration number to find it.

You can also search by aircraft type; if, for example, you want to assign the label to all B737 planes.

Assign the new label to registration number **N805SY**.

1 Click the **Aircraft labels** dropdown button.

N805SY	B738	
N822SY	B738	
N816SY	B738	
N820SY	B738	**1**
N817SY	B738	

1   Click the **FULL** list item.

Make the same assignment for registration **N808SY**.

N805SY	B738	FULL
N822SY	B738	
N816SY	B738	
N820SY	B738	
N817SY	B738	
N808SY	B738	**1**

1   Click the **Aircraft labels** dropdown button.

N805SY	B738	FULL
N822SY	B738	
N816SY	B738	
N820SY	B738	
N817SY	B738	**1**
N808SY	B738	
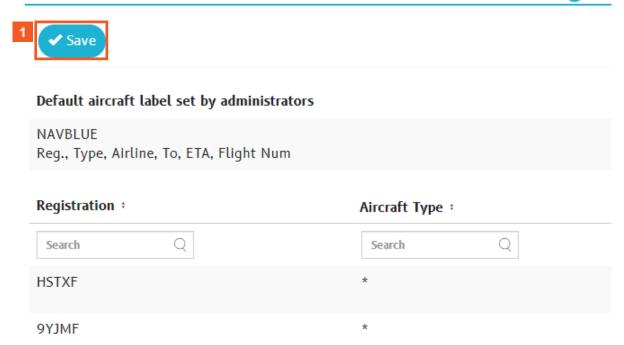
1   Click the **FULL** list item.

Always remember to save your changes.

Aircraft labels association settings

1 ✔ Save

Default aircraft label set by administrators

NAVBLUE
Reg., Type, Airline, To, ETA, Flight Num

Registration ⁞	**Aircraft Type** ⁞
Search 🔍	Search 🔍
HSTXF	*
9YJMF	*

1 Click the **Save** button.

The N-Tracking administrator has defined a default label, and in this example, has assigned it to some aircraft (e.g., **N710SY**).

You can use this default label or assign a customized label, using the drop-down list on the right.
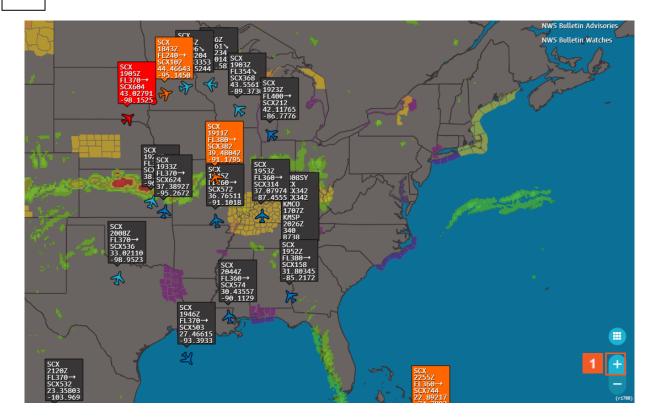
Having assigned the more detailed label to a couple of aircraft, let's see the difference on the map.

1 ⌖ Map   🛖 Airport   ⊡ Replay   N∧VB

Settings 👤
Map
Airlines
Airports
Flight list
Flight details

Aircraft labels association settings

✔ Save

Default aircraft label set by administrators

NAVBLUE
Reg., Type, Airline, To, ETA, Flight Num

1 Click the **Map** button.

At this zoom level, the aircraft labels are too close together. Let's fix that.

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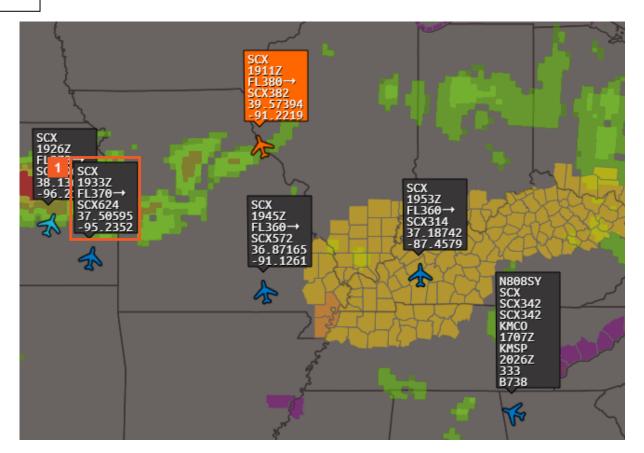
1 Click the **+ (Zoom in)** button.

The aircraft label for flight **SCX342** displays the "FULL" label description that you defined.

Other aircraft are assigned the "default" label which contains six data elements. This default label was set by an N-Tracking administrator).

At this zoom level, the labels for SCX596 and SCX624 overlap.

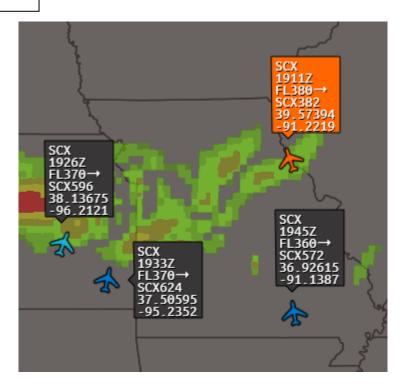To correct this, click the aircraft label for flight **SCX624**.
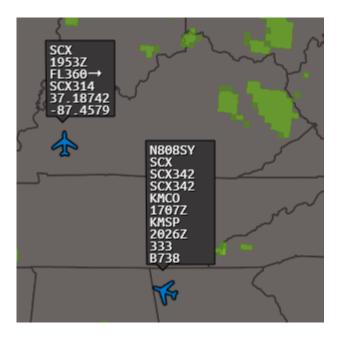
1 Click **SCX624**.

By default, aircraft labels display above ("due north") their associated aircraft and a small pointer points to the aircraft.

If you re-position a label, its pointer also moves -- so that it always points at its associated aircraft.

The label re-positions by moving clockwise (or to the next cardinal direction point -- in this case, east).

In this example, the data element SCX342 displays twice.

This is not an error because in this example, Flight ID and Flight number are both included in the label.

If, for your airline, these identifiers are the same, you may want to remove and replace one of those elements for labeling purposes.

If air traffic in a particular area is congested, you may find the the aircraft labels overlap, even with your ability to re-position them around their respective aircraft.

In that case, you may wish to set the aircraft labels to automatically re-arrange themselves every 10 minutes. For more details, consult topic, *Automatically re-arrange aircraft labels*.

2.1.10 Adjust default zoom levels for navigational layers

2.1.10.1   Introduction

Adjust default zoom levels for navigational layers

In this topic, you learn how to change the default settings for zoom levels for the different navigational layers to use your preferred zoom level.

We estimate that this will take 5 minutes to complete.
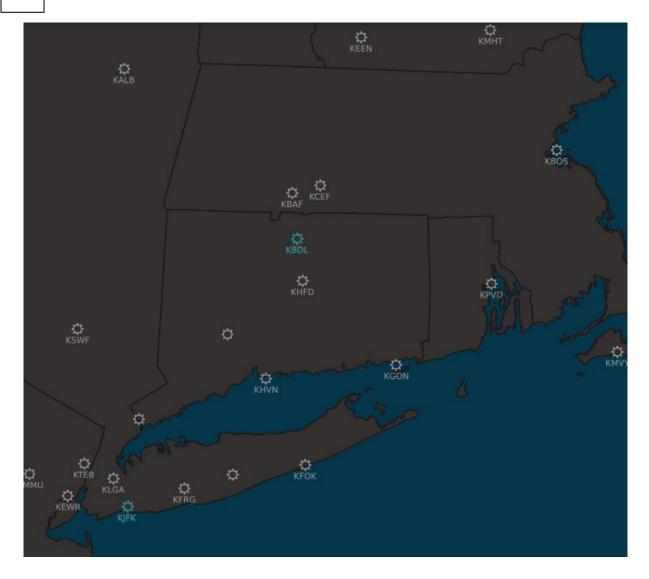
Using default zoom level settings to control the display of navigation information on the map

As you work with adding navigational information to the N-Tracking map, you will find that different layers work better at different map zoom levels.

For example, you don't need to see the entire continental United States (which displays at the 500 nm zoom level) if you want verify the name of a waypoint over a particular state.

N-Tracking includes defaults for the zoom levels at which the various navigational layers display. You can set those default parameters differently.
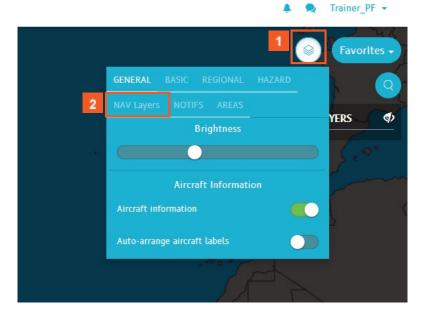
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2.1.10.2   Detailed explanation

To begin your exploration of adjusting default zoom levels used with the various navigational information layers,
let's get oriented:

- ■   The map is focused on the United States.
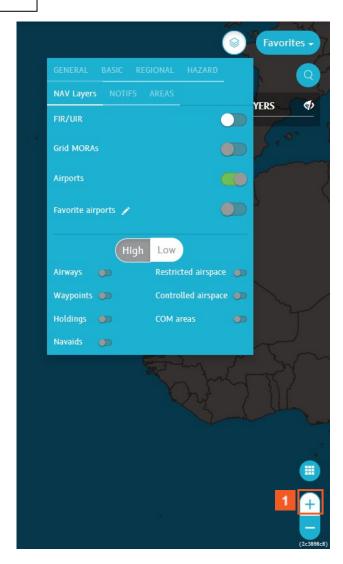- ■   The map zoom level is 200 nm.

1 Click the **Layers** button.

Access the **Navigational** layers in the **Layers** pane.

2 Click the **NAV Layers** tab.

At the 500 nm zoom level, you can choose to enable the **FIR/UIR** slider. All other sliders are inactive, as indicated by their gray slider "thumb". This means you cannot enable those navigational layers at this zoom level.
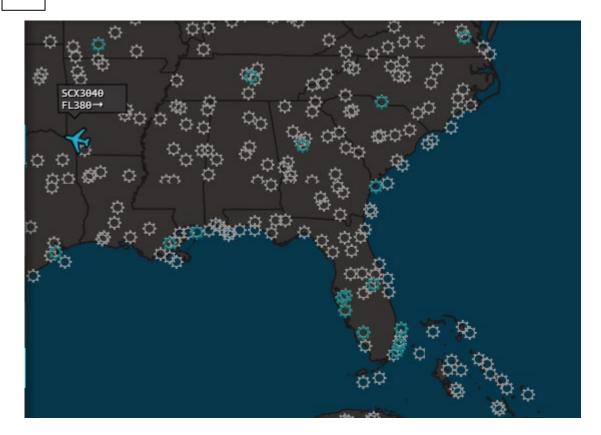
Zoom in to the 200 nm level.

1 Click the **Zoom in** button.

At the 200 nm zoom level, icons indicating airports and favorite airports display on the map.

Review the settings for the Navigation layers again.
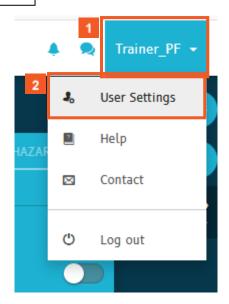
1 Click the **Layers** button.

At the 200 nm zoom level, you can choose to enable (or disable) all the navigational layers whose "thumbs" show in white on the NAV layers pane.
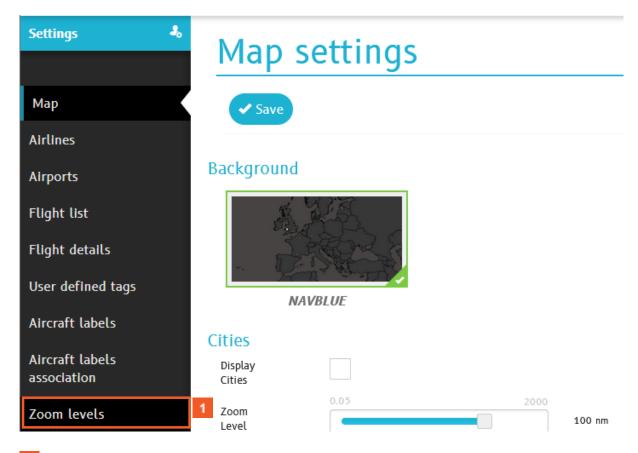
Next, let's learn how to change that default setting if your preference is to enable the different navigation information layers at higher or lower zoom levels.

Access the **User Settings** menu to make these changes.

1 Click the **Username (Trainer_PF)** dropdown button.

2 Click the **User Settings** menu item.
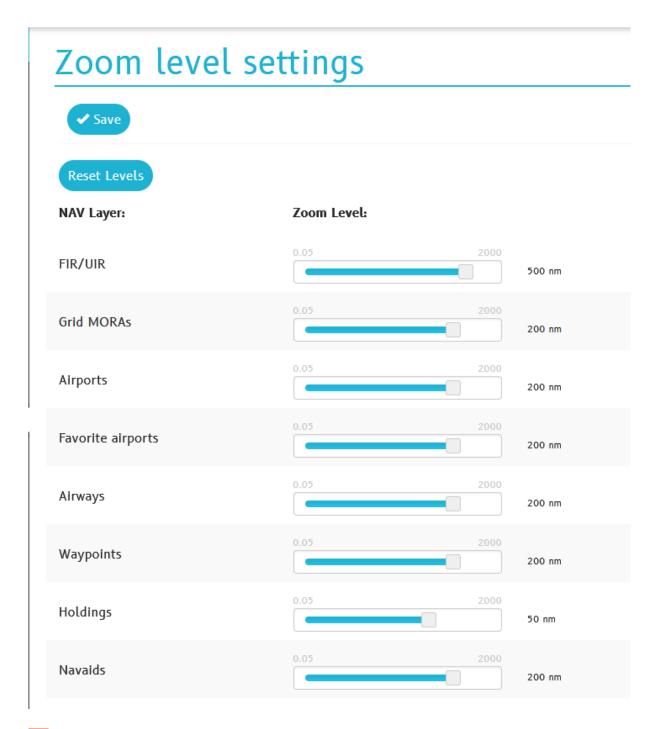
1 Click the **Zoom levels** menu button.

Review the default zoom levels shown on the **Zoom level settings** page and think about the zoom levels that work best for you to display (or not) the different navigational elements on the map.

By default, **FIR/UIRs** become available for use at 500 nm, while you can enable or disable most of the other layers at the 200 nm zoom level. Use these sliders to change these settings according to your requirements.
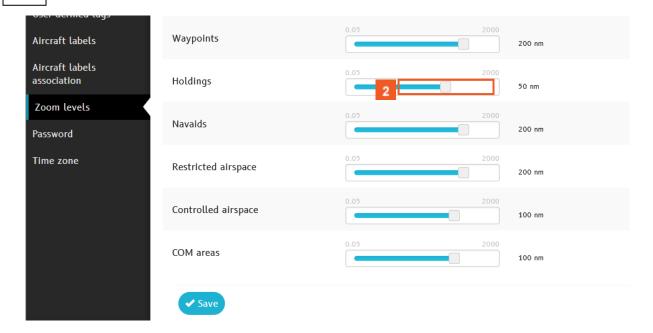
Scroll down to be sure to view all the settings on this page.
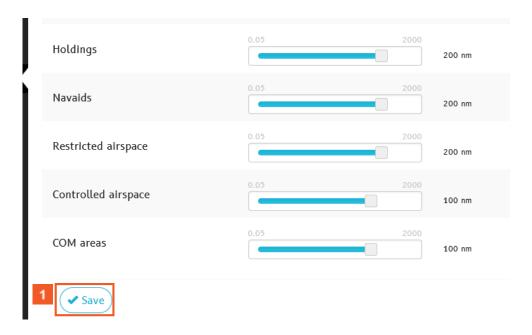
1 Click the **vertical** scroll bar.

Click and drag the **Holdings** slider to the right (towards 2000) to make it usable at a higher zoom level (for this example, 200 nm).
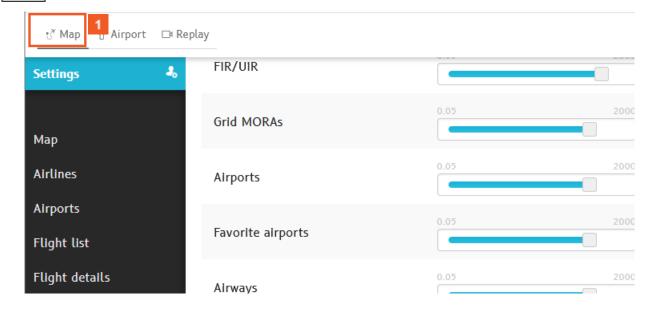
1 Click and drag the **Holdings** slider.

1 Click the **Save** button.

HINT

Always remember to save your settings before you leave this page.

1 Click the **Save** button.
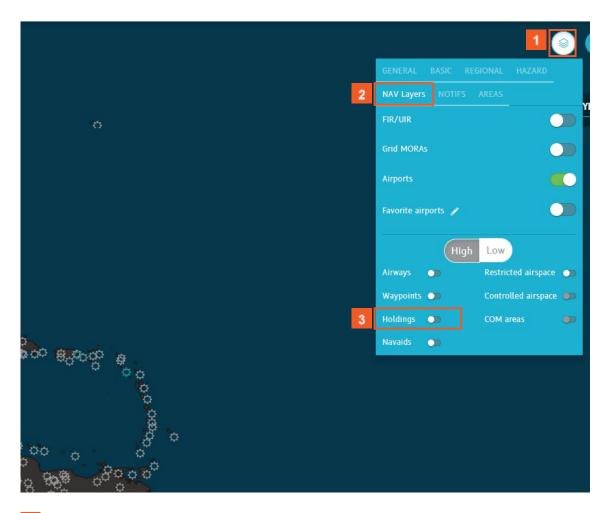
Now, navigate to the map to see the impact of your change.

1 Click the **Map** tab.

In this example, you're currently at the 200 nm zoom level.
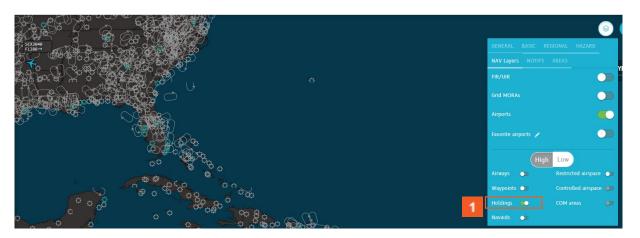Access the NAV layers again.

1 Click the **Layers** button.

2 Click the **NAV Layers** tab.

Now you can enable the **Holdings** slider at the 200 nm zoom level.
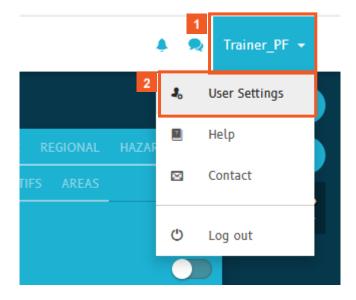
Go ahead and enable the display.

3 Click the **Holdings** slider.

After you review the results (icons for the holding patterns display on the map), click the slider again to remove **Holdings** from the map.
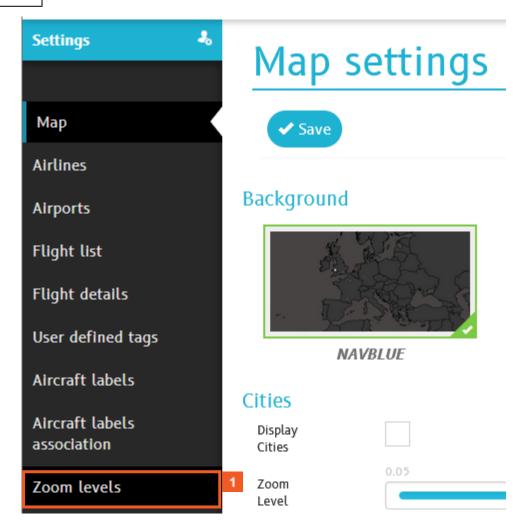
1 Click the **Holdings** slider.

Access the **Zoom level settings** again from the **User Settings** menu.

1 Click the **Username (Trainer_PF)** dropdown button.
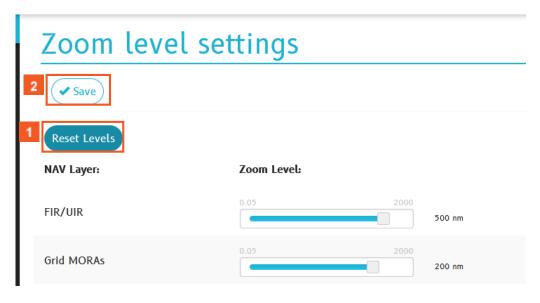
2 Click the **User Settings** menu item.

1 Click the **Zoom levels** menu button.

To set the zoom level options back to the system default, click **Reset Levels**.

Otherwise, make the adjustments you want to make the different navigational elements usable at zoom levels that best suit your operations.

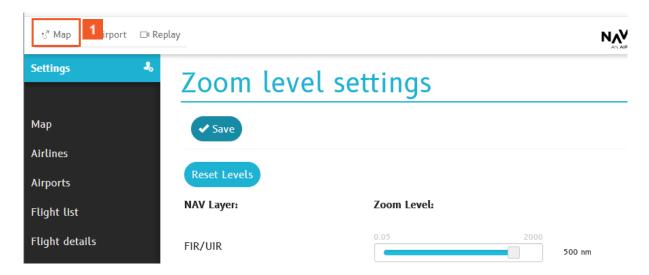**1** Click the **Reset Levels** button.

REMINDER

Always save your changes.

2 Click the **Save** button.

SUCCESS

Congratulations! You can now change zoom level settings to make the different navigational layers usable at different map zoom levels.

Display the map again and let's review how some other navigation information works at other zoom levels.

1 Click the **Map** tab.
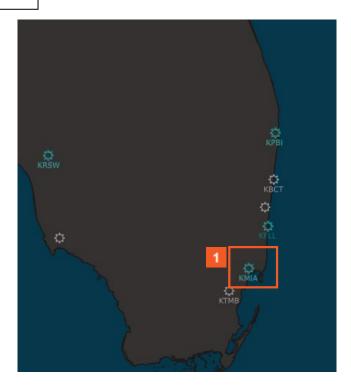

1 Click the **Zoom in** button.

Zoom in to the 20 nm zoom level.

In your operational environment, you can zoom in by clicking the **Zoom in** button as many times as needed to reach the 20 nm level or by using your mouse scroll wheel.

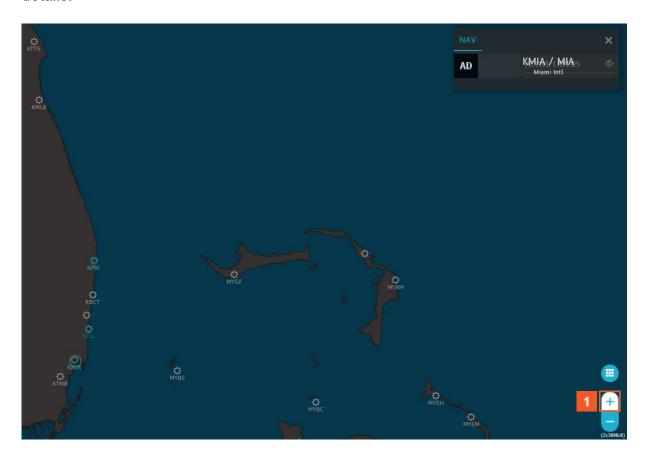At the 20 nm zoom level, IATA codes associated with airports display on the map automatically.

Optionally, click the icon for the KMIA airport in southern Florida.

1 Click **the KMIA airport icon**.

The **NAV** pane displays information about the airport. You can click **AD** to view more details.
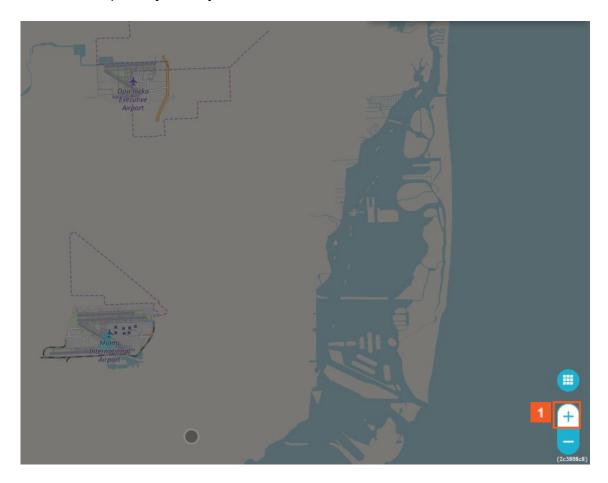

HINT

Type hint to help learners. (12pt)

1 Click the **Zoom in** button.

Zoom in more -- to the **2 nm** level.

For airlines whose subscription includes surface tracking, at a zoom of 2 nm (or approximately 2 km), airport maps display on the map if your N-Tracking administrator enables the *Enable Airport Surface Map* option.

For some airports, you may need to zoom in further than 2 nm.

For this example, zoom in again, as many times as needed to view traffic around the airport gates.

1 Click the **Zoom in** button.

The airport map displays and you can see the location of aircraft on various runways or at gates (as applicable). Depending on activity at or around the airport, you will be able to see aircraft taking off and about to land. (Use a higher zoom level to view incoming aircraft.)

For more details, consult the topic, *Surface tracking* in the **Airports** section.

HINT

For airlines using the metric for the map scale, the same effect applies at the 2 km zoom level.

To further clarify the zoom level at which you can expect to see airport maps on the main map: Airports located closest to the equator are more likely to display at the 2 km/ 2 nm zoom level. For airports located increasingly north of the equator, you may have to zoom in more.

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2.1.11 Help

2.1.11.1   Introduction

Help

In this topic, you learn how to access a User Guide in PDF format covering all the N-Tracking eLearning topics for consultation or downloading.

We estimate that this will take 1 minute to complete.

2.1.11.2   Detailed explanation

Accessing Help

If you prefer to read documentation in the traditional "book" format, you can always access the same content you are reading now in a PDF format.

You can save the User Guide locally to your hard disk; you can print it (if required); and you can search its content using all the usual tools available with PDF readers such as Adobe Acrobat Reader.
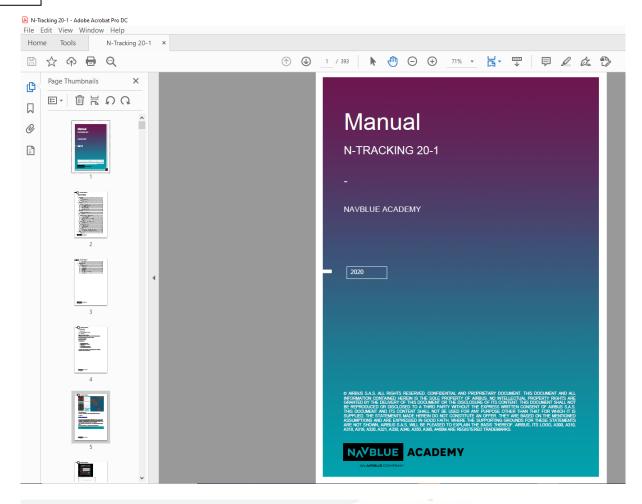
> 🗩 Please consider the environment and print the Guide only if essential to your operations.
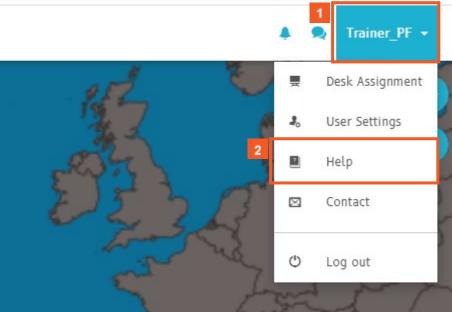
> ⓘ In Adobe Acrobat Reader use CTRL+F to search for specific words in the PDF.
>
> The PDF viewer configured for your corporate environment may display documents differently than shown here.

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1 Click the **Username** dropdown button.

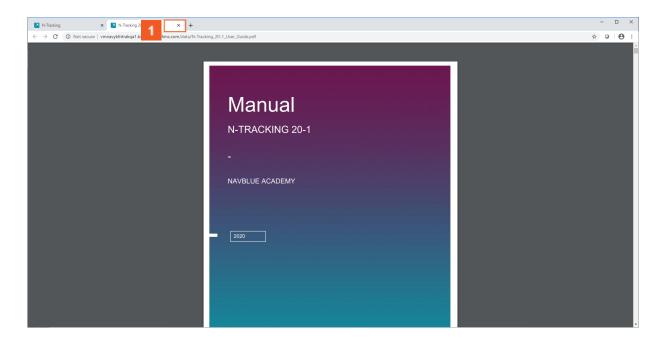**2** Click the **Help** menu item.

The User Guide loads into a separate browser window.

The first time you load the PDF file, you may experience a slight delay while the document loads into your browser.

You can read the PDF document online or download it as you would any other document using the tools in your PDF reader.

> 💬   The appearance of the PDF document may differ slightly from this example if you have a either a different PDF reader or a different version of Adobe Acrobat installed.
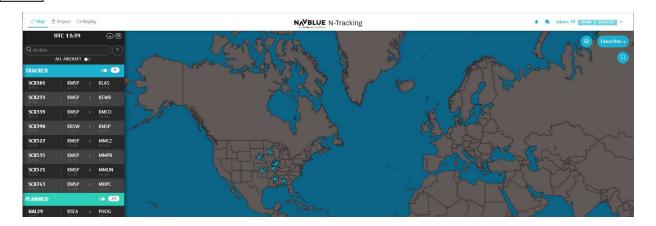

Close the separate browser window to continue your work in N-Tracking.

1 Click **X (Close)**.

Continue your regular work in N-Tracking.

2.1.12 Reset your password

2.1.12.1   Introduction

Reset your password

In this topic, you learn some best practices to follow when creating your password. You also learn how to change your password.

We estimate that this will take 2 minutes to complete.

2.1.12.2   Detailed explanation
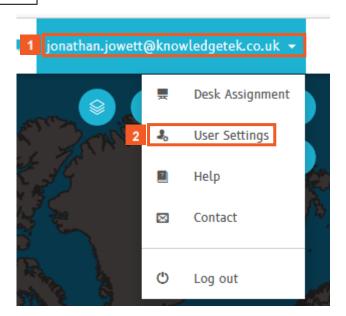
Passwords in N-Tracking

Your user name and password combine together to form your digital key in N-Tracking. This key determines your access rights within the application and as such should be kept safe from other people. Please follow the following best practices with your username and password:

- Never share either your user name or password with other people.
- Always change your password on a regular basis, especially if you think it has been compromised for any reason.
- Use a mixture of lowercase and uppercase characters as a minimum.
- Try not to use real words or words that can be easily guessed as your password.

⚠ We all know that changing passwords can be a bit of a pain at times and keeping track of them all sometimes difficult, but imagine the personal consequences to you if for example there was an air incident and a your user name and password had somehow become readily available on the internet. How would your management team respond if a breach happened?
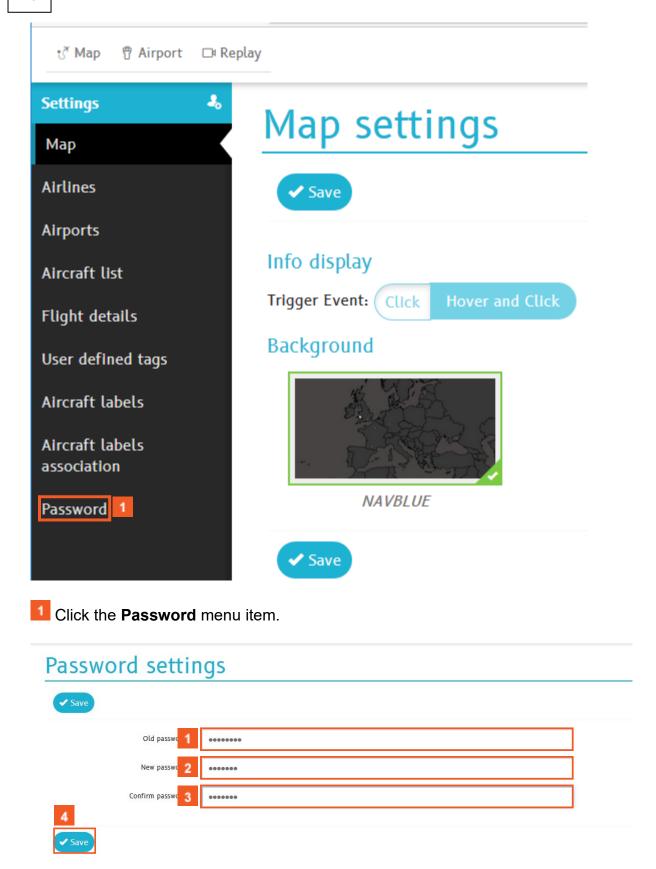
ⓘ Passwords must be a minimum of eight (8) characters long and also contain at least one (1) number. It's a good idea to mix lowercase and uppercase characters as well.

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1 Click the **user name** dropdown button.

2 Click the **User Settings** menu item.

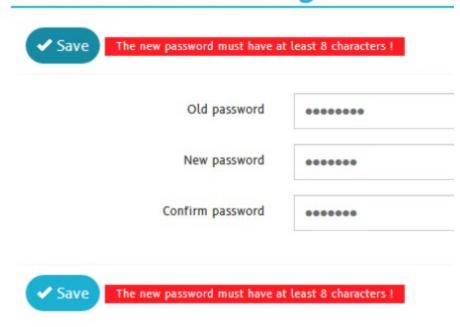**1** Click the **Password** menu item.

For the purposes of this demonstration we are initially going to enter a password that is only *seven* characters long.

You'll see what happens if you don't meet the minimum password requirements.

> 💬 Passwords are case sensitive.

1 Enter **f42g8FDr** into the **Old password** field.

2 Enter **Qx31fTt** into the **New password** field.

3 Enter **Qx31fTt** into the **Confirm password** field.

4 Click the **Save** button.

> 💬 As we didn't enter a minimum of eight characters, this error message is expected.
>
> The good news is that we don't have to retype the whole password, we can simply append an additional character to the "New password" and "Confirm password" input fields.

Password settings

Let's add that required additional character.

1 Enter **5** into the **New password** field.

2 Enter **5** into the **Confirm password** field.

3 Click the **Save** button.

> ⓘ The password has now been changed. You'll need to use it the next time you log in to N-Tracking.
>
> Meanwhile, you can continue to use the application as usual now without having to log out.

3 Adding information to the map

3.1 Adding basic weather information to the map

3.1.1 Display NWS bulletins, TFRs, AIRMET, SIGMET, and PIREP information (North America only)

3.1.1.1 Introduction

Display NWS bulletins, TFRs, AIRMET, SIGMET, and PIREP information (North America only)

in this topic you learn how to display basic weather information such as NWS and SIGMETs information that applies in North America only.

We estimate that this will take 12 minutes to complete.

3.1.1.2 Detailed Explanation

Basic weather information

The basic weather package is the global standard weather package that you receive with an N-Tracking subscription. Basic weather options that apply only to North America airspace include:

- NWS (National Weather Service) Bulletins: Active weather bulletins for various areas
- TFRs (Temporary Flight Restrictions)
- AIRMETs: (Airmen's Meteorological Information) -- **concise** descriptions of actual or predicted weather phenomena localized along an air route and which may affect aircraft safety
- SIGMETs: (Significant Meteorological Information) -- **detailed** descriptions of actual or predicted weather phenomena which may affect aircraft safety

- PIREPs: pilot reports of actual weather conditions encountered in flight

NOTE: The weather layers Infrared and visible satellite, Current METAR Weather Depiction, METAR for airports, and TAF (Terminal Aerodrome Forecast) for airports apply globally and are covered in separate topics.
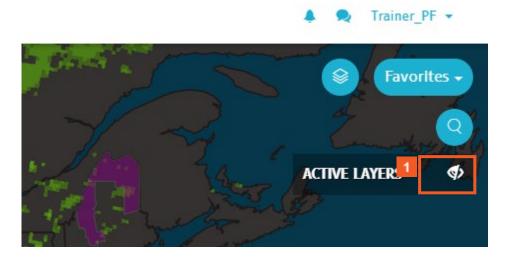
The basic weather package also includes a feed to display tropopause heights and lows. Since this information is also available globally, that topic too is covered separately.

In this example, the various colors you see on the screen indicate several weather layers that have already been enabled.

Notice the **ACTIVE LAYERS** panel on the right of the map. This panel helps you to know, at a glance, which weather layers you have enabled.
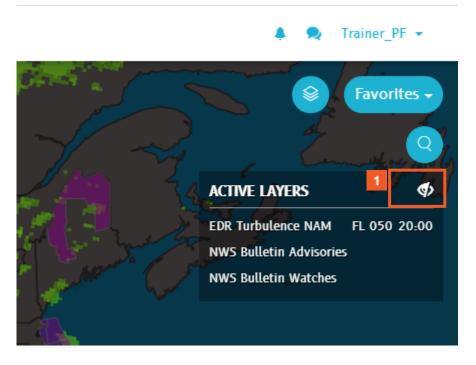
The panel is currently closed. To open it, click the **Show/Hide** icon on its right.
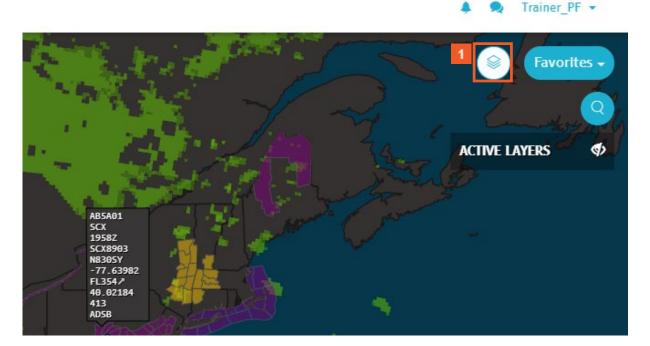
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1 Click **the Show/Hide icon**.

You can work with the **ACTIVE LAYERS** panel open or closed -- according to your preference. For the purposes of this example, close the panel again.

1 Click **the Hide/Show icon**.

1 Click the **Layers** button.

You can adjust the **Brightness** slider on the **General** tab to change the contrast between the land and water features on the map.

1 Click the **BASIC** tab.

NWS bulletins display National Weather Service (NWS) information for affected zones at a glance. N-Tracking displays a summary of all alerts issued by the National Weather Service in effect for a given county.

NWS bulletins are color coded on the map, as follows:

- **Red** -- warnings
- **Yellow** or **orange** -- watches
- Purple -- advisories

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Best practice is to read the bulletin contents by enabling the NWS slider. The alerts could mention snow or heavy rainfall that might cause flight disruptions.

As two of the options for NWS bulletins are already enabled, let's enable **Warnings AMI** (area of maximum impact).

All of the sliders work the same way: click to enable them; click again to disable them.
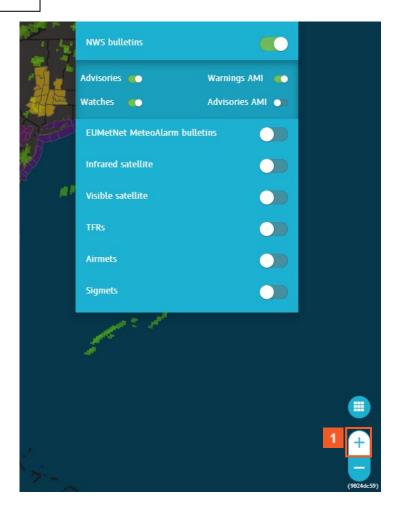

1 Click the **Warnings AMI** slider.

Areas subject to NWS weather watches display in yellow.

Areas subject to NWS warnings display in red.

Areas subject to NWS advisories display in purple.

To hone in on one of the areas subject to NWS advisories, watches or warnings, you can click the **Zoom in** icon or use the scroll wheel on your mouse.

1 Click **Zoom in (+)**.

In this example, none of the aircraft you are tracking are flying near areas affected by weather bulletins.

Hover your mouse over any NWS warning that may be of concern to you. These warnings may not be relevant to flight conditions.
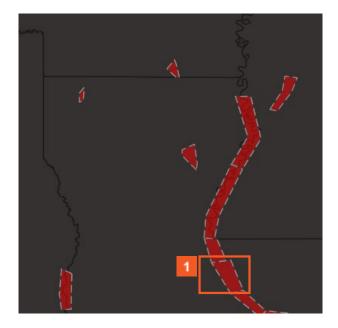
In this example, this NWS bulletin displays a flood warning for Baton Rouge.

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If you click on the area on the map, N-Tracking displays the information in a separate pane on the right side of the screen.

All of the weather layers work this way.

1 Click **the highlighted area**.

While the text in these columns is less readable, you can use this pane to capture the text into your clipboard: triple-click on a column or use click, drag to highlight the text and then press Ctrl + c to capture its text.
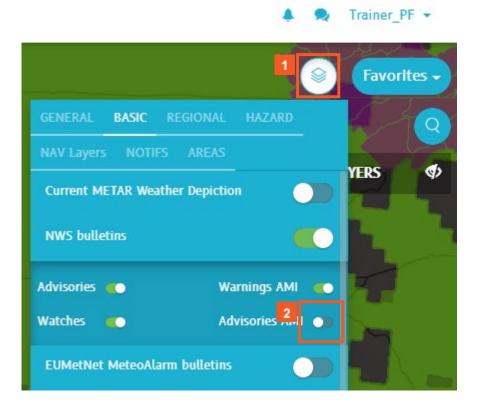
Close the **Weather** pane after you review the information.

1 Click the **Close (X)** button.

Let's move on and explore the NWS bulletins' Advisories AMI (area of maximum impact) information displayed by N-Tracking.

1 Click the **Layers** button.

2 Click the **Advisories AMI** slider.

For this example, N-Tracking displays information about both the NWS advisory and the area of maximum impact related to that advisory.
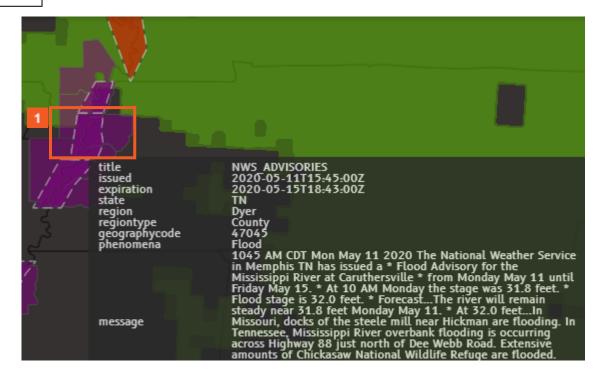
As you learned earlier, this weather advisory may not be relevant to a given flight, unless its arrival airport is located in the affected area.

Hover your mouse over the highlighted purple area outlined with a white, dashed border.

Click on the map in the same area.

1 Click **the highlighted purple area**.

The **Weather** pane displays the same information that previously popped up on the map.

Use the scroll bar at the bottom of the **Weather** pane to view additional columns.
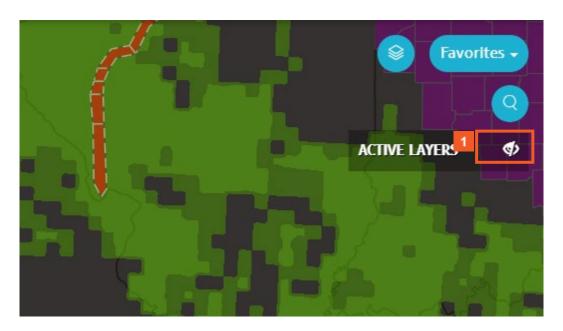
1 Click the **Close (X)** button.

For this part of the example, show the active weather layers.

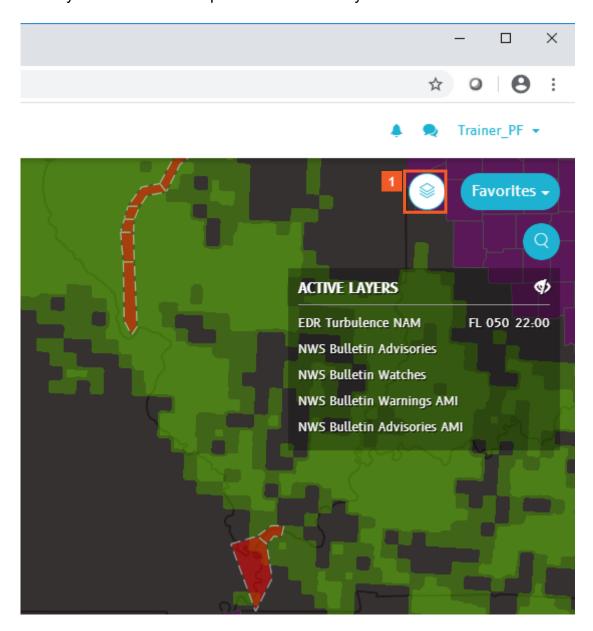Click the **Show/Hide** icon on the **ACTIVE LAYERS** panel.

1 Click **Show/Hide**.

In this example, one of the **HAZARDS** weather layers (EDR Turbulence NAM) is active. (It was active at the beginning of this exploration.) The four NWS bulletin weather layers that you enabled also display in the list.
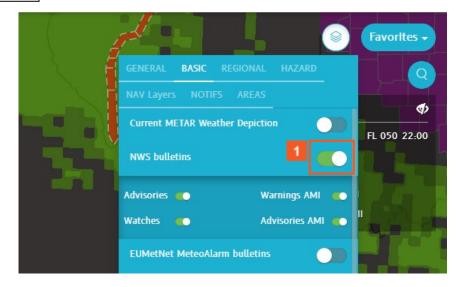
Showing the active weather layers means you never need to second-guess whether or not you have enabled a particular weather layer.

1 Click the **Layers** button.

Disable the **NWS bulletins** "global" slider to disable all its subordinate weather layers.
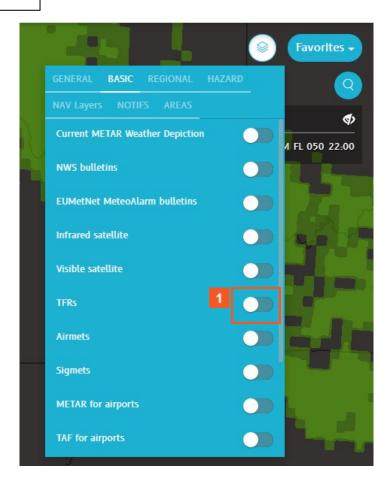
1 Click the **NWS bulletins** slider.

TFRs (Temporary Flying Restrictions) are issued for the U.S. only and are updated every five minutes. TFRs are a type of NOTAM and can be issued at any time. The areas of restricted air travel could be due to a hazard, a special event, or simply a general warning about the associated airspace.

They are indicated on the map with colored flags, indicating the following:

- Orange - fire
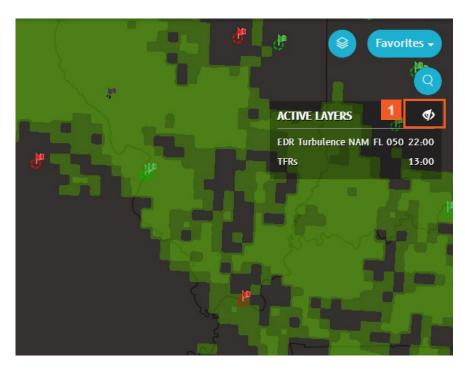- Red - nuclear facility
- Blue - VIP
- Green - stadium
- Grey - other

When you see TFRs on the map, best practice is to click on the TFR and read the text to familiarize yourself with the restriction.

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1 Click the **TFRs** slider.

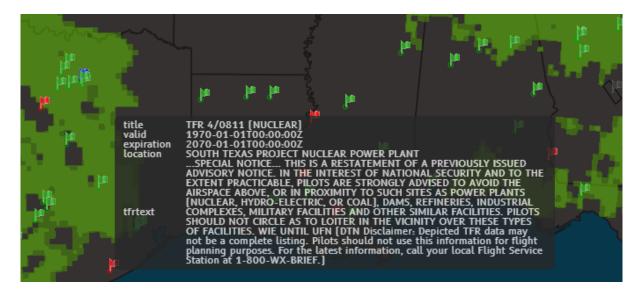The newly selected weather layer appears in the **ACTIVE LAYERS** list.

1 Click **the Hide/Show icon**.

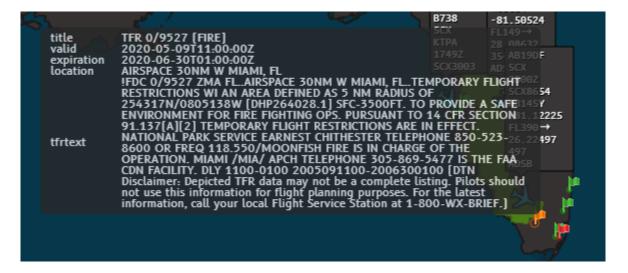A 100 nm zoom level is probably the best to use to explore TFRs. Adjust your zoom as required.

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When you hover your mouse over the highlighted red flag on the coast of Texas, N-Tracking indicates that this is a South Texas nuclear power plant.
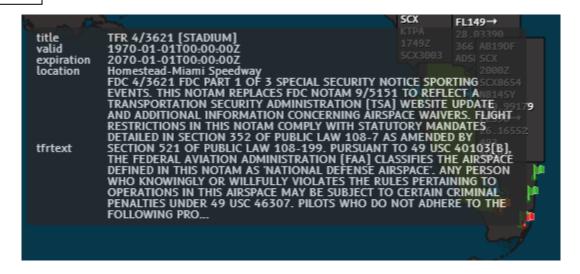

In this example, if you hover the mouse over the highlighted orange flag, N-Tracking identifies flying restrictions 30 NM west of Miami, FL.

The red flag on the south Florida coast advises of airspace restrictions related to the Homestead-Miami speedway.

1 Click the **Layers** button.

Disable the TFRs slider.

1 Click the **TFRs** slider.

AIRMETs information provides concise descriptions of actual or predicted weather along an air route which may have an impact on the safety of the aircraft. AIRMETs are routinely issued for six-hour periods.
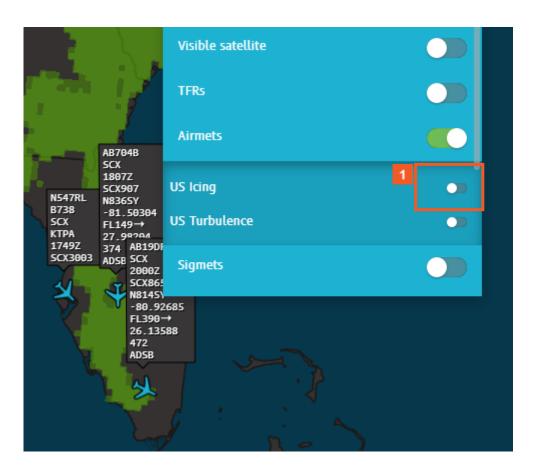

1 Click the **Airmets** slider.

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AIRMETs are issued at discrete times; three hours apart for a period of 12 hours into the future.

Like the NWS bulletins, **Airmets** has subordinate controls for **US Icing** and **US Turbulence**. If you want to disable both of these layers, you can do so by disabling the Airmets "global" slider.

1 Click the **US Icing** slider.

The area outlined with a blue dashed line indicates icing conditions.

- ZULU AIRMET is the name given to the Airmet describing icing conditions. It provides details on heights of icing and freezing levels.
- TANGO AIRMETs deal with turbulence.
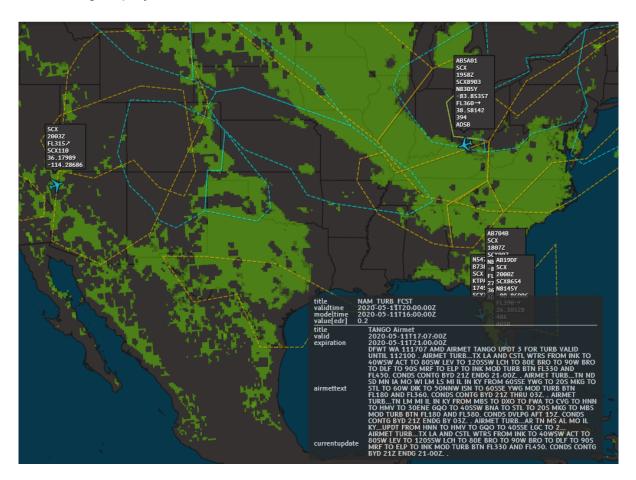- SIERRA AIRMETs inform you about IFR conditions and/or extensive mountain obscuration).

1 Click the **US Turbulence** slider.

In this example, the North American turbulence forecast layer is also active, so the pop-up information also displays details of that forecast .
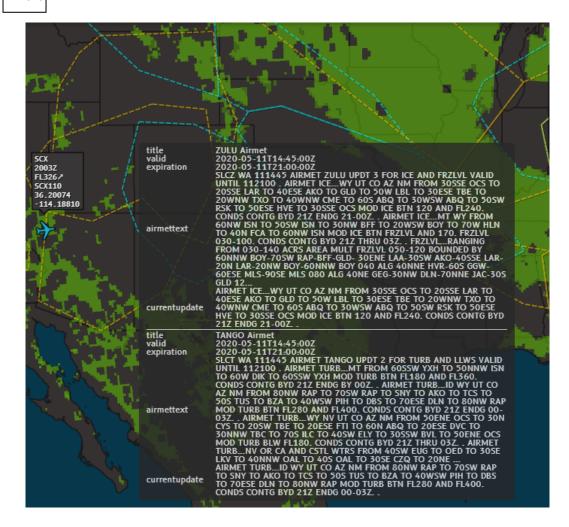
Hover your mouse over the yellow outline of the highlighted AIRMET. (A yellow outline indicates an area of turbulence.)

N-Tracking displays the text of this "TANGO" AIRMET.

Hover your mouse in the area that interests you and N-Tracking displays information for both the icing (ZULU) and the turbulence (TANGO) AIRMETs active for the area.
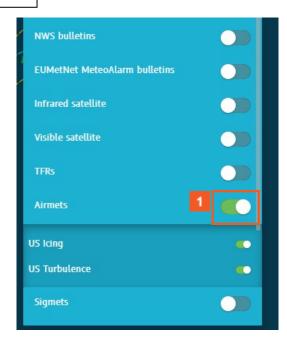
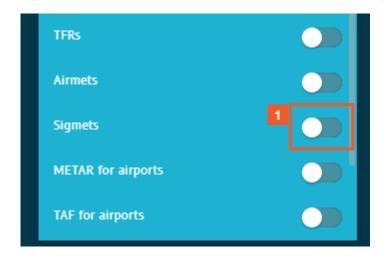The completes your brief tour of AIRMETs. Access the **Layers** pane again to disable this weather layer.

1 Click the **Layers** button.

1 Click the **Airmets** slider.

Next, enable the **Sigmets** weather layer.

1 Click the **Sigmets** slider.

The **Sigmets** layer contains options for both American and global SIGMETs.

For this example, explore the **US Convective** option only.

SIGMETs are issued for convection over the U.S. They are issued for an area of:

- embedded or severe thunderstorms expected to occur for more than 30 minutes
- a line of thunderstorms at least 60 miles long
- thunderstorms affecting at least 3,000 square miles

Convective SIGMETs are valid for two hours and are issued hourly.

For more details on global SIGMETs, consult the topic, *Display EU MetNet bulletins, infrared or visible satellite images, and global SIGMETs weather layers*.

1 Click the **US Convective** slider.

Hover your mouse over the highlighted purple oval with a dashed outline. It represents an area of convection.
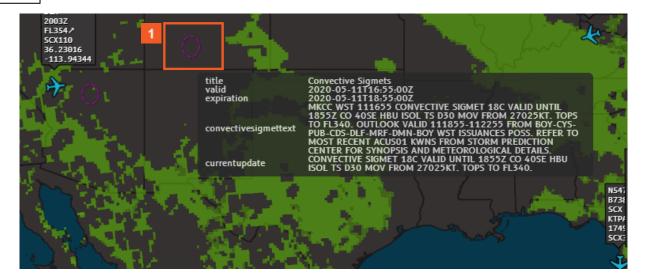
N-Tracking displays SIGMET details in an on-screen pop-up.

As you learned previously, if you want to capture the raw text of the message, you can **click** on the purple oval to open the **Weather** pane on the right of the screen to access that text.

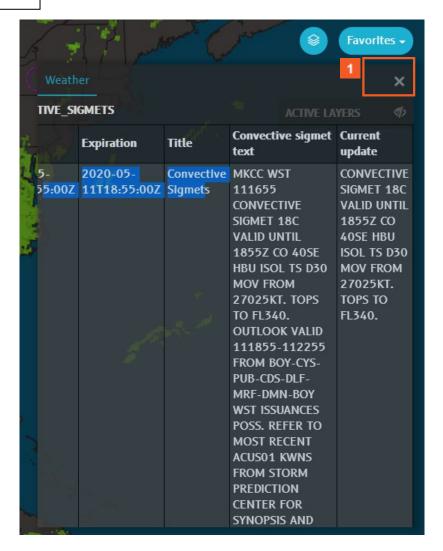Try that out now by clicking the purple oval north-east of the area of convection that you just explored.

1 Click **the highlighted purple oval**.

With the **Weather** pane open, you can triple-click the **Convective sigmet text** column to capture that text to your clipboard.

You can use the vertical and horizontal scroll bars on this pane to review all of the information.
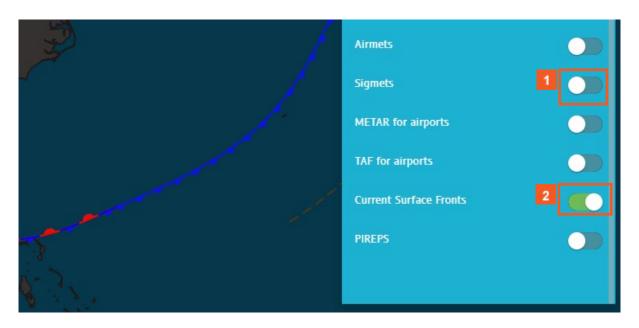
Close the **Weather** pane after your review.

1 Click **Close (X)**.

Next, let's look at the **PIREPS** (Pilot Reports) layer. For a clearer view of PIREPS, disable the **Sigmets** and the **Current Surface Fronts** layers, as needed.

1 Click the **Sigmets** slider.

2 Click the **Current Surface Fronts** slider.

Information on using the Current Surface Fronts layer and displaying indicators of high and low pressure centers is provided in a separate topic.

PIREPs provide pilot reports of weather encountered by an aircraft in flight. They are transmitted in real-time by radio to a ground station. The location of the report is based on distance and direction to a known navaid, such as VOR.

Enable the **PIREPS** layer.

1 Click the **PIREPS** slider.

To provide better visibility for the **PIREPS** symbols, for this next part of this exploration, the North American turbulence forecast layer has been disabled.

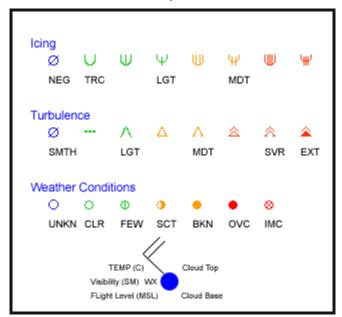To further improve the display, let's also zoom in to the 50 nm level.

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1 Click **Zoom in (+)**.

PIREPS use a variety of symbols to indicate weather information. Hover your mouse over any of the symbols and N-Tracking displays the provided information on-screen.

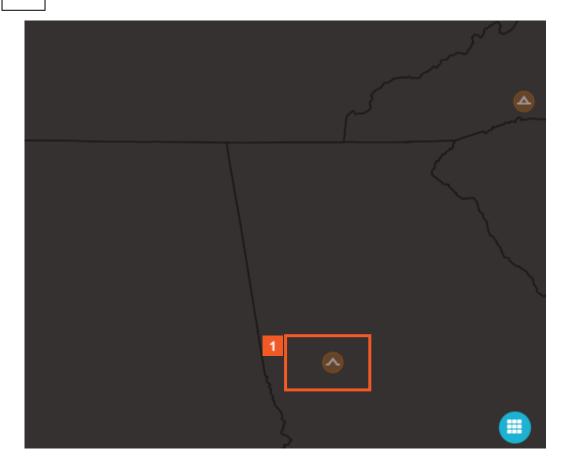Some of the PIREPs symbols include:

```
title          PIREPS
issued         2020-05-12T15:59:00Z
station        ATL
latitude       +32.974
longitude      -84.427
flightlevel    39000 LEVEL
aircrafttype   B737
turbulence     MOD at 39000
icing          Not available
coverage       Not available
weather        Not available
pireptext      ATL UA /OV ATL180040/TM 1559/FL390/TP B737/TB LGT MOD
               390/RM ZTLFD
```

Hover your mouse over any of the displayed PIREPS symbols and N-Tracking displays information on when the PIREP was issued, the relevant latitude and longitude, the flight level (if known) and other details.


```
title          PIREPS
issued         2020-05-12T17:34:00Z
station        ANY
latitude       +37.158
longitude      -98.079
flightlevel    45000 LEVEL
aircrafttype   C750
turbulence     NEG at 45000
icing          Not available
coverage       Not available
weather        Not available
pireptext      AVK UA /OV ANY/TM 1734/FL450/TP C750/TB NEG/RM ZKC FDC
```
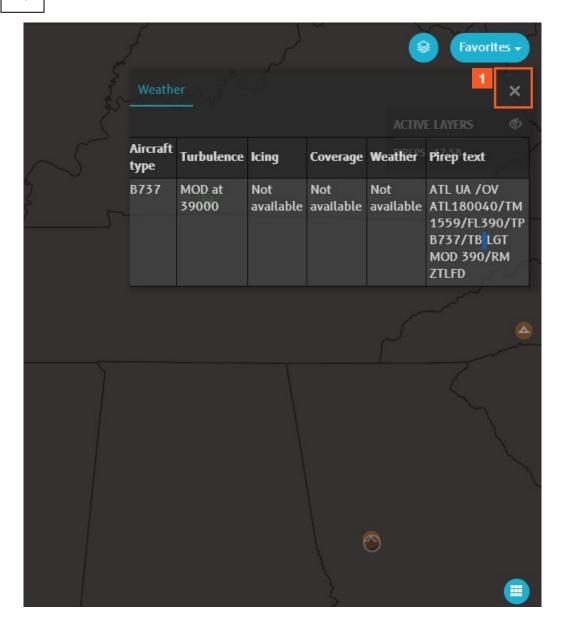
If you click the symbol, instead of hovering over it, the **Weather** pane opens in the upper right corner of the screen -- and the details display there.

1 Click **the highlighted PIREP symbol**.

You can triple-click on the text in the **Pirep text** column to select it to your clipboard, if you want to copy the text into a communication. Close the **Weather** pane after you review the information.

1 Click the **Close (X)** button.

Congratulations! You have completed your examination of PIREPS and in fact, of all the **basic** weather layers that are used in the U.S. only.

At this point, you know how to apply the different basic weather layers and interpret the information they show for:

- NWS bulletins
- AIRMETs
- SIGMETs
- TFRs and
- PIREPs.

Other topics that provide more information on displaying weather information on the N-Tracking map include:

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- Display current surface fronts and high and low pressure centers

- various regional weather information topics

- Display weather hazards -- EDR turbulence, icing forecast, and EDR thunder-storm forecast

- Display EUMetNet Meteo Alarm bulletins, visible and infrared satellite images, and global SIGMETs weather layers

- METAR and TAF for airports.

Be sure to review all the different weather layer topics that are applicable for your air-line.

3.1.2 Display EUMetNet bulletins, infrared or visible satellite images, and global SIGMETs weather layers

3.1.2.1 Introduction

Display EUMetNet bulletins, infrared or visible satellite images, and global SIGMETs weather layers

In this topic, you learn to add the EU MetNet MeteoAlarm bulletins, infrared or visible satellite images, and the global SIGMETs weather layers to the N-Tracking map and interpret the information those layers provide.
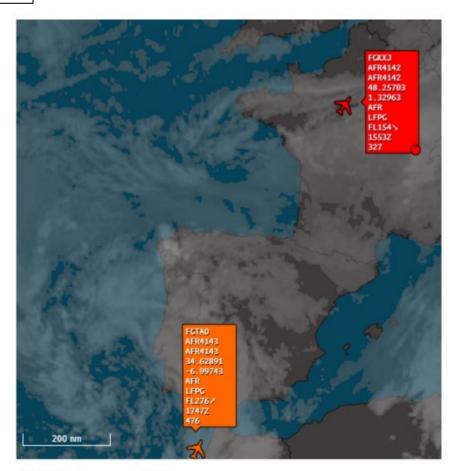
We estimate that this will take 10 minutes to complete.

3.1.2.2 Detailed explanation

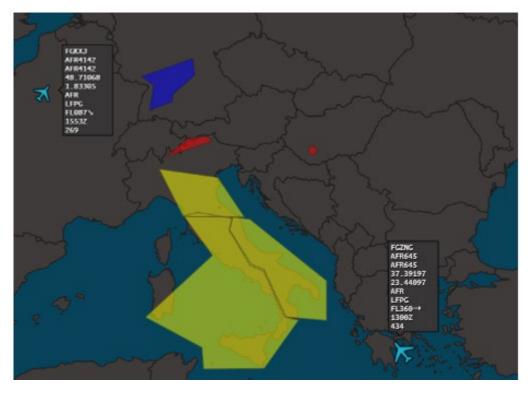**Working with basic weather information available globally**

The basic weather package is the standard global weather package that you receive with an N-Tracking subscription. Infrared and visible satellite images are available globally, as are SIGMETs. EUMetNet MeteoAlarm bulletins apply to the European Union only.

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Visible satellite

SIGMETs

EUMetNet MeteoAlarms

If you have reviewed the *Display basic weather information -- U.S. only* topic, you have learned about the several weather layers you can add to the N-Tracking map to assist you in tracking flights primarily over the United States.

In this topic, you learn about weather layers that apply globally -- such as visible and infrared satellite images and global SIGMETs, and also the EUMetNet MeteoAlarm bulletins, which apply within the European Union only.

Before you begin your exploration, take note of the **ACTIVE LAYERS** pane.

You can use this pane to show or hide a list of the weather layers you have active on the map.

Currently, the map zoom level is 500 nm. To view the areas where EUMetNet bulletins apply, zoom in to 200 nm.

1 Click **Zoom in (+)**.
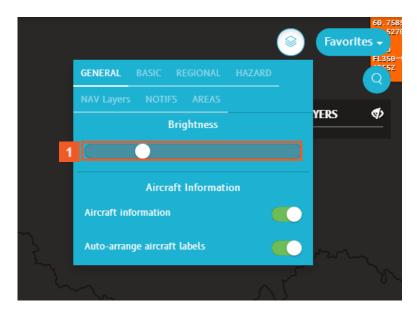
1 Click the **Layers** button.

Optionally, adjust the contrast between the land and the water features on the map for better visibility of some of the weather layer features.

1 Click the **Brightness** slider.
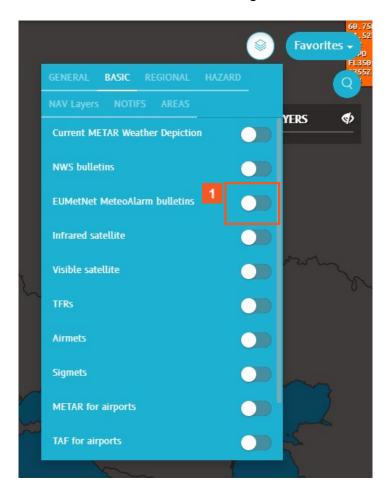
1 Click the **BASIC** tab.

Enable the **EUMetNet MeteoAlarm bulletins** weather layer to see the most relevant information to prepare for extreme weather expected to occur somewhere over Europe.

These bulletins alert you to the possible occurrence of severe weather such as heavy rain, severe thunderstorms, and gale force winds.
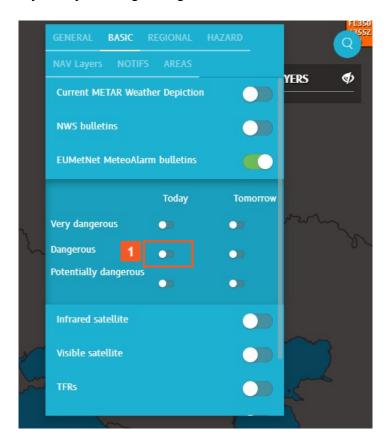
1 Click the **EUMetNet MeteoAlarm bulletins** slider.

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The **EUMetNet MeteoAlarm bulletins** layer expands out to provide options to view hazards for today or tomorrow.

When you finish viewing the bulletins relevant to your task, you can hide all the sub-layers by clicking the "global" **EUMetNet MeteoAlarm bulletins** slider.
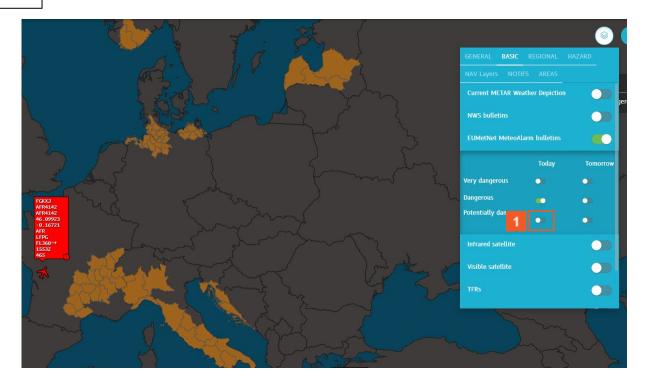
1 Click the **Dangerous (Today)** slider.

You enabled the display for bulletins about **dangerous** weather.

EUMetNet uses **orange** to indicate zones showing dangerous weather, meaning unusual meteorological phenomena from which damage and casualties are likely to result.

Bulletins about **very dangerous** weather phenomena display in **red**. 'Very dangerous' weather means that major damage and accidents are likely.

1 Click the **Potentially dangerous (Today)** slider.

EUMetNet uses **yellow** to indicate **potentially dangerous** weather conditions. For EUMetNet, typical weather conditions for a region fall into the category of "potentially dangerous".

1 Click **Zoom in (+)**.

Explore some of these zones, to learn more about the dangers. Hover your mouse over an area of interest.

N-Tracking displays details on-screen. For the highlighted area, EUMetNet alerts you to thunderstorms with an awareness level code of 2.

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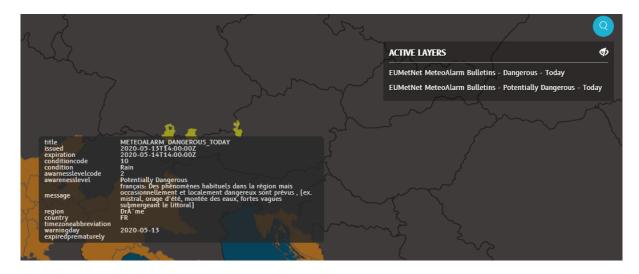
You can see the list of weather layers you have enabled in the **ACTIVE LAYERS** pane.

You can leave the pane open (as shown here) or you can click the **Show/Hide** icon on the right to use less space on-screen, while still being available for review at the click of a mouse.

When you hover your mouse over another region of the map, an EUMetNet alert about potentially dangerous rain displays.

As you'll recall, "potentially dangerous" means weather conditions that are not unusual for the region.

Hover your mouse over the yellow shapes in Germany. N-Tracking displays the EU MetNet bulletin about potentially dangerous winds in this area for today.
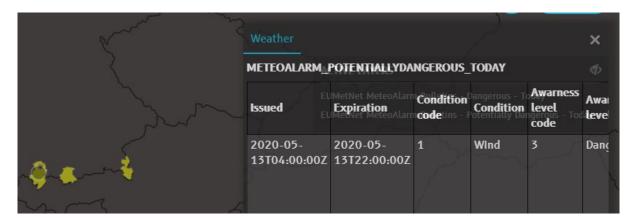
In addition to hovering to display the bulletin on-screen, you can click any of the colored zones to display the same information in the **Weather** pane on the right of the screen.

For this example, click the yellow shape on the left.

1 Click **the highlighted yellow shape**.

Scroll right in the **Weather** pane to see more information.

1 Click **the horizontal scroll bar**.

The **Message** column displays information about the weather hazard (in the language of the affected country).

You can copy this text to your clipboard.

The **Region** column identifies the affected area.
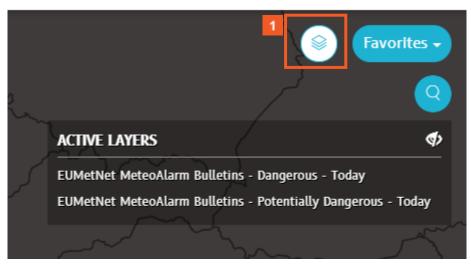
Close the **Weather** pane when you have the details you need.

1 Click **Close (X)**.

Hovering your mouse over some of the alerts may show you that more than one alert applies to that area.
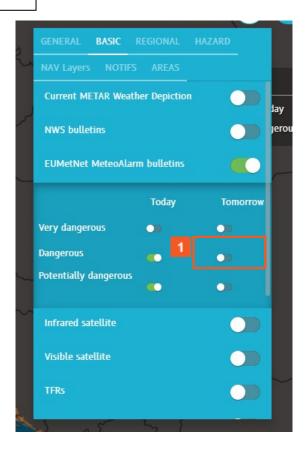
1 Click the **Layers** button.

Access the **EU MetNet MeteoAlarm bulletins** layer again -- and see if adding a layer for tomorrow's weather conditions displays more information relevant to your planning.
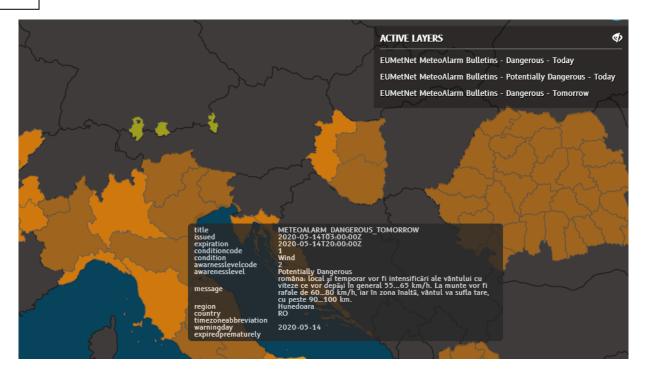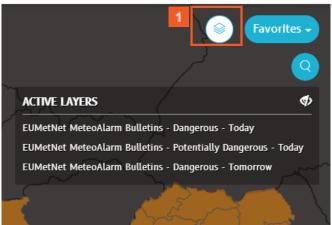
1 Click the **Dangerous (Tomorrow)** slider.

Many other areas have bulletins in effect for tomorrow.

Hover your mouse in an affected area and N-Tracking displays the bulletin on-screen -- in this example, potentially dangerous winds in the region of Hunedoara.
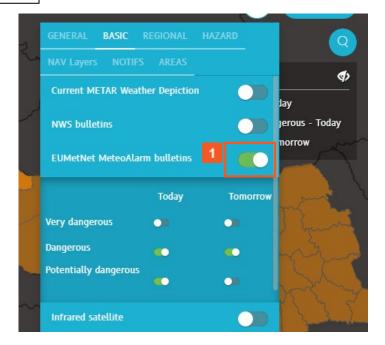
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1 Click the **Layers** button.

You've completed your review of the **EUMetNet MeteoAlarm bulletins**.

Disable this weather layer by clicking its slider.
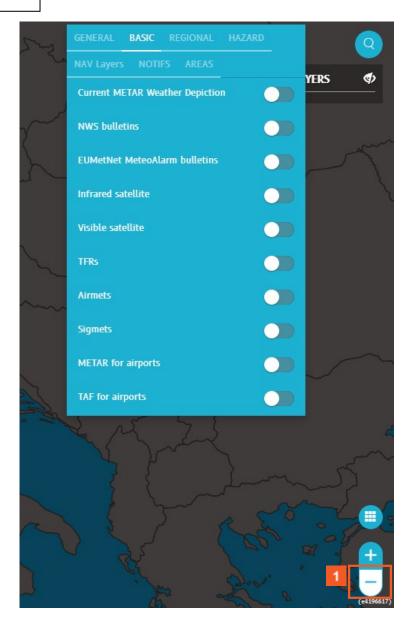
1 Click the **EUMetNet MeteoAlarm bulletins** slider.
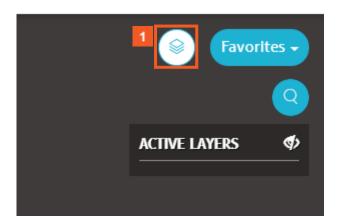
Next, enable the **Infrared satellite** image layer and learn how to read the information it adds to the map.

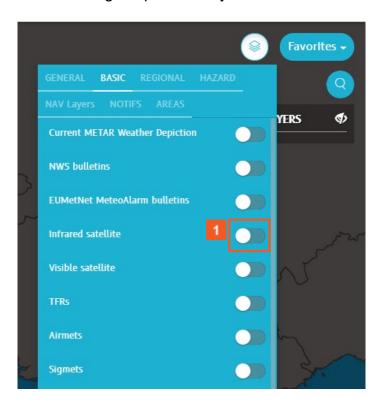To explore this weather layer, zoom out to 200 nm.

1 Click **Zoom out (-)**.

1 Click the **Layers** button.

Infrared satellite images show you the current cloud cover for a selected region. A heat signature is used to create this image.
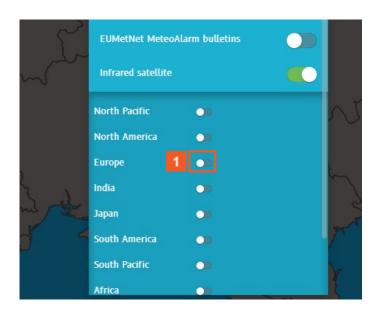
Satellite images update every 30 minutes.

1 Click the **Infrared satellite** slider.

With the Infrared satellite pane open, you can see that images are available for several different regions.

If the flights you're tracking are over the U.S., for example, you would enable the North America layer. For this example, continue in Europe.

1 Click the **Europe** slider.

By default, the satellite feed shows current conditions (at 17:30).

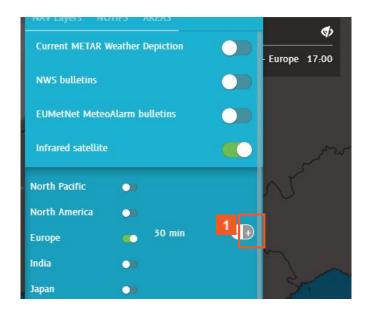You can use the **-** and **+** buttons on the right to show more or less of the satellite feed

information. Add 30 minutes and N-Tracking shows satellite information for 30 minutes in the past.

1 Click the **plus (+)** button.

The **ACTIVE LAYERS** pane also shows the time of the satellite image.

Add another 30 minutes from the satellite image feed (still capturing information **before** the current time.)
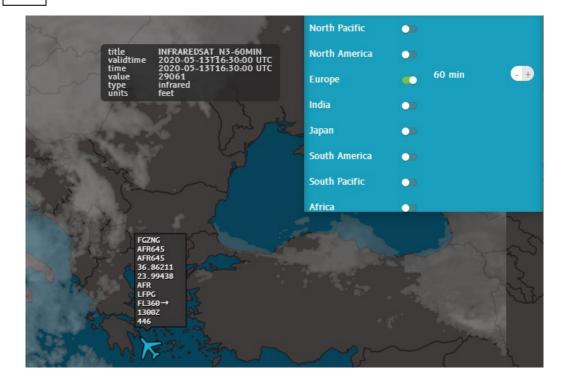

1 Click the **plus (+)** button.

Hover your mouse over the area of interest to you. The brighter the white, the higher the cloud.

With your mouse positioned in the highlighted area, N-Tracking indicates a cloud height of 29,061 feet.

The satellite image is now showing conditions one hour before the current time.

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Hover your mouse in an area of darker gray and N-Tracking alerts you that cloud height is 15,974 feet.

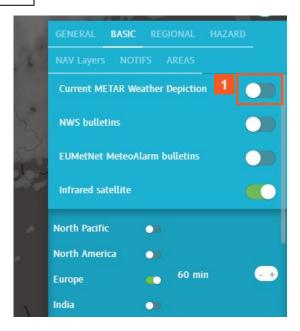The cloud cover over the south-east coast of England has a cloud height of 8,307 feet.

It might be useful to see airport locations as they relate to this cloud cover. To display this, access **Current METAR Weather Depiction** in the **Layers** panel.

For more detailed information on the **Current METAR Weather Depiction** layer, consult the topic, *Display current METAR, METAR, and TAF for airports*.
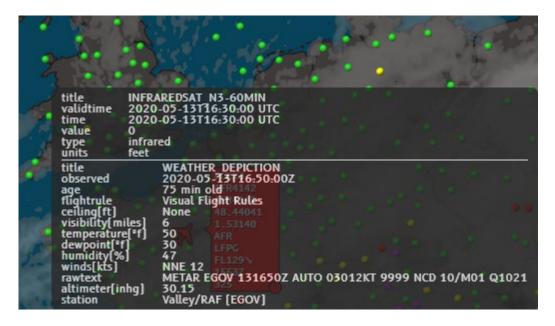

1 Click the **Layers** button.

1 Click the **Current METAR Weather Depiction** slider.

The green dot at the location of the EGOV airport in Holyhead, England indicates that visual flight rules apply. Infrared satellite reports no cloud cover.
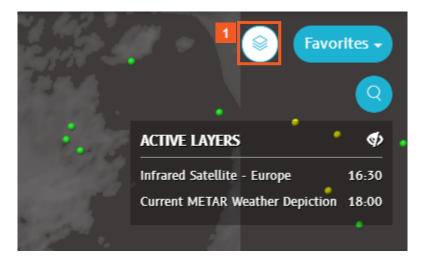

The **red** METAR dots indicate that Instrument Flight Rules apply at the **LKTB** and **LKNA** airports, while infrared satellite reports a cloud height of 21,951 feet in the areas.

title	INFRAREDSAT_N3-60MIN
validtime	2020-05-13T16:30:00 UTC
time	2020-05-13T16:30:00 UTC
value	21951
type	infrared
units	feet
title	WEATHER_DEPICTION
observed	2020-05-13T18:00:00Z
age	6 min old
flightrule	Instrument Flight Rules
ceiling[ft]	3900
visibility[miles]	2 3/4
temperature[°f]	46
dewpoint[°f]	44
humidity[%]	93
winds[kts]	NE 7
rawtext	METAR LKTB 131800Z 05007KT 020V080 4500 -RA BR OVC039 08/07 Q1009 NOSIG
altimeter[inhg]	29.8
station	Brno/Turany [LKTB]
title	WEATHER_DEPICTION
observed	2020-05-13T18:00:00Z
age	6 min old
flightrule	Instrument Flight Rules
ceiling[ft]	500
visibility[miles]	1 1/4
temperature[°f]	44
dewpoint[°f]	42
humidity[%]	93
winds[kts]	NE 7
rawtext	METAR LKNA 131800Z 05007KT 2000 -RA BR BKN005 OVC039 07/06 Q1008 NOSIG
altimeter[inhg]	29.77
station	Namest Nad Oslavou [LKNA]

You now know how to enable and work with the Infrared satellite weather layer -- and how to use it in combination with METAR information.
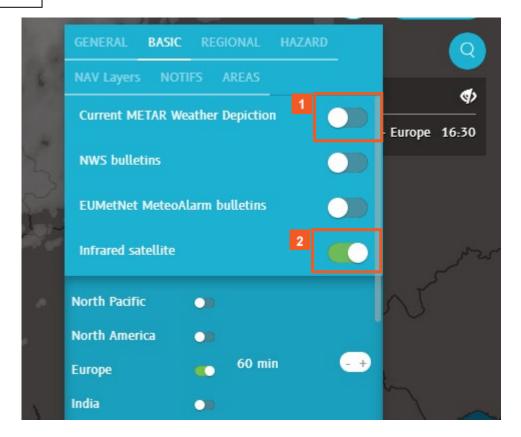
Next, let's enable the **Visible satellite** weather layer. It works in much the same way.
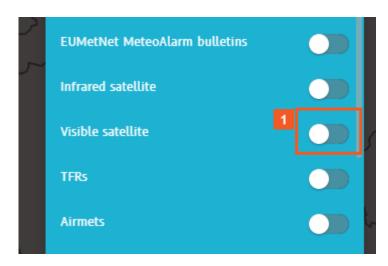

1 Click the **Layers** button.

Disable both of the weather layers you just worked with.

1 Click the **Current METAR Weather Depiction** slider.

2 Click the **Infrared satellite** slider.

Visible satellite images look very similar to infrared satellite images. Visible light (rather than heat emissions) are used to produce these images.

1 Click the **Visible satellite** slider.

As you can see, the basic weather subscription provides satellite imagery for several regions.

If you are working with flights over the U.S., enable the North America layer.

For this example, enable the Europe layer.

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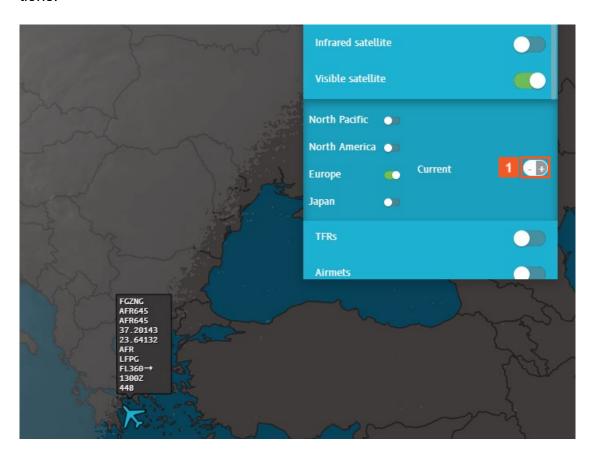
1 Click the **Europe** slider.

As for infrared satellite images, with visible satellite, you have the option of viewing current imagery, or imagery for a certain number of minutes in the future, to see where the weather is moving.

You can use the **+** button to increase the amount of satellite imagery shown by 30-minute increments.

Click the **+** button to add more of the satellite feed information to the display. After your review, click the **-** button to revert the image to current or near current conditions.
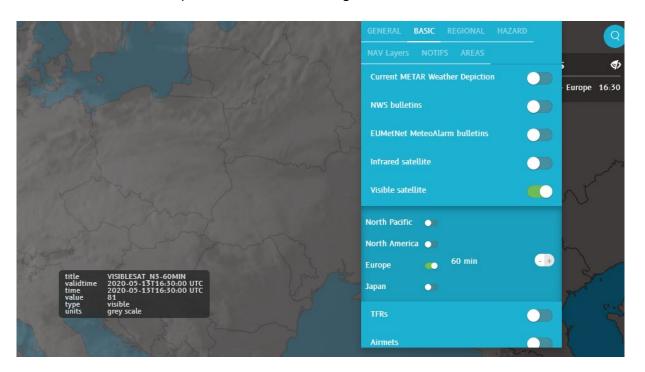
1 Click the **plus (+)** button.

For this example, the display was backed up by one hour (two clicks of the **plus (+)** button).

The **ACTIVE LAYERS** panel reflects the change.

Hover your mouse in an area of cloud cover and N-Tracking displays a measure of 81 on the greyscale for cloud height.

1 Click **the highlighted area**.
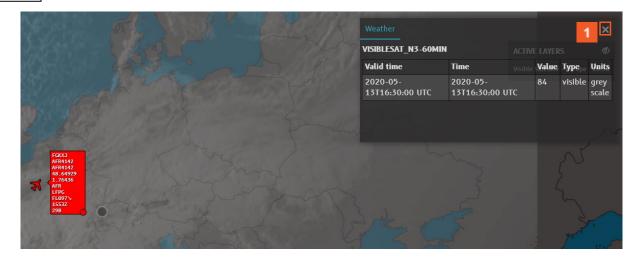
N-Tracking displays the same details in the **Weather** pane. For visible satellite, the figure 84 in the **Value** column represents a shade of gray (black is 100 and white is 10). As with infrared satellite, the brighter the shade of gray (moving towards clear), the higher the cloud ceiling.

Close the **Weather** pane.

1 Click **Close (X)**.
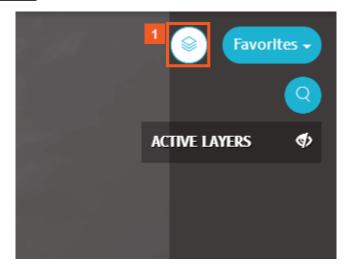
You now know how to apply the **Visible satellite** weather layer to the N-Tracking map and how to interpret the information it provides. Let's move on to a different weather layer used for flights around the globe, SIGMETs.

At any time, you can choose to hide the list of active weather layers. Hiding the list of active weather layers does not disable them. Access the **Layers** pane to enable or disable weather layers.

1 Click **the Hide/Show icon**.

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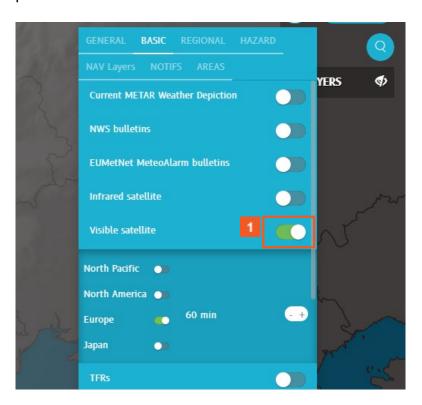
1 Click the **Layers** button.

Disable the **Visible satellite** layer -- at the "global" level -- and let's move on to a different weather layer -- SIGMETs.

You may need to scroll down to view this weather layer as it is near the bottom of the pane.

1 Click the **Visible satellite** slider.

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1 Click the **Sigmets** slider.
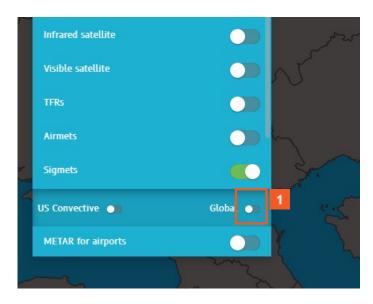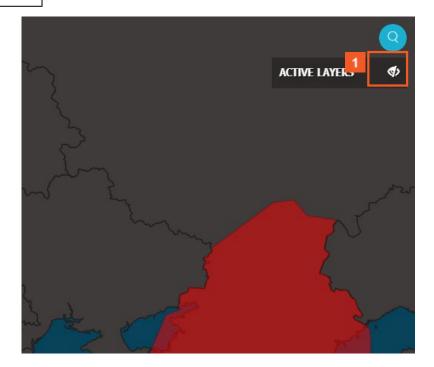
1 Click the **Global** slider.

As the name suggests, global SIGMETS provide meteorological information around the globe. The SIGMET issues colored shapes covering FIRs (flight information regions):

- ▪ **Red** indicates thunderstorms.
- ▪ **Yellow** indicates turbulence.
- ▪ **Blue** indicates icing.
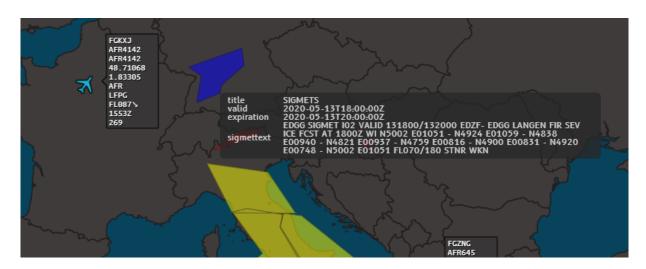
For more details on each, hover over or click the relevant shape displayed on the map.

1 Click **Show/Hide**.

Hover your mouse over the navy blue SIGMET and review the on-screen information about this weather event.
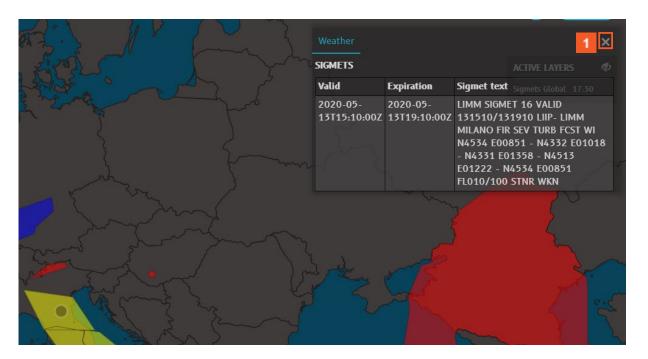
Hover your mouse over the yellow SIGMET in the north of Italy and review the information provided.

As you have learned while exploring other weather layers, clicking a depicted weather phenomenon on the map opens the **Weather** pane to display the same details.

1 Click **Close (X)**.

This concludes your exploration of basic weather features used outside of the U.S., and in the case of visible and infrared satellite, globally. You now know where to find these weather layers and how to enable and disable them.

You have also learned how to show and hide the list of active weather layers on the map, so that you can easily view or verify which weather layers you have enabled.

Other topics related to this one include *Regional weather* and *Weather hazards*. Be sure to review all weather topics so you know how to display this valuable information on the N-Tracking map.

3.1.3   Display current METAR and TAF for airports

3.1.3.1 Introduction

Display current METAR and TAF for airports

In this topic, you learn how to add basic weather layers that depict current METAR conditions and TAF for airports and interpret the information they provide.

We estimate that this will take 4 minutes to complete.

3.1.3.2 Detailed explanation

Airport specific weather information -- METAR and TAF

The Basic weather package that is part of an N-Tracking subscription includes three weather layers that present airport-specific weather information:

- Current METAR (Meteorological Aerodrome Reports) Weather Depiction and METAR for airports both provide current METAR observations at an airport; issued at hourly or half-hourly intervals.

- TAF (Terminal Aerodrome Forecast) for airports displays expected meteorological conditions at an airport during a specified period (usually 24 hours).

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In this example, you learn how to enable and disable the display of layers that add airport-specific weather information to the N-Tracking map.
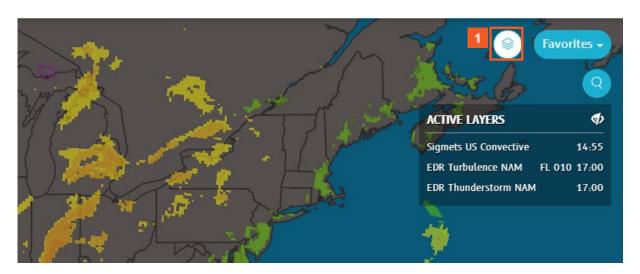
In this example, the colored zones on the map indicate that some weather layers are already enabled. Use the "**Show**" option for the **ACTIVE LAYERS** panel to see which layers are enabled.

1 Click the **ACTIVE LAYERS Show/Hide** button.

N-Tracking displays the list of active weather layers, including as applicable, the flight level and a time stamp reflecting UTC by default. (If your administrator has chosen a *preferred* time zone, the time for that time zone is shown).
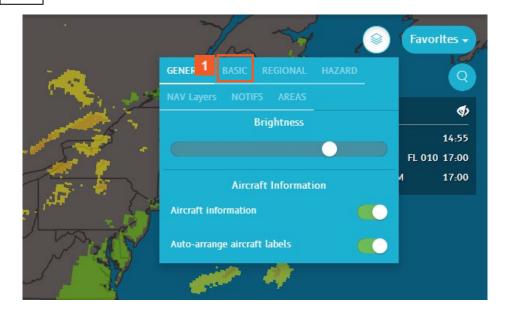
You can leave this list of weather layers open or closed as you prefer. This ready access to the list of enabled weather layers means no second-guessing about whether or not you're missing information.
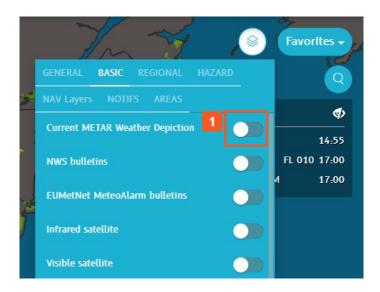
Use the **Layers** button to access different weather layers.

1 Click the **Layers** button.

1 Click the **BASIC** tab.

1 Click the **Current METAR Weather Depiction** slider.

The Meteorological Aerodrome Reports (METAR) are predominantly used by pilots. Colored dots represent airports and the color of the dot indicates which class of flight rules apply at the current time.
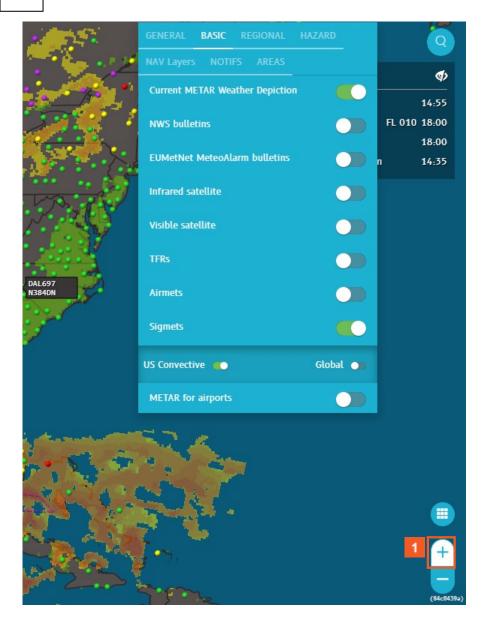
Red: Instrument flight rules (IFR)

Yellow: Marginal visual flight rules (VFR)

Purple: Low IFR flight rules

Green: Visual flight rules

Zoom in to locate more easily the airport(s) of interest to you.

1 Click **Zoom in (+)**.

Zoom in far enough that you have a good separation between the colored dots that represent airports and you can have a closer look at the airports providing METAR information.
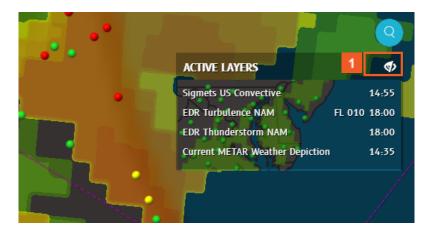
For this example, zoom to **20 nm**. (In your operational environment, this would require several clicks.)

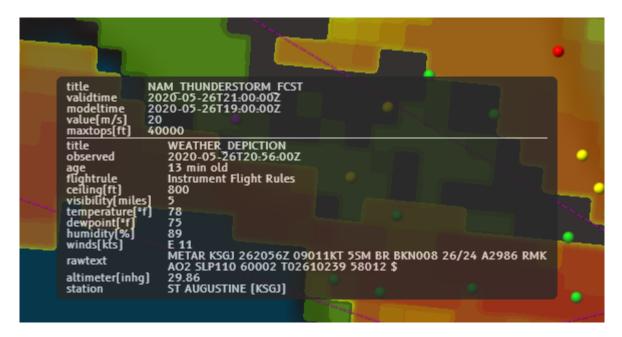**1** Click **Zoom in (+)**.
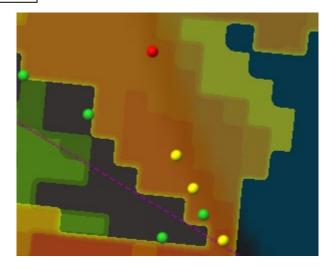
For this example, hide the list of active layers.

1 Click **Show/Hide**.

Hover your mouse over the highlighted **red** dot that represents an airport where Instrument Flight Rules apply.
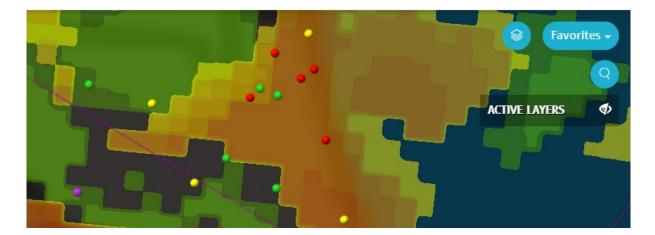
N-Tracking displays on-screen the applicable weather information for airport (**KSGJ),** where Instrument Flight Rules apply.


```
title          NAM_THUNDERSTORM_FCST
validtime      2020-05-26T21:00:00Z
modeltime      2020-05-26T19:00:00Z
value[m/s]     20
maxtops[ft]    40000

title          WEATHER_DEPICTION
observed       2020-05-26T20:56:00Z
age            13 min old
flightrule     Instrument Flight Rules
ceiling[ft]    800
visibility[miles]  5
temperature[°f]  78
dewpoint[°f]   75
humidity[%]    89
winds[kts]     E 11
rawtext        METAR KSGJ 262056Z 09011KT 5SM BR BKN008 26/24 A2986 RMK
               AO2 SLP110 60002 T02610239 58012 $
altimeter[inhg]  29.86
station        ST AUGUSTINE [KSGJ]
```

Let's repeat the steps targeting for a displayed **purple** dot. Hover your mouse over the dot, representing an airport where Low IFR Conditions apply.

N-Tracking displays on-screen information from the three different weather layers that apply for the **KCTY** airport:

- the turbulence forecast
- current US Convective SIGMETs
- Low IFR Conditions.
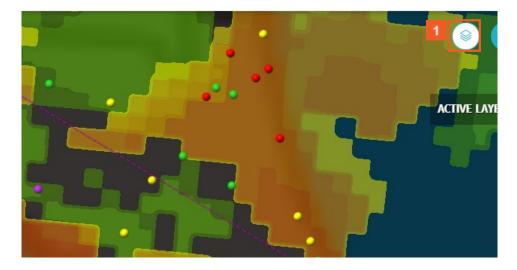
If you want to copy the contents of the **convectivesigmettext** field to include it in a message, click the dot to open the **Weather** pane in the upper right corner of the map.

With the **Weather** pane open, you can triple click on column text to copy it to your clipboard (and copy from there to your message).
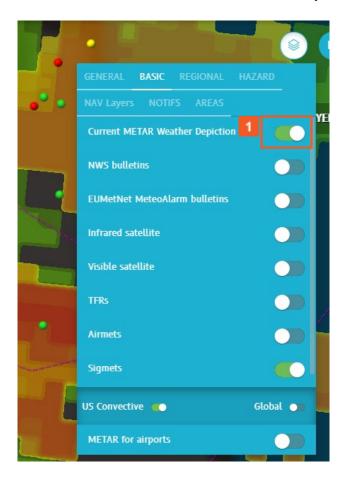
End your exploration of the Current METAR weather depiction there and add a different weather layer to the map.

1 Click the **Layers** button.
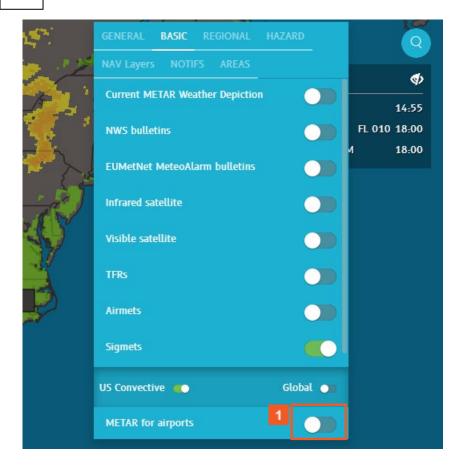
Disable the **Current METAR Weather Depiction** layer.

1 Click the **Current METAR Weather Depiction** slider.

For the next part of this example, the map zoom level changes to **200 nm**.
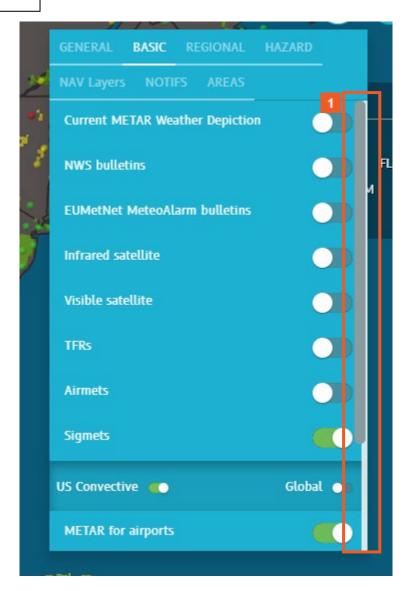
1 Click the **METAR for airports** slider.

As needed, click the vertical scrollbar on the right of the **BASIC** tab to scroll down and display the **TAF for airports** option.
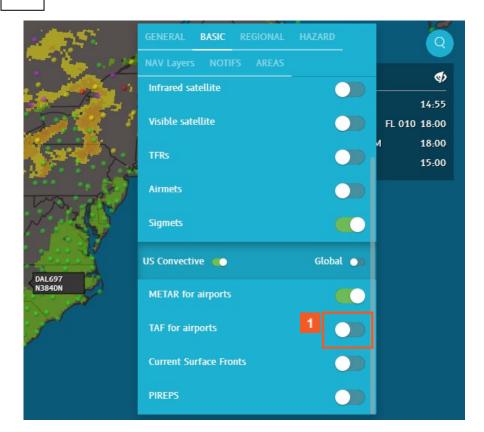
1 Click the **vertical** scroll bar.

Activating the terminal aerodrome forecast (TAF) displays similar colored markers (dots) to the METAR. A TAF is valid for a period of 30 hours. TAFs are issued four times a day at six-hour intervals.
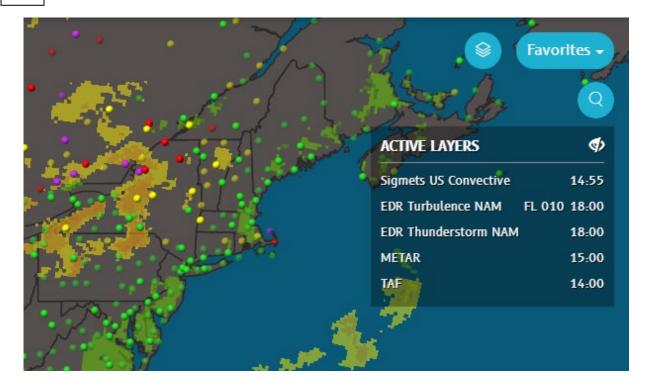
1 Click the **TAF for airports** slider.

ⓘ Some airports provide TAFs and METARs. In this case, the associated marker may change color.

Hovering over or clicking such a marker (dot) displays both the METAR and TAF information.
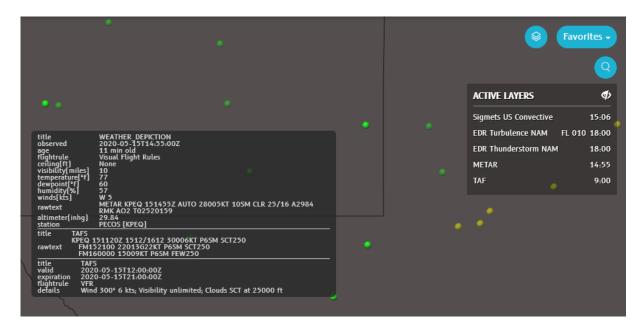
Adjust your zoom level to 20 nm for better visibility.

1 Click **Zoom in (+)**.
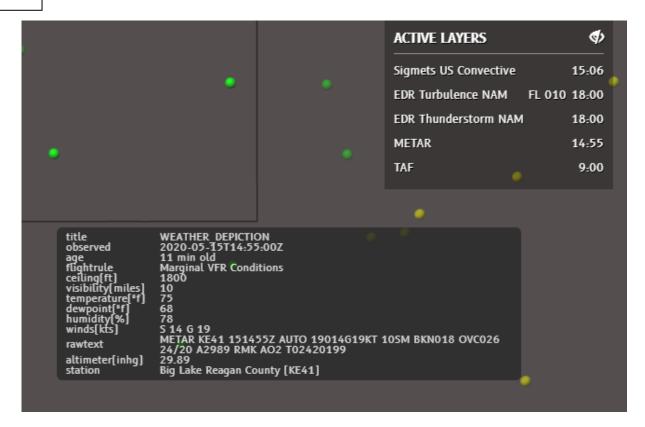
For this example, the mouse hovers over the **green** dot at the lower right corner of the pop-up. The pop-up displays the METAR and TAF information. -- **Visual Flight Rules** apply for airport **KPEQ** and wind is blowing at 6 knots.

In this example, the mouse hovers over a **yellow** dot (**KE41** station). **Marginal** VFR conditions apply.

No TAFs have been issued for this airport.

You have completed your exploration of the airport-specific weather layers that are provided in the N-Tracking basic weather subscription: Current METAR Weather depiction and METAR; (which act the same) and TAF for airports.

You now know how to enable and disable these layers on the N-Tracking map and how to interpret the information they provide.

To learn about more weather information you can add to the N-Tracking map to assist you in your work, consult the sections

- *Adding regional weather to the map* and
- *Adding weather hazard information to the map*.

3.1.4 Display current surface fronts and high and low pressure centers

3.1.4.1 Introduction

Display current surface fronts and high and low pressure centers

In this topic, you learn how to display areas of high and low pressure in conjunction with current surface fronts.

We estimate that this will take 3 minutes to complete.

3.1.4.2 Detailed Explanation

Surface fronts and high and low pressure centers

You can view high and low pressure centers together with current surface fronts to obtain a better idea of storm movement or the arrival of calmer and clearer weather.

Low pressure centers mark the epicenter of storms (air rising and moving along the surface). Surface high pressure centers follow behind the low pressure storms

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bringing in calm and clear weather (air descending).

N-Tracking displays different surface fronts on the map using different colors and symbols.

indicates a **cold** front, a zone separating two air masses, of which the cooler, denser mass is advancing and replacing warmer air.

indicates a **warm** front, a transition zone between a mass of warm air and the cold air it replaces.

indicates an **occluded** front, which is a composite of two fronts formed as a cold front overtakes a warm front. Two types of occlusions can form: a cold occlusion, where the cold air is behind the cold front and a warm occlusion, where the coldest air is ahead of the warm front.
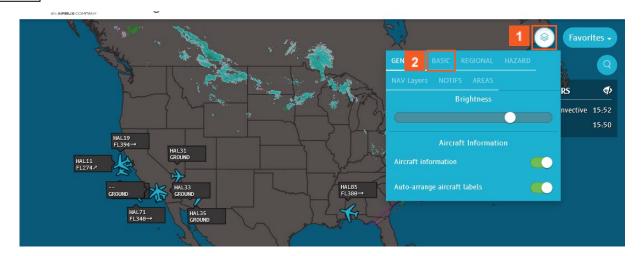
indicates a **trough**, an area of relatively low atmospheric pressure. This is the opposite of a ridge.

indicates a **stationary** front, a front between a warm and cold air mass that is moving very slowly.

In this example, the map is focused on the western U.S. coast and the Sigmets and Radar US weather layers are already active.

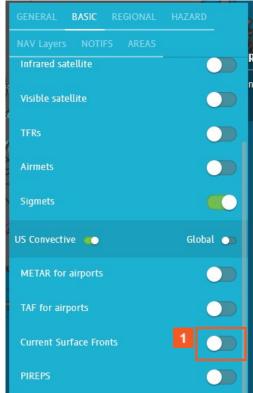To view high and low pressure centers, enable the additional weather layers.

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1 Click the **Layers** button.
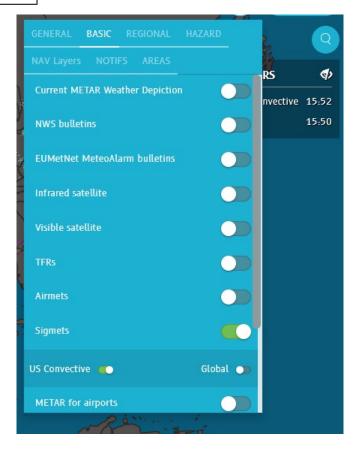
2 Click the **BASIC** tab.

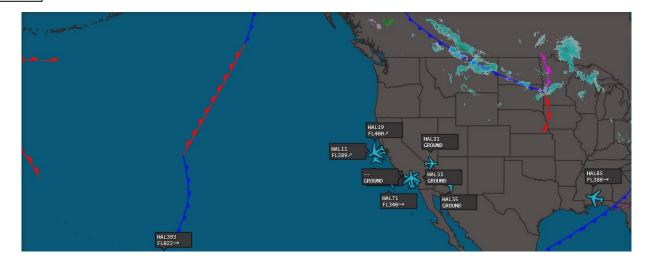Scroll down in the list of weather layers.

1 Click the **Current Surface Fronts** slider.

The Current Surface Fronts layer displays fronts and troughs and is updated every three hours.
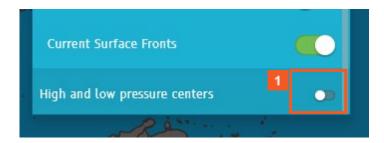
A blue line represents a cold front.

A red line indicates a warm front.

A purple line indicates an occluded front.

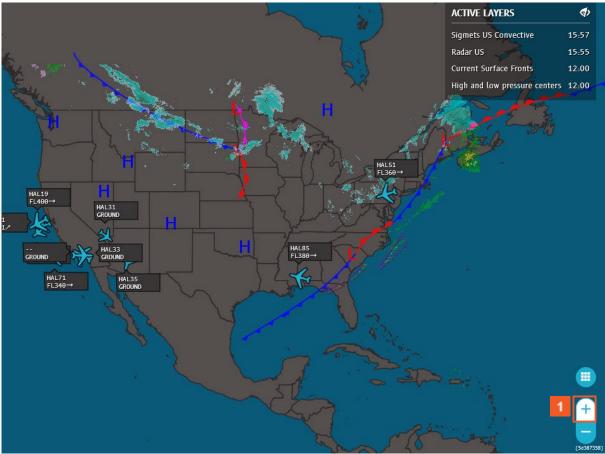Optionally, enable the **High and low pressure centers** slider to display those centers.

1 Click the **High and low pressure centers** slider.

A blue letter **H** indicates a center of high pressure.

A red letter **L** indicates a center of low pressure.
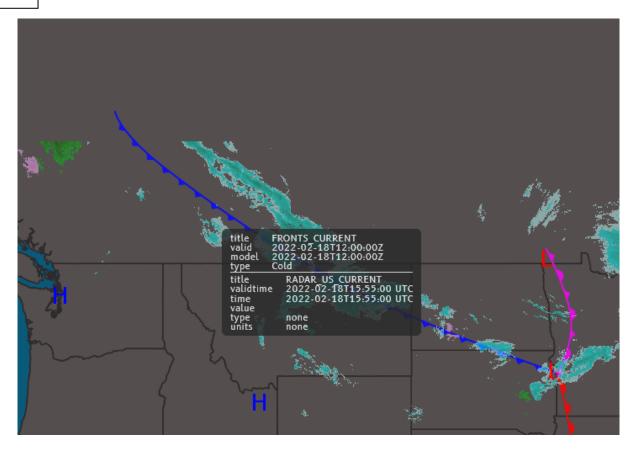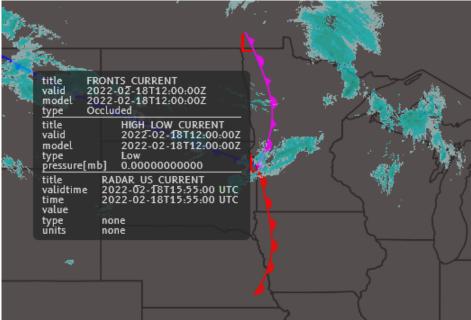
1 Click the **Zoom in (+)** button.

As with other weather layers, hovering your mouse over a weather feature (such as the highlighted warm front) causes detailed information to display.

SUCCESS

Congratulations! You have successfully displayed active surface fronts and high and low pressure centers on the map, using different weather layers.

3.1.5   Display tropopause heights and lows

3.1.5.1 Introduction

Display tropopause heights and lows

In this topic, you learn how to display indicators for tropopause heights and lows on the map.

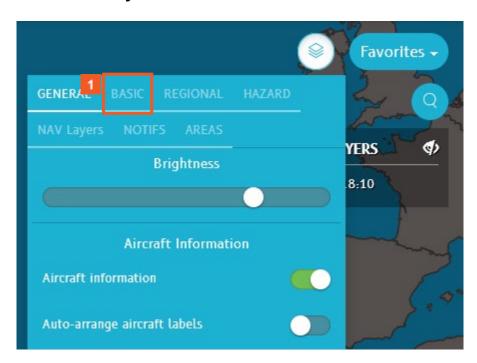We estimate that this will take 2 minutes to complete.

3.1.5.2 Detailed Explanation

Forecast tropopause heights and lows

The elevation at which tropopause heights and lows occur can be an important factor for aircraft engine performance along a planned flight path when potentially significant weather, such as a thunderstorm, is forecast.

You can use the *Tropopause heights and lows* weather layer to show the forecast heights and lows as updated at 06:00, 12:00, 18:00 and 00:00 to include this information in your flight planning and tracking activities.

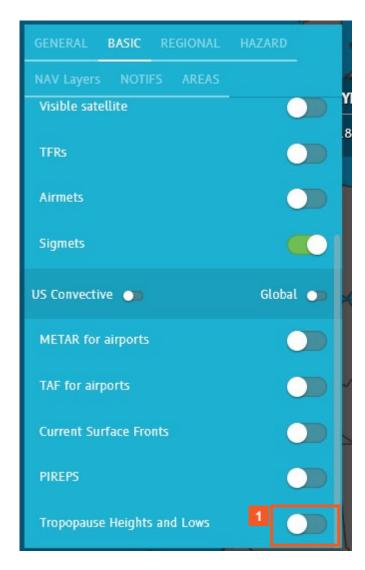**1** Click the **Layers** button.

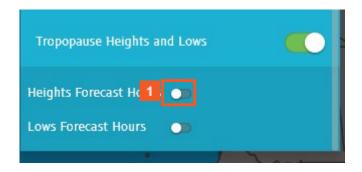**1** Click the **BASIC** tab.

Navigate to the *Tropopause Heights and Lows* option.

Scroll, as needed, to the bottom of the tab.

1 Click the **Tropopause Heights and Lows** slider.

You may need to scroll again to display the option's sub-pane.

You can display the forecast heights and the forecast lows independently, or together.
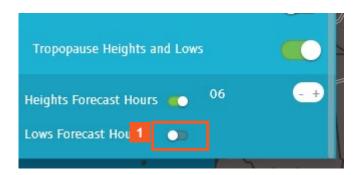
For this example, enable both sliders.

1 Click the **Heights Forecast Hours** slider.

HINT

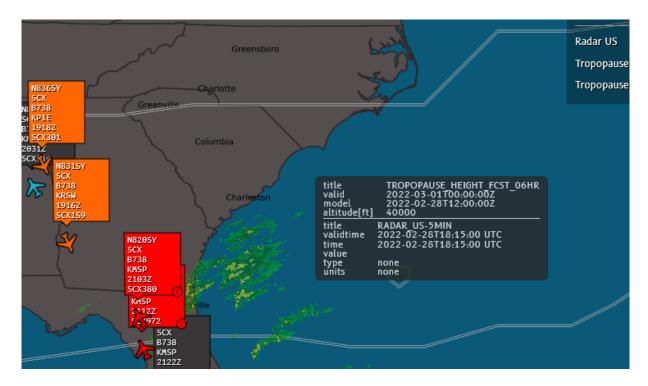By default, the forecast heights and lows display for 6 hours in the future. The forecast is updated at 06:00, 12:00, 18:00 and 24:00 (00:00). You can use the control to display the forecast farther out from the current time to see trends.

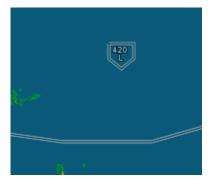**1**   Click the **Lows Forecast Hours** slider.

The white double lines that look like elevation lines represent the forecast tropopause heights.

As with other weather features, if you hover your mouse near the Forecast Height line, N-Tracking displays more detailed information, indicating the tropopause height is located at 40,000 ft.

The shield-shaped icons indicate tropopause lows and the flight levels at which they occur; in this example, 42,000 ft.

SUCCESS

Congratulations! You can display tropopause forecast heights and lows to assist to your weather monitoring and flight planning and tracking activities.

3.2 Adding regional weather information to the map

3.2.1 Display lightning, radar, or storm echo tops information

3.2.1.1 Introduction

Display lightning, radar, or storm echo tops information

In this topic, you learn how to use the Lightning, Radar, and Storm echo tops layers included with your regional weather subscription.

We estimate that this will take 7 minutes to complete.

3.2.1.2 Detailed explanation

Lightning and Radar weather layers

Enable the weather layers on the **REGIONAL** tab to display information for regions for which you have a weather information subscription. For example, if you enable radar images for Europe, then you do not see radar images for the U.S.
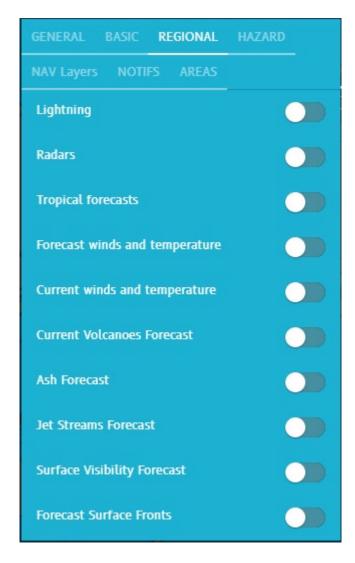
N-Tracking provides the following weather layers:

- Lightning: cloud to ground and cloud to cloud lightning data for subscribed region(s)

- Radars: radar for different areas using colors to indicate precipitation type and intensity

- Tropical Forecasts: information on hurricanes, cyclones, and tropical storms

- Forecast winds and temperature: forecast winds and temperature aloft and areas of high winds

- Current winds and temperature: current winds and temperature aloft

- Current volcanoes forecast: location of currently active volcanoes

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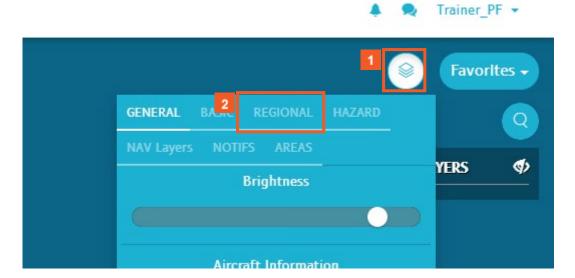
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- Ash forecast: images and forecast of the latest areas affected by ash

- Jet streams forecasts: direction, speed and location of the jet stream

- Surface visibility forecast: surface visibility.

- Forecast surface fronts: warm, cold, and occluded fronts

- Forecast ceiling: cloud ceiling and flight category

In this topic, you learn about the first two layers in the list.

For this example, start with your map positioned over Florida, with a zoom of 100 nm.

The Flight list is minimized.

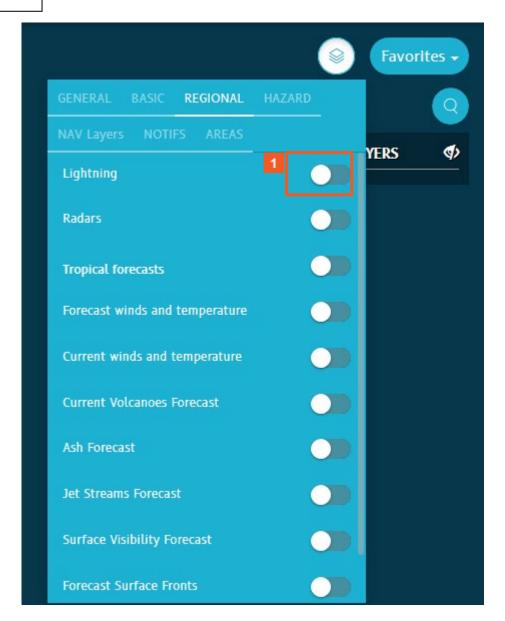**1** Click the **Layers** button.

You can always adjust the setting of the **Brightness** slider to change the contrast be-
tween the water and land features on the map.

2 Click the **REGIONAL** tab.

The display of lightning strokes can be obscured on the map by other weather layers,
such as the **Radars** layers (which use similar colors).

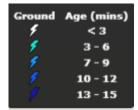For this example, enable the **Lightning** layer on its own.

1 Click the **Lightning** slider.

Lightning symbols for both ground and cloud strokes are color-coded to depict age as shown below.

Lightning strike data updates every minute.

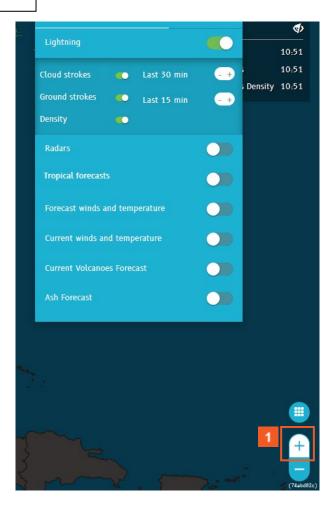Enable all three of the lightning layer options.

1 Click the **Cloud strokes** slider.

2 Click the **Ground strokes** slider.

Use the **+** and **-** offset controls to adjust the time interval for which you want lightning information displayed.

3 Click the **Density** slider.

Zoom in to a level of 50 nm to look at the strokes more closely.

1 Click the **Zoom in (+)** button.

HINT

Not all cloud lightning strokes are counted or displayed on the Lightning weather layer. Only a fraction of cloud lightning activity is displayed. However, this is still enough data to warn you of approaching thunderstorms.

Hover your mouse over a depicted area of lightning activity to view detailed information on-screen.

If you click on the depicted lightning strokes, N-Tracking displays the same information in the **Weather** pane (in the upper right of the map).

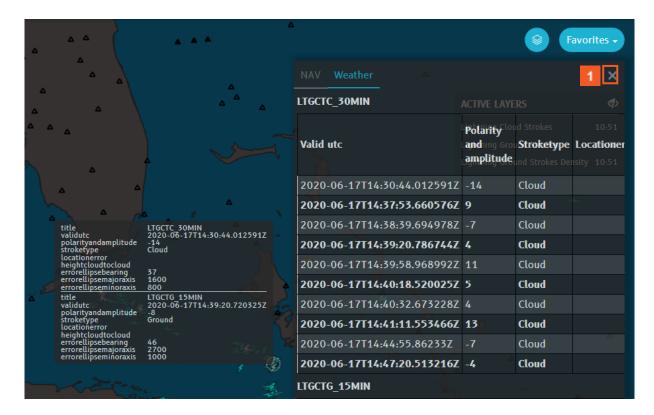For this example, click in the area **below and to the right** of the on-screen information.

1 Click **the highlighted area**.

The information pane has two tabs. If the **NAV** pane opens, but you want to see weather details, click the **Weather** tab to change the display. You can scroll through the information as needed, using the scroll bars.
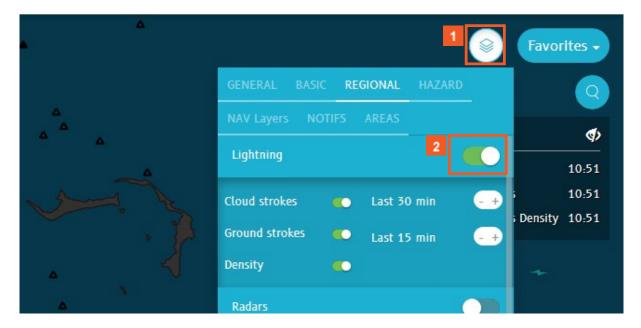
When you finish your review, close the pane.

1 Click the **Close (X)** button.

You have completed your brief review of using the **Lightning** layers. Access their sliders again in the **REGIONAL** tab and disable the display of lightning information for now.
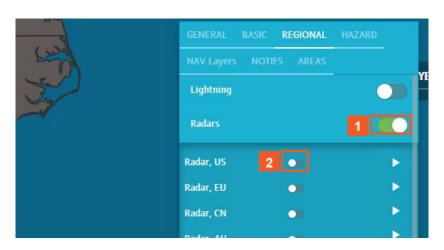
1 Click the **Layers** button.

Disable the "global" **Lightning** slider to disable all of its sub-options and then move on to review how the **Radars** layers work.

2 Click the **Lightning** slider.

The **Radars** layers display current composite radar, including precipitation type and intensity for the region you select.

Enable the **Radars** layer.

1 Click the **Radars** slider.

Radar images are available for several different geographic zones. Enable the ones that are relevant for your flying regions.

For this example, enable radar images for the United States.

2 Click the **Radar, US** slider.

You can use the **-** and **+** controls to display the forecast of the radar trends across your chosen area. You can choose from **Current** to 175 minutes in the past, with five-minute intervals.

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The radar images use different colors to indicate the intensity of the falling rain or snow. While color schemes can be different, the most common include:

- Light green: light rain, or rain aloft not reaching ground
- Dark green: light to moderate rain
- Yellow: moderate rain
- Orange: heavy rain
- Red: very heavy rain or rain and hail
- White or blue: snow
- Pink: freezing rain or sleet or mix of winter precipitation types

The mixture of light and dark green and yellow in this static radar image indicates a mixture of light to moderate rain.

Storm echo tops reflect the top of an area of precipitation, as detected by radar. Currently, storm echo tops information is available for the U.S. only.

To determine where the echo tops for these storms are found, enable the **Storm Echo Tops** layer.

1 Click the **Storm Echo Tops, US** slider.

The arrows pointing out from the storm echo tops indicators show the direction the storm is moving.

Zoom in to a 20 nm zoom level to focus on a storm in a particular area.

1 Click **Zoom in (+)**.

You may also choose to display lightning strokes along with storm activity. For this example, enable the **Lightning** layer.
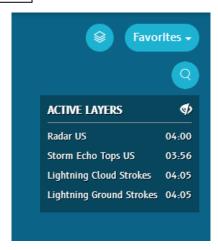
1 Click the **Lightning** slider.

Choose whether you want to display cloud-to-cloud lightning (cloud strokes) or cloud-to-ground lightning (ground strokes). Use the **+** and **-** buttons to display lightning data related to between the last 5 and 60 minutes.

The **ACTIVE LAYERS** pane shows all the weather layers you have enabled. You can use the **Show/Hide** icon to hide or reveal the list.

To enable or disable a weather layer, you must always use the relevant tabs in the **Layers** menu.

Hover your mouse over an Echo tops indicator on the map and N-Tracking displays detailed information on-screen. In this example, the white **FL250** icon with an arrow pointing northwest represents storm JAX-R2. The storm top is at 14,000 ft.

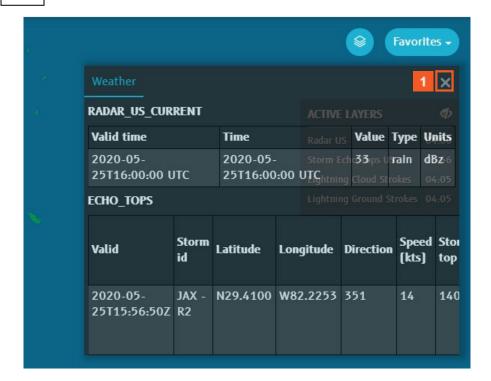If you click that icon, the information displays in the **Weather** pane in the upper right of the map.

1 Click **the highlighted Echo tops icon**.

The same information previously displayed on-screen displays in the **Weather** pane. You can copy information from the columns of the table into your clipboard if you want to communicate it to someone.

Close the **Weather** pane when you complete your review.

1 Click the **Close** button.

Your zoom level and other active weather layers can affect the visibility of lightning symbols. In this example, the colors used in the radar image make it challenging to see the three lightning symbols that display in the highlighted area, just below the
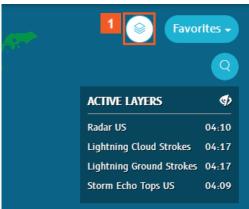
FL350 indicator .

Hover your mouse over another storm echo tops icon. For this example, the high-lighted yellow icon for FL250. N-Tracking shows detailed information about storm **JAX-T1**.
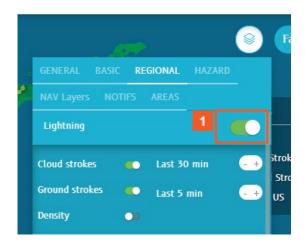
1 Click the **Layers** button.

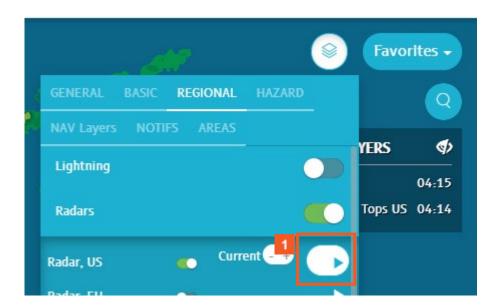Disable the **Lightning** weather layer.

1 Click the **Lightning** slider.

To see how weather conditions are evolving, you can click the **Play** button to view an animated recording of the DTN feed of radar images. The feed updates every 5 minutes.

Display images for current conditions or use the offset controls (**-/+**) to view the forecast of the radar trends across your chosen area.

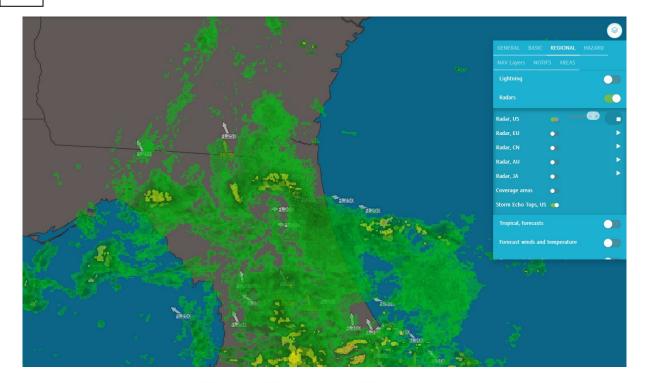You can choose from current time to 175 minutes in the past, with five-minute intervals.

1 Click the **Play** button.

This image and the next provide a short preview of how playing the dynamic radar images works.

HINT

If you click anywhere on the map while the animation is playing, N-Tracking provides detailed text about the radar images in the **Weather** pane.
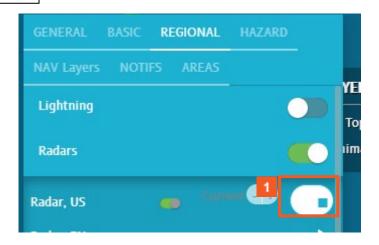
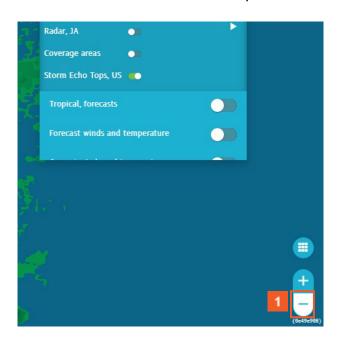Stop playing the radar animation.

1 Click the **Stop** button.

Next, let's review radar coverage areas. To do that, use a higher zoom level.

Zoom out to see more of the map. For this example, zoom out to **500** nm.

1 Click **Zoom out (-)**.

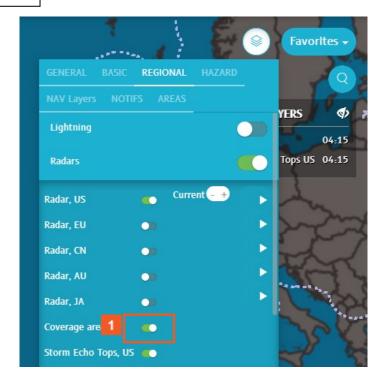**1** Click the **Coverage areas** slider.

N-Tracking shows the geographic areas covered by your selected radar imagery. Coverage areas are bounded by dotted lines.
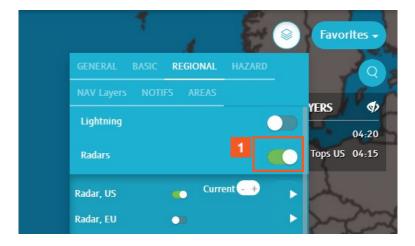

1 Click the **Layers** button.

Disable the **Coverage areas** layer.

1 Click the **Coverage areas** slider.

Disable the remaining radar layers by clicking the "global" **Radars** slider.

1 Click the **Radars** slider.

3.2.2 Tropical forecasts

3.2.2.1 Introduction

Tropical forecasts

In this topic you learn how to add tropical forecast information to the map and how to interpret the display.

We estimate that this will take 6 minutes to complete.

3.2.2.2 Detailed explanation

Introduction

Use the **Tropical forecasts** section of the **REGIONAL** weather tab to view more detailed information about hurricanes, cyclones, and tropical storms in the areas you are tracking and planning flights.

SCENARIO: The American National Hurricane Center has put out a message about tropical storm Isaias.

The storm is forecast to produce heavy rains over Puerto Rico, the Dominican Republic, northern Haiti, the Bahamas and Southern Florida, and then track north.

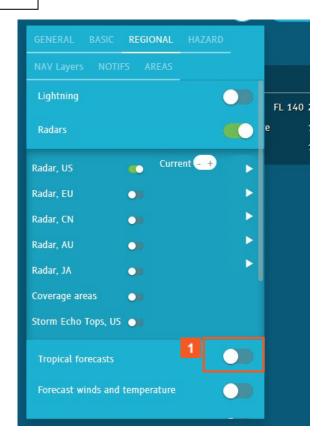Rainfall and wind hazards are expected to extend well beyond the center of the system.

Enable the Tropical forecasts weather layer to view updated information on for hurricanes, cyclones, and tropical storms.

In this example, you have already enabled several weather layers, including American radar images.

1 Click the **Layers** button.

1 Click the **Tropical forecasts** slider.

Use the different layers within the **Tropical forecasts** group to display different storm characteristics.

Start by enabling all model tracks to see the tracks for a given storm. Tropical storm Isaias is over Haiti, the Dominican Republic and heading for the coast of Florida.
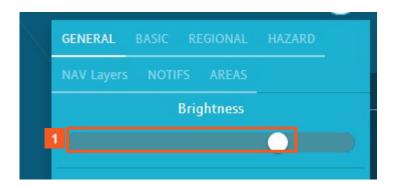

1 Click the **All model tracks** slider.

Storm tracks display best against darker backgrounds. Adjust the **Brightness** slider on the **GENERAL** tab.

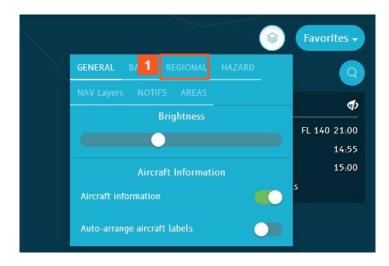**1** Click the **GENERAL** tab.

1 Click the **Brightness** slider.

Click on the left side of the slider to darken the water color.
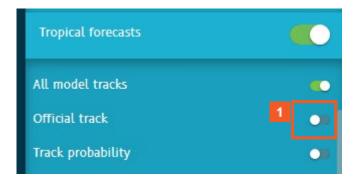
You can now see the model tracks more easily. The lines represent the forecast track of storms based on different models.

The gray lines represent the track of the storm predicted by various models. The red line represents the official track.
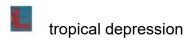

1 Click the **REGIONAL** tab.

1 Click the **Official track** slider.

The **Official track** layer displays all past positions of the storm (shown by the small red dots) and provides a good view of where the storm has been and the direction in which it is moving. This data is updated every six hours or more frequently, as needed.

Symbols used for the track:

    tropical storm
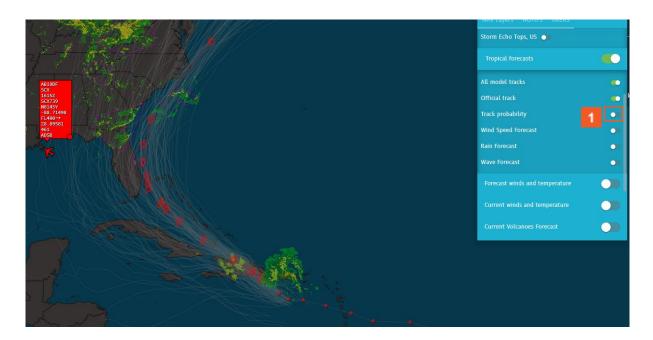
    hurricane

    tropical depression

    past position

As you have seen with other weather features, you can hover your mouse over the track or click anywhere on the track to view more details on-screen or in the **Weather** pane.
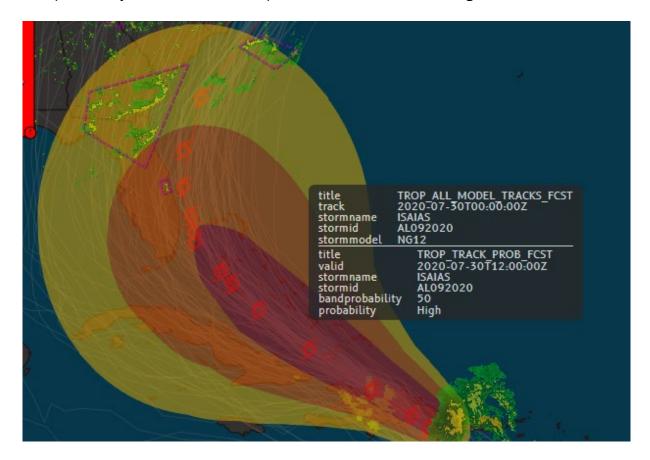

1 Click the **Track probability** slider.

The different colors in the graph indicate different levels of probability.

Hover your mouse over the center, reddish storm probability band. You can see details, such as the storm name (Isaias) and its ID.
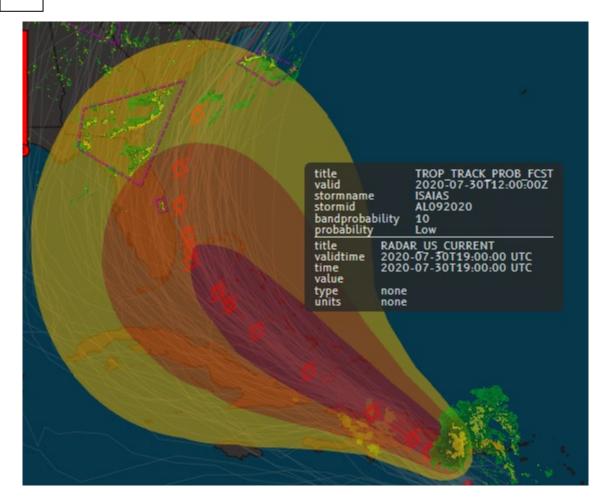
The probability for the storm to be present in the red zone is **high**.

Hover your mouse over another highlighted area, this one in the outer, yellowish band.

The probability of the storm traveling into this zone is currently **low**.
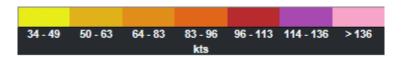
title	TROP_TRACK_PROB_FCST
valid	2020-07-30T12:00:00Z
stormname	ISAIAS
stormid	AL092020
bandprobability	10
probability	Low
title	RADAR_US_CURRENT
validtime	2020-07-30T19:00:00 UTC
time	2020-07-30T19:00:00 UTC
value	
type	none
units	none

Disable the first three sliders before you move on to explore the **Wind Speed Forecast**.

1 Click the **Wind Speed Forecast** slider.

You can see the wind speed forecast shown in yellow. (The color is greenish over (blue) areas of water.)

Standard colors used for mapping wind speed (in knots) include:

34 - 49	50 - 63	64 - 83	83 - 96	96 - 113	114 - 136	> 136

kts

Hover your mouse over the wind diagram or click within it to view detailed information.

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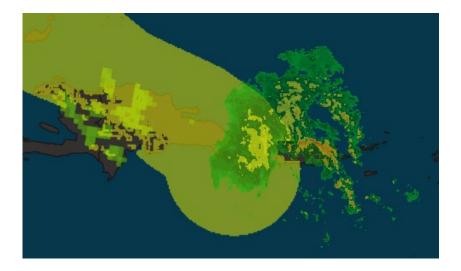
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Zoom in for better visibility on the islands affected by the storm winds.
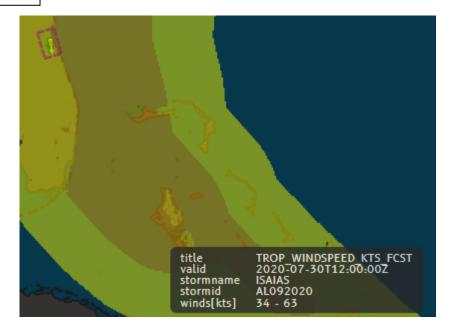
1 Click the **Zoom in (+)** button.

Hover your mouse over the highlighted area of the green outer band. The on-screen information tells you that wind speed is 33 knots.

Hover your mouse over the central, caramel-colored band and you can see that the wind speed in the zone depicted in this color is higher, between 34 and 63 knots.
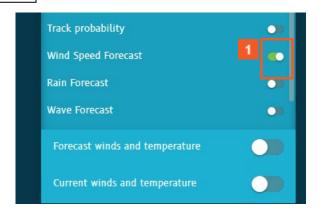
Zoom out again to a zoom level of 200 nm.

1 Click the **Zoom out (-)** button.

1 Click the **Layers** button.

Disable the **Wind Speed Forecast** layer before you explore the **Rain Forecast** layer.

1 Click the **Wind Speed Forecast** slider.

1 Click the **Rain Forecast** slider.

You are now displaying a color-coded, contoured forecast of rain data values over both land and water areas.

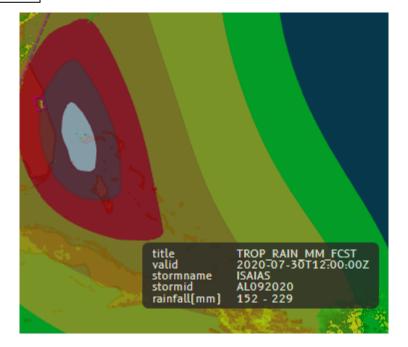The standard codes used to depict rainfall are as follows:

Note: This chart uses inches. N-Tracking uses the same color scheme and associates them with the equivalent millimeters of precipitation.

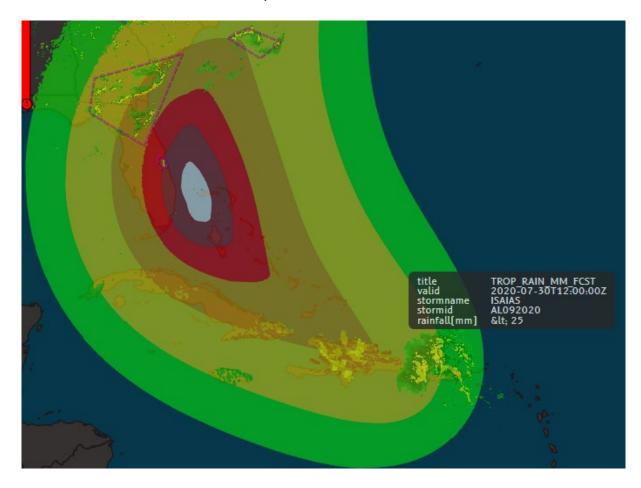Hover your mouse over the dark red band near the center of the colored shape.

N-Tracking provides the details that rainfall for this zone is forecast at 152-229 mm.
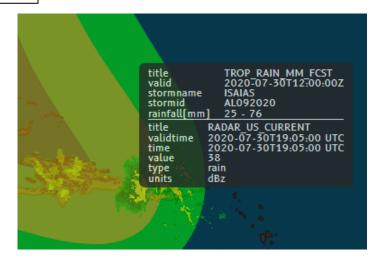
Hover your mouse over the outer green band.

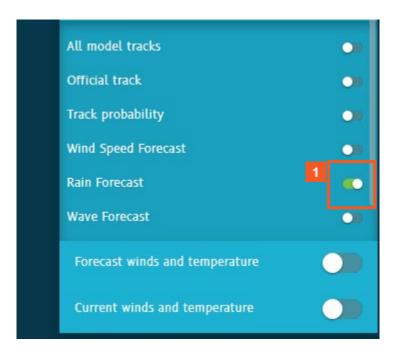In contrast, rainfall for the zone depicted in this color is estimated at 25 mm.

If you hover your mouse over a region for which radar images are also available, N-Tracking displays details for both weather layers.

Disable the **Rain Forecast** layer before you move on to the last layer in this group.

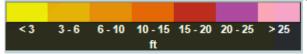**1** Click the **Rain Forecast** slider.

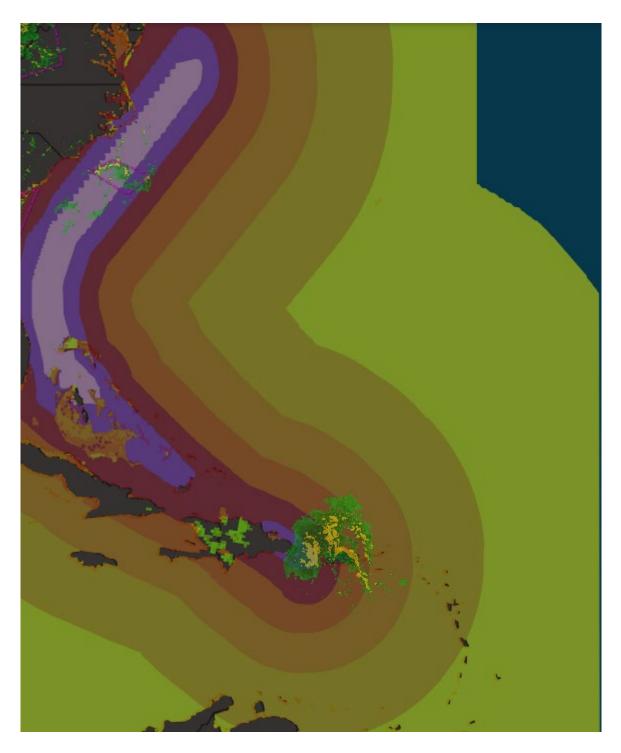**1** Click the **Wave Forecast** slider.

The color coding shows the height of the waves in feet.

The standard colors used for the graph include:
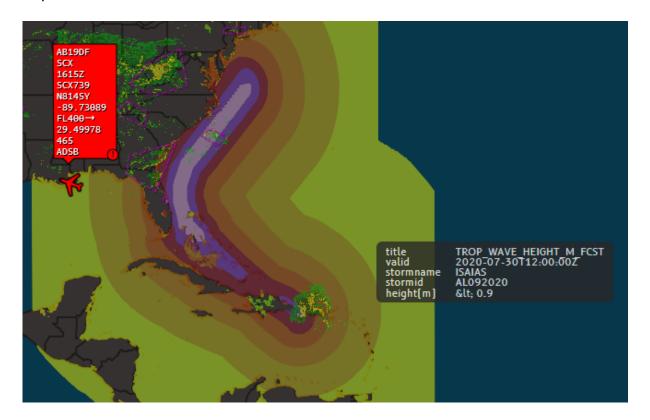
Change the zoom to 500 nm.

1 Click the **Zoom out (-)** button.

The **Wave Forecast** layer works exactly like the other weather layers that use different colors to depict different intensity of the weather phenomenon you're looking at. If

you hover your mouse over the outer green zone, the wave height associated with tropical storm Isaias shows as 0.9 meters.

Hover your mouse over the reddish zone nearer the center of the shape, and you see that wave height is forecast at 4.6 to 6.1 meters.

SUCCESS

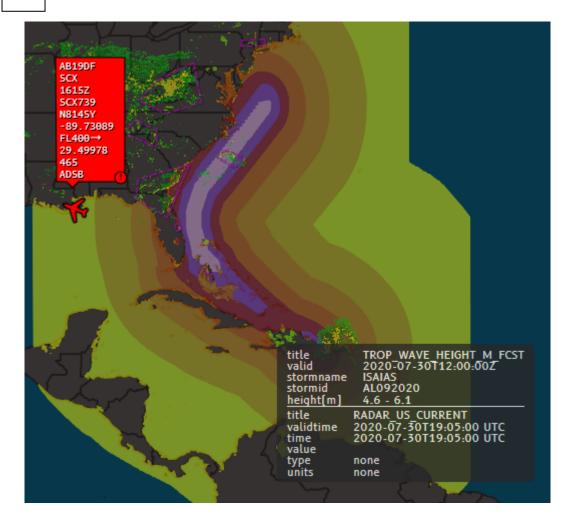Congratulations! At this point, you have successfully worked with the weather layers that focus on tropical weather phenomena. Use them as needed in your flight monitoring tasks.

For information on depicting other regional weather phenomena on the map, consult the related topics.

3.2.3   View volcano information and the related ash forecast

3.2.3.1 Introduction

View volcano information and the related ash forecast

In this topic, you learn how to display volcano and ash forecast information on the map.

We estimate that this will take 3 minutes to complete.

3.2.3.2 Detailed explanation

Adding and interpreting the Current Volcano and Ash Forecast weather layers

If your flight plans can be affected by volcanic activity, use the **Current Volcanoes Forecast** layer and the **Ash Forecast** layer separately or in combination.
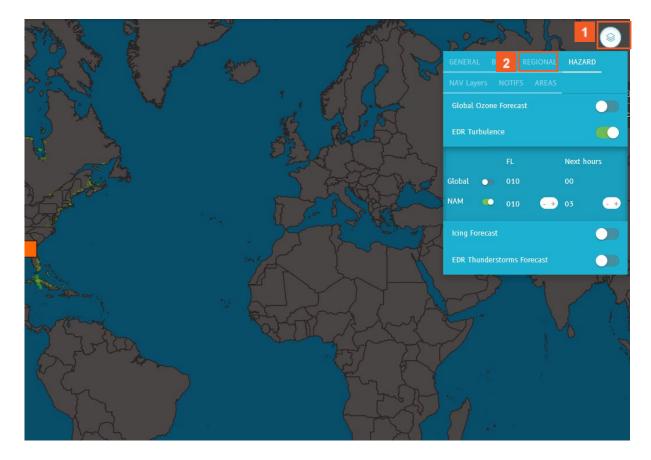You can view the current ash forecast or view its expected behavior over several hours in the future.

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Let's get oriented: You're monitoring a flight that passes over Peru and you want to check for volcanic activity. Your map is at a zoom level of 1,000 nm and is focused on North and South America.

Volcano and ash forecast information is provided as part of a regional weather subscription, so access the **REGIONAL** weather tab as your first step.
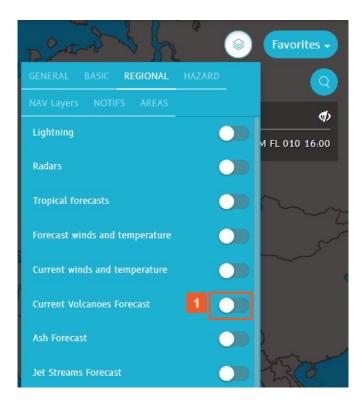

1   Click the **Layers** button.
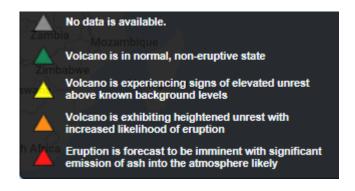
2   Click the **REGIONAL** tab.

For the moment, enable the **Current Volcanoes Forecast** layer only.

You can enable both the **Current Volcanoes Forecast** and the **Ash Forecast** layers at the same time.

1 Click the **Current Volcanoes Forecast** slider.
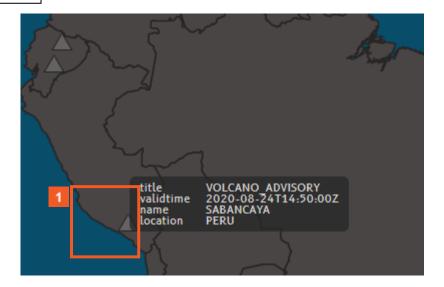
The **Current Volcanoes Forecast** layer displays the latest information in global volcanic activity. In this example, the volcanoes are depicted in gray. The gray color may indicate that the color code used in aviation was not provided by the reporting station. At different times, you may see other colors used:

Hover your mouse near a volcano symbol to view the name of the volcano and when an advisory was issued.

If you click the symbol, the same information displays in the **Weather** pane.

1 Click **highlighted symbol**.

Close the **Weather** pane.

1 Click the **Close (X)** button.

In this example of an orange-colored volcano symbol, you can see that the text advisory also indicates AVIATION COLOUR CODE: ORANGE:
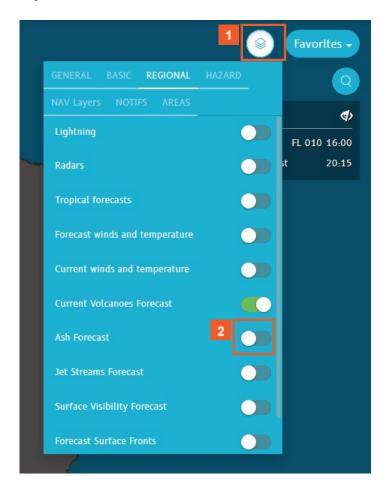
title	VOLCANIC_ASH
validtime	2020-09-15T11:45:00Z
advisorytext	ADRM VA ADVISORY DTG: 20200915/1145Z VAAC: DARWIN VOLCANO: DUKONO 268010 PSN: N0141 E12753 AREA: INDONESIA SUMMIT ELEV: 1335M ADVISORY NR: 2020/1010 INFO SOURCE: HIMAWARI-8 AVIATION COLOUR CODE: ORANGE ERUPTION DETAILS: VA EMISSION TO FL070 MOV NW, LAST OBS AT 14/0050Z OBS VA DTG: 15/1145Z OBS VA CLD: SFC/FL070 N0139 E12751 - N0217 E12713 - N0235 E12748 - N0142 E12757 MOV NW 10KT FCST VA CLD +6 HR: 15/1745Z SFC/FL070 N0138 E12752 - N0220 E12711 - N0237 E12748 - N0141 E12757 FCST VA CLD +12 HR: 15/2345Z SFC/FL070 N0140 E12752 - N0223 E12709 - N0239 E12746 - N0142 E12757 FCST VA CLD +18 HR: 16/0545Z SFC/FL070 N0139 E12752 - N0224 E12707 - N0241 E12747 - N0143 E12757 RMK: VA NOT DISCERNIBLE ON LATEST SAT IMAGERY DUE TO OBSCURATION BY MET CLOUD....
title	VOLCANO_ADVISORY
validtime	2020-09-15T11:45:00Z
name	DUKONO
location	INDONESIA

Now, add ash forecast information to the volcano information you're already displaying.

1 Click the **Layers** button.

2 Click the **Ash Forecast** slider.

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In this example, ash forecast information has been added to the map for two volcanoes.

After hovering your mouse over the southern Sabancaya volcano, hover over the northern volcano.

Use this chart to interpret the heights at which ash is forecast to be present:
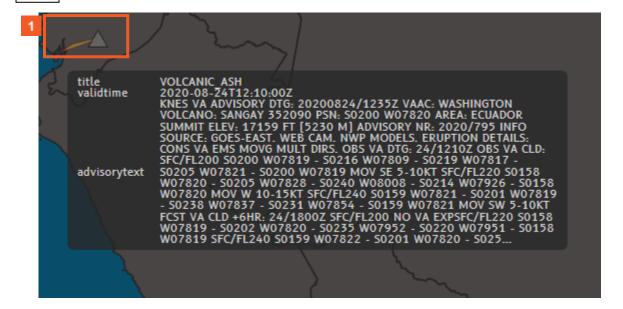

Ash at an *unknown elevation* may be depicted like this: .

As you saw with the volcano forecast layer, you can also click on the colored symbol to view more details in the **Weather** pane.

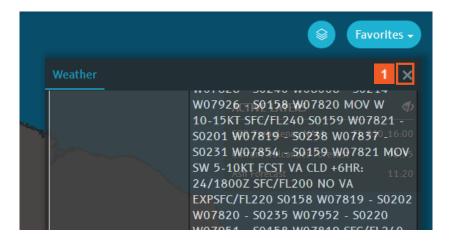**1** Click **highlighted colored shape**.

The advisory text for this ash forecast is quite long. Use the scroll bar on the right to scroll through all the text as needed.

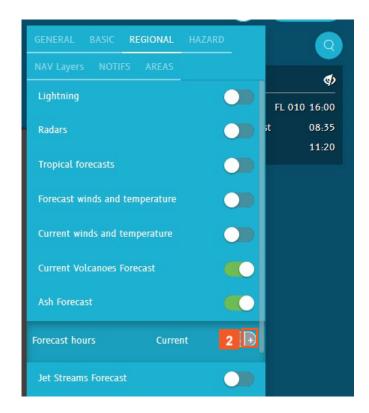**1** Click the **vertical** scroll bar.

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HINT

You can triple-click on the text in the **Weather** pane if you want to copy the text to your clipboard (for use in a communication, for example).

1 Click the **Close (X)** button.

Access the **Ash Forecast** layer again and review how to change the time for which the forecast displays.

1 Click the **Layers** button.

Adjust the display to show the ash forecast for the next **six** hours.

2 Click the **+** button.

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Click the **+** button a second time to show the forecast for 12 hours in the future. You can display the forecast for a maximum of 18 hours in the future.

1 Click the **+** button.

Twelve hours out, the ash forecast for the Sangay volcano looks different.
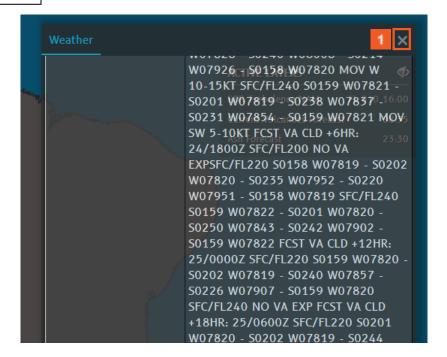
As needed, click the symbol to view all the details in the **Weather** pane.

Notice the updated time for the ash forecast on the **ACTIVE LAYERS** panel.

1 Click **highlighted symbol**.

Close the **Weather** pane after you review the information you need.

1 Click the **Close (X)** button.

SUCCESS

Congratulations! You have successfully applied both volcano and ash forecast information to the map to assist in your flight tracking and monitoring.

3.2.4 Jet stream and current or forecast wind and temperature information

3.2.4.1 Introduction

Jet stream and current or forecast wind and temperature information

In this topic, you learn how to work with the Jet Stream Forecast and the Current and Forecast winds and temperature weather layers that are part of a regional weather subscription.

We estimate that this will take 7 minutes to complete.

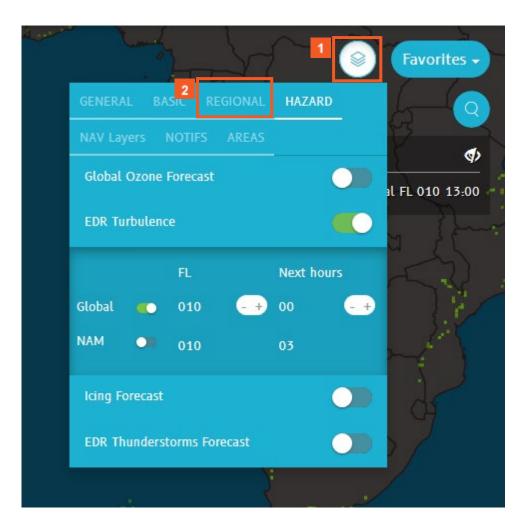#### 3.2.4.2 Detailed explanation

Using the Jet Stream Forecast and the Current and Forecast winds and temperature layers

Enable or disable weather layers on the **REGIONAL** tab for those regions for which you have a weather information subscription. For example, some airlines may enable radar images for Europe, but not for the U.S.
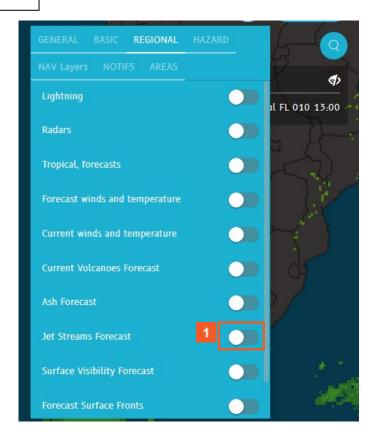
In this topic, learn how to work with the following weather layers:

- Jet Streams Forecasts: direction, speed and location of the jet stream

- Forecast winds and temperature: forecast winds and temperature aloft and areas of high winds

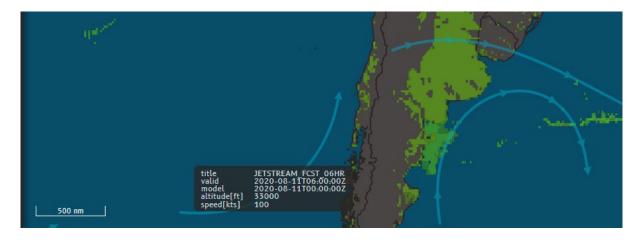- Current winds and temperature: current winds and temperature aloft

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1 Click the **Layers** menu button.

2 Click the **REGIONAL** tab.

1 Click the **Jet Streams Forecast** slider.

Hover your mouse over one of the depicted jet streams, such as the one along the west coast of Chile and N-Tracking displays details on altitude and wind speed. At 33,000 feet, wind speed is 100 knots.

Hover your mouse over the northern part of the depicted jet stream and you learn that the jet stream has moved up in altitude and that wind speed in this region is slightly less, 90 knots.
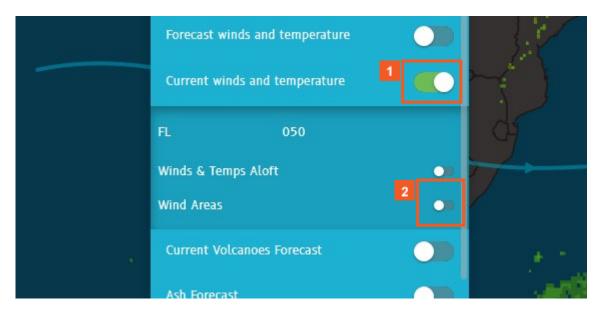
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Use this same technique of hovering your mouse over any depicted jet stream to learn how long the forecast remains valid and the wind speed at altitudes of interest to you.

Leaving the **Jet Streams Forecast** layer enabled, let's enable the **Current winds and temperature** layer.

1 Click the **Current winds and temperature** slider.

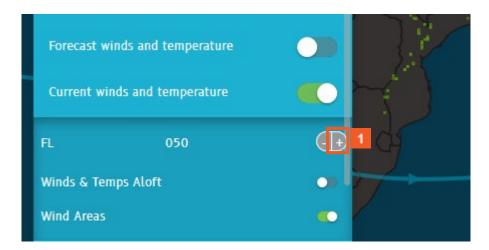By default, current winds and temperature is shown for flight level 050. You can change this.

Enable the **Wind Areas** layer to depict map areas where there are high wind speeds. Areas of low wind speeds are not colored.

2 Click the **Wind Areas** slider.

At a flight level (**FL**) of 5,000 feet, no areas of high winds are depicted.

Click the **plus** (**+**) button and increase flight level (**FL**) to 300 and see the difference.

HINT

You can use the ⊖⊕ control to increase or decrease the flight level, as needed.

1 Click the **plus (+)** button.

Review the bands of progressively faster wind speeds depicted by colors in yellow through red.
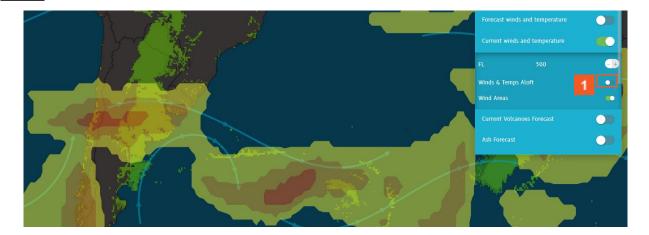
The lightest band depicts wind speeds in the range of 70 to 100 knots, while the darkest color (not shown in this example) signals wind speeds in the range of 130 to 160 knots.

HINT

The color progression (yellow through orange, through red) is slightly affected by the underlying water and land colors.
In this example, yellow appears greenish and orange appears caramel-colored.

Now that you can see the areas in which various wind speeds are encountered, enable the **Winds & Temps Aloft** layer for more detailed information.
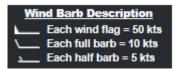
1 Click the **Winds & Temps Aloft** slider.

When you zoom in, wait a few moments to allow N-Tracking some time to re-draw the barbs for the new zoom level.

1 Click the **Zoom in (+)** button.

Enable the **Winds and Temps Aloft** layer to display winds and temperature using a presentation called "wind barbs." The barbs show both wind speed and direction on a single icon. The following table explains the wind barbs.

The number on the wind barb represents the temperature. The direction indicates where the wind is coming from.
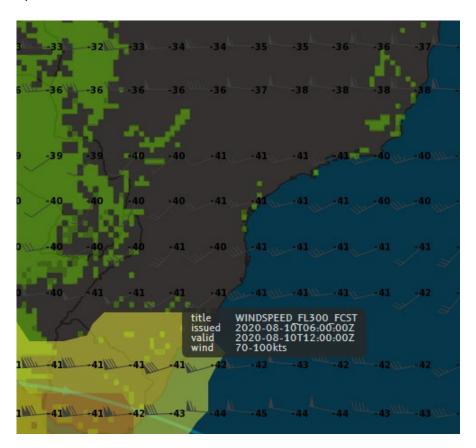
For example:
indicates the wind is from the West, blowing towards the East at 130 knots.

HINT

If you find reading the wind barbs over certain colors challenging, consider using the **Brightness** slider on the **GENERAL** tab to lighten the water and land colors.

Hover your mouse over one of the numbered wind barbs to learn the relevant wind speed and when the wind forecast remains in effect.

If you click a wind barb in an area where another weather layer is active (such as in this example, where the global turbulence forecast is enabled), you see details for both of those weather layers and the **Weather** pane opens in the upper right.
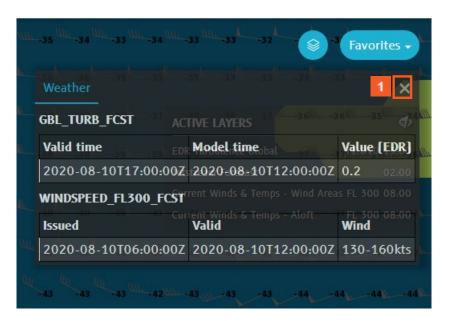

1 Click **a wind barb in the highlighted red zone**.

You have a choice between clicking your mouse to view the information presented in the **Weather** pane or hovering your mouse over the weather phenomenon to see
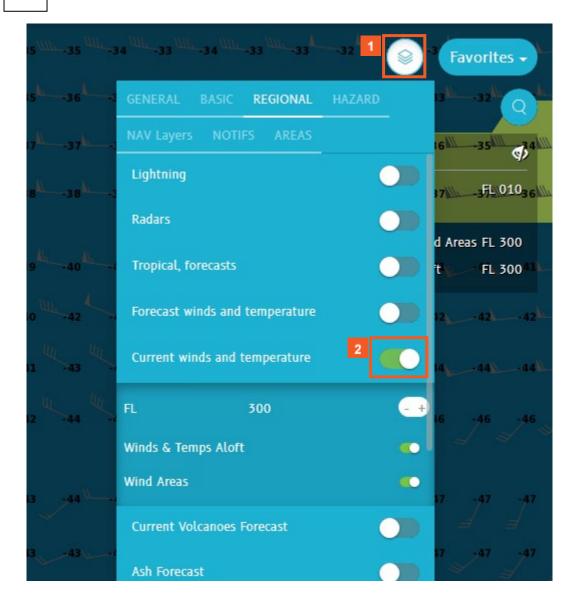
details directly on-screen.

You must click **X** to close the **Weather** pane.
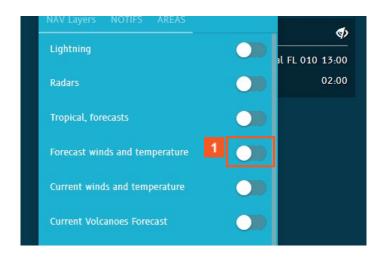

1 Click the **X (Close)** button.

1 Click the **Layers** menu button.

Disable the **Current winds and temperature** layer and review how the **Forecast winds and temperature** layer works.

2 Click the **Current winds and temperature** slider.

1 Click the **Forecast winds and temperature** slider.
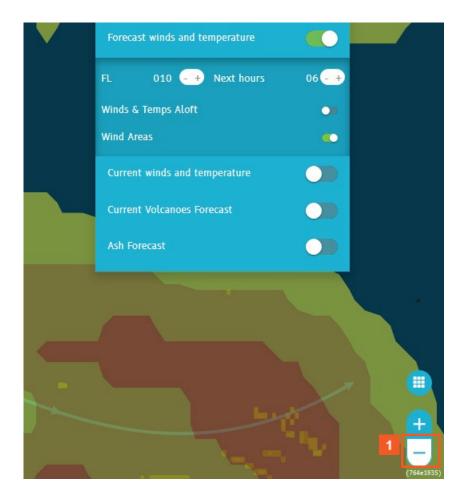
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Notice the default settings for this layer -- show wind areas for flight level 010 for the next 6 hours.

1 Click the **Wind Areas** slider.

After you **enable the** Wind Areas layer, you can use the [image] controls to change both the flight level (**FL**) and the number of hours in the future you want to see forecast winds.

Change the zoom to get a higher level over of wind activity.

1 Click the **Zoom out (-)** button.

At a zoom level of 500 nm, you can get a better sense of the wind areas colored yellow, orange, and red, and because you left the **Jet Stream Forecast** layer enabled, you can analyze wind activity in combination with the wind activity.

Use the **FL** control (**+**) and change the flight level to 30,000 feet -- the same view for which you just reviewed current conditions.

1 Click the **FL +** button.

2 Click the **Winds & Temps Aloft** slider.

Now, you can hover your mouse over or click any of the temperatures or wind barbs for more detailed information, using the same technique you used with the **Current winds and temperature** layer.

Previously, you learned about using the **Brightness** slider on the **GENERAL** tab to increase the contrast between the wind information and the map background.

Try that now.

1 Click the **GENERAL** tab.

For this example, click to the right of the **Brightness** knob to lighten the background colors.

2 Click the **Brightness** slider.

Click anywhere on the map to close the **Layers** pane.

3 Click **anywhere on the map**.

At this brightness setting, you may find the temperatures and wind barbs easier to read.

As you've seen throughout this topic, hover near a wind barb or over a wind area and you can review details about wind speed and the validity of the forecast.

For the area in the central caramel-covered band, wind speed forecast for the next 6 hours is 100 to 130 knots at FL 300.

SUCCESS

Congratulations! You have successfully used the **Jet Stream Forecast** and both the **Current** and **Forecast Winds & Temps** weather layers to add information to the map to assist in your flight tracking and planning.

3.2.5   View surface visibility, forecast surface fronts, and forecast ceiling information on the map

3.2.5.1   Introduction

View surface visibility, forecast surface fronts, and forecast ceiling information on the map

In this topic, you learn how to add and interpret information on surface weather conditions to the map in addition to viewing areas in which different flight rules apply.

We estimate that this will take 5 minutes to complete.

3.2.5.2   Detailed explanation

Work with and interpret surface visibility, forecast surface fronts and forecast ceiling information on the map
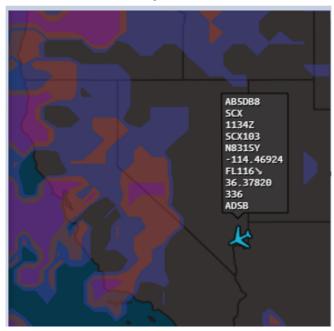
Apply the **Surface Visibility Forecast** layer to the map to view colored shapes representing different surface visibility for your region of interest.

View the information in the **Forecast Surface Fronts** layer to see how surface fronts are expected to develop and move into the future. For information on viewing current surface fronts (available as part of a basic weather subscription), consult the topic, *Display basic weather information (U.S. only)*.

Use the **Forecast Ceiling** layer to view areas in which the different flight rules (LIFR, IFR, and MVFR) apply. Forecast ceiling information is available for North America and Europe only.

Surface visibility forecast


```
AB5DB8
SCX
1134Z
SCX103
N831SY
-114.46924
FL116↘
36.37820
336
ADSB
```

Forecast surface fronts


```
AACA75
SCX
1142Z
SCX3006
N7949A
-97.69455
FL161↘
33.70750
364
ADSB
```

Forecast ceiling


```
AABB53
SCX
1229Z
SCX3017
N7907A
-81.85470
FL390→
40.85708
527
ADSB
```

Let's get started on learning how to use the last three of the weather layers available to you with a regional weather subscription:

- Surface Visibility Forecast

- Forecast Surface Fronts and

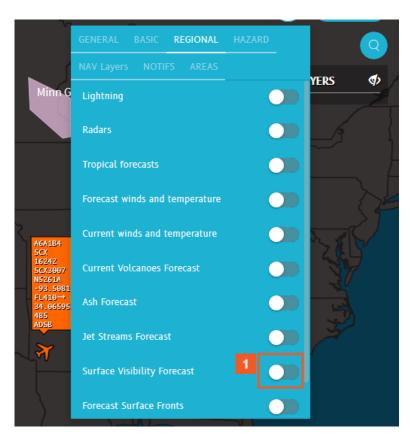- Forecast Ceiling (where various flight rules apply).

Access the **REGIONAL** tab from the **Layers** menu to start.

1 Click the **Layers** button.

2 Click the **REGIONAL** tab.

The **Surface Visibility Forecast** layer works similarly to other layers you have already explored. Enable it now to see how you can use the information it provides in your flight planning and tracking tasks.

1 Click the **Surface Visibility Forecast** slider.

The **Surface Visibility Forecast** layer adds colored shapes to the map. These shapes represent differences in surface visibility in different areas.
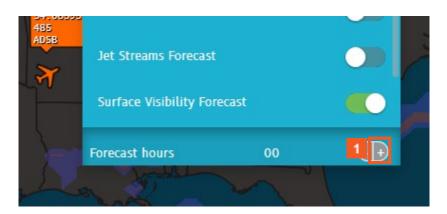
The colored areas indicate where a forecast for LIFR (low instrument flight rules), IFR (instrument flight rules), MVFR (marginal flight rules), or VFR (visual flight rules)

apply.

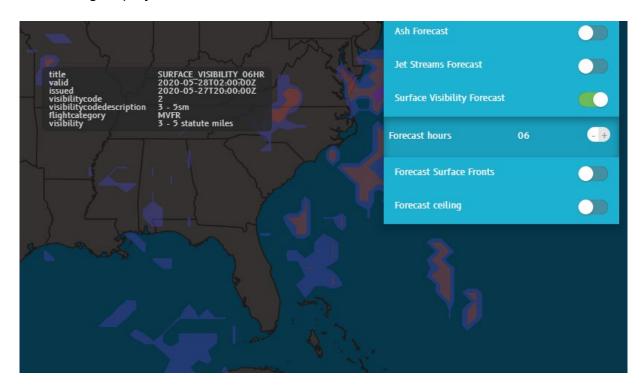You can display the forecast for up to 24 hours into the future.

Click **+** to advance the forecast to show conditions 6 hours from now.
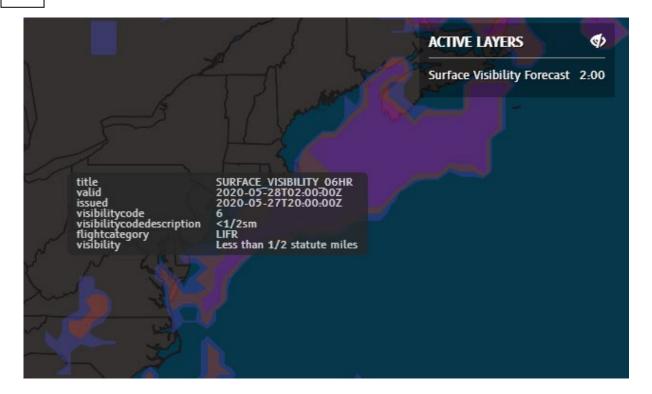

1 Click the **plus (+)** button.

Notice the color changes on the map, reflecting the changes in surface visibility.

Hover your mouse over one of the colored areas; for this example, a red zone.

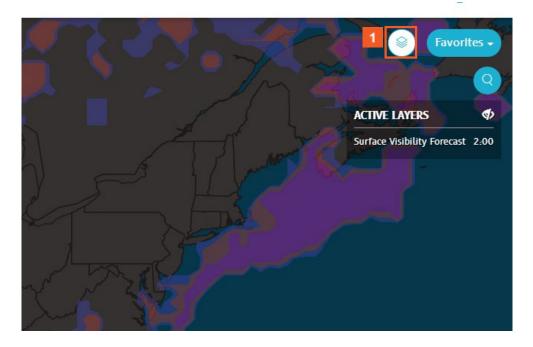N-Tracking displays detailed information: MVFR are in effect for this area.

Next, hover your mouse over a purple area. **LIFR** apply here and visibility is less than .5 statute miles.
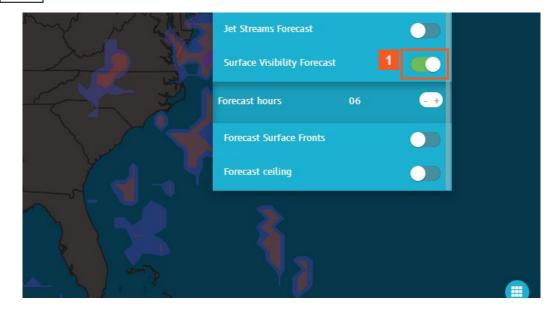
The **ACTIVE LAYERS** pane displays the time of the last update for the information shown by the surface visibility forecast.

1 Click the **Layers** button.

Disable the **Surface Visibility Forecast** layer and review the **Forecast Surface Fronts** layer and the information it adds to the map.

1 Click the **Surface Visibility Forecast** slider.

1 Click the **Forecast Surface Fronts** slider.

Use this layer to investigate the forecast development and movement of fronts going forward. You may recall that a *Current* **Surface Fronts** layer is available in the **BASIC** weather tab.

Cold Front - a zone separating two air masses, of which the cooler, denser mass is advancing and replacing the warmer air.

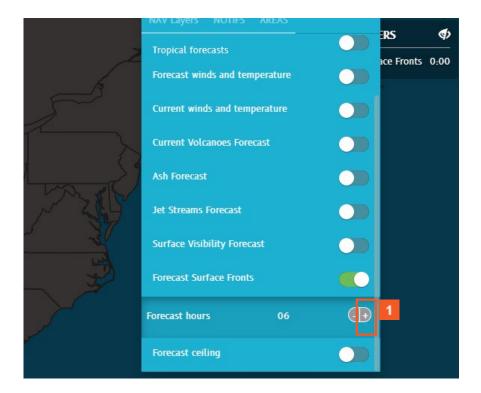**Warm Front** - a transition zone between a mass of warm air and the cold air it is replacing.

Trough - an area of relatively low atmospheric pressure. This is the opposite of a ridge.

Occluded Front - a composite of two fronts, formed as a cold front overtakes a warm front. Two types of occlusions can form, a cold occlusion where the cold air is behind the cold front and a warm occlusion where the coldest air is ahead of the warm front.

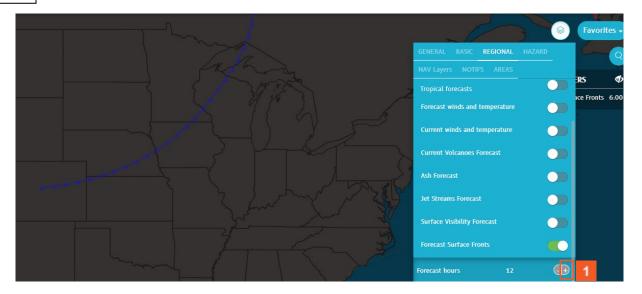**Stationary Front** - a front between a warm and cold air mass that is moving very slowly.

Click the **+** button to advance to show the forecast for **12** hours out.

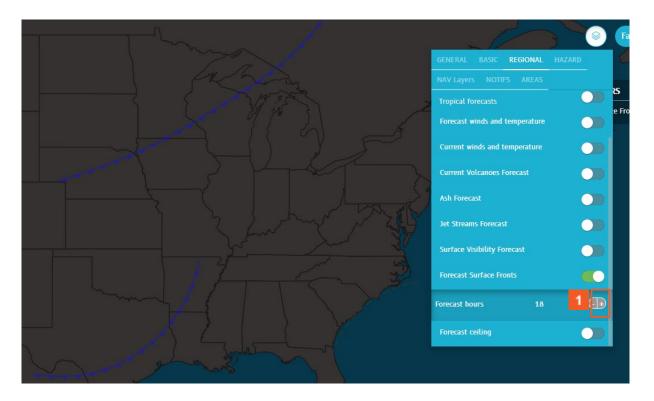**1** Click the **plus (+)** button.

In the next 12 hours, a cold front is expected to move in.

Next, click the **+** button again to show conditions forecast for 18 hours in the future.

1 Click the **plus (+)** button.

Six hours later, another cold front will be affecting some states in the Southern U.S.

Click the plus (**+**) button again and you see the forecast for a full 24 hours in the future.
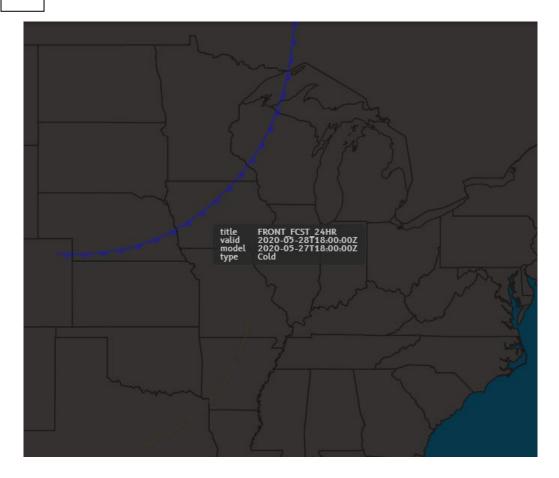

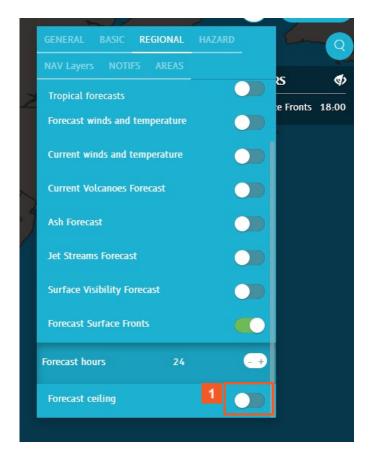**1** Click the **plus (+)** button.

Hover your mouse over the cold front and N-Tracking displays some detailed information on-screen.

The map also shows some troughs developing (look for dashed brown lines).

Next, enable the **Forecast ceiling** layer.

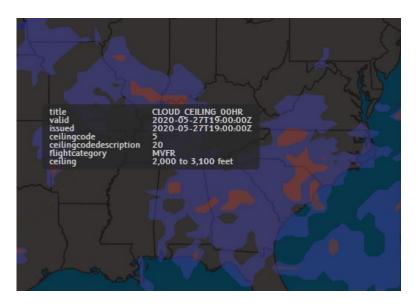**1** Click the **Forecast ceiling** slider.

The shapes shown in the **Forecast ceiling** layer indicate where

- low instrument flight rules (LIFR)
- instrument flight rules (IFR), and
- marginal visual flight rules (MVFR) apply.

Forecast ceiling information is available for North America and Europe only.

Hover your mouse over one of the colored areas and N-Tracking displays more details on-screen.

In this particular area, MVFR apply and the ceiling is 2,000 to 3,000 feet.
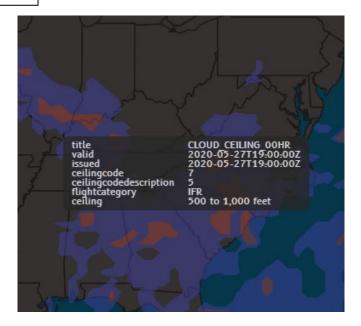

The colors provide information on the ceiling height and which flight rules are applicable.
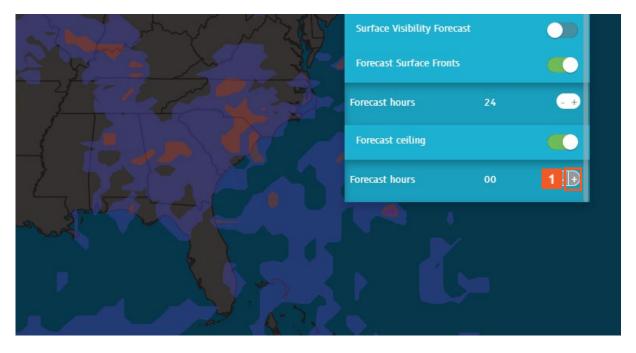

Hover your mouse over a red colored area and use the information that N-Tracking displays on-screen.

As you did with the previous layers, click the **+** button to advance the forecast further into the future.
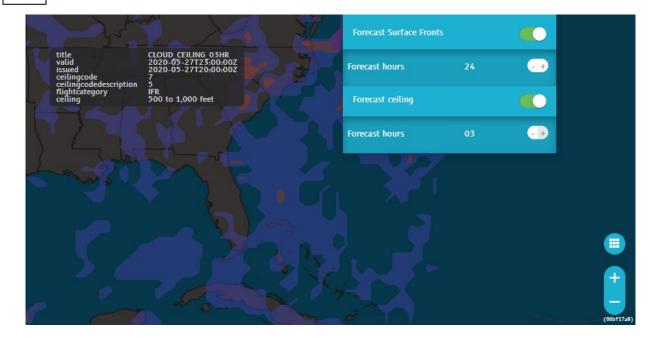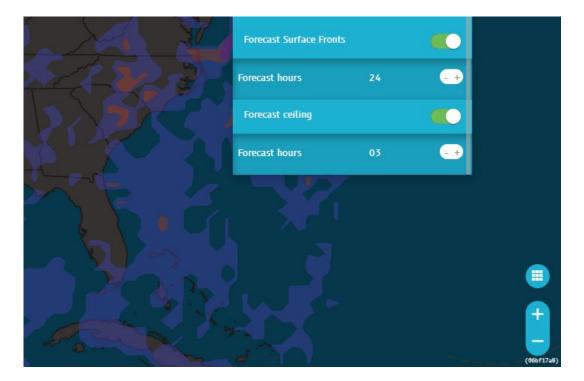

1 Click the **plus (+)** button.

Notice the changes in the colors on the map.

Once again, if you hover your mouse over an area of interest, details display on the map.

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Optionally, disable the **Forecast ceiling** layer. You have completed your exploration of the last three options available for your use in the **REGIONAL** weather tab.

SUCCESS

Congratulations! You have successfully applied weather layers to the N-Tracking map to view ground level visibility conditions, surface fronts, and forecast ceiling conditions for different areas.

You have learned to use the time offset controls to show conditions forecast for the future as well as current conditions.

Another weather-related topic you should be sure to review is *Weather hazards*.

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3.3 Adding weather hazard information to the map

3.3.1 Display weather hazards: Global ozone forecast

3.3.1.1 Introduction

Display weather hazards: Global ozone forecast

In this topic, you learn how to add information on global ozone levels to the map.

We estimate that this will take 1 minute to complete.

3.3.1.2 Detailed explanation

Weather hazards

Display flight hazards using the information provided in the **HAZARD** tab to optimize flight routes or improve flight decisions based on those hazards. The options include:
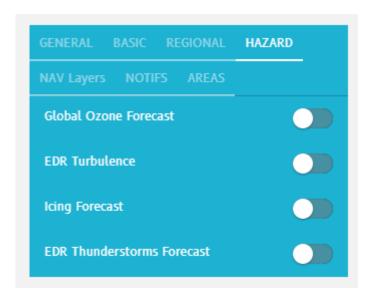
- Global ozone forecast: forecasting position and the concentration of the ozone layer

For more details on working with the last three layers in the **HAZARD** tab, consult the topic, *Display weather hazards: EDR turbulence, icing forecast, and EDR thunderstorms forecast*.

- EDR turbulence: turbulence at multiple flight levels as well as forecast periods globally or for the North American Mesoscale Model (NAM)

- Icing forecast: forecasts for icing for different flight levels, as well as forecast periods over North America or globally

- EDR thunderstorms forecast: forecast convective activity and intensity for different forecast periods globally or for North America.

HINT

The **HAZARD** tab is available only if you subscribe for weather information for at least one region.

What does the global ozone forecast look like today?

You can display this information on the map by accessing the appropriate weather layer in the **Layers** menu.

1 Click the **Layers** button.

2 Click the **Global Ozone Forecast** slider.

After **Global Ozone Forecast** is enabled, you can see where different concentrations of ozone occur. In this example, the map shows the forecast for the next six hours.

The ozone forecast uses two colors to indicate different concentration levels:

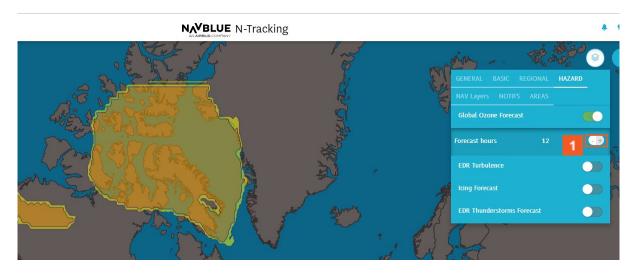Between 0.10 – 0.25ppm above FL270
Greater than 0.25ppm above FL270

Clicking within a depicted shape displays more detailed information.

Model	Valid	Concentration
2019-01-04T00:00:00Z	2019-01-04T12:00:00Z	Between 0.10 - 0.25ppm above FL270
2019-01-04T00:00:00Z	2019-01-04T12:00:00Z	Between 0.10 - 0.25ppm above FL270

You can change the time for which the forecast displays to show 12, 18, or 24 hours in the past or in the future.

For this example, display the forecast time period for 12 hours in the future.

1 Click the **Forecast hours +** button.

In this example, increasing the time offset from 6 to 12 changes the area to which the ozone warning applies.

When using this layer, be aware that at any given time, ozone may not be present in a high enough concentration to be depicted on the map.

Use the Global Ozone Forecast slider to enable or disable this feature.

3.3.2 Display weather hazards: EDR turbulence, icing forecast, and EDR thunderstorm forecast

3.3.2.1 Introduction

Display weather hazards: EDR turbulence, icing forecast, and EDR thunderstorm forecast

In this topic, you learn how to add information about weather hazards such as turbulence, icing, and thunderstorms to the map and to interpret that information.

We estimate that this will take 10 minutes to complete.

3.3.2.2 Detailed explanation

Weather hazards
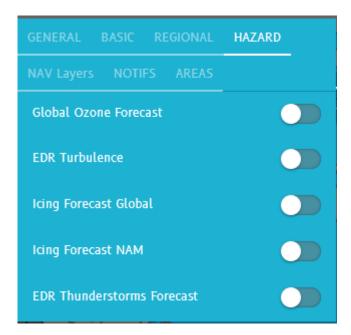
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Display flight hazards using the information provided in the **HAZARD** tab to optimize flight routes or improve flight decisions based on those hazards. The options include:

- Global ozone forecast: forecasting position and the concentration of the ozone layer

    - For more details on working with the Global ozone forecast layer, consult the topic, *Display weather hazards: Global ozone forecast*.

- EDR turbulence: turbulence at multiple flight levels as well as forecast periods globally or for the North American Mesoscale Model (NAM)

- Icing forecast (Global and NAM): forecasts for icing for different aircraft sizes, flight levels, as well as forecast periods over North America or globally

- EDR thunderstorms forecast: forecast convective activity and intensity for different forecast periods globally or for North America.

HINT

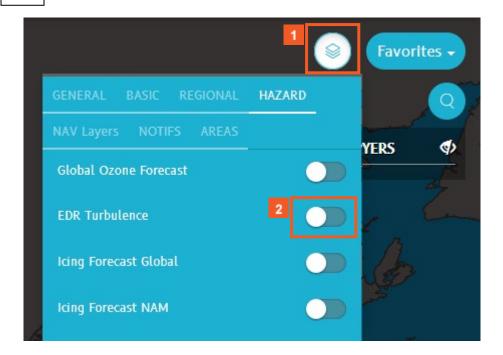The **HAZARD** tab is available only if you subscribe for weather information for at least one region.

* *Aircraft sizes* refer to three categories of aircraft (small, medium, and large) determined by our weather data provider (DTN) according to the aircraft percent power increase (PPI). PPI is the minimum thrust power increase required to maintain the speed and altitude after a five-minute exposure to the icing conditions. These aircraft sizes do not match the ICAO light/medium/heavy categories.

Let's get oriented: Start with the map focused on the United States, at a zoom level of 200 nm. Then, explore applying and interpreting turbulence, icing, and thunderstorm forecast information.

As with the other weather information, use the **Layers** button to access the weather **HAZARD** layer.

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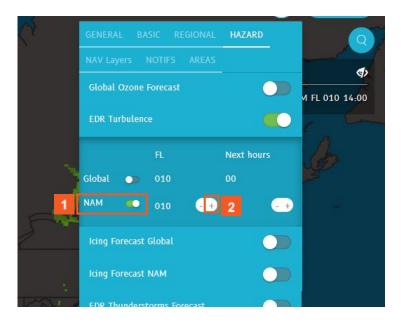**1** Click the **Layers** button.

EDR (Eddy Dissipation Rate) is a universal and aircraft-independent measure of turbulence based on the rate at which energy dissipates in the atmosphere.

Use the EDR Turbulence layer to depict turbulence data on the map either globally, or for North America alone.

The NAM forecast updates hourly and the global forecast updates every 12 hours.

2 Click the **EDR Turbulence** slider.

Let's see what turbulence over the U.S. looks like at FL 180.

1 Click the **NAM** slider.

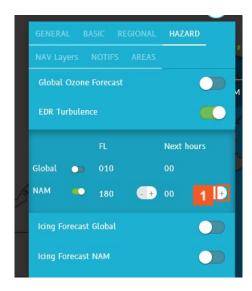Choose the applicable flight level or forecast period using the offset controls [− +].

2 Click the **NAM FL +** button.

Interpret the colors that depict turbulence using this legend:

Heavy Aircraft:

Eddy Dissipation Rate (EDR)

| Lgt | Mod | Sev | IE |

10 20 30 40 50 60 70 80 90

Medium Aircraft:

Eddy Dissipation Rate (EDR)

| L | Mod | Sev | | Ext |

10 20 30 40 50 60 70 80 90

Light Aircraft:

Eddy Dissipation Rate (EDR)

| L | Mod | Sev | Ext |

10 20 30 40 50 60 70 80 90

The legend also shows the EDR level at which different weights of aircraft will experience turbulence as light, moderate, severe or extremely severe.

1 Click the **NAM Next hours + (plus)** button.

Zoom in (to 50 nm) to look in more detail at the areas of turbulence.

2 Click the **Zoom in (+)** button.

You can now see turbulence for NAM FL180 forecast for the next three hours.

Let's see if the forecast turbulence has any serious impact on the flights you're tracking: Display the flight plan for SCX101 on the map.

1 Click **the SCX101 aircraft icon**.

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1 Click the **Flight Plan** slider.

Close the **Flight details** pane by clicking anywhere on the map.

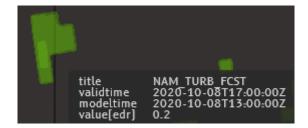**2** Click **anywhere on the map**.

Hover your mouse over the green area on the flight path of flight SCX101. N-Tracking displays information about forecast turbulence.

Multiply the **value** by 100 to determine the EDR.

Notice that several of the colored areas use two different shades of green to depict different levels of turbulence. As with other weather layers, you can hover your mouse over the different colors to learn what each means.
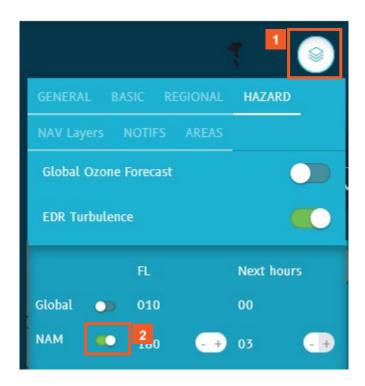
The lighter green area shows a value of 0.3 for the forecast turbulence.

Zoom out again to see more of the map.

1 Click the **Zoom out (-)** button.

Access the display of global turbulence information.
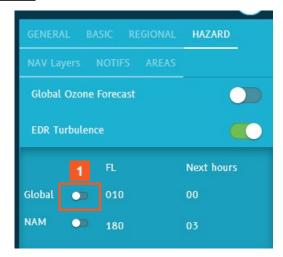
1 Click the **Layers** button.
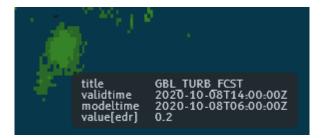
Disable the NAM turbulence layer.
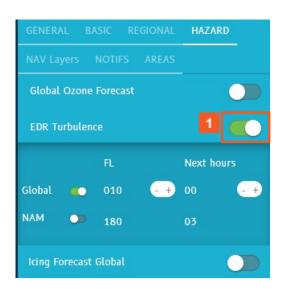
2 Click the **NAM** slider.

1 Click the **Global** slider.

Hovering your mouse over any of the green-shaded areas displays details about the forecast turbulence.

Your review of working with turbulence information is complete. Disable the **EDR Turbulence** layer.
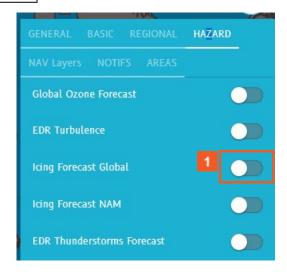

1 Click the **EDR Turbulence** slider.

Next, explore how to view and interpret icing forecast information on the map.

You can use the same flight level and time offset controls on the **Global** and **NAM** (North America) **Icing Forecast** layers that you used on other weather information layers.
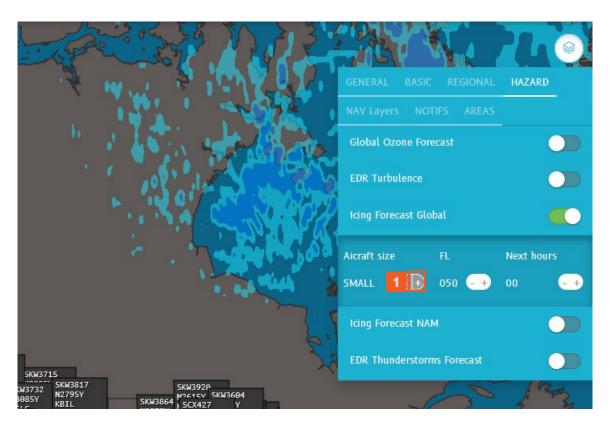
1 Click the **Icing Forecast Global** slider.

In this example, at flight level 050, for small aircraft, you see forecast icing conditions in and around Hudson Bay (Canada).

The colors used to depict icing conditions are as follows:

To see icing conditions that apply to larger aircraft, use the **Aircraft size** offset control **(+)** to cycle first to MEDIUM, and then to LARGE.

1 Click the **Aircraft size +** button.

At this time, there is less forecast icing, and it has a less severe impact for large aircraft.

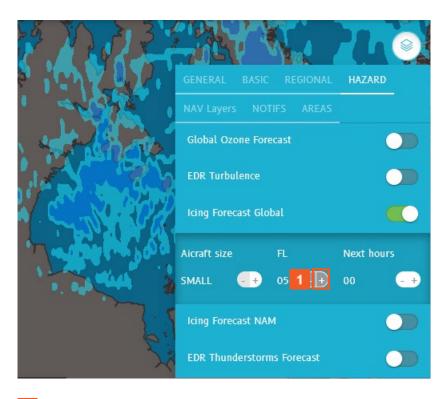For the rest of this example, switch the aircraft size back to SMALL.

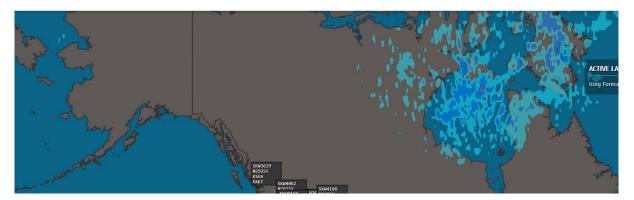**1** Click the **Aircraft size -** button.

REMINDER

Aircraft sizes refer to three categories of aircraft (small, medium, and large) determined by our weather data provider (DTN) according to the aircraft percent power increase (PPI). PPI is the minimum thrust power increase required to maintain the speed and altitude after a five-minute exposure to the icing conditions. These aircraft sizes do not match the ICAO light/medium/heavy categories.

Next, change the flight level to **080** and see how forecast icing conditions change at that level.

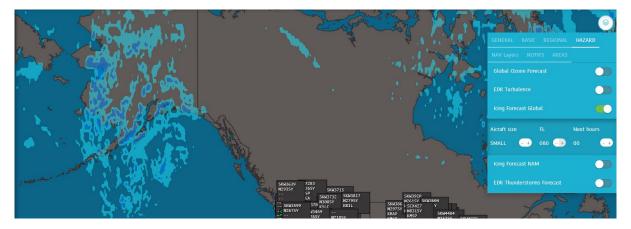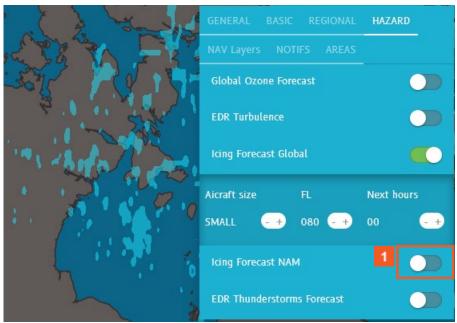**1** Click the **FL +** button.

1 Click the **Zoom (+)** button.

In this example, you see more forecast icing at 80,000 ft around Alaska and less in and around Hudson Bay.
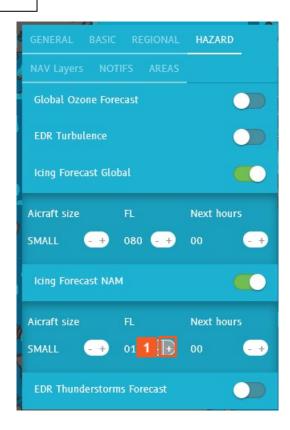
1 Click the **Icing Forecast NAM** slider.

Change the default flight level setting of **010** to **180** and see the differences in the forecast icing conditions.
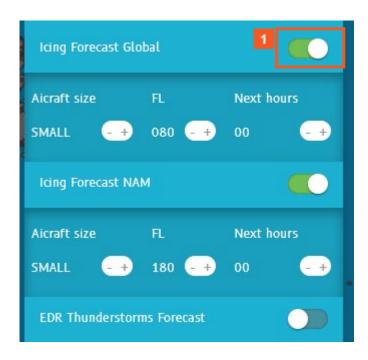
1 Click the **FL +** button.

HINT

In your operational environment, you need to click the **+** button several times to reach FL 180. In this example, we completed those steps for you.

At flight level 180, you can see that the forecast identifies more icing conditions around the southern coast of the United States.
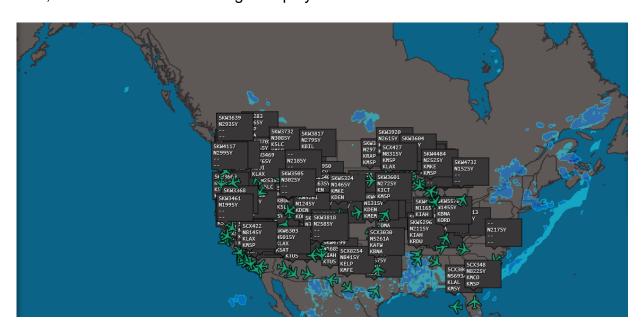

Now, disable the global icing layer to see how the information available to you changes.

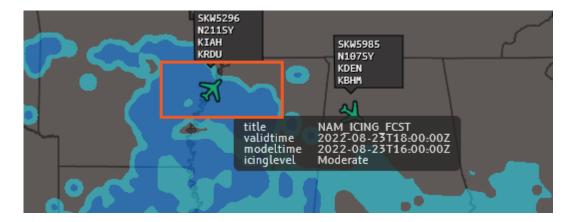**1** Click the **Icing Forecast Global** slider.

The icing conditions information for Alaska is associated with the global icing forecast, so that information no longer displays.

Zoom in and let's look at this icing conditions information in more detail.

1 Click the **Zoom (+)** button.

Hover your mouse over one of the areas colored darker blue (highlighted in this example). From the on-screen information, you can see that the **moderate** icing was forecast at 18:00.

As you hover your mouse over the lighter blue section (highlighted), you can see that N-Tracking provides similar on-screen text information.
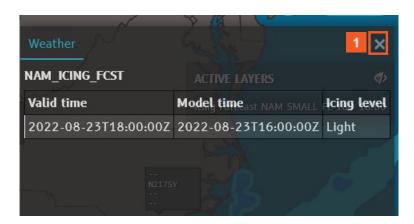
You can also view this information on-screen in a larger format in the **Weather** pane.

1 Click **the same highlighted area**.

Close the **Weather** pane when you finish reviewing the information.
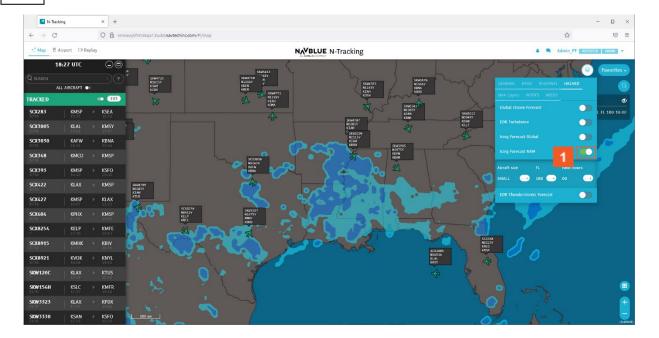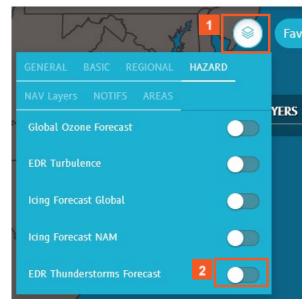

1 Click the **Close** button.

You have completed your review of the information on the global and North American icing conditions forecast. Next, let's practice using the **EDR Thunderstorms Forecast** weather layer.
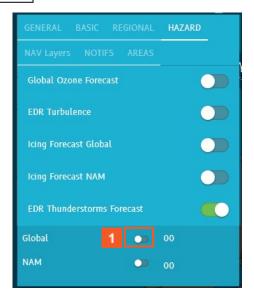
2 Click the **Layers** button.

1 Click the **Icing Forecast NAM** slider.

2 Click the **EDR Thunderstorms Forecast** slider.

The EDR Thunderstorms Forecast layer displays convective activity and its intensity globally or for North America alone.

View the current global forecast.

1 Click the **Global** slider.

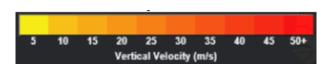Zoom out to 1000 nm to see more of the map.

2 Click the **Zoom out (-)** button.

With the map positioned to show Asia and the Pacific Ocean, zoom in and examine the multi-colored area south of Japan (in the Pacific) that represents an area of thunderstorms.

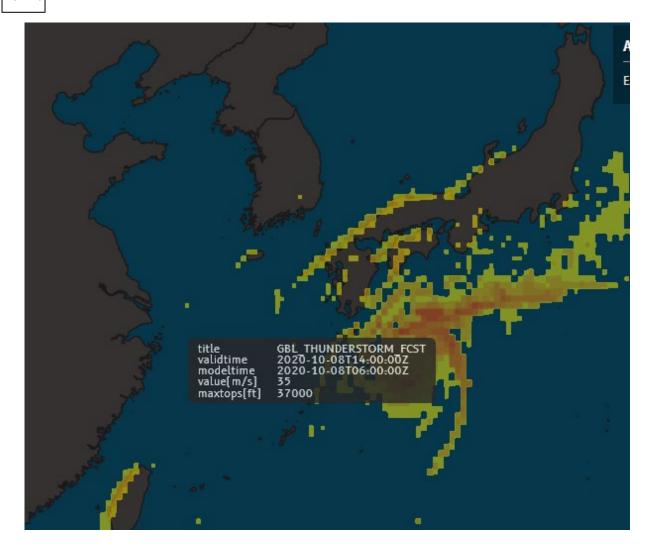**3** Click the **Zoom in (+)** button.

Hover your mouse over the different colors in this depicted area of forecast thunderstorms to learn more about storm intensity.

This chart shows the colors used to depict the intensity of the thunderstorm activity:

Areas colored with reds represent the most intense storms.
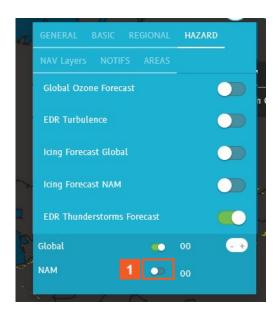
1 Click the **Zoom out (-)** button.

For the next part of this example, zoom out again and re-position the map to show North America.

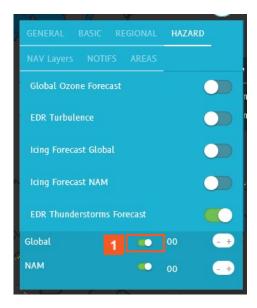Switch to view the thunderstorm forecast for North America.

1 Click the **NAM** slider.

Immediately, you can see convective activity in the Gulf of Florida that wasn't depicted in the global view.
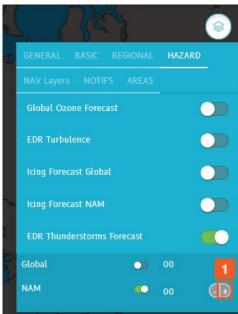
Disable the Global layer to view the details provided on the NAM layer on its own.

1 Click the **Global** slider.

1 Click the **NAM Next hours +** button.

You can use the **Next hours** offset control to view the forecast for up to 18 hours in the future.

Three hours from now, the thunderstorm activity may have changed slightly, and you may reassess the impact for the flights you're tracking.

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SUCCESS

Congratulations! You have applied the different weather hazard layers to the map and can interpret the information they provide.

3.4   Adding navigational information to the map

3.4.1   Display FIRs and UIRs

3.4.1.1 Introduction

Display FIRs and UIRs

In this topic, you learn how to view flight information regions on the map.
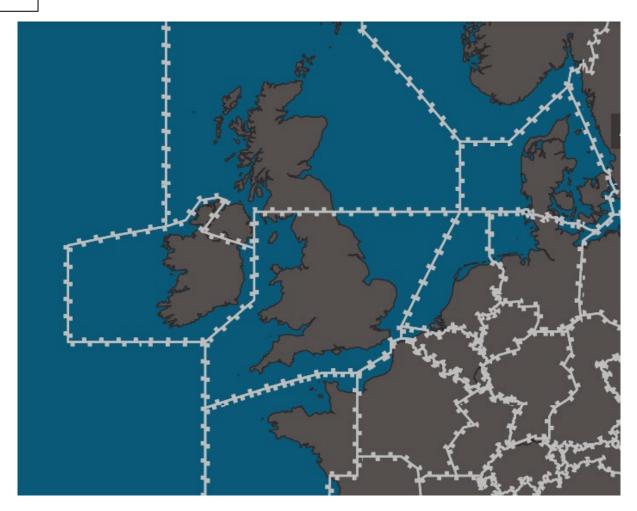
We estimate that this will take 3 minutes to complete.
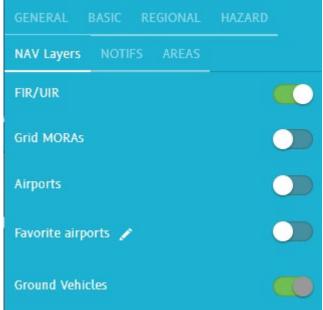
Display flight region information on the map

You can enable the display of Flight Information Regions (FIR) and Upper Information Regions (UIR) on the map from within NAV Layers.

For information on the other navigational elements in the NAV Layers pane, consult other topics, such as *Display airport information on the map* or *Display ground vehicles on the airport surface map* (for Surface Tracking users only).

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3.4.1.2 Detailed Explanation

Let's get oriented: The map is focused on Western Europe, at a 100 nm zoom level and the **ACTIVE LAYERS** pane shows that the **Radar** (for Europe) weather layer is active.

Hide the weather layers list (ACTIVE LAYERS) as you don't need this information while you learn to use the navigational layers. The weather layers remain active. Hiding the list does not affect that.

1 Click the **Hide** button.

Access the **NAV** layers in the **Layers** menu.
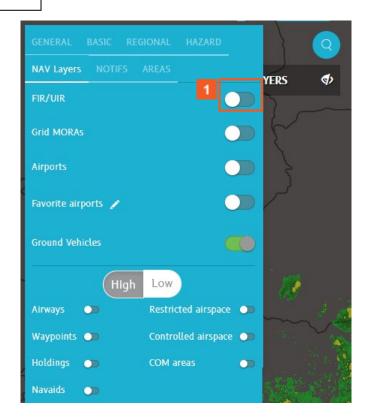

1 Click the **Layers** menu button.

2 Click the **NAV Layers** tab.

Notice that several of the layers in the lower half of the pane are not accessible at this zoom level. You can tell this because the slider is grayed out.

To control the zoom levels at which you want the different NAV layers to be usable, adjust the zoom level settings in the **User Settings** menu (Zoom levels).

1 Click the **FIR/UIR** slider.

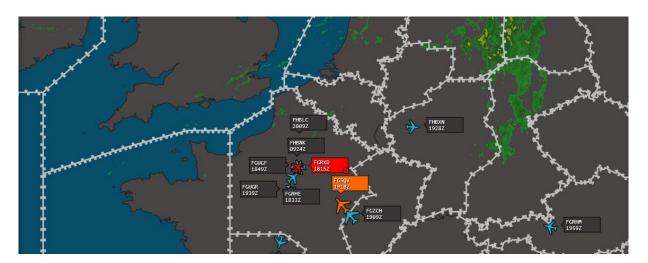The areas bounded on the map with chunky white lines represent FIRs (Flight Information Regions). They are specified regions of airspace in which a flight information service is provided.

Some countries split their FIR/UIRs to make controlling the airspace easier. For example, the United Kingdom has a north and a south FIR. Other countries may use a single FIR.

Start by examining a FIR in Germany.
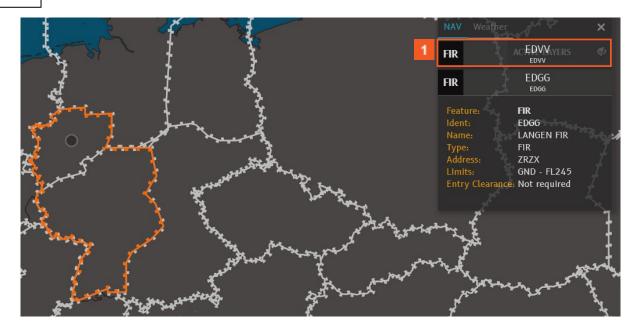
1 Click **the highlighted area**.

1 Click the **EDGG** list item.

When you expand the information displayed for EDGG, the selected FIR is high-lighted in orange on the map. This is particularly useful when FIRs overlap, as in this example.

EDGG is a FIR.

1 Click the **EDVV** list item.

A different area, north of the previous FIR is outlined in orange. The EDVV area is a UIR.

HINT

Be attentive to your zoom level changes as you zoom out. If you zoom out too far while investigating FIRs/UIRs, the boundaries may disappear due to default zoom levels you have set. You can always zoom back in to display the FIR/UIR or to select a different one.
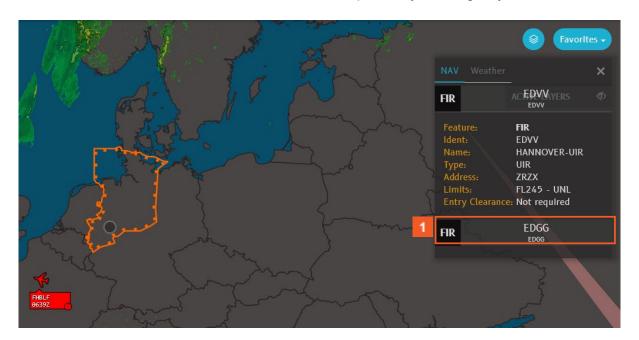
1 Click the **Zoom out (-)** button.

Zoom out to a higher zoom level (200 nm) to see how the FIR layer behaves differently.

In this example, because of the default zoom levels set for the display of FIR/UIRs, the white, chunky lines showing FIRs do not display.

The last FIR/UIR you examined is still selected and shows with an orange outline.

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You can still consult the information in the **NAV** pane, by clicking any listed FIR.

1 Click the **EDGG** list item.

Notice that the area outlined on the map continues to show your previous selection.

To change the FIR selected on the map, you must use the zoom level set in your default zoom levels for FIRs/UIRs to be enabled. (In this example, 200 nm.)
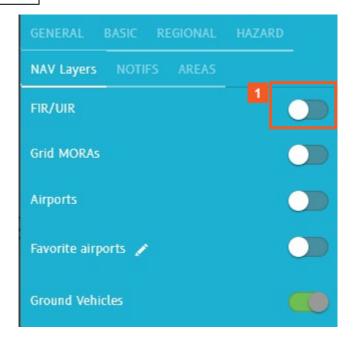

1 Click the **Close** button.

For this airline, the zoom level at which FIR/UIRs can be enabled or disabled is 100 nm.

Zoom in to that level.

2 Click the **Zoom in (+)** button.

To remove the FIRs from your display, disable the slider in NAV Layers.

1 Click the **FIR/UIR** slider.

SUCCESS

Congratulations! You have successfully displayed flight information regions on the map.

For details on using the other navigational elements on the NAV layers, consult the related topics, such as:

- *Display airport information and ground vehicles on the map,*

- *Depict high and low level airways, navaids, holding patterns, and waypoints and*

- *Display restricted or controlled airspaces and/or communication areas.*

3.4.2   Display airport information on the map

3.4.2.1   Introduction

Display airport information on the map

In this topic, you learn how to display icons representing airports, including airports you set as "favorites" on the map.

We estimate that this will take 3 minutes to complete.

Display information for airports and airports set as "favorites" on the map

Use the Navigation layers to add important navigational information to the map:

Airports: This layer displays all airports with an optional display of detailed information.
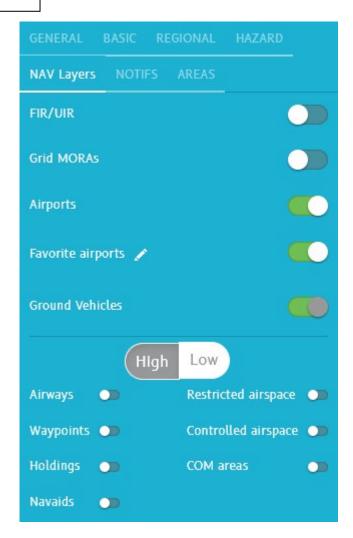
Favorite airports: Use this layer to differentiate a selection airports as favorites on the map.

You can find information about adding other navigational elements to the map in other topics, such as:
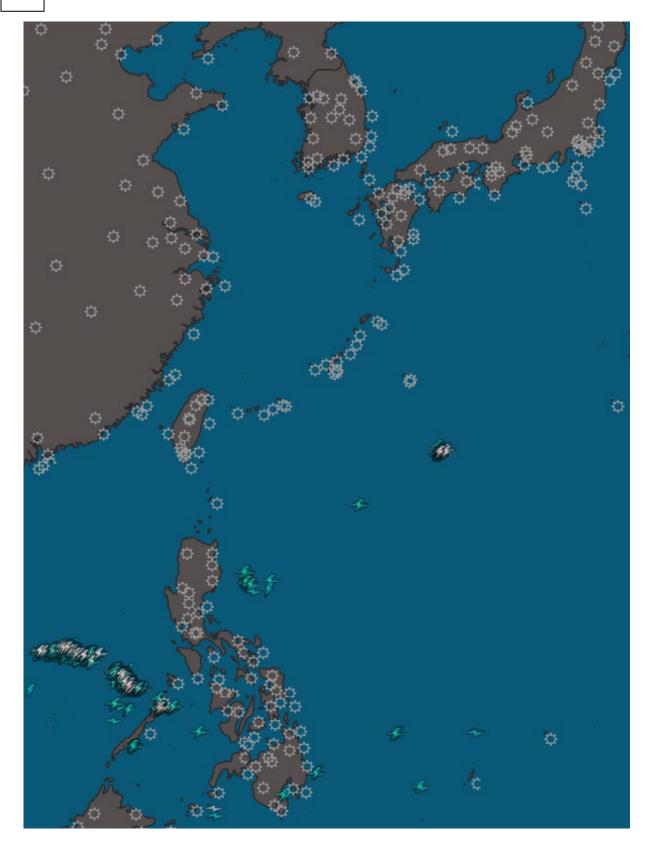
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Display Flight Information Region information on the map
Depict high- and low-level airways, navaids, holding patterns, and waypoints and
Display restricted or controled airspaces and/or communication areas.

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GENERAL   BASIC   REGIONAL   HAZARD

NAV Layers   NOTIFS   AREAS

FIR/UIR

Grid MORAs

Airports

Favorite airports

Ground Vehicles

High   Low

Airways   Restricted airspace

Waypoints   Controlled airspace

Holdings   COM areas

Navaids

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3.4.2.2 Detailed Explanation

Let's get oriented: The map is focused on Western Europe, at a 100 nm zoom level and the **ACTIVE LAYERS** pane shows that the **Radar** (for Europe) weather layer is active.

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Hide the weather layers list (ACTIVE LAYERS) as you don't need this information while you learn to use the navigational layers. The weather layers remain active. Hiding the list does not affect that.

1 Click the **Hide** button.

Access the **NAV** layers in the **Layers** menu.

1 Click the **Layers** button.

2 Click the **NAV Layers** tab.

Notice that several of the layers in the lower half of the pane are not accessible at this zoom level. You can tell this because the slider is grayed out.
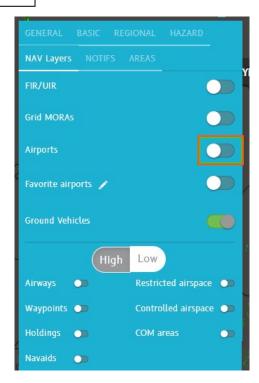
To control the zoom levels at which you want the different NAV layers to be usable, adjust the zoom level settings in the User Settings menu (Zoom levels).

ATTENTION

The **Ground Vehicles** option displays on the NAV Layers pane only for those customers subscribed to Surface Tracking.

To learn about displaying symbols on the map that show the location of airports use the **Airports** and **Favorite airports** options.

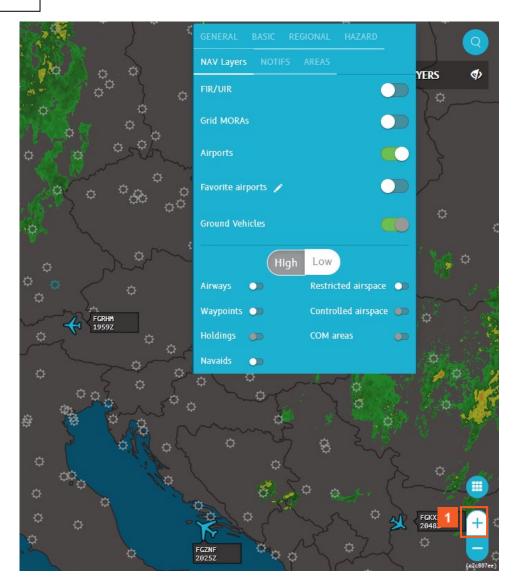**NAVBLUE ACADEMY**
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1 Click the **Airports** slider.

As with FIR/UIRs, your default zoom level settings can affect whether or not you can enable the display of airport symbols at given zoom levels. Keep this in mind.
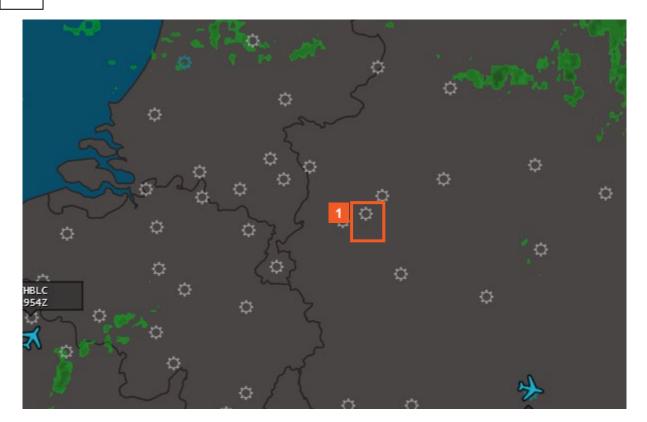
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1 Click the **Zoom in (+)** button.

At a 50 nm zoom level, click one of the gear-shaped airport symbols. For this example, select the highlighted symbol.
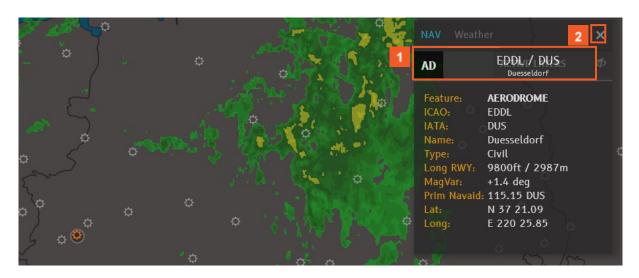
Teal-colored airport symbols on the map reflect the airports in the "My Airports" list.

1 Click **the highlighted airport symbol**.

The airport symbol you selected is highlighted in orange on the map.

The NAV pane displays the ICAO code and name of the airport. You can click this entry for more details.

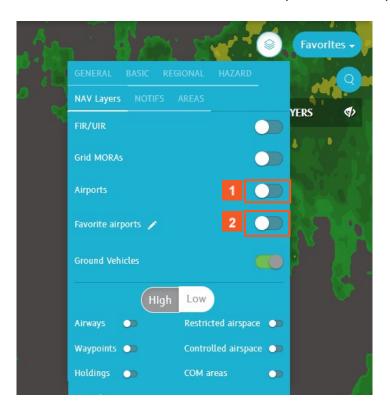Review the details on the Düsseldorf airport as needed.

1 Click the **EDDL / DUS** list item.

2 Click the **Close** button.

Next, examine another way in which navigation elements work by zooming in again to the 20 nm level.

3 Click the **Zoom in (+)** button.

At the 20 nm zoom level, the ICAO airport codes display automatically.

1 Click the **Airports** slider.

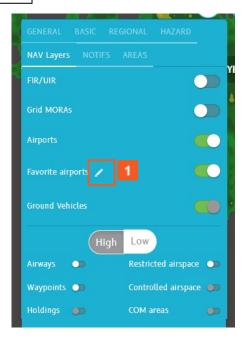Disable the **Airports** slider while you learn how to work with favorite airports.

"Favorite" airports might be a selection of airports that your airline uses regularly and/or as alternates.

2 Click the **Favorite airports** slider.

If this is the first time you are working with airports on the map and you have not pre-

viously coded any airports as favorites, you can use the **Edit** [✏️] button and add some without enabling the slider.
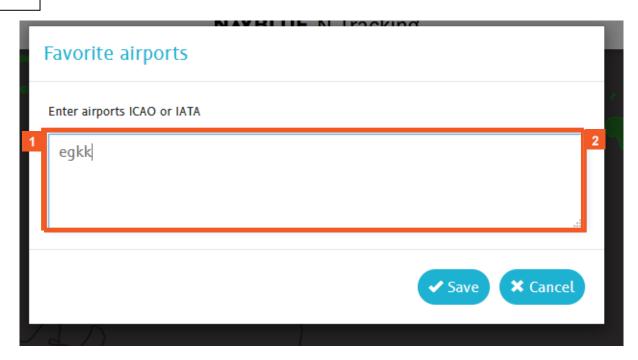
1 Click the **Edit** button.

1 Click the **airports** input field.

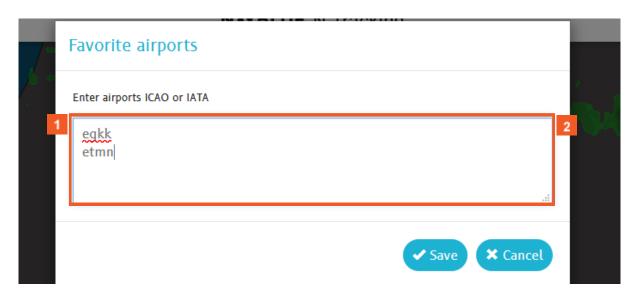As the label shows, you can enter either ICAO or IATA codes for the airports.

1 Enter **egkk** into the **airports** field.

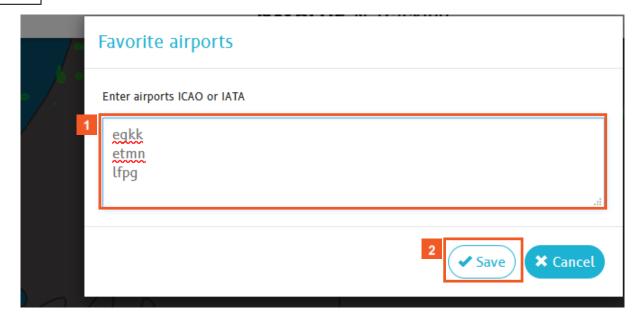**2** Press the ⏎ key.

HINT

You can create your list vertically as shown in this example, putting each code on a new line. Alternatively, you can enter the codes separated by a comma (egkk,lfpg).

You cannot enter the airport name (such as Gatwick) in this field. Only airports identified by their codes display on the map.

1 Enter **etmn** into the **airports** field.

2 Press the ⏎ key.

1 Enter **lfpg** into the **airports** field.

2 Click the **Save** button.

After you save your favorites, you may need to refresh the display of the **Favorite airports** layer by disabling, then re-enabling the layer.

The favorite airports you added display on the map, showing the light blue symbol, like this one for the EGKK airport (Gatwick) in England. LFPG represents the Charles de Gaulle airport in France; it is not currently shown in this view of the map.

SUCCESS

Congratulations! You have successfully added airport symbols and added favorite airports to assist with your flight tracking tasks.

3.4.3   Depict high and low level airways, navaids, waypoints and holding patterns on the map

3.4.3.1 Introduction

Depict high and low level airways, navaids, waypoints and holding patterns on the map

In this topic, you learn how to display information for high and low airways, navaids, holding patterns, and waypoints on the N-Tracking map.

We estimate that this will take 5 minutes to complete.

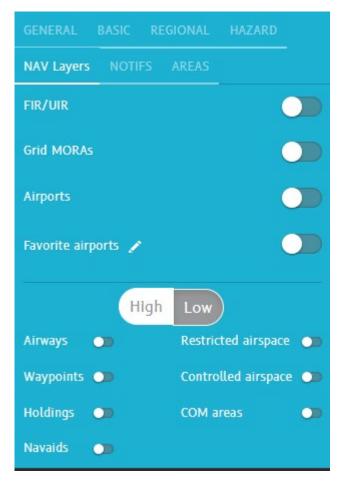**Adding navigational information to N-Tracking maps**

Use the options on the lower half of the **NAV Layers** pane to display on the map either high and low:

- Airways
- Waypoints
- Holding patterns
- Navaids

You can use the High and Low level buttons to switch between the two levels, to match the flight level for which you want to plan.

For detailed information on working with the last three NAV layers listed on the pane, consult the topic *Display restricted airspaces, controlled airspaces, or communication areas*.
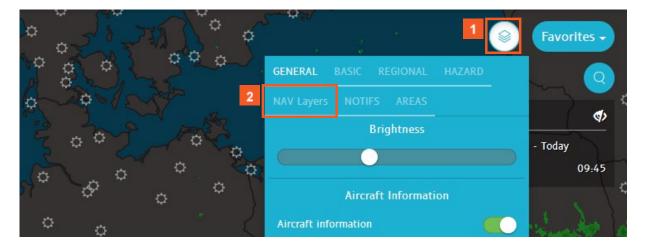
3.4.3.2 Detailed explanation

Let's get oriented: the map is focused on the southern U.K. and the countries just across the Channel.

The map zoom level is at 100 nm and the NAV Layers **Airports** option is enabled, so round, gear-like gray and cyan airport symbols display on the map.

The cyan airport symbols represent airports you have set up as "favorites".

1 Click the **Layers** button.

Do you know what the difference is between a gray and a cyan colored airport symbol?
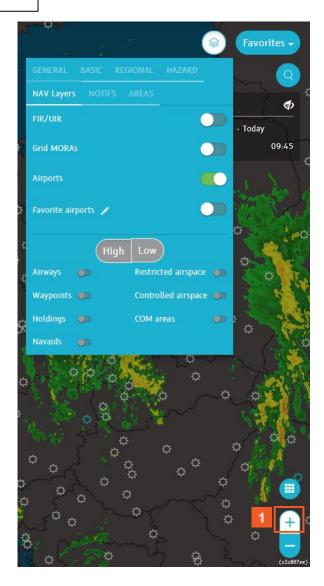
If you have reviewed topic, *Display FIRs, UIRs, airports, and favorite airports*, you should know.

2 Click the **NAV Layers** tab.

For this example, at the 100 km zoom level, none of the sliders are accessible (they're "grayed out").

You cannot use them.

1 Click the **Zoom in (+)** button.
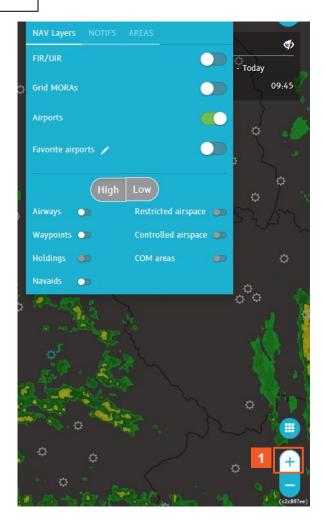
HINT

You can also use your mouse scroll wheel (or its equivalent) to zoom in on the map.

For this example, at the 50 km zoom level, some, but not all of the lower sliders become accessible.

You can define the zoom level at which you want the different navigational information layers to be available for use in your zoom settings in the **User Settings** menu. For more details, review the topic, *Adjust default zoom levels for navigational layers*.

HINT

For users whose map scale is in kilometers, the same applies at 50 km.
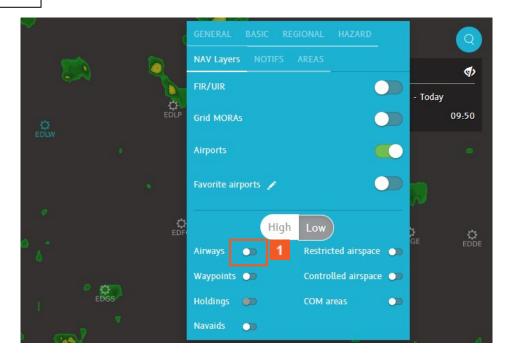
1 Click the **Zoom in (+)** button.

At the 20 nm zoom level, the airport IATA codes automatically display.

To continue your review of using the navigational layers, enable the **Airways** slider. For this example, the **Low** option is active and low level airways will display.

1 Click the **Airways** slider.

Airways are automatically labeled at the 20 nm zoom level. At other zoom levels, you must click a specific airway to view its identifier in the Nav pane.

ATTENTION

Low-level airways display in cyan, as shown in this example. High-level airways display in white. You cannot display both levels of airways simultaneously.

1 Click the **Zoom out (-)** button.

At the 50 nm zoom level, cyan-colored lines represent all the low-level airways, but those airways are not labeled.
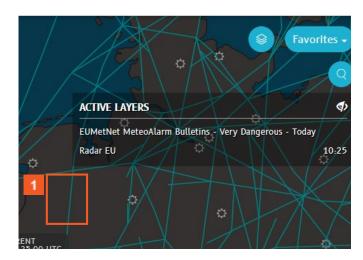
For more details, you must click a specific airway.

HINT

If you use the zoom control to change the visible map area, zooming may cause the airways to drop from the display again.

Rather than zooming, we recommend that you click and drag (pan) to re-position the map to show the airways in the area you want to investigate.
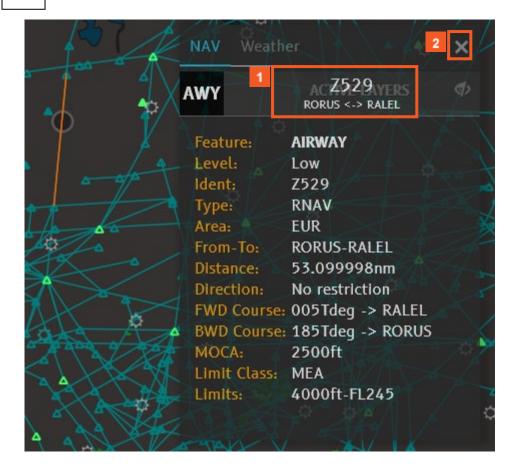

1 Click **the highlighted cyan line**.

HINT

If you use the zoom control to change the visible map area, zooming may cause the airways to drop from the display again.

Rather than zooming, we recommend that you click and drag (pan) to re-position the map to show the airways in the area you want to investigate.

You can see the airway name in the **NAV** pane.

1 Click **Z529**.

Interpret the symbols between the airway endpoints as follows:

`RORUS <-> RALEL` In this example, the symbols indicate there are no restrictions on flight direction. Either a forward or backward course between navaids is acceptable.

`GASGU -> SAM` This indicates a one-way, forward course to the navaid.

`OLGUD <- SAM` This indicates a one-way, backward course to the navaid.

Detailed information about the airway displays in the **NAV** pane.

After you select a specific airway, it's highlighted in orange. This is particularly helpful when you click an airway near a point where multiple airways intersect.

2 Click the **Close (X)** button.

Back at the 20 nm zoom level, switch to viewing high-level airways on the map to see the difference.

You can switch between displaying high- or low-level airways (and navaids and way-points) whenever you like, but you cannot view information for both high- and low-levels simultaneously.
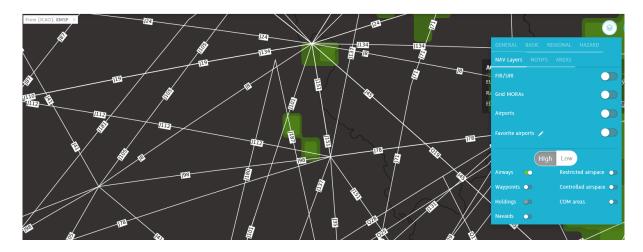
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1 Click the **Layers** button.

The **NAV Layers** tab is already selected.
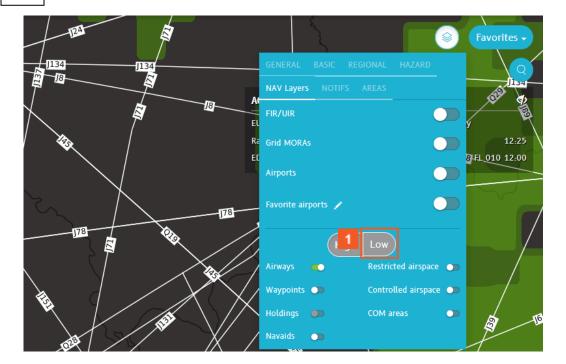
2 Click the **High** button.

HINT

In your operational environment, click anywhere on the map to hide the **Layers** menu pane.

High-level airways display in white. You can work with them in exactly the same manner as you did with low-level airways.

With the **Layers** pane open again and the **NAV Layers** tab active, change the display back to low-level navigational elements.
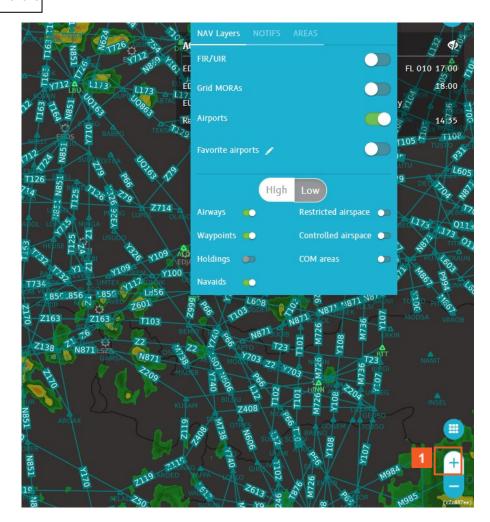
1 Click the **Low** button.

Now add waypoints and navaids to the display.

1 Click the **Waypoints** slider.
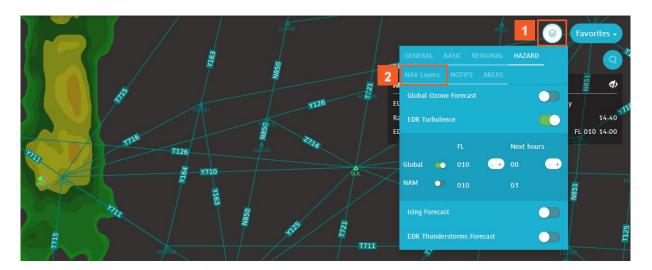
2 Click the **Navaids** slider.
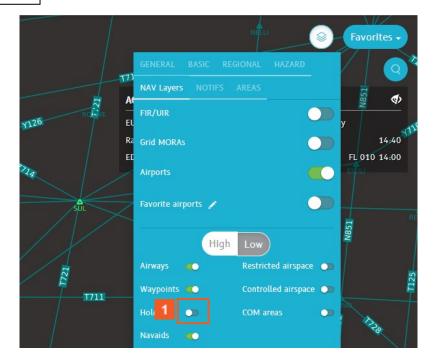
Zoom in to 5 nm.

1 Click the **Zoom in (+)** button.

1 Click the **Zoom in (+)** button.

1 Click the **Layers** button.

2 Click the **NAV Layers** tab.
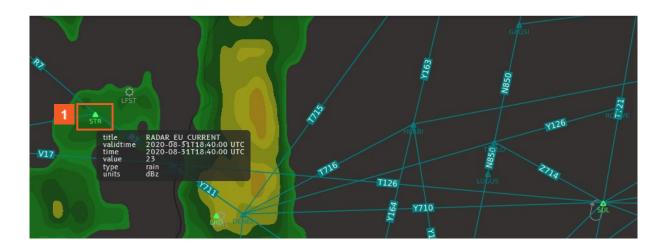
1 Click the **Holdings** slider.

△ A hollow triangle represents a non-compulsory waypoint or navaid.

▲ A solid triangle represents a compulsory waypoint or navaid.

Low-level waypoints are depicted in teal, while high-level waypoints (not shown here) are depicted in black.

Navaids display in green.

HINT

To view waypoint latitude and longitude, click the symbol and view the information displayed in the **NAV** pane.

1 Click **the highlighted STR waypoint symbol**.

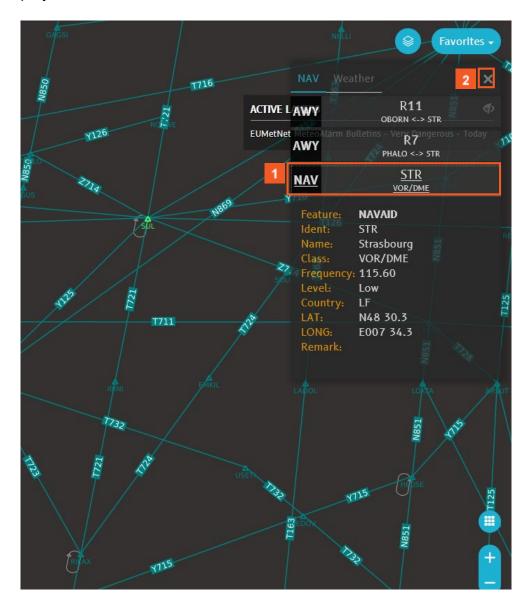N-Trackinglists both the airways that meet at this waypoint and the waypoint itself in the **NAV** pane. As you saw with airways, if you click the **STR** entry, N-Trackingdisplays more details.

1 Click **STR**.

2 Click the **Close (X)** button.

Holding patterns display as gray loops, with an arrow indicating direction of flight. You can see examples of this near the SUL navaid and the RLAX waypoint.
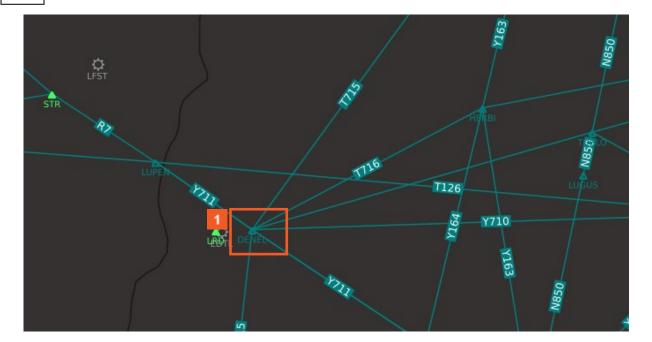
The holding patterns for a navaid do not change between high- and low-level airways, but they may move slightly.

As you saw with airways, after you select a holding pattern (or a navaid), it turns orange to highlight the element you're focused on.
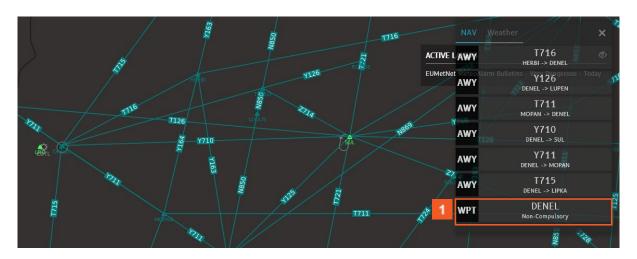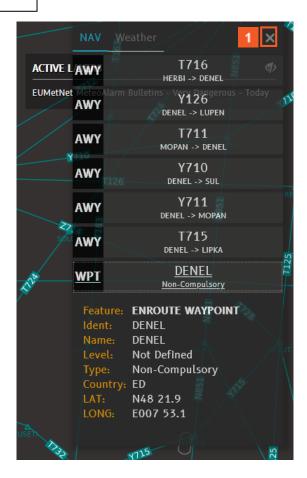
1 Click **the DENEL waypoint symbol**.

1 Click the **DENEL** list item.
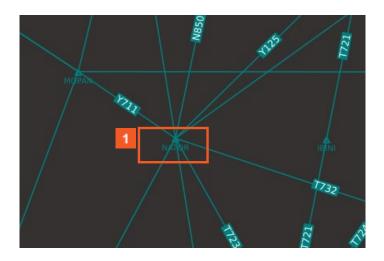
Six airways intersect at the DENEL waypoint. Consult the details in the **NAV** pane to find its exact coordinates.

1 Click the **Close (X)** button.

You can use the same steps to view similar details for any of the displayed airways, navaids, waypoints, or holding patterns.

1 Click **the NATOR waypoint**.

Seven low-level airways intersect at the NATOR waypoint.

Next, examine the same area and look at **high-level** airways, waypoints, and navaids.

1 Click the **Layers** button.

2 Click the **NAV Layers** tab.
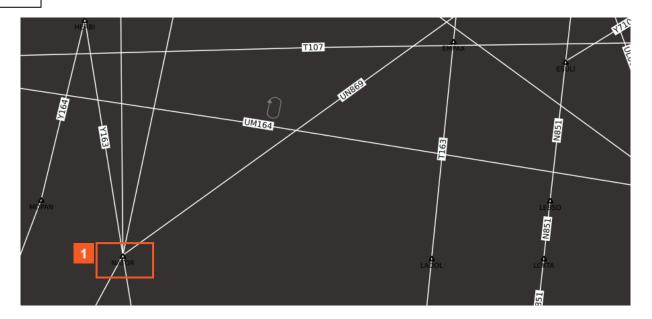
1 Click the **High** button.
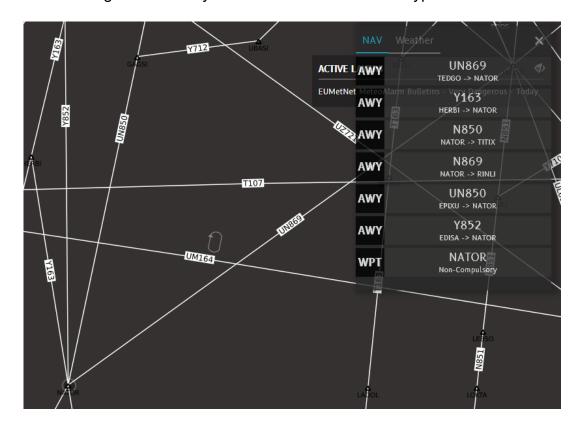
High-level airways display in white.
Waypoints display in black.

1 Click **the NATOR waypoint**.

One less high-level airway intersects at the NATOR waypoint.

SUCCESS

Congratulations! You have successfully applied different navigational layers to the map and have interpreted the information these layers can provide for your flight tracking and planning tasks.

3.4.4   Display restricted or controlled airspace or COM areas

3.4.4.1 Introduction

Display restricted or controlled airspace or COM areas

In this topic, you learn how to display restricted airspace, controlled airspace, and areas that use different communications frequencies on the map to support your work with flights.

We estimate that this will take 7 minutes to complete.

3.4.4.2 Detailed explanation

Display restricted and controlled airspace and flight communications areas

Use the options on the lower half of the **NAV Layers** pane to display on the map both high- and low-level:
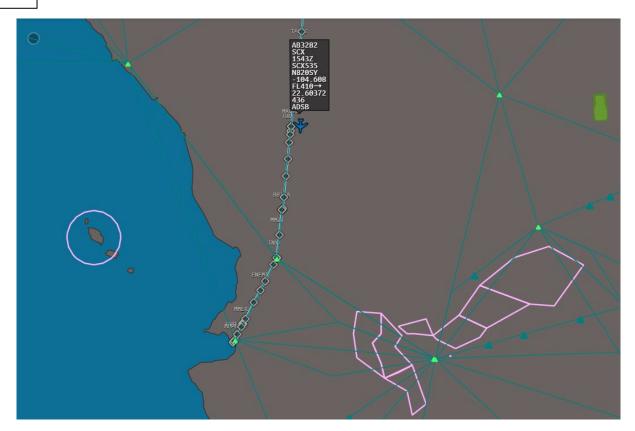
- Restricted airspace
- Controlled airspace
- COM areas (areas in which distinct frequencies are used for flight communications)

Since airspace in the same geographical area may be restricted at a low level, but not at a higher level, always ensure that you correctly select "High" or "Low" to be sure your display is accurate.

For information on high- and low-level airways, waypoints, holding patterns, and navaids, consult the topic *Depicting high and low airways, waypoints, holding patterns, and navaids*.

This illustration depicts the low-level restricted airspace, featuring Las Islas Marias, off the Mexican coast.

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Airspace restrictions are defined by local authorities due to safety concerns. It is one of many types of special use airspace (SUA).

N-Trackingadds colored outlines to the map to depict these areas.

Begin this exploration of using the **Restricted Airspaces** option in the **NAV Layers** pane with the map positioned showing Mexico and its Pacific coast.

For this example, you are zoomed to the 100 nm level.

1 Click the **Layers** button.

In this example, at the 100 nm zoom level, you cannot use the high/low level NAV Layer sliders.

For customers using the metric scale for your map, the same is true: At a zoom of 100 km, the sliders are "grayed out", which means you cannot use them.
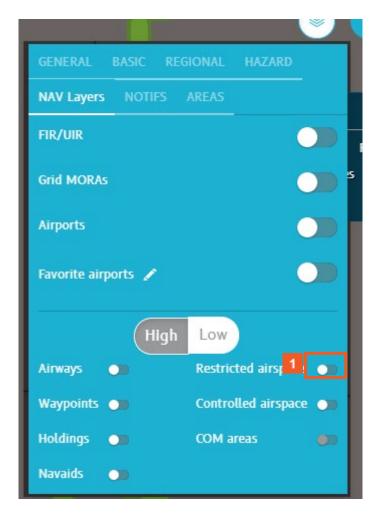
Zoom in to an appropriate level.

1 Click **Zoom in (+)**.

The navigation layers available for you to use at any given zoom level depend on the default settings you set in your user settings. For more details on enabling different

layers at appropriate zoom levels, consult the topic, *Adjust default zoom level for navigation layers*.

At the 20 nm (or km) zoom level, you can work with some of the sliders -- the ones that are white.

Before you activate the **Restricted Airspace** slider, notice that the **High/Low** button is set to the High position (its background is colored).

It's important to remain aware of this setting while you work with this navigational information. Use the option that is applies for the flight you are analyzing and planning for.
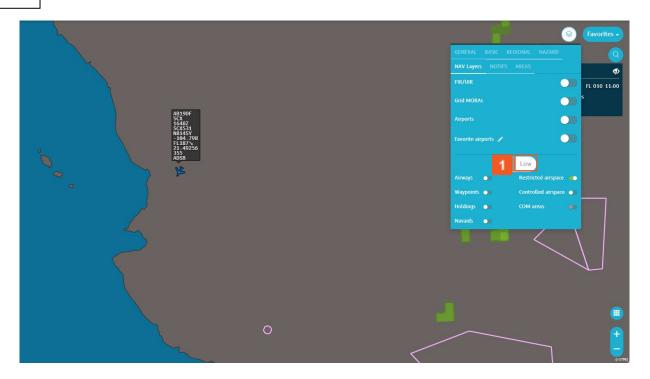
1 Click the **Restricted Airspace** slider.

At the high level, the map shows relatively few restricted airspaces (outlined in pink).

Notice the islands, Las Islas Marias, to the west? There are no **high-level** restricted airspaces in that area.

Now, add the layer showing **low-level** restricted airspaces to the map.
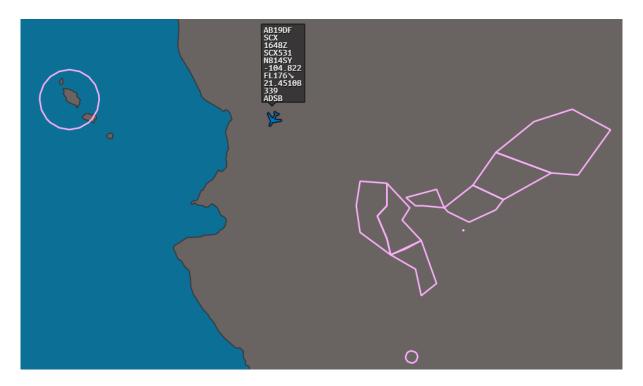
1 Click the **Low** button.

You can see more restricted airspaces for the low level, and in particular, one en-compassing part of Las Islas Marias.
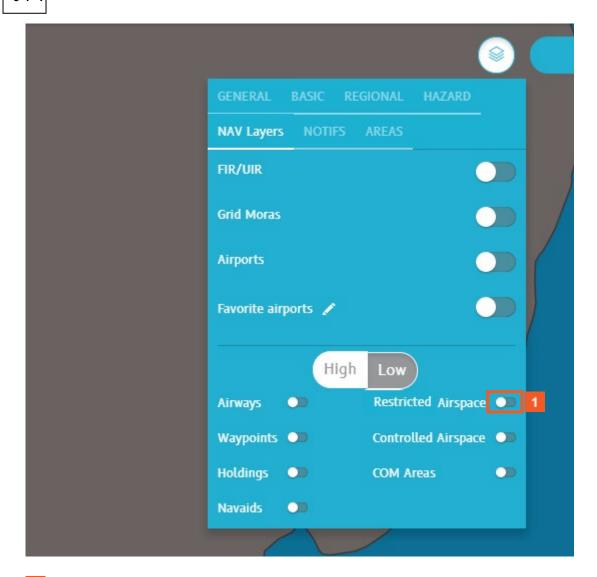
This example should help you appreciate the importance of ensuring that you have the correct level selected when you do planning that involves restricted airspaces.

For the next part of this exploration, we re-position the map over England.

Ensure you are zoomed in far enough to use the Restricted Airspace, Controlled Air-space and COM Areas sliders.

1 Click the **Restricted Airspace** slider.

For this example, look at **low**-level restricted airspace (a special use airspace or SUA).

> ⚠ Remember from the first example you already reviewed: High-level SUAs may be different than low-level SUAs for the same geographic area. Always ensure you have the correct level turned on. Otherwise, you may be viewing incorrect data.
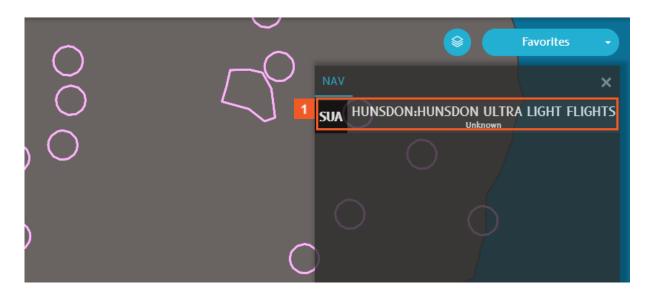
Let's take a look at this highlighted SUA.

1 Click **the highlighted restricted airspace**.
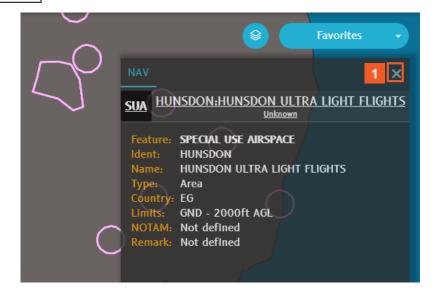
In this example, only one SUA displays. If there are multiple SUAs in the area you click, the information pane provides details for those SUAs

1 Click the **HUNSDON SUA** list item.

N-Trackinghighlights the selected SUA in orange and the information pane on the right provides more details.

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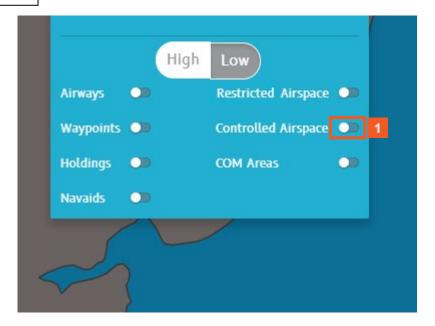
1 Click the **Close** button.

Next, disable the **Restricted Airspace** layer and use the **Controlled Airspace** layer to monitor if any tracked flights are affected by such SUAs.
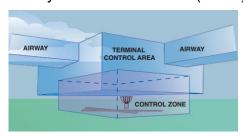
1 Click the **Restricted Airspace** slider.

1 Click the **Controlled Airspace** slider.
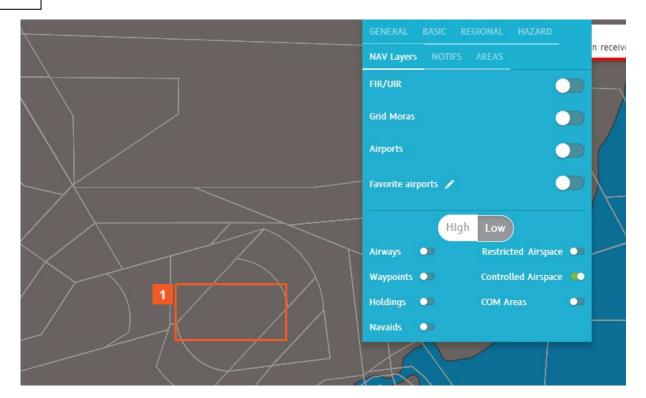
This image, from *The Airport Pilots Forum and Resource* shows the relation between airways and control areas (CTAs).

Activate the **Controlled Airspace** option to view the boundaries of different types of airspace.
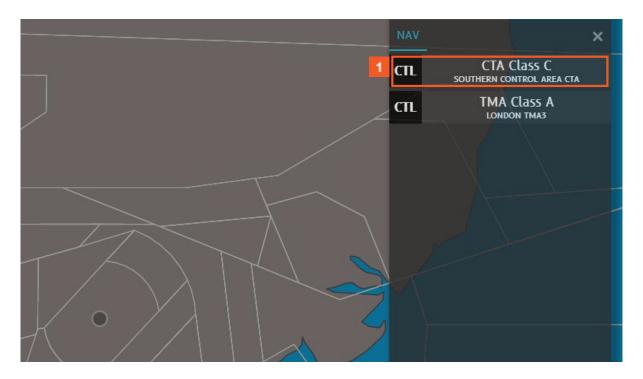
You can find out more about each airspace by clicking on an area.

1 Click **within the highlighted area**.

The information pane shows two airspaces. You can select either one to review more detailed information. For this example, click the class **C** control area.
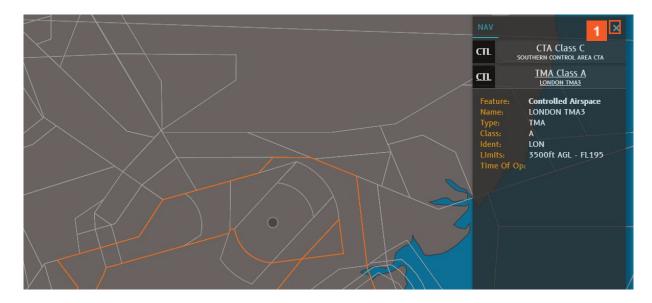
1 Click the **CTA Class C** list item.

N-Tracking outlines the Class C control area in orange. Let's have a look at the London Terminal control area (TMA).

1 Click **TMA Class A**.
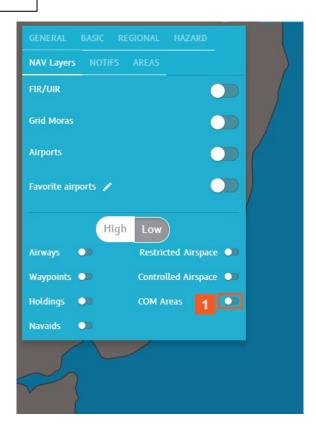
The added details may be relevant for your planning or viewing the outline of the air-space on the map may be all you need.

Close the information pane and let's move on to the last navigational information tool -- **COM** (Communication) **Areas**.
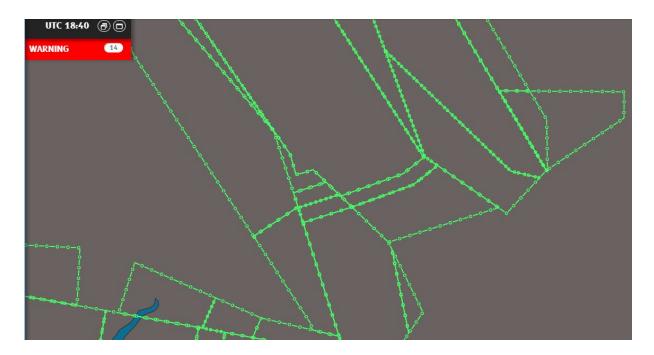
1 Click the **Close** button.

Use the COM Areas layer to see where you may need to use different frequencies for flight communications. The operation of this layer is under development. Currently, only the area boundaries are visible -- detailed information is not available.

1 Click the **COM Areas** slider.

SUCCESS

You have added layers of navigational information -- the outlines of restricted or controlled airspaces. You have also learned how to view areas using different frequencies for flight communications.

You have also learned the importance of being sure that you're looking at information relevant to high or low airspaces.

You're ready to move on to other topics to continue learning how to best use N-Tracking.

3.4.5   Draw airspaces to indicate where specific flight constraints apply

3.4.5.1 Introduction

Draw airspaces to indicate where specific flight constraints apply

In this topic, you learn to use N-Tracking's Drawing tool to draw different shapes ("user-defined areas") on the map to represent airspaces where specific flight constraints apply.

We estimate that this will take 6 minutes to complete.

3.4.5.2 Detailed explanation

Why draw shapes on the N-Tracking map?
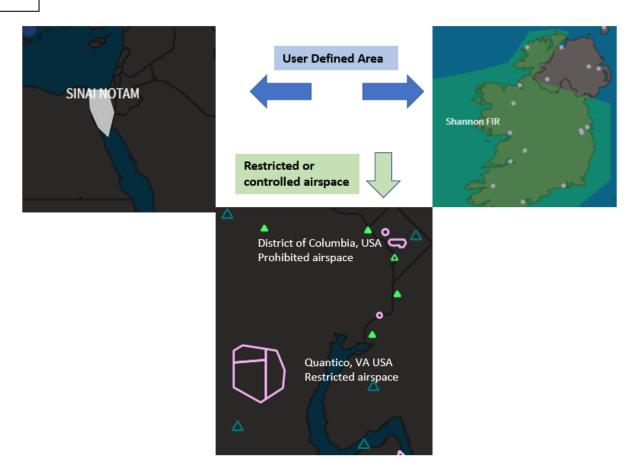
N-Tracking includes a tool, called the Drawing tool that you can use to draw shapes on the map to depict airspaces where flight constraints apply. Using this tool assists you in your flight planning tasks, as you can depict areas that represent danger zones, areas limited due to regulations, and even storms.

If you have an external provider that is supplying a feed that allows you to show controlled and/or restricted airspaces on the map, you can use the Drawing tool to add your own shapes to the map if that external source doesn't provide all the information you need.

In N-Tracking, the shapes you draw by entering the relevant coordinates in a table are called "user defined areas" or UDAs and you can color them as you see fit.

You can draw areas on your map that you share (display)with all other N-Tracking users in your airline and you can also draw *private* areas that do not display for others.

User Defined Area

Restricted or controlled airspace

SINAI NOTAM

Shannon FIR

District of Columbia, USA
Prohibited airspace

Quantico, VA USA
Restricted airspace

1 Click the **Palette** button.
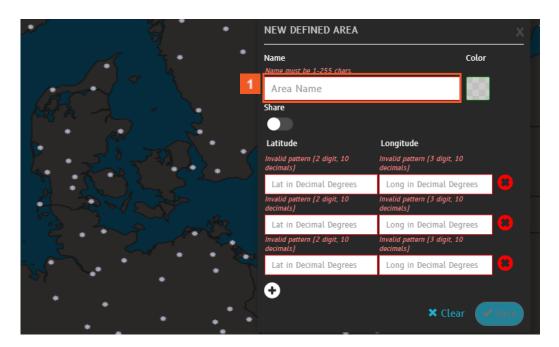
1 Click **the Drawing tool**.
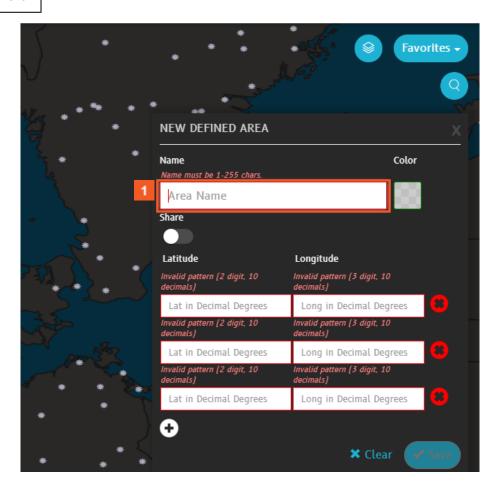
Name the area and enter the appropriate coordinates in the **New Defined Area** table.

For this example, enter the details of a new danger area named **D33**.
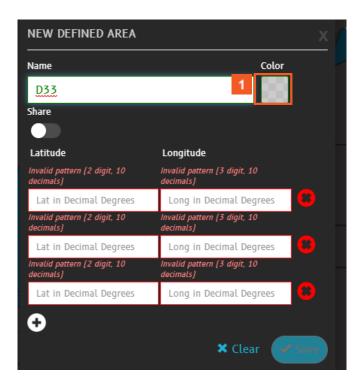
1 Click the **Name** input field.

> The names of User Defined Areas display on the map. The first 12 characters of the name display at the center of the area. For longer names, the full name displays when you hover your mouse over the drawn area.

1 Enter **D33** into the **Name** field.

1 Click **the Color picker**.

Choose a color on the larger color picker.
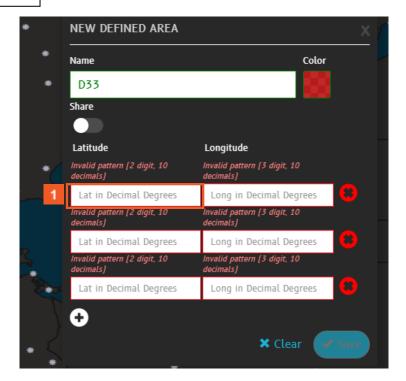
1 Click **the red zone**.

Close the Color picker, **not** the **New Defined Area** input area.

1 Click the **Close (X)** button.
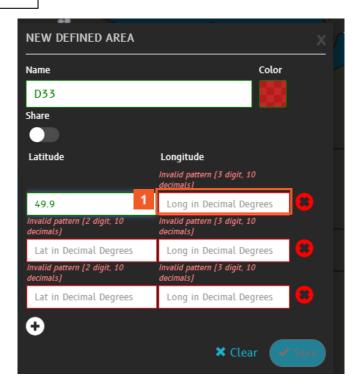
1 Click the **Latitude** input field.

1 Enter **49.9** into the **Latitude** field.
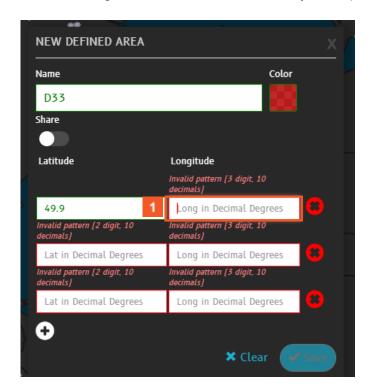
1 Click the **Longitude** input field.

Your entry changes to green when accepted.

If N-Tracking identifies an incorrect entry, it displays the value in red.
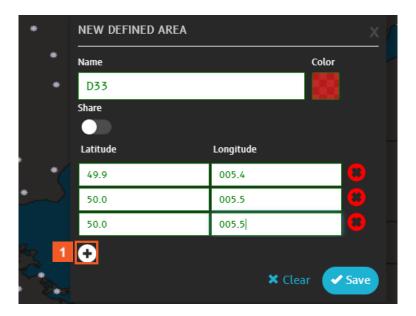
1 Enter **005.4** into the **Longitude** field.

Repeat the previous step to fill the next **two** rows with:
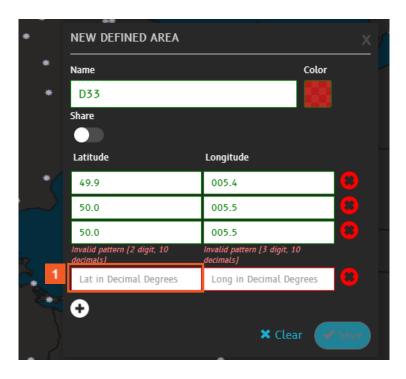
- latitude -- 50.0 and
- longitude - 005.5.

Use the **+** button to add another row of coordinates.
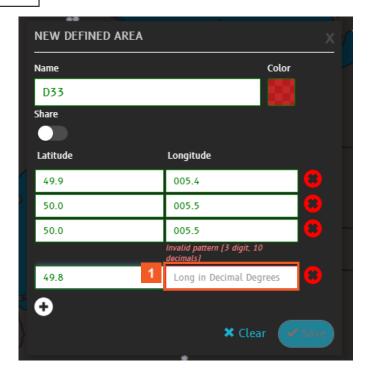
Click the **plus (+)** button.
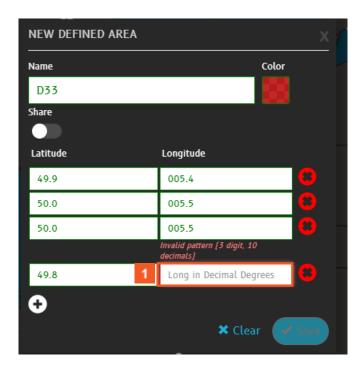
Click the **Latitude** input field.

For this example, 49.8 has been entered for you.
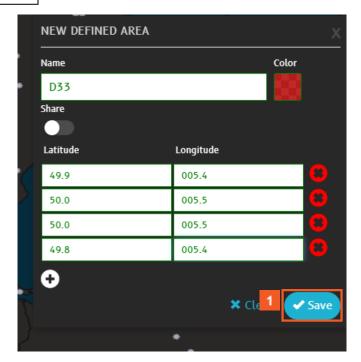
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1 Click the **Longitude** input field.

1 Enter **005.4** into the **Longitude** field.

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1 Click the **Save** button.

N-Tracking displays a notification on the map.
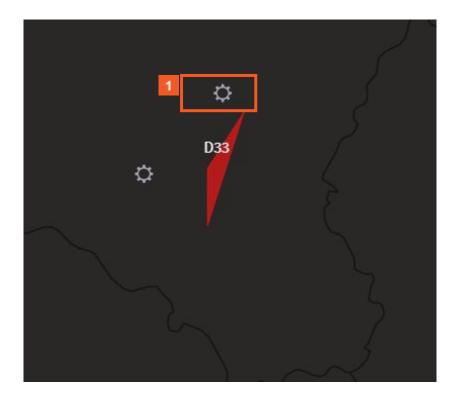
The danger zone (D33) you added to the map is located in Belgium.

Zoom in to see it better.

1 Click the **Zoom (+)** button.
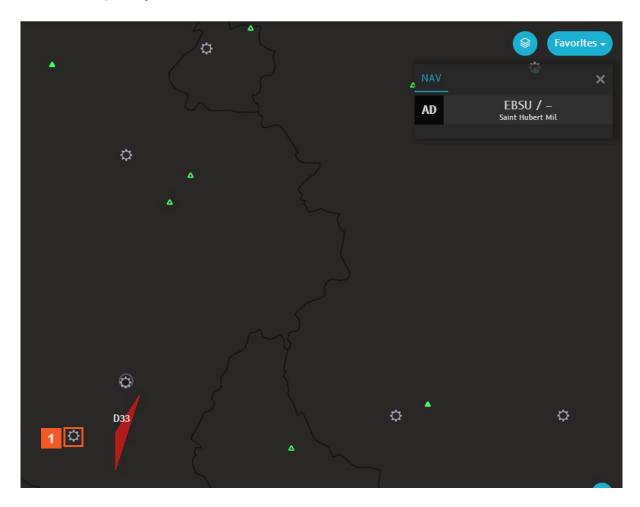
1 Click **the airport symbol**.

Enter your text here

Click the airport symbol north-west of UDA **D33**.

1 Click **the airport symbol**.
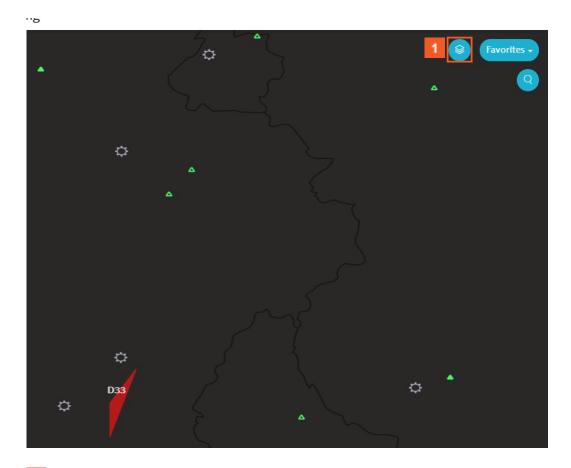
The name of the airport, Saint Hubert military airport -- **EBSU** displays in the NAV information pane.

Next, click the airport symbol west of **D33**.
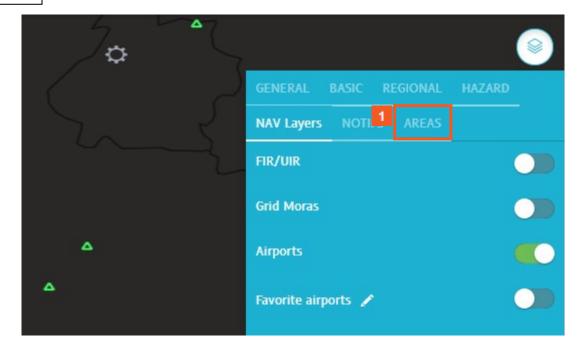
N-Tracking displays the name Bertrix -- **EBBX** for that airport.

1 Click the **Layers** button.

1 Click the **AREAS** tab.

At the 20 km zoom level, the Navaids layer is enabled.

In the AREAS tab, you can see your newly defined area in the UDA list. The list includes all user-defined areas, whether created by you, or created by other users and shared.
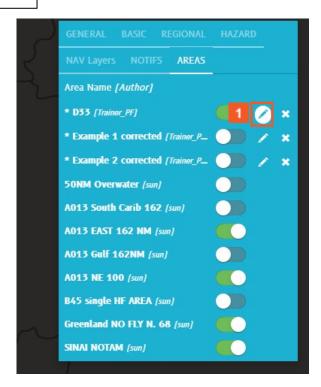
While you cannot change a UDA created by another user, you can use its slider to hide it if you don't want it to be visible on the map.

To modify any UDA, click ✏.

To delete a UDA, click ✖.
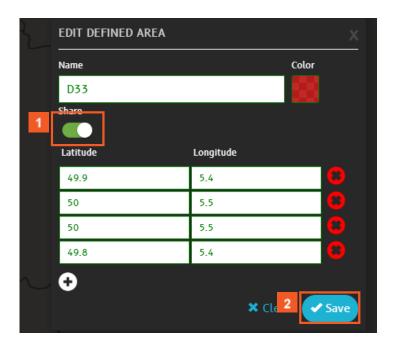
For this step, edit the user defined area you just created, **D33**.

1 Click the **Edit** button.

To make your UDA visible to other N-Tracking users in your airline, **share** it.

1 Click the **Share** slider.

2 Click the **Save** button.

If you stop sharing a User Defined Area, N-Tracking displays the following warning before you can proceed. Remember to share the revised UDA again after you complete any update.

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Edit Area
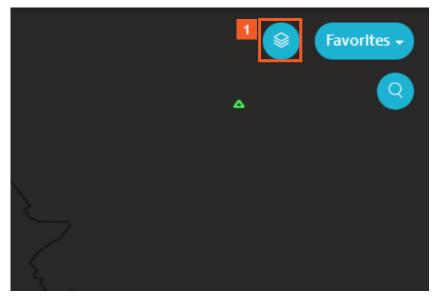
Area may be in use by other users. Do you really want to update this area: D33?

No   **Yes**

Again, N-Tracking displays a notification about the update.
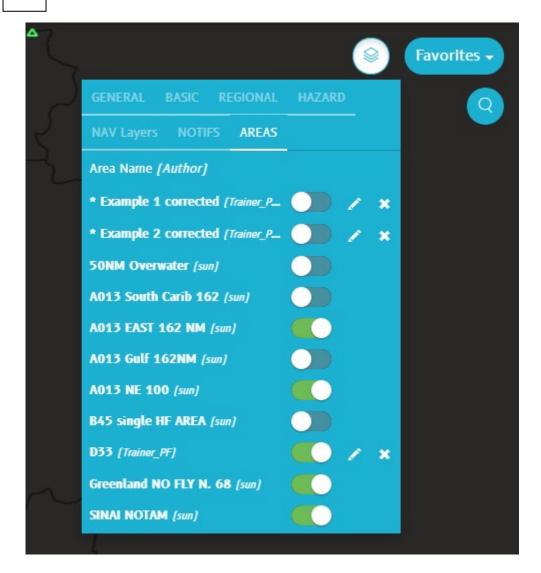
1 Click the **Layers** button.

The top of the list displays UDAs with asterisks before their names. These UDAs are ***private***.

D33 now displays in the lower half, the ***shared*** area, of your UDA list, in alphabetical order.

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3.5   Map favorites

3.5.1   Create, share, and delete favorite map settings

3.5.1.1 Introduction

Create, share, and delete favorite map settings

In this topic, you learn how to create, share and delete map favorites to save specific map areas, settings, and associated layers for quick access and re-use.

We estimate that this will take 5 minutes to complete.
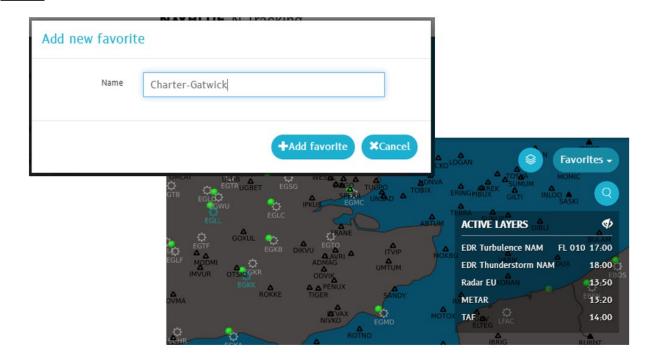
3.5.1.2 Detailed explanation

Favorites

Create map favorites to quickly retrieve a snaphot-like group of settings to re-use in your flight planning and tracking tasks later. When you save and/or share favorites, you also save your map zoom setting, any activated weather layers, and even filtered aircraft lists.

You can create a favorite, share it with others, and/or set it as a personal default. You cannot change or delete a favorite someone else shares with you.

Let's review the task to complete:

Knowing there is a tropical storm off the Florida coast, you want to create a favorite that depicts this area, with the relevant weather layers enabled, and DAL flights high-lighted from the **OTHERS** section of the **Flight list**.
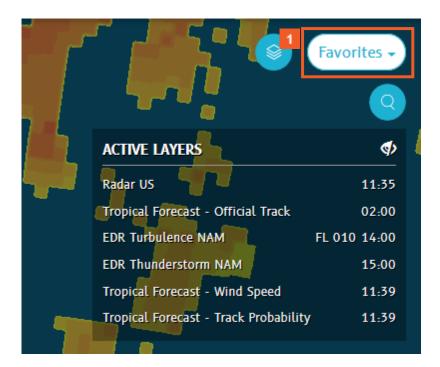
Once you have this favorite set up, you can share it with other dispatchers, saving some work.

The map is centered on Florida and zoomed to 50 nm and the official track of a tropi-cal storm displays.

North American radar images, as well as other relevant weather layers are enabled, including tropical storm wind speed and track probability.

The **Flight list** has been filtered using the criterion *Airline code "DAL"*, to show only Delta flights from the OTHERS section.
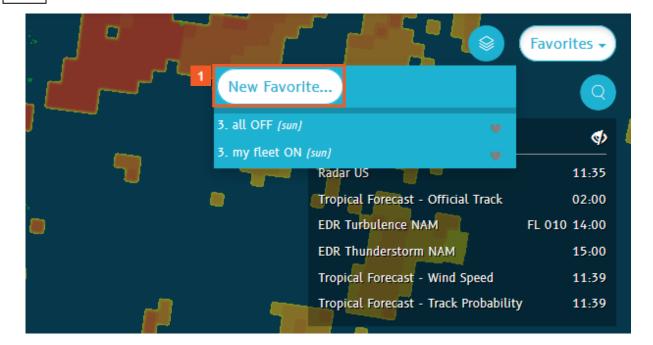
1 Click the **Favorites** button.

The first time you access Favorites, none will exist -- unless an Administrator has previously created and shared some.
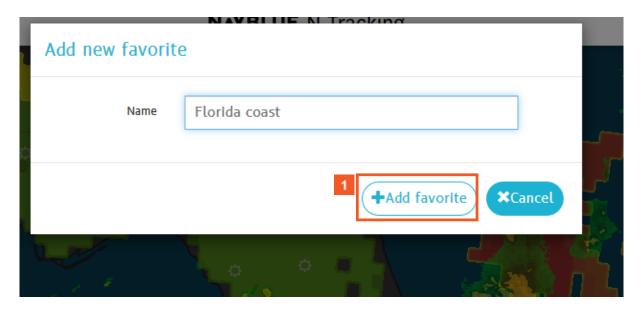
The Favorites list may look like this:

1 Click the **New Favorite...** button.
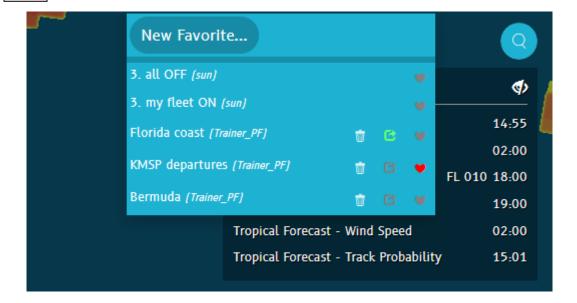
1 Type **Florida coast** into the active input field.

2 Click the **Add favorite** button.

The "Florida coast" favorite you just created displays in the list.

Now, imagine it is some time later and you have been doing other work. Your map is positioned differently, different weather layers are enabled, and the map zoom level shows more of the continental United States.

Now, you want to focus again on the Delta flights affected by the tropical storm off the Florida coast. To do that, retrieve the favorite you set up earlier.

1 Click the **Favorites** button.

Your username displays with the favorite name.

If this had been the first favorite in your list, the **heart** icon would change to red and it would be your default favorite automatically.
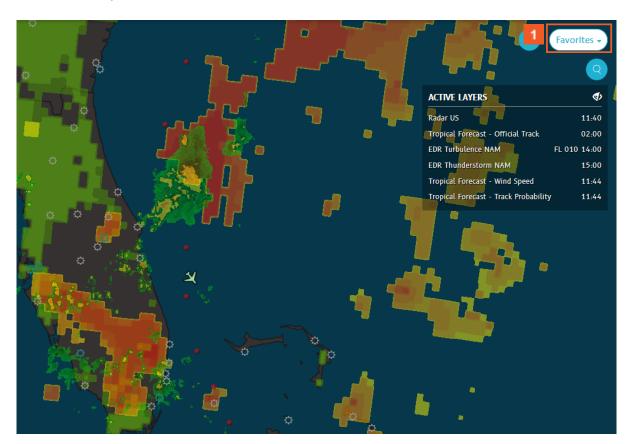
1 Click the **Florida coast** list item.

Your favorite settings are implemented on the map again. For example, you can see the official track for the tropical storm again and the **OTHERS** section of the **Flight list** shows Delta flights only. You could proceed to do whatever work it is that you want to do with the map set up this way.

For now, let's learn more about working with favorites.

If you need more information about working with the different weather layers, consult the related topics.
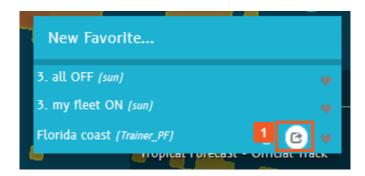
1 Click the **Favorites** button.

Notice that two other favorites have been created by another user and shared with you.
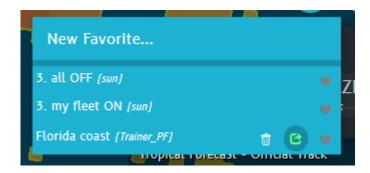
To share any favorites that you create, use the **Share** icon ( ).

1 Click the **Share** button.

The **Share** icon is highlighted in green to indicate that you have shared this favorite with other users.
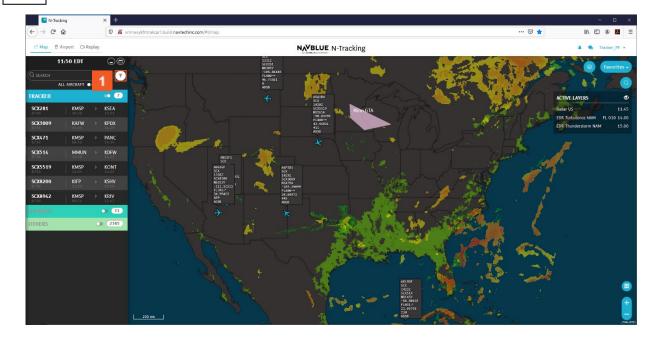
For the next part of this example, center the map on the continental United States and focus on aircraft departing from KMSP.

In this example, the map features a pink, *shared* UDA (user defined area).
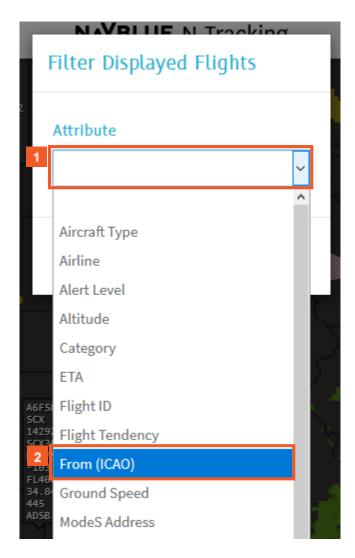
You cannot create a favorite that encloses *private* (unshared) UDAs.

Start your work by filtering the Flight list.

1 Click the **Filter** button.
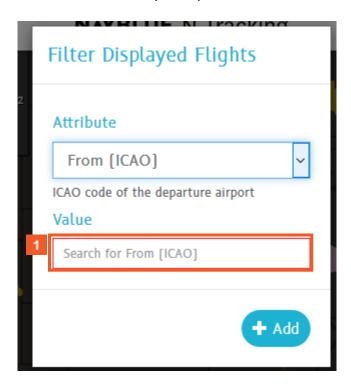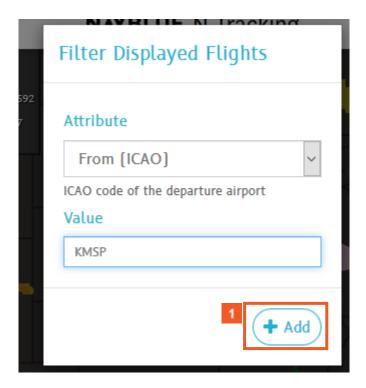
1 Click the **Attribute** dropdown button.

2 Click the **From (ICAO)** list item.

1 Click the **Value** input field.
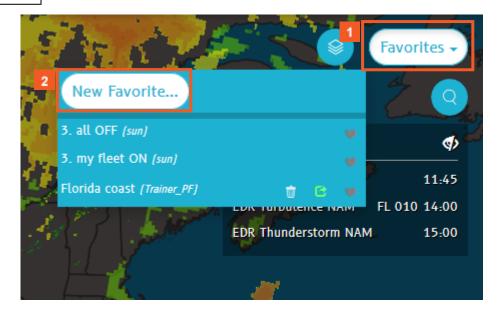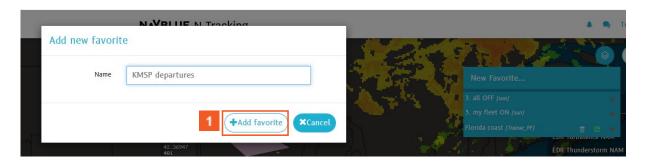
1 Type **KMSP** into the active input field.

2 Click the **Add** button.
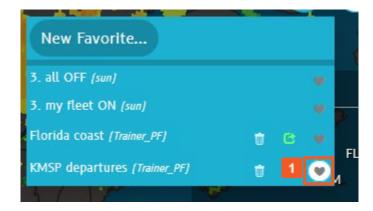
1 Click the **Favorites** button.

2 Click the **New Favorite...** button.

1 Type **KMSP departures** into the active input field.

2 Click the **Add favorite** button.
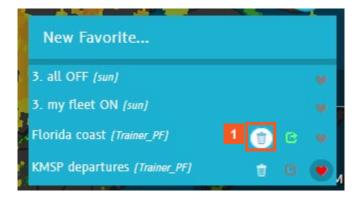
Click the 🤍 icon to set this favorite as your default. Be sure this is what you want as the next time you log in, this view of the map view displays automatically.

1 Click the **heart** button.

To delete a favorite when you no longer need it, use the **Delete** (trash can) icon.
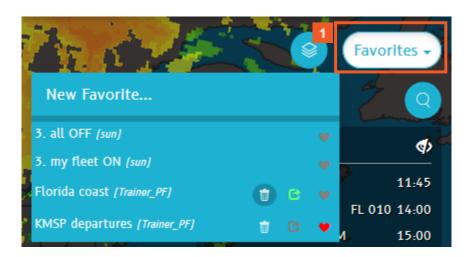
1 Click the **Delete** button.

You can always change your mind. For this example, choose **No**.
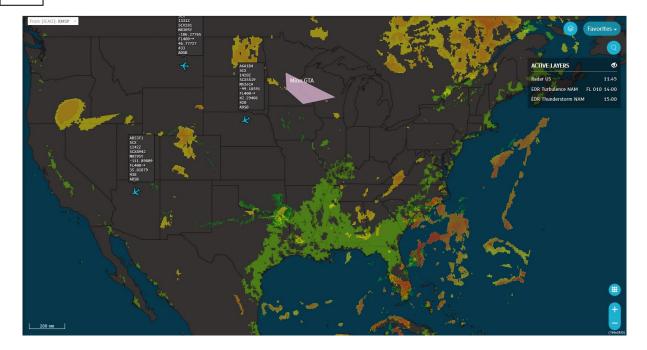
1 Click the **No** button.

To close the list of favorites, click the **Favorites** button.

1 Click the **Favorites** button.

SUCCESS

Congratulations! You have successfully created a favorite, shared it with other N-Tracking users, and learned how to delete a favorite.

You can update and over-write existing favorites.

4 Working with flights on the map

4.1 Working with flights in the Flight list, monitor alerts, and analyze routes

4.1.1 Working with flights in the Flight list

4.1.1.1 Introduction

Working with flights in the Flight list

In this topic, you learn how to work with the Flight list to view different sets of flights and how to interpret the information the Flight list contains. You also learn how to switch between its three supported "views".

We estimate that this will take 6 minutes to complete.

4.1.1.2 Detailed explanation

Using the Flight list

The panel that displays on the left of the **Map** screen contains the Flight list.

The list includes entries for all of the aircraft shown on the map. Some of these air-craft, you may be tracking, while others display to provide a realistic view of air traffic or congestion at airports, for example. N-Tracking counts the aircraft in various sta-tuses or categories.

In this example, the list shows:

- 4 aircraft being tracked
- 6 flights being planned
- "other" aircraft (those of other airlines)

For the flights listed in all sections except OTHERS, you can expand the table listing to display the **Flight Details** pane for a selected flight.

You can also search and filter the Flight list to further refine the flights listed. For ex-ample, you can filter by attributes such as aircraft type.

The Flight list "standard" view is the most used view.

N-Tracking also provides "extended" and "minimized" views. Use the view that best serves your needs.

Flight list views

You can use the Flight list in any of three different "views" or layouts. As they look quite different, it is easy to tell them apart.

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Minimized view

Minimized view
if warnings or cautions present

Standard view

Extended view

HINT

Search and filtering features are accessible only when the Flight list is in standard or extended view. For more details on searching within the Flight list, consult the topic, *Searching and filtering flights in the Flight list*.

HINT

Type hint to help learners. (12pt)

The **Flight list** contains the following sections:

WARNING: all flights with any alert at a warning level
(not always present)
CAUTION: all flights with any alert at a caution level
(not always present)
TRACKED: all flights of aircraft from your fleet without any alert condition
PLANNED: (not shown here) plans for which a flight plan has been computed by a flight planning system or communicated from ATC
OTHERS: when activated, provides a count of aircraft not declared as part of your fleet at departure or arrival of tracked airports (not shown in this example)
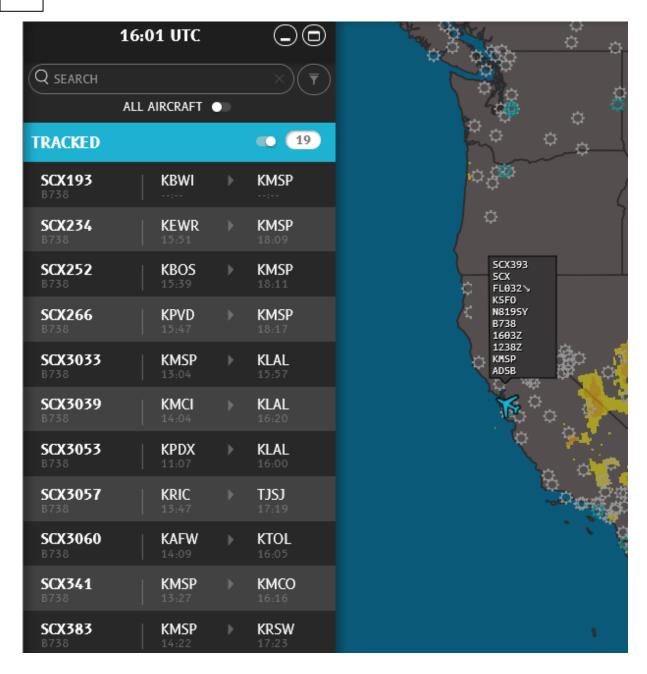
In this example, there are so many tracked flights that the other banners are pushed off-screen. In your operational environment, you can use a vertical scrollbar on the right of the pane to bring those other categories into view.

Use the **Flights** slider to display the flights in each category.

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Search or filter the Flight list

To reduce the number of flights shown in the **Flight list**, you have two options:

- enter text in the **Search** field
- use the **Filter** icon to filter listed flights by attribute

The aircraft you see on the map match the listed aircraft. If you filter the **Flight list**, that filtering affects the aircraft that display on the map.
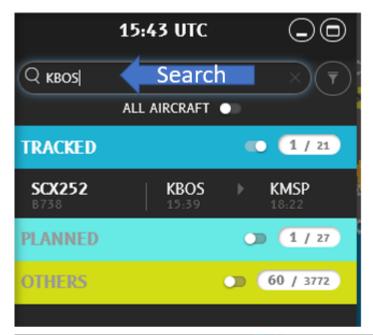
In both cases, N-Tracking contributes to situational awareness by adding a label to the map that identifies the criteria you used to fine tune the **Flight list**.
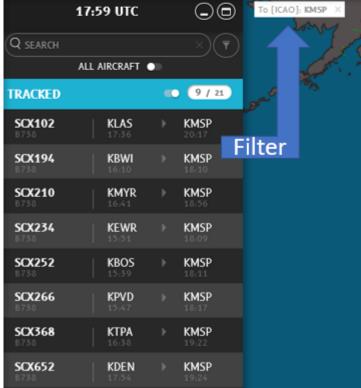
For detailed information on using search and filtering techniques, consult the topic, *Searching and filtering flights in the Flight list*.

In these examples:

- Searching the entire list for KBOS shows at least one flight in each category with destination KBOS airport.

- Filtering the list by attribute "To" shows nine tracked flights with destination KMSP airport.

Your N-Tracking administrator chooses the colors used for the section headers of the Flight list and these colors match the associated aircraft icons on the map.
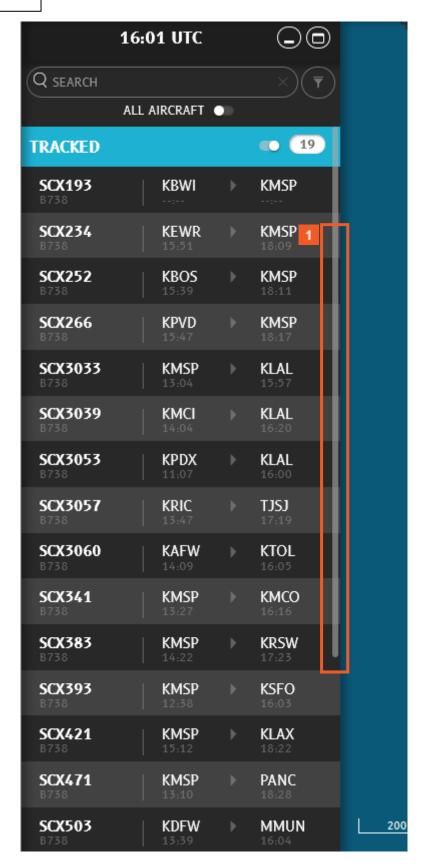
If a flight is subject to a warning or caution, those two categories display at the top of the list, in red and orange, respectively.

If the list of tracked flights is extensive, use the vertical scroll bar on the right of the Flight list to display the other categories.

Let's review some of the features and capabilities you just learned about with a practical scenario.
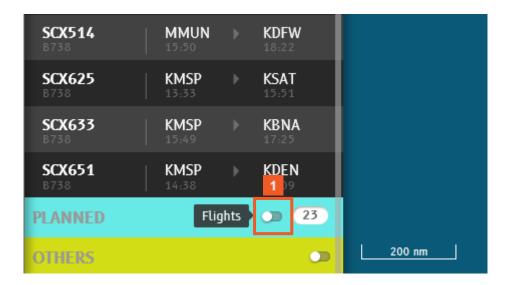
In your operational environment, you use the scrollbar on the right of the Flight list to scroll through the listed flights. For the purposes of the interactive training version, follow the on-screen instruction.

You can also use the **Search** field to search for a specific flight.
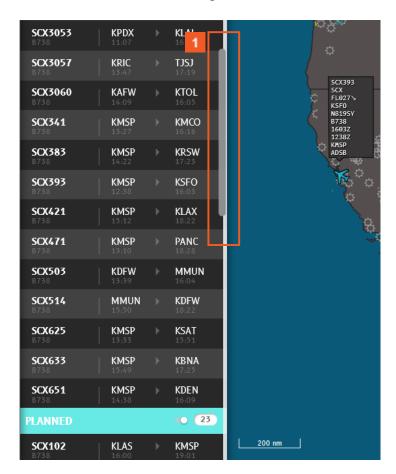
To display the list of planned flights, enable the Flights slider on the PLANNED banner.

1 Click the **Flights** slider.

Use the vertical scrollbar again to scroll down and display the list of **planned** flights.

Next, review how the OTHERS list works by enabling its Flights slider.
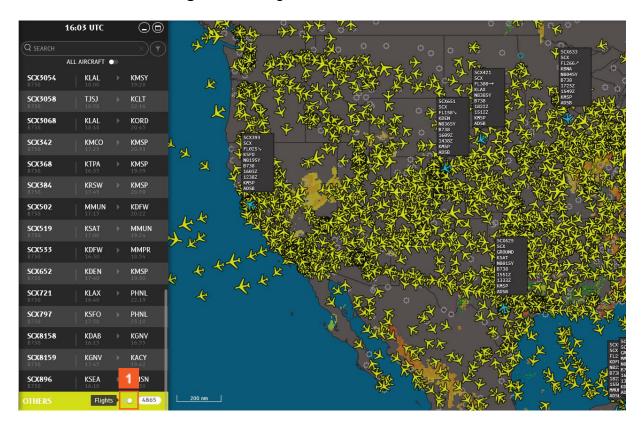
1 Click the **(OTHERS) Flights** slider.

When you enable the **Flights** slider in the OTHERS banner, N-Tracking provides a count and displays all those flights on the map. For most purposes, this can be too much information!

For now, disable the **Flights** slider again.
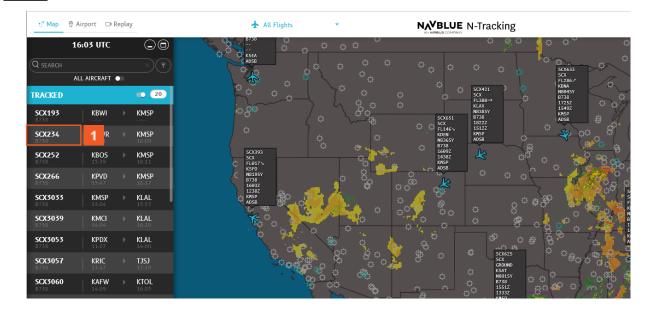
1 Click the **(OTHERS) Flights** slider.

Depending on the aircraft labels you have in use, you can already see a lot of information about any given flight, but let's dive deeper.

Select an individual flight in the Flight list.

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1 Click **SCX234**.

You can see more information on the **Flight Details** pane. Review the flight's STD and STA. For any enroute flights, N-Tracking calculates whether the flight is ahead or behind schedule and displays the difference in green or red, respectively.

For airlines using Surface Tracking, you can click the ⤣ icon to view the airport map for either the departure or arrival airport.

If you select a flight that is subject to a warning or caution, you can acknowledge the alert and/or add notes, as applicable. For more details, review the topic, *View automatic alerts and add manual alerts*.

Such messages look like this:
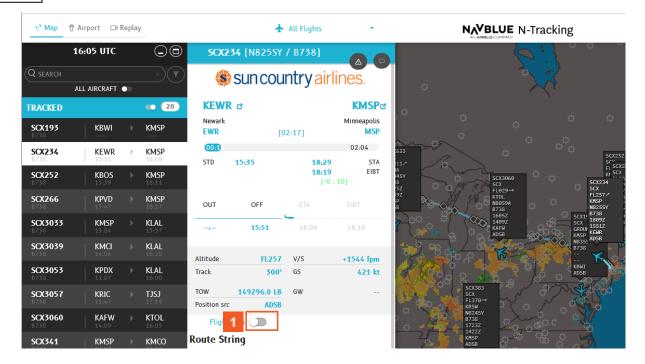
CAUTION
18:48| The flight plan waypoint is at 38,000FT but the aircraft is at ✓ 36,000FT
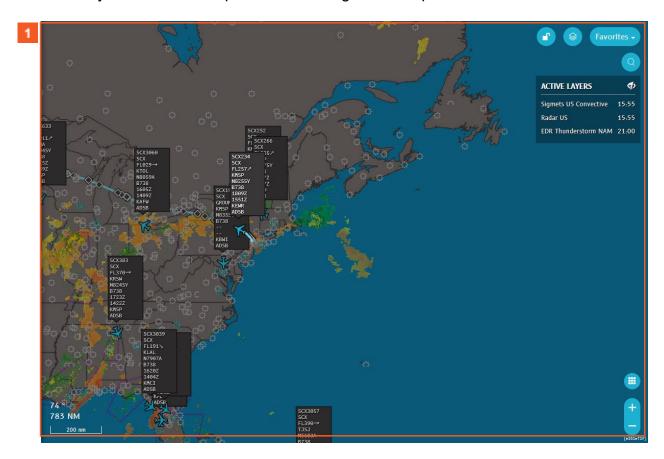
1 Click the **Flight Plan** slider.

The flight plan for your selected flight (SCX234) displays on the map while you have its Flight Details pane open. If you want the flight plan to remain visible after you close the pane, enable the **Flight Plan** slider.
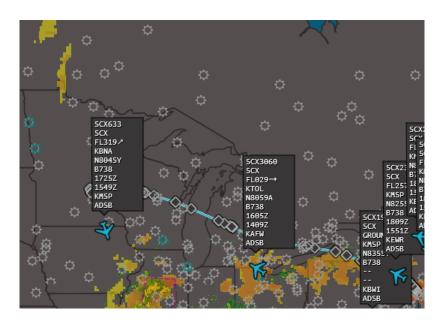
Click anywhere on the map to close the Flight Details pane.

1 Click **anywhere on the map**.

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The flight plan for flight SCX234 continues to display. Zoom in for better visibility.

1 Click the **Zoom in (+)** button.

REMINDER
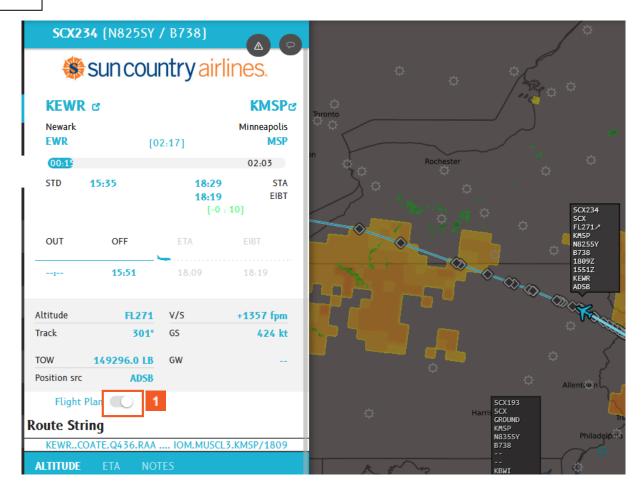
You can always click an aircraft icon on the map to display its flight details.

1 Click **the SCX234 aircraft icon**.

Now that you know how to use the **Flight Plan** slider, disable it for flight SCX234.
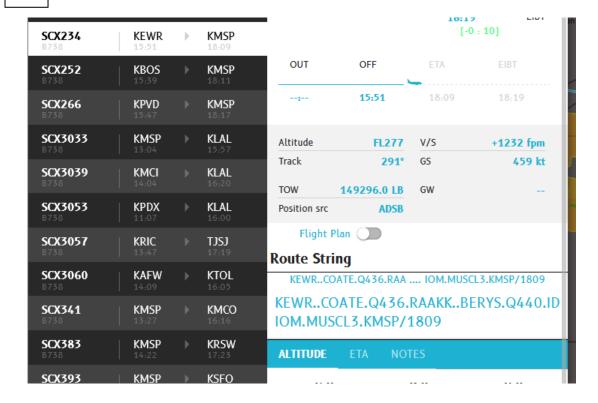
1 Click the **Flight Plan** slider.
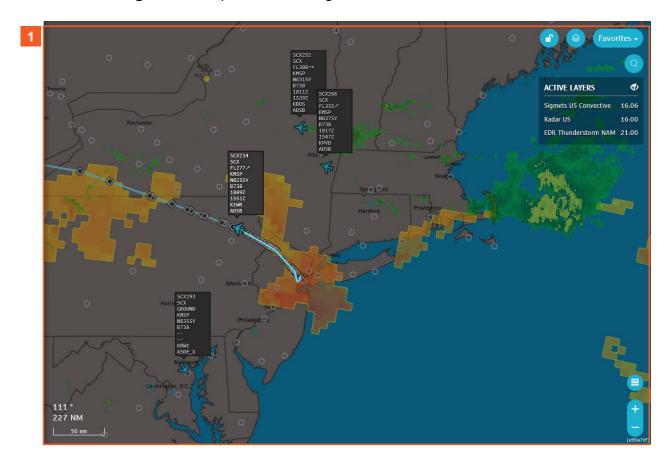
Notice the one-line display of the flight route string.

By clicking on the small version of the flight's route string, you make the full route string display (in larger text).
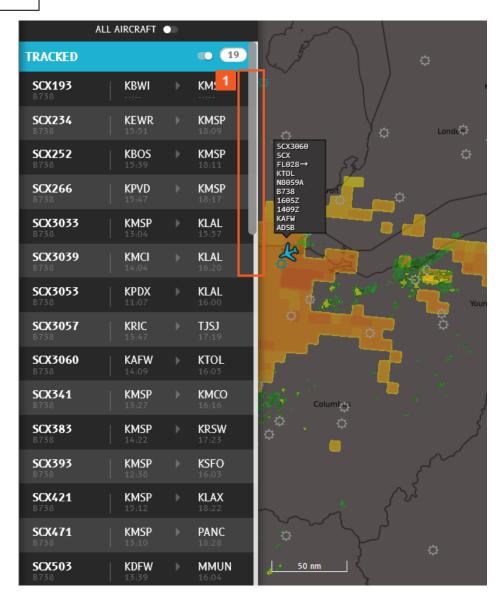
Close the **Flight Details** pane for this flight.

1 Click **anywhere on the map**.
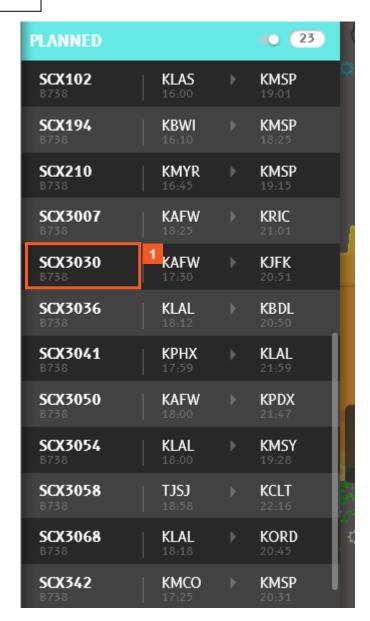
Scroll down to view the PLANNED section of the Flight list.

1 Click the **vertical** scroll bar.

1 Click **SCX3030**.
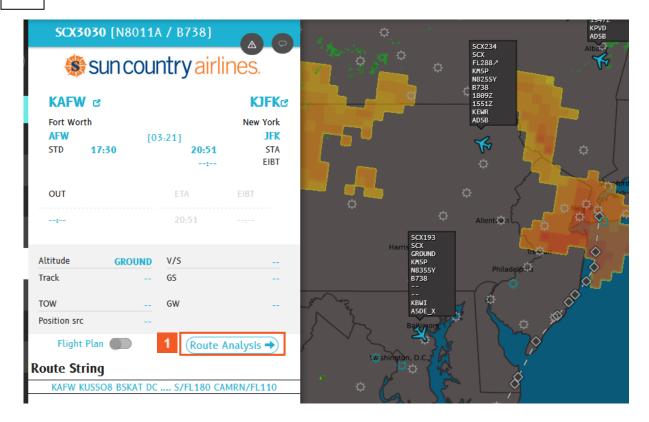
Take a look at the detailed information available for a planned flight.

For planned flights, the information in the middle section of the pane is not yet available, except that Altitude is still GROUND.

The **Flight Plan** slider is inactive for planned flights, but the proposed flight plan displays on the map (in a dashed line).
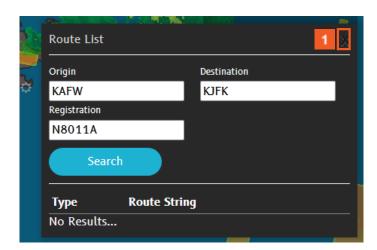
You can access route analysis directly from this pane. Take a quick look at the Route Analysis pane, but for more details, review the *Route analysis* topic later in this section.

1 Click the **Route Analysis** button.

When you click **Search** in the **Route List** pane, N-Tracking displays all possible routes for the flight. For now, close the pane and continue working with the Flight list.
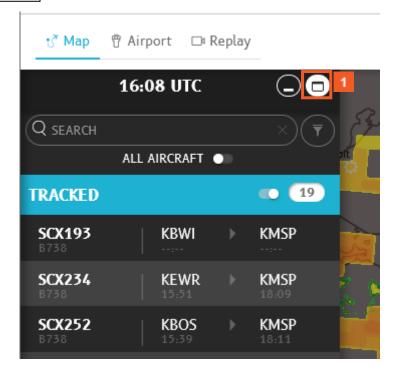
1 Click the **Close (X)** button.

2 Click **anywhere on the map**.

Next, explore the different "views" or layouts of the Flight list that you can choose.

The Flight list is currently in its standard view. To change the view, use the controls on the upper right of the Flight list.

1 Click the **Maximize** button.

In this example, you can view the flight ID, flight origin and destination, aircraft type, registration number, and other details.

Configuring the fields that display in the extended view is up to you. Use the **Flight list** option in the **User Settings** menu. For more detailed information, consult the *Configure Flight list content* topic.

Flights display and update in real time. While this image of the Flight list displays only active tracked flights, you can scroll through the list to see all sections.
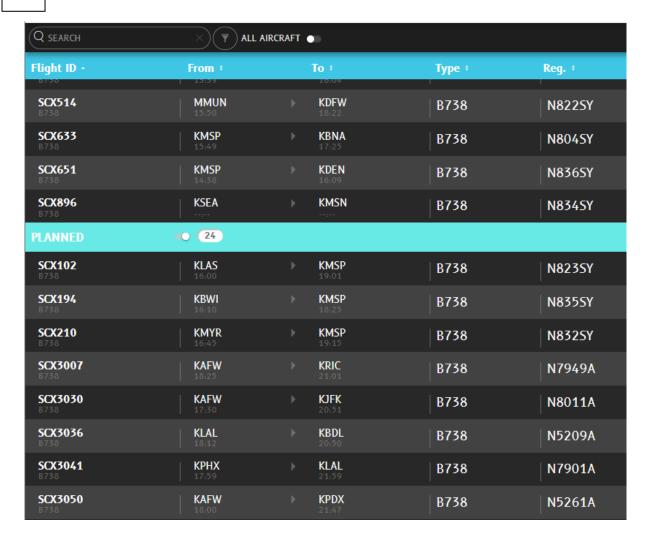
If you want the Flight list to display a different time zone, use the **Time Zone** option in the **User Settings** menu.

Each of the sections that you saw in the standard view of the Flight list appear in the "extended" view.

Use the vertical scrollbar on the right to scroll down and display the OTHERS section.

Flight ID ▴	From ⬍		To ⬍	Type ⬍	Reg. ⬍
B738	15:39		16:04		
SCX514 B738	MMUN 15:50	▶	KDFW 18:22	B738	N822SY
SCX633 B738	KMSP 15:49	▶	KBNA 17:25	B738	N804SY
SCX651 B738	KMSP 14:38	▶	KDEN 16:09	B738	N836SY
SCX896 B738	KSEA --:--	▶	KMSN --:--	B738	N834SY
PLANNED	⦿ 24				
SCX102 B738	KLAS 16:00	▶	KMSP 19:01	B738	N823SY
SCX194 B738	KBWI 16:10	▶	KMSP 18:25	B738	N835SY
SCX210 B738	KMYR 16:45	▶	KMSP 19:15	B738	N832SY
SCX3007 B738	KAFW 18:25	▶	KRIC 21:01	B738	N7949A
SCX3030 B738	KAFW 17:30	▶	KJFK 20:51	B738	N8011A
SCX3036 B738	KLAL 18:12	▶	KBDL 20:50	B738	N5209A
SCX3041 B738	KPHX 17:59	▶	KLAL 21:59	B738	N7901A
SCX3050 B738	KAFW 18:00	▶	KPDX 21:47	B738	N5261A

The **OTHERS** section displays at the bottom of the table. It does not list flight information for those flights.

When you finish your review, you can scroll back to the top of the list to view tracked flights again.

SCX8158 B738	KDAB 16:15	▶	KGNV 16:55	B738	N813SY
SCX8159 B738	KGNV 17:45	▶	KACY 19:42	B738	N813SY
SCX896 B738	KSEA 16:10	▶	KMSN 19:30	B738	N834SY
OTHERS	⦿				

You can use the Flight list in extended view in the same way as you do the standard view.

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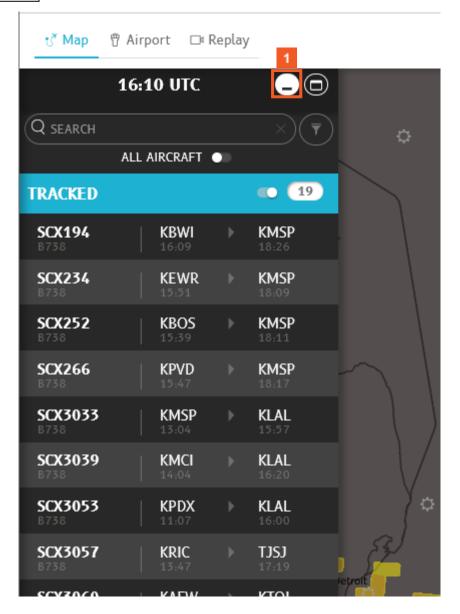
1 Click **SCX252**.

Flight details for flight SCX252 display and you can work with the information and **Flight Plan** slider in the **Flight Details** pane as you already learned.

2 Click **anywhere on the map**.

The last "view" for the Flight list is its minimized view. Try that now.
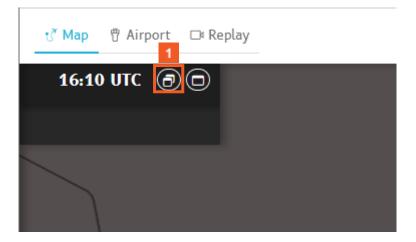
1 Click the **Minimize** button.

When minimized, the Flight list displays only the time (in UTC). The list also displays a count of any flights with a warning status (none in this example).

The minimized view makes the most screen space available to flights and map content.
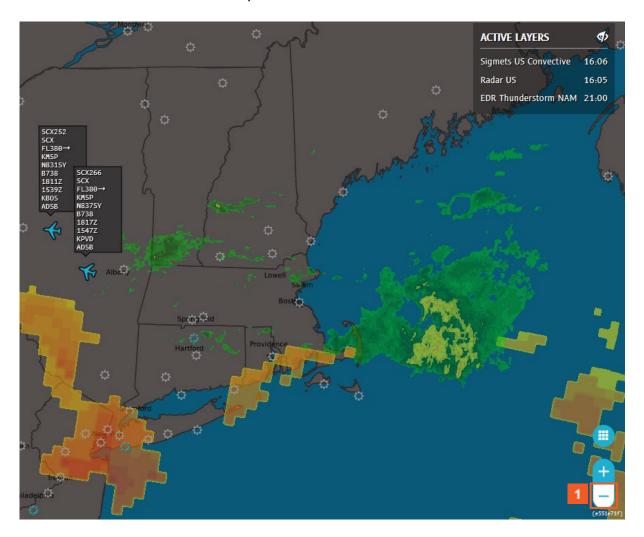
If this view doesn't serve a purpose for you, restore the standard view.

1 Click the **Restore** button.

Zoom out to see more of the map.
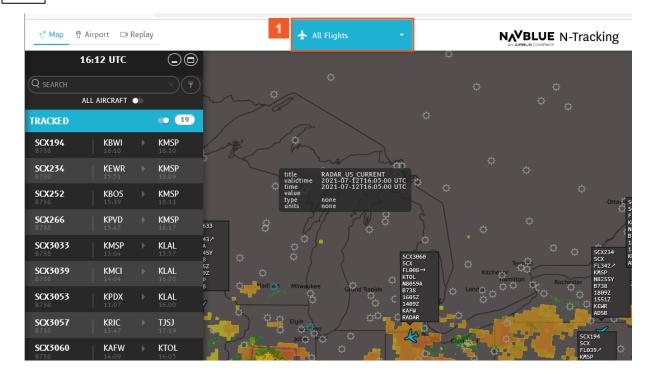
1 Click the **Zoom out (-)** button.
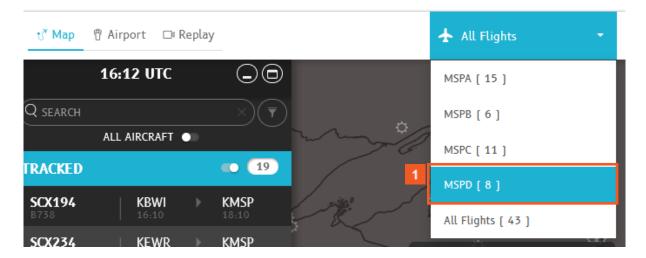
For customers using desk assignment, users can further narrow the contents of the Flight list to only those flights they are managing at their desk.

1 Click the **All Flights** dropdown button.

In this example, 43 flights are monitored amongst 4 desks: MSPA, MSPB, MSPC, and MSPD.
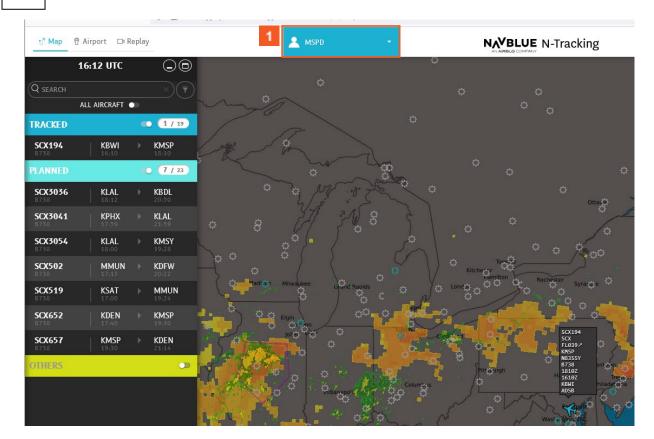
1 Click the **Desk MSPD** list item.
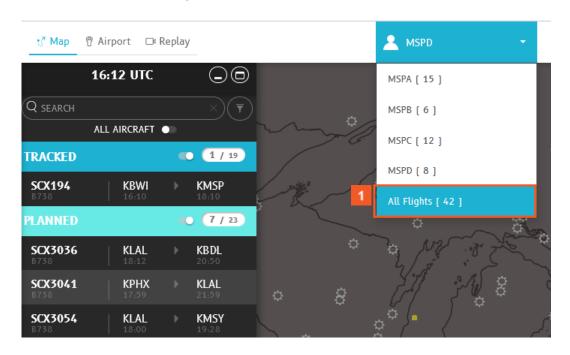
Desk **D** is responsible for one enroute flight and seven planned flights, all of which you can access from the Flight list.

Review the fights and then display the complete list of flights again.
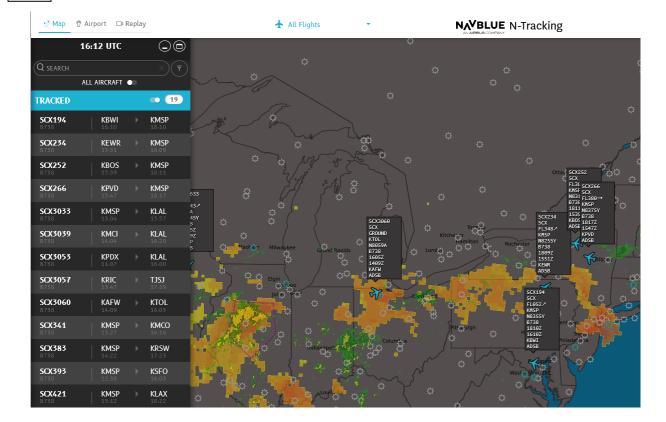
1 Click the **MSPD** dropdown button.

1 Click the **All Flights** list item.

SUCCESS

Congratulations! You have completed your review of how to use the Flight list to track aircraft, view important flight details, and change the Flight list view.

4.1.2 Report flight information manually

4.1.2.1 Introduction

Report flight information manually

In this topic, users with reporter rights learn to manually enter information, such as aircraft position source for a flight. You must have reporter rights to complete this procedure.
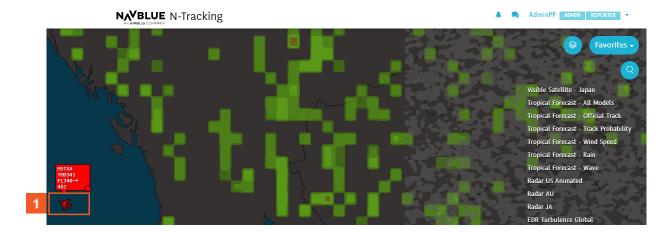
We estimate that this will take 2 minutes to complete.

4.1.2.2 Detailed explanation

You must have **Reporter** rights to manually enter position reports.

A reporter is not necessarily an N-Tracking administrator, but the administrator must have granted you **Reporter** rights for you to perform this task.

Flight **THD341** is showing a warning alert.

Click on its icon to open its **Flight Details** pane.

1 Click **the plane icon (THD341)**.

Message details for cautions and warnings display at the top of the **Flight Details** pane. Click the checkmark icon associated with the warning to acknowledge the warning.
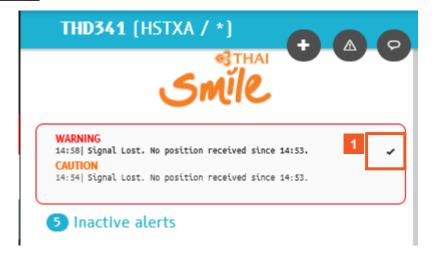
This stops the intermittent notification from repeating on the map.

1 Click **the CAUTION checkmark icon**.
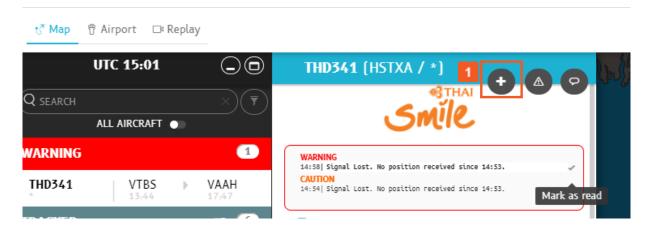
Acknowledge the warning and "mark it as read".

1 Click **the WARNING checkmark icon**.
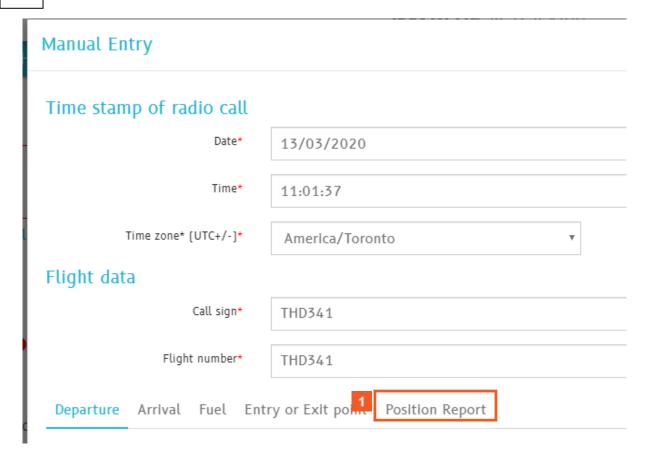
Click the (Open manual report) icon at the top of the **Flight Details** pane to manually add information.

1 Click the **Open manual report** button.

Enter relevant information about the warning on the **Manual Entry** page; specifically in the **Position Report** tab in the **Departure** section.

Manual Entry

Time stamp of radio call

Date*	13/03/2020
Time*	11:01:37
Time zone* [UTC+/-]*	America/Toronto

Flight data

Call sign*	THD341
Flight number*	THD341

Departure   Arrival   Fuel   Entry or Exit point   **1** Position Report

1 Click the **Position Report** tab.

Departure   Arrival   Fuel   Entry or Exit point   Position Report

Tim **1**	Select UTC time [HH:MM:SS]
Latitude	
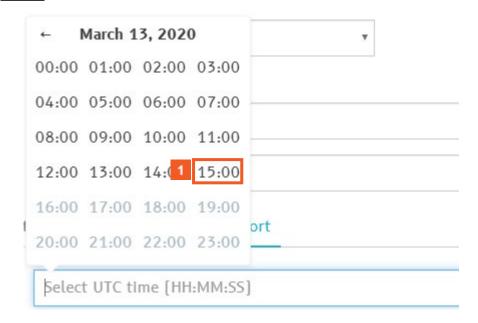
1 Click the **Time** input field.
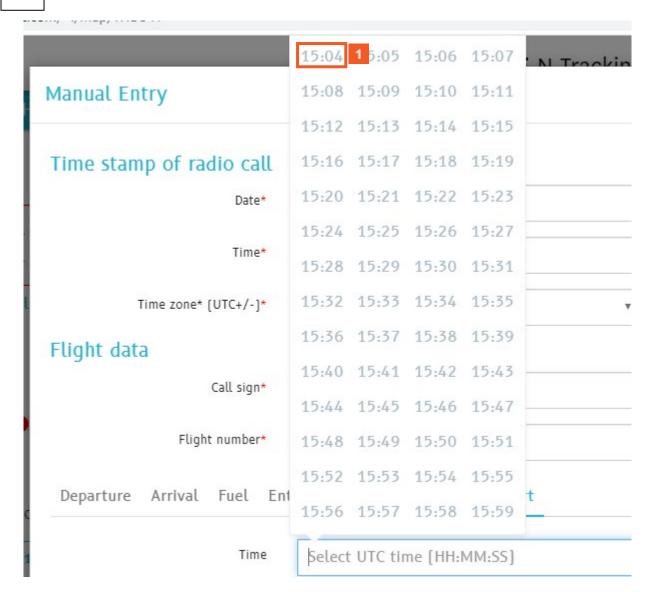
Select the nearest hour.

1 Click **15:00**.
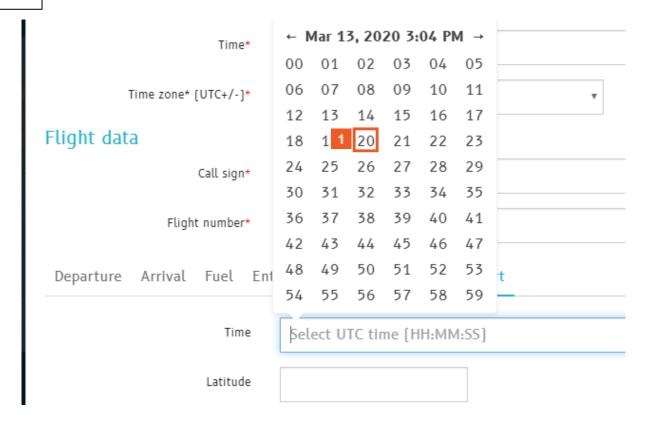
Select the nearest minute.
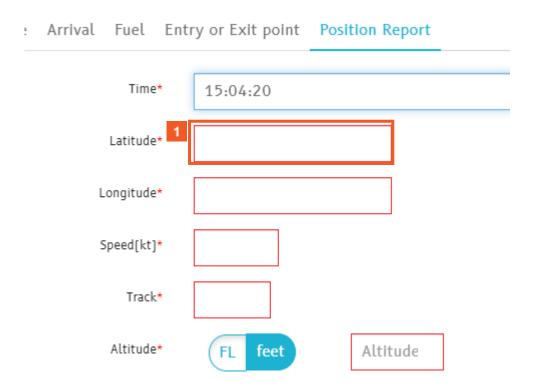
1 Click **15:04**.

Select the applicable number of seconds.

1 Click **20**.

We need to give the latitude and longitude for the position report.
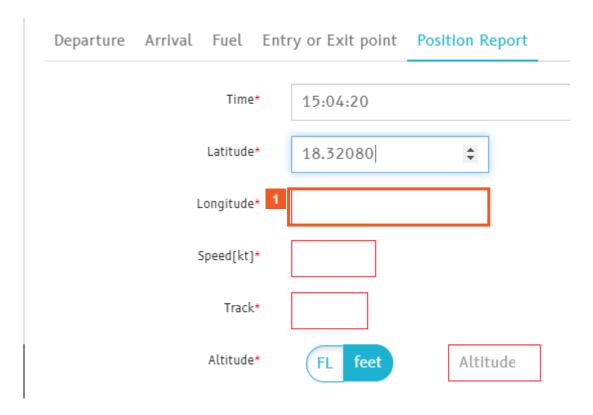
1 Click the **Latitude** input field.

> The values being entered here are for training purposes only, and you should carefully check the values when you enter a position in a real-life scenario. Small typing errors can make a big difference to a position report.

Latitude* [   ] **1**

1 Enter **18.32080** into the **Latitude** field.

| Departure | Arrival | Fuel | Entry or Exit point | **Position Report** |

Time*   15:04:20

Latitude*   18.32080

Longitude* **1** [   ]

Speed[kt]* [   ]

Track* [   ]

Altitude*   (FL **feet**)   [Altitude]

1 Click the **Longitude** input field.

Longitude* [   ] **1**
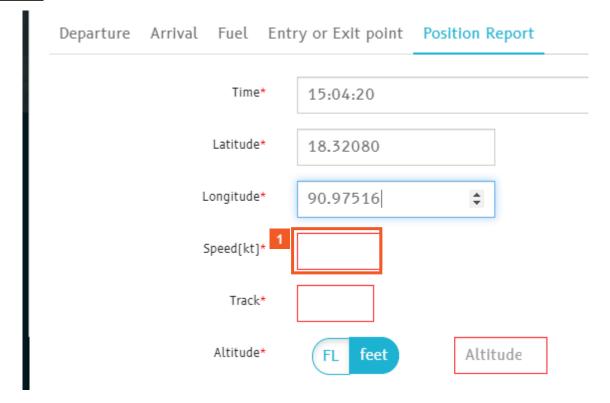
1 Enter **90.97516** into the **Longitude** field.

Now we can give the speed for the position entry being reported.

| Departure | Arrival | Fuel | Entry or Exit point | **Position Report** |

Time*	15:04:20
Latitude*	18.32080
Longitude*	90.97516
Speed[kt]*	**1**
Track*	
Altitude*	FL **feet** Altitude

1 Click the **Speed[kt]** input field.

Speed[kt]*	⬍ **1**

1 Enter **450** into the **Speed[kt]** field.

Longitude*	90.97516
Speed[kt]*	450 ⬍
Track* **1**	
Altitude*	FL **feet** Altitude
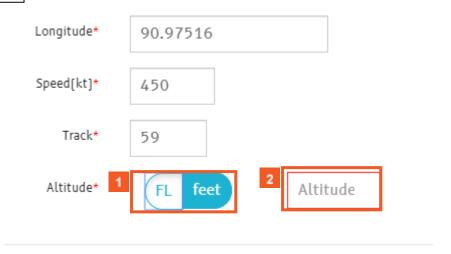
1 Click the **Track** input field.

Speed[kt]	450
Track*	| ⬍ **1**

1 Enter **59** into the **Track** field.

Longitude*   90.97516

Speed[kt]*   450

Track*   59

Altitude*   **1** FL feet   **2** Altitude

---

1 Click the **FL/feet** slider.

2 Click the **Altitude** spin button.

Track*   59

Altitude*   FL feet   Altitude ⇕   **1**

1 Enter **350** into the **Altitude** field.

Speed[kt]*   450

Track*   59

Altitude*   FL feet   350 ⇕

✔ Save   ✘ Cancel
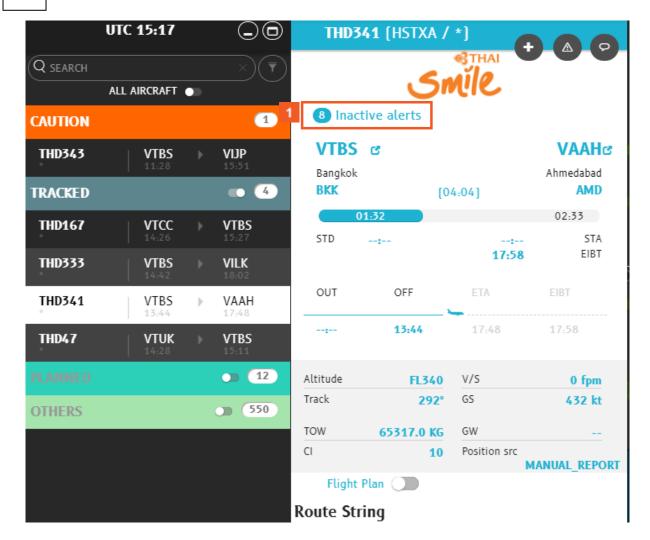
1 Click the **Save** button.

The **Position src** field signals that a manual report was made.

You can always use the **Inactive alerts** link to view previously acknowledged alerts.

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1 Click **Inactive alerts**.
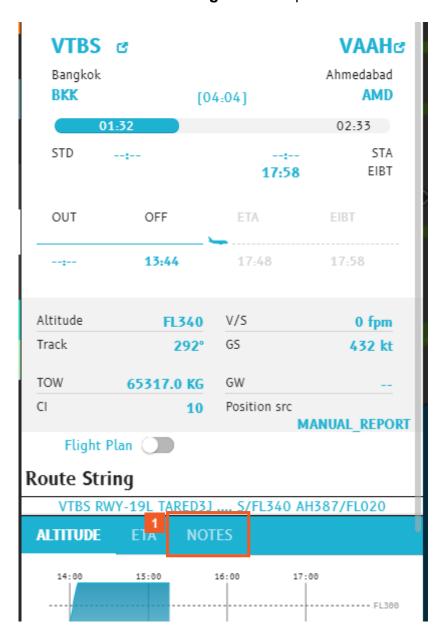
After your review, you can hide them again.

1 Click **Hide active alerts**.
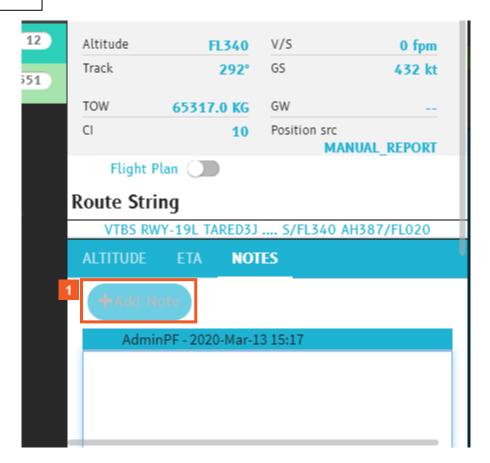
As applicable, you may want to add more information about your manual entry. Use the **NOTES** area on the **Flight Details** pane to do so.

1 Click the **NOTES** tab.
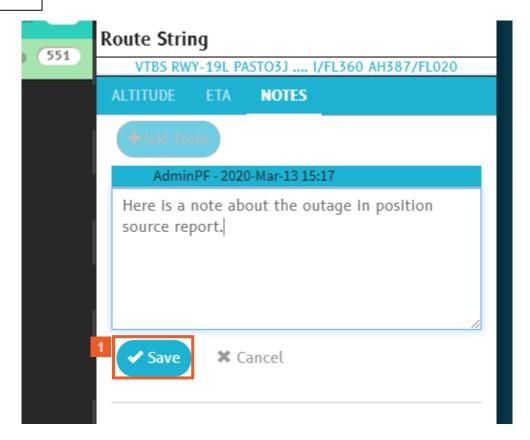
1 Click the **Add Note** button.

2 Enter **Here is a note about the outage in position source report.** into the **NOTES** field.

N-Tracking automatically stores your username with the note.

1 Click the **Save** button.

2 Click **anywhere on the map**.

With your manual report complete, and any other relevant notes added, when you click the map, the **Flight Details** pane closes. You can continue with your regular activities.

For more detailed information on the **Flight Details** pane, review the topic, *Configure Flight Details pane content*.

4.1.3 Searching and filtering flights in the Flight list

4.1.3.1 Introduction

Searching and filtering flights in the Flight list

In this topic, you learn how to search for flights in the Flight list and also filter the Flight list based on a variety of flight attributes.

We estimate that this will take 7 minutes to complete.

4.1.3.2 Detailed Explanation

Searching for specific flights in the Flight list
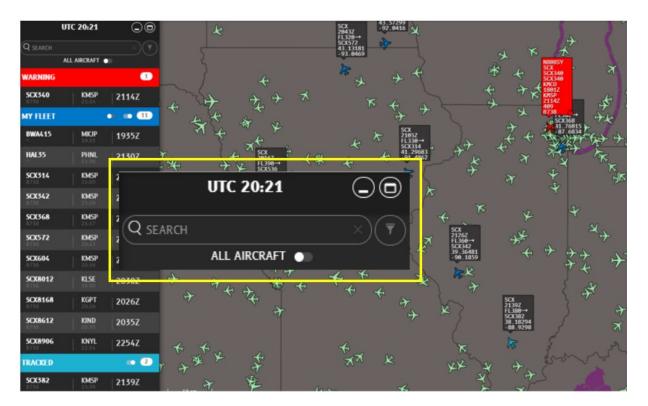
You can use the search and filter features at the top of the Flight list pane to search for aircraft based on attributes, such as aircraft type, airline, destination airport (To), or departing airport (From).

Due to the large number of flights in the OTHERS category, filtering by a specific airline code or other characteristic or using search terms can be particularly helpful when searching for aircraft that do not belong to your fleet. These aircraft are

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associated with the OTHERS section of the Flight list. N-Tracking does not list flight information for those flights in the Flight list as it does for TRACKED and PLANNED flights.

You'll learn how to use the **SEARCH** field and the Filter in this topic.

Filter the Flight list

Use the filter to fine-tune the listed aircraft by:

- A/C Type by entering text
- Airline by entering text (ICAO code)
- Alert level by selecting the normal, caution and/or warning level
- Altitude (in FL) by selecting a range
- Category of aircraft by selecting L for Light, M for Medium, and/or H for Heavy
- ETA by selecting a time frame
- Flight ID by entering text
- Flight Tendency by selecting climb, cruise, and/or descent
- Departure airport by entering text (from ICAO)
- Ground Speed (in fpm) by selecting a range
- Mode S address by entering text
- OFF by selecting a time frame
- Position Source (terrestrial or Aireon space-based ADS-B, ATC radar, ACARS position or ADS-C)
- Registration by entering text

- ▪ Squawk by entering text (to ICAO)
- ▪ Track (in deg) by selecting range
- ▪ User defined tags by selecting the aircraft tags defined in settings
- ▪ Vertical speed (in fpm) by selecting a range

When you filter the Flight list, N-Tracking displays a label identifying that filter on the top left corner of the map to help maintain situational awareness.

> 💬 When you build a search filter, you can combine multiple parameters of different types (for example, EGLL arrival airport, A320 aircraft, and LFPO origin airport).
>
> You cannot create a filter that contains more than one value for a particular parameter (e.g., two different types of aircraft).
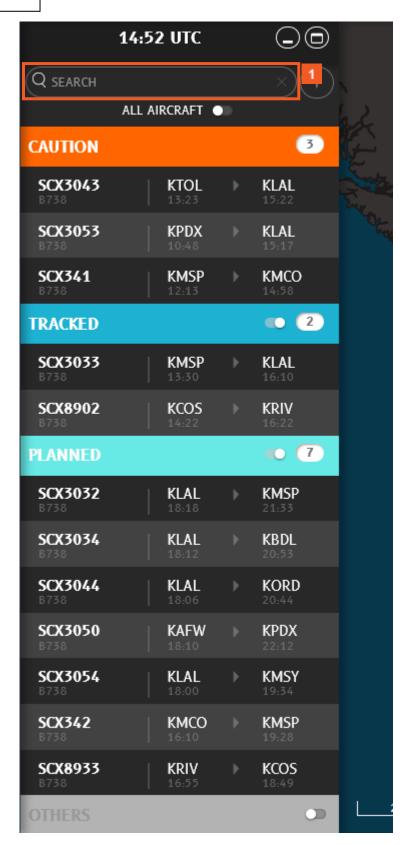
Use N-Tracking search and filter functionality to help narrow down the display of flights to show only those aircraft that are of real interest to you.

For example, the **OTHERS** section of the Flight list includes a count of aircraft not in your fleet. That can be a lot of aircraft. Search or filter based on flight characteristics or information to show only the relevant flights on the map.

Access both search and filtering functionality at the top of the Flight list.

By default the **Flights** slider for the **OTHERS** section is **off**.

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1 Click the **Search** input field.

For this example, search for Skywise aircraft. "SKW" is included in their flight ID.
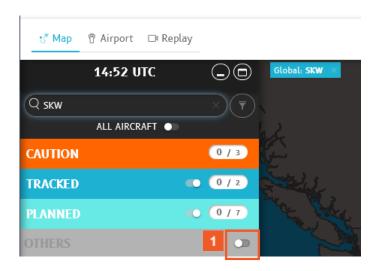
1 Enter **SKW** into the **Search** field.

N-Tracking adds a label to the map that identifies your search criteria and helps with situational awareness.

The label "Global" means that N-Tracking applies your search criteria to all sections of the Flight list (not just OTHERS).

Click the **Flights** slider to display the flights in the OTHERS category on the map.
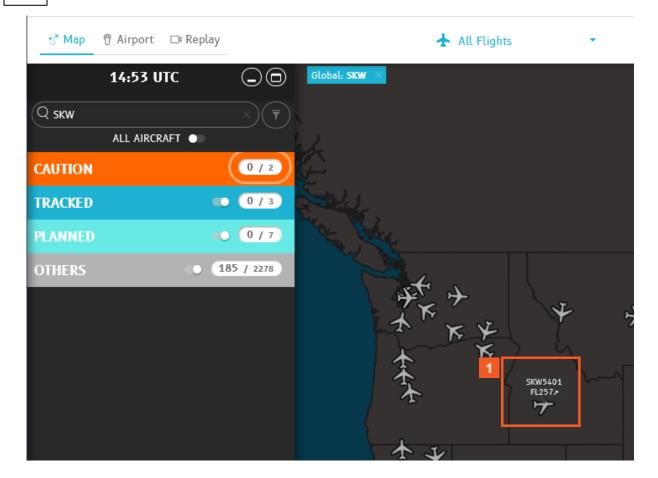
1 Click the **OTHERS Flights** slider.

As you hover your mouse over an aircraft of interest, a label displaying flight ID and flight number displays. (This label is customizable by each airline. Your N-Tracking administrator may have set up the label to display more data.)

Click the aircraft icon to view more information about the flight in the **Flight Details** pane.

1 Click **aircraft (FL257) icon**.
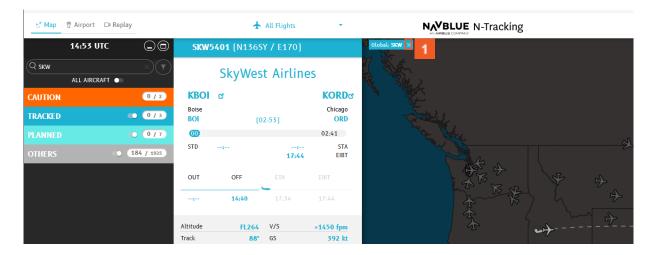
There are currently 185 Skywise flights in-flight. As shown in this example, N-Tracking does not list any details for those flights in the Flight list. The flights are not counted either, until you activate the **Flights** slider in the OTHERS header.

To learn more about those flights, you must display them on the map and then use their aircraft labels to view information such as flight ID.

After you review the flight details to find the information of interest, you can click anywhere on the map to close the pane.

To cancel your search, click **X** (Close).

1 Click the **X (Close)** button.

2 Click **anywhere on the map**.
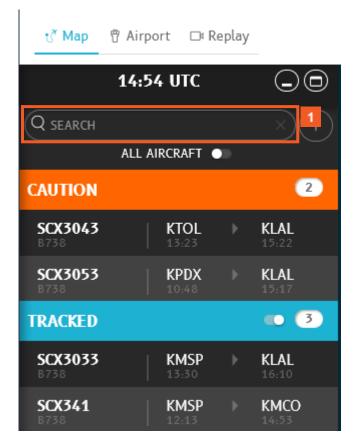
Disable the **Flights** slider again to remove the "OTHERS" flights from the map.
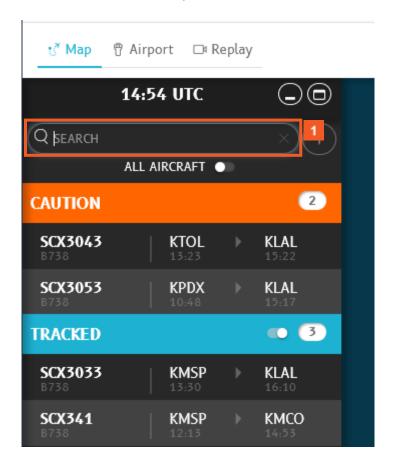
1 Click the **Flights** slider.

Try another search: Search for all flights flying in or out of the Minneapolis airport (**KMSP**).

1 Click the **Search** input field.
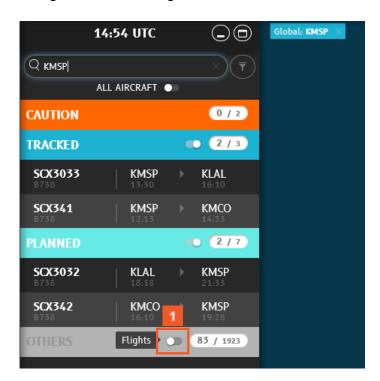
1 Enter **KMSP** into the **Search** field.

Your search results show that **2** of your tracked flights, **2** of your planned flights, and **83** "other" flights are flying in or out of this airport. Activate the **Flights** slider to see these flights.

If you need more detailed information on the level of congestion at KMSP, consider using surface tracking. For more details, consult the related topic.

1 Click the **Flights** slider.
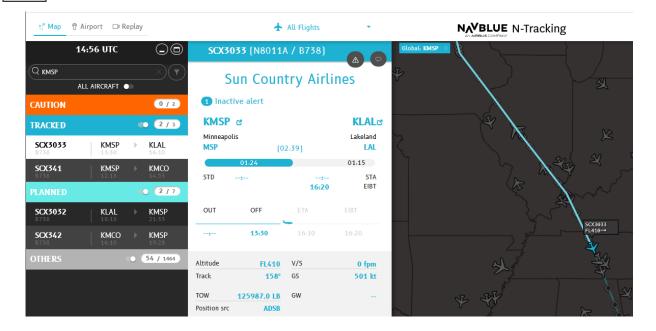
In this example, because SCX3033 is one of your tracked flights, you could also click its flight ID in the **Flight list**.

1 Click **aircraft (SCX3033) icon**.
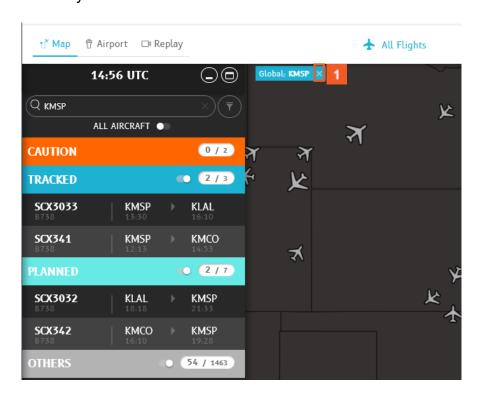
Click anywhere on the map to close the **Flight Details** pane.

1 Click **anywhere on the map**.

Cancel your search.

1 Click the **X (Close)** button.
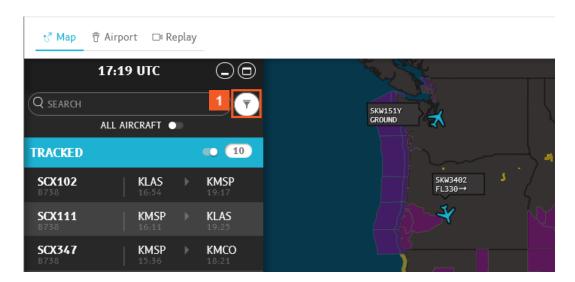
1 Click the **Flights** slider.

Take a moment to practice **filtering** the contents of the Flight list based on aircraft attributes.

1 Click the **Filter** button.
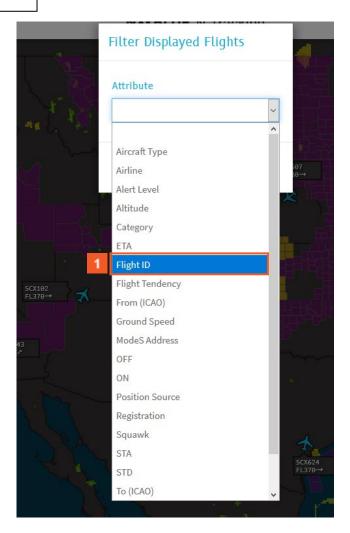
1 Click the **Attribute** dropdown button.

Be sure to explore the various ways you can filter the flights that display in the Flight list. The last two filters (not shown here) are **User tags** and **Vertical speed**.

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1 Click the **Flight ID** list item.

1 Click the **Value** input field.
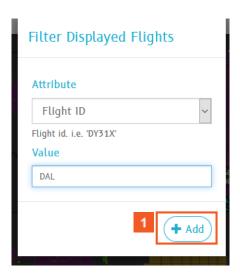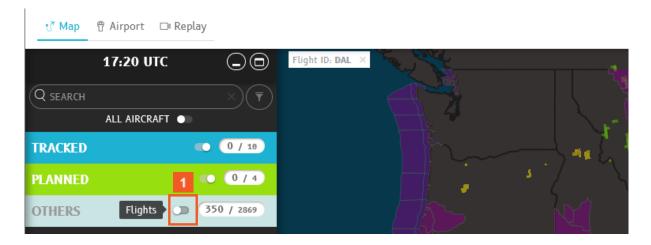
2 Enter **DAL** into the **Value** field.

Filter Displayed Flights

Attribute

Flight ID

Flight id. i.e. 'DY31X'

Value

DAL

1 **＋ Add**

1 Click the **Add** button.

350 of the 2,869 currently active flights have DAL in their flight ID.
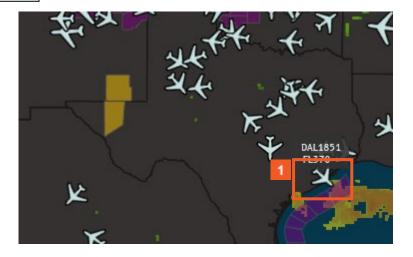
Optionally, enable the **Flights** slider to display them on the map.

Map   Airport   Replay

17:20 UTC

SEARCH

ALL AIRCRAFT

TRACKED   0 / 18

PLANNED   **1**   0 / 4

OTHERS   Flights   350 / 2869

Flight ID: DAL ✕

1 Click the **OTHERS Flights** slider.
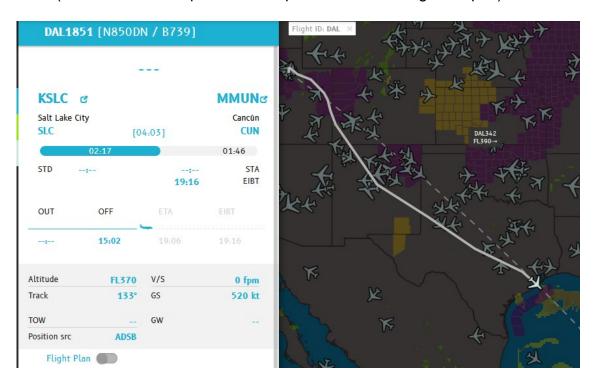
Optionally, for any of the flights depicted by icons (in this example, flight DAL1851), click the aircraft icon to display more information in the **Flight Details** pane.

1 Click **the DAL1851 aircraft icon**.

You can review the information in the **Flight Details** pane for flight DAL1851. When finished, you would click anywhere on the screen to close the pane and cancel the filter. (These last two steps are not required in this training example.)
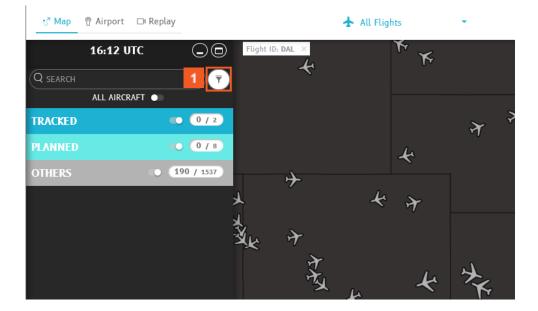
You can also add a filter to the results of a search or combine more than one filter to home in on the aircraft of interest to you.
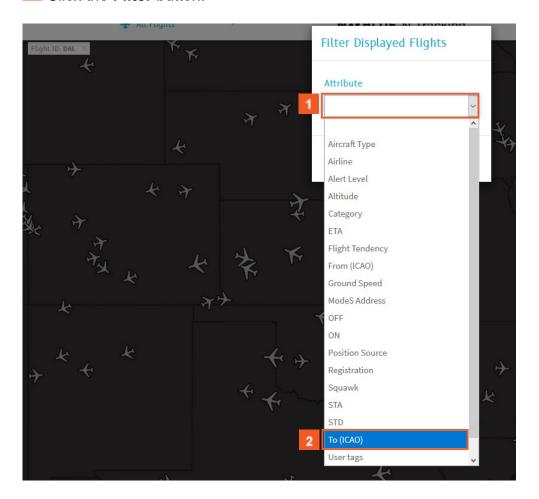
In this example, a filter to display only those flights with **DAL** in their flight ID is already active.

Add another filter to see how those flights are communicating their position.

1 Click the **Filter** button.
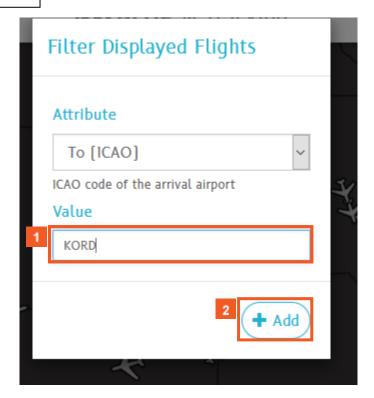
1 Click the **Attribute** dropdown button.

2 Click the **To (ICAO)** list item.
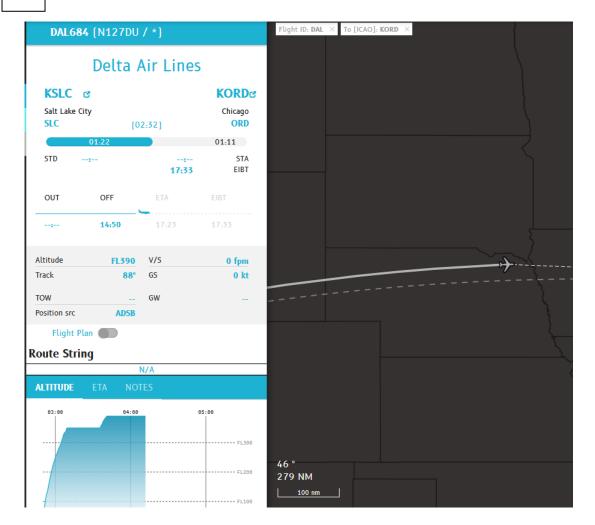
1 Click the **Value** input field.

2 Enter **KORD** into the **Value** field.

3 Click the **+ Add** button.
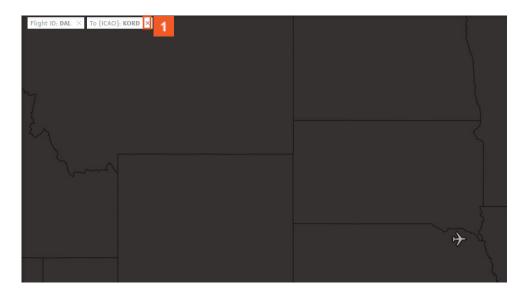
1 Click **the DAL684 aircraft icon**.
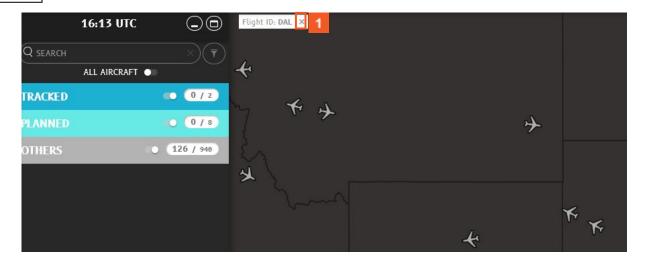
1 Click **anywhere on the map**.

Cancel both filters and deactivate the **Flights** slider to return your map to its original state.

1 Click the **Close** button.

1 Click the **Close** button.
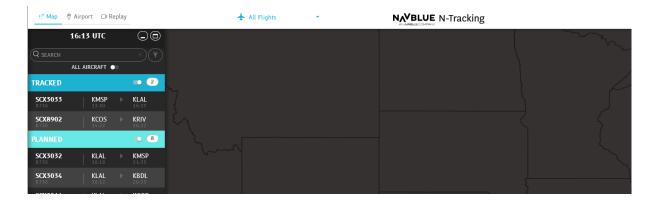
1 Click the **Flights** slider.

HINT

The two active tracked flights are momentarily outside of the map focus.

SUCCESS

Congratulations! You have searched for flights based on search text and you have filtered the displayed flights based on flight attributes.

You have also learned how to combine filters.

4.1.4   View automatic alerts and add manual alerts

4.1.4.1   Introduction

View automatic alerts and add manual alerts

In this topic, you learn how to view the details of automatically generated alerts. You also learn how automatic alerts differ from those you create yourself within N-Tracking.

We estimate that this will take 3 minutes to complete.

4.1.4.2   Detailed explanation

Automatic alerts

Your administrator can configure alerting rules. When conditions are fulfilled, a colorized notification is briefly displayed on your screen at the top, right-hand side. Alerts can be triggered for aircraft in your fleet only, not for other aircraft.

Your administrator can also configure if an alert rule is activated or not, as well as the parameters that cause an alert. For example, an alert rule could be configured that is activated when an aircraft is goes below flight level 150 during the cruise phase of a flight.

If you are consistently getting too many alerts and the trigger conditions for those alerts are wrong, please contact your N-Tracking administrator (not NAVBLUE) for support.

This is an example of an automatic alert.

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Responding to alerts

Alert notifications display on the map for five seconds only. Click on the notification content to display the **Flight Details** pane for the aircraft in alert. Clicking anywhere outside of the message closes the notification.

Although five seconds sounds like a very short time to respond to the notification, the aircraft also displays in the Flight List in either the WARNING or CAUTION sections, depending on the alert. The Flight Details pane is your primary tool for reviewing the "aircraft in alert" details.

Acknowledging an alert

To acknowledge an alert, click the checkmark icon.

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⚠ If an alert is not acknowledged, a notification displays every 30 minutes until the alert is acknowledged or closed.

You can review alert details in the **Flight Details** pane. When the alert condition is resolved, N-Tracking closes the alert automatically.

To review a closed alert, click **Inactive alert** on the **Flight Details** pane.

Manual alerts

In addition to alerts generated automatically based on system information, you can create a manual alert.
To create manual alerts, open the Flight Details pane of a flight and click the **Add a manual alert** icon.
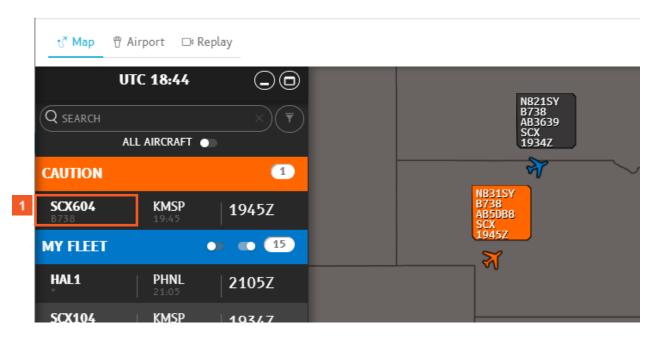
The manual alert icon

Registration N831SY, with arrival time 1945Z is displaying a caution alert.

Select the flight in the **Flight List** to investigate.

1 Click **SCX604**.

The caution alerts you to a discrepancy between the aircraft altitude and its planned altitude.
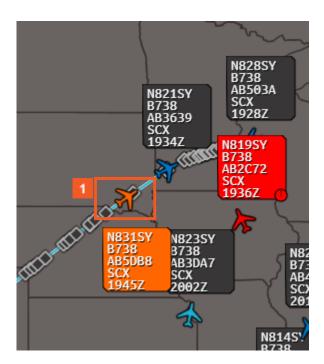
Optionally, activate the **Flight Plan** slider so that the flight plan continues to display on the map after you close the **Flight Details** pane.

1 Click the **Flight Plan** slider.

2 Click **anywhere on the map**.

> ⓘ   With a flight path shown on the map, you can zoom in to see the name of the waypoint to which the alert applies. (You may need to zoom to 20 NM to see this detail.)

The **Flight Details** pane closes and the flight plan of the selected flight continues to display.

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Let's look at the caution again. Click the plane icon for registration N831SY, arrival time 1945Z.

1 Click **the N831SY aircraft icon**.

Click the checkmark icon in the CAUTION message on the **Flight Details** pane to acknowledge and mark the message as "read".

1 Click **the checkmark icon**.

After an alert is acknowledged or closed, you can click **Inactive alert** to review it again.
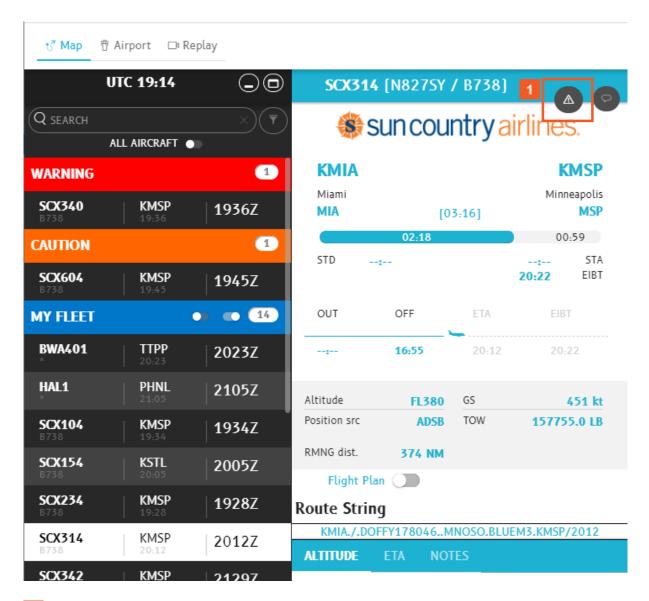
2 Click **anywhere on the map**.

For this next example, imagine that as a Dispatcher, you want to alert the flight crew about something related to registration N827SY, arrival time 2012Z.

1 Click **SCX314**.

1 Click **the Manual alert icon**.
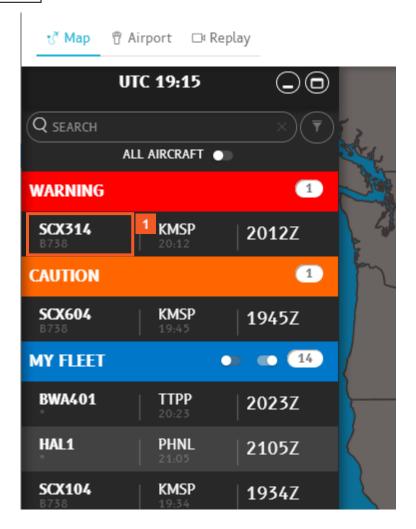
1 Click the **Level** dropdown button.

2 Click the **Warning** list item.

3 Click the **Message** input field.

> 💭 You have a maximum of 60 characters for the message.

4 Enter **warning from Dispatch** into the **Message** field.

5 Click the **Add** button.

6 Click **anywhere on the map**.

Let's look at that warning again.

1 Click **SCX314**.

In addition to using the checkmark to acknowledge the alert as "read", anyone can click the **X** to close a manual alert.

Automatic alerts can only be closed when the alert condition is resolved.

Like automatic alerts, manual alerts are visible to all N-Tracking users at your airline.

The user ID of the person who created the alert is saved with the message.

1 Click **anywhere on the map**.

4.1.5   Route analysis

4.1.5.1 Introduction

Route analysis

In this topic, you learn how to find information about different routes between a city pair so that you can compare them and choose the most efficient flight path.

We estimate that this will take 5 minutes to complete.
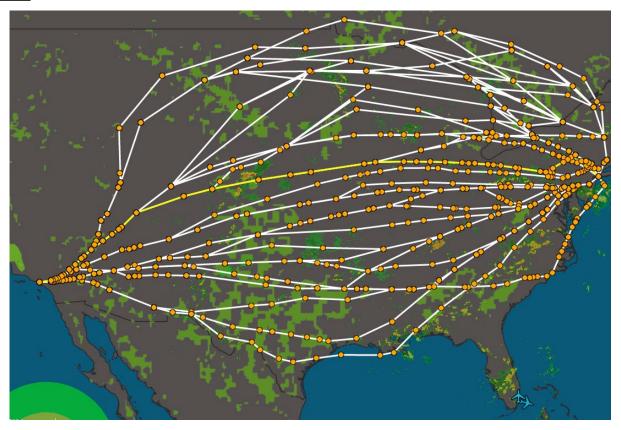
4.1.5.2 Detailed explanation
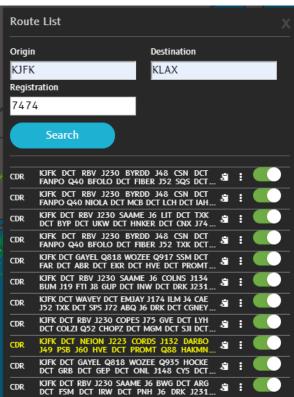
Route analysis

N-Tracking makes it possible for you to analyze city pair routes between two airports and compare fuel and flight time requirements to select the best possible route. With weather overlays enabled, you can choose the best route to avoid weather obstacles and choose the most effective flight path.

You can import flight paths from N-FP and contrast them with the CDR and PREF routes and choose whether to import a different flight path back into N-FP for further use.

With your map set at the appropriate zoom level, let's analyze route alternatives between JFK airport and LAX in the U.S..

1 Click the **Palette** button.
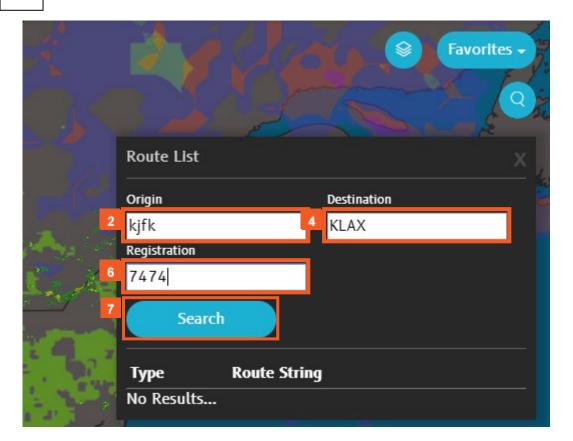
1 Click the **Route List** button.

1 Click the **Origin** input field.

2 Type **kjfk** into the active input field.

3 Click the **Destination** input field.

4 Type **KLAX** into the active input field.

5 Click the **Registration** input field.

6 Enter **7474**.

7 Click the **Search** button.

With the appropriate weather layers enabled, you will be able to "eye-ball" the best route overlaid on the map and the weather layers.

For more information on using the weather layers, consult the Weather topics.

To select a route to review, either
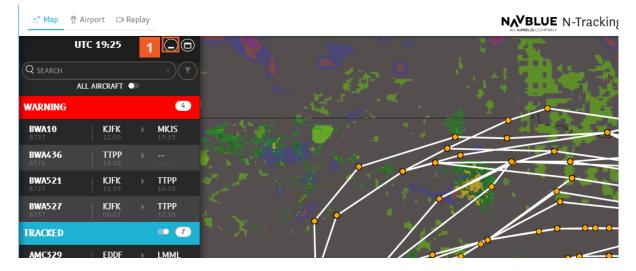
- click the route directly on the map or
- click the route string in the **Route List** to see which route on the map that string represents.

For this exercise, we'll click the route strings in the **Route List**.

> Minimizing the Flight List is an optional step that you may find useful to clear your screen.

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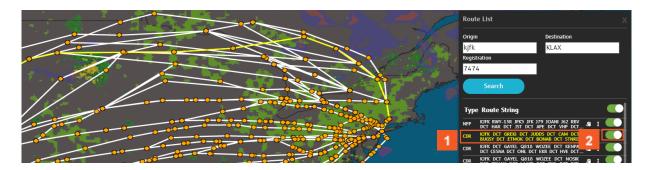
1 Click the ⊖ button to minimize the Flight List.

N-Tracking highlights the route you select both on the map and in the Route List.

When you click a route on the map, a related weather details table may also display for your consultation.

Let's find out which route this first listed CDR route string represents.

N-Tracking highlights the route on the map in yellow.

In your analysis, you would probably reject routes, that add flying time to the flight path.

Use the slider to hide such routes.

Repeat this step to clear any other immediately rejected routes.
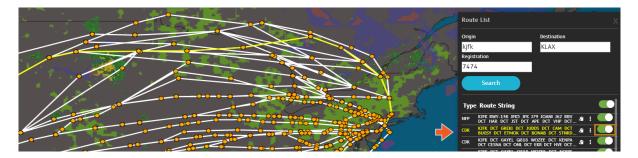
1 Click **CDR route string** in the Route List table.

Compare possible routes against the flight plan imported from N-FP.
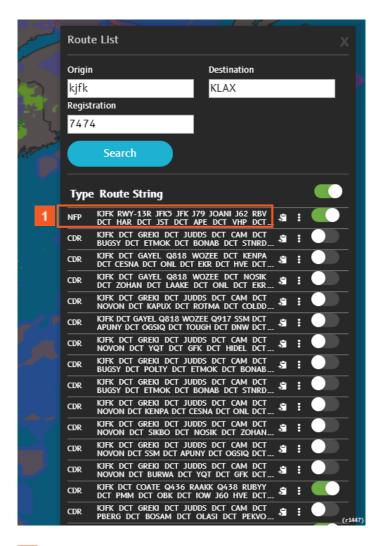
In this example, it makes sense to temporarily clear many of the less direct routes.

(For this exercise, this step is done for you.)
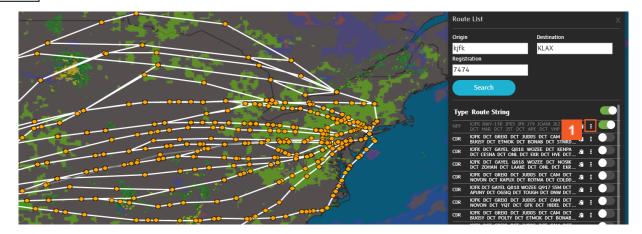
1 Click the **route string** slider.

1 Click the **NFP** route string in the Route List table.

The N-FP route is highlighted in gray.
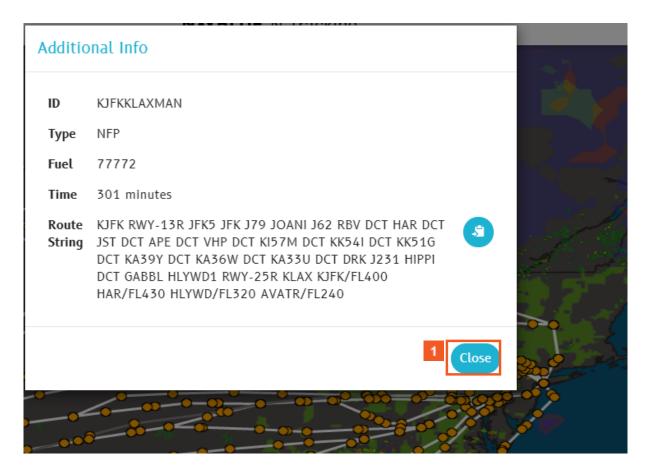
1 Click the ⋮ (Additional Info) button.

Examine these additional details to see the estimated fuel and time requirements for the proposed flight path imported from N-FP.

Compare this information with that for the other routes to weigh the costs and benefits of selecting a different route.

The display of fuel and time data depends on this route having been recently calculated in N-FP.
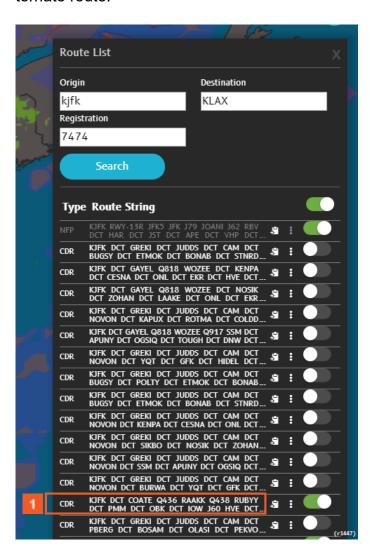
1 Click the **Close** button.

With the N-FP is route and its fuel and time requirements in mind, select the route that you believe is "next best" or "better" and compare its fuel and time requirements to help in your analysis.
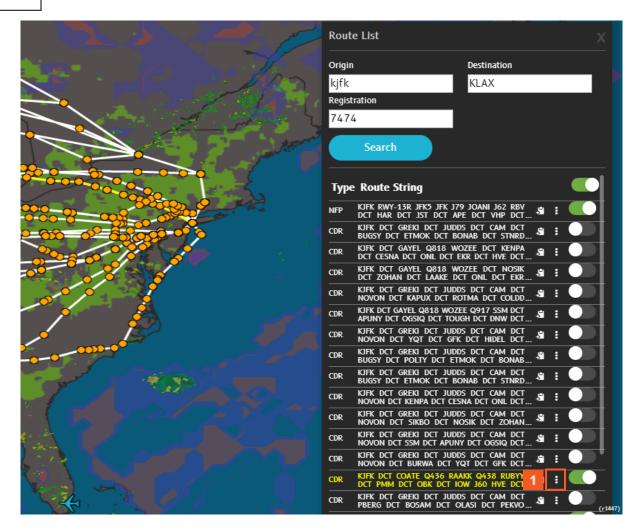
For this exercise, let's imagine that this CDR route is one that seems to be a good alternate route.

1 Click another listed route string to compare against the N-FP route.
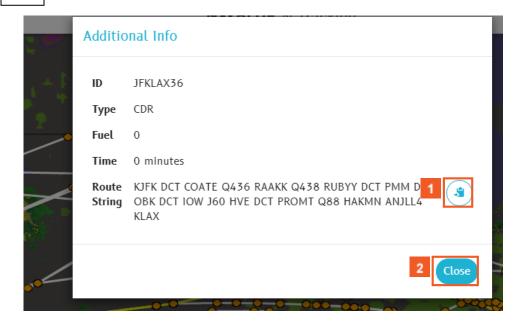
1 Click the [⋮] button for this route.

For the CDR and PREF routes listed in the **Route List**, you see fuel and time data only if you have recalculated that particular route in N-FP.
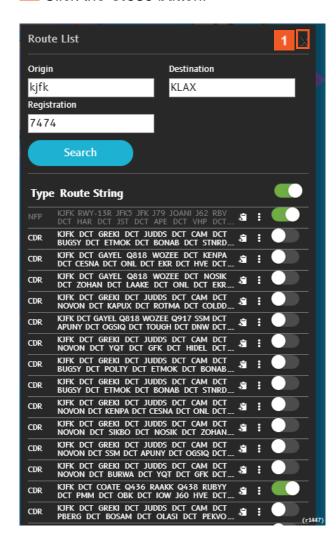
Imagine that this route **is** a better choice than the N-FP route that you reviewed. You can use the clipboard to copy and export this route to N-FP.

At that point, you calculate its requirements in N-FP and then export it back to N-Tracking for tracking purposes.

Additional Info

ID   JFKLAX36

Type   CDR

Fuel   0

Time   0 minutes

Route String   KJFK DCT COATE Q436 RAAKK Q438 RUBYY DCT PMM DCT OBK DCT IOW J60 HVE DCT PROMT Q88 HAKMN ANJLL4 KLAX

1

2 Close

1 Click the (Clipboard) button.

2 Click the **Close** button.
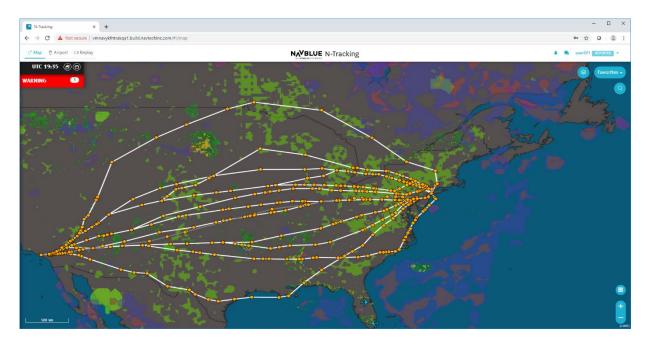
With your analysis and route selection complete, close the Route List.

1 Click the **Close** button.

Another way you can work with the listed routes is to click the slider to the right of **"Route String"** to hide all of the routes, then click the NFP route string slider to display just that route, and then proceed to re-activate other routes one at a time for display and analysis purposes.

The route pair used in this example, crossing the entire U.S., includes many routes.

Analyzing the routes between two closer airports, you may be able to set your zoom at a level that displays the codes of the included waypoints/navaids.

4.1.6   Reviewing flight desk assignments (for N-FP users only)

4.1.6.1 Introduction

Reviewing flight desk assignments (for N-FP users only)

In this topic, you learn how to adjust the display of flights on the map to show either only those flights assigned to a specific dispatch desk or to display all assigned flights.

We estimate that this will take 3 minutes to complete.

4.1.6.2 Detailed Explanation

Desk assignments

For airlines using N-Flight Planning (NFP), flights are assigned to dispatch desks in N-FP. You can view those desk assignments in N-Tracking. You can choose to view all flights or only those flights assigned to a specific desk.
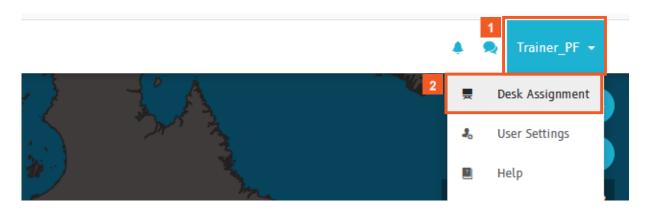
All NFP users have access to the Desk Assignment option in their login dropdown menu.

Review the next steps to learn how to work with flight desk assignments in N-Tracking.

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Users of airlines who have integrated N-FP desk assignment into N-Tracking can view assigned and unassigned flights using the **Desk Assignment** menu option.
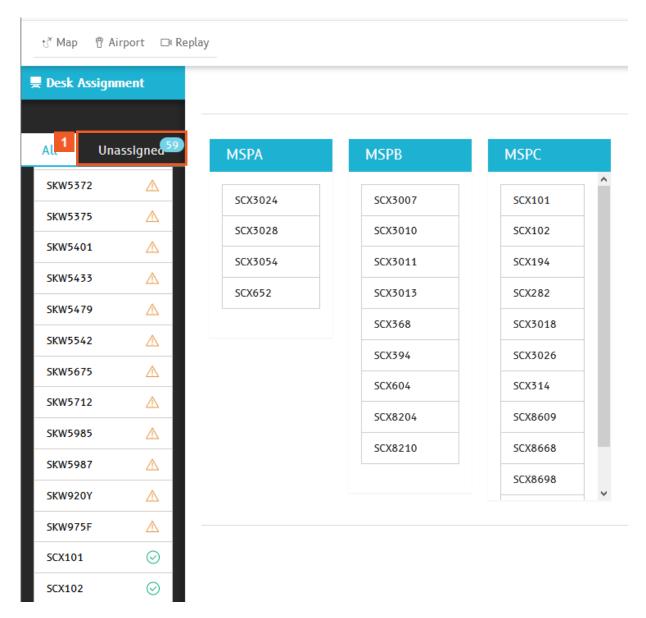
1 Click the **Username (Trainer_PF)** dropdown button.

2 Click the **Desk Assignment** menu item.

You can scroll through the flights listed on the **All** tab.
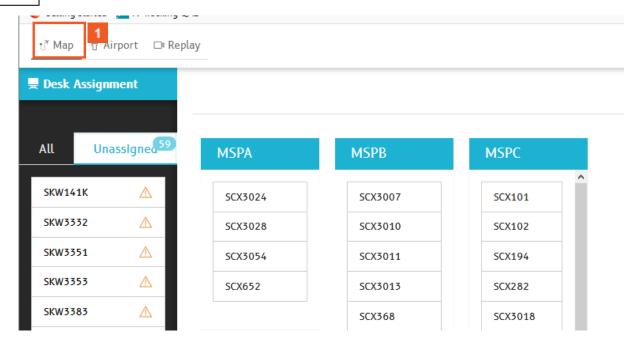
The icon ⚠ indicates an unassigned flight.

1 Click the **Unassigned** tab.

Next, review how to display only those flights assigned to desks on the **Map** screen.

1 Click the **Map** tab.
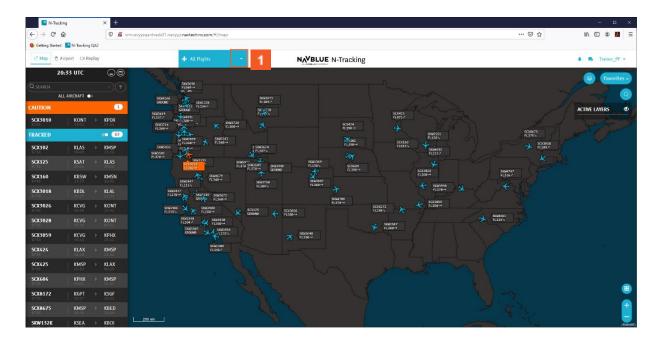
In this example, the map is currently showing all tracked flights, including one with a caution alert.
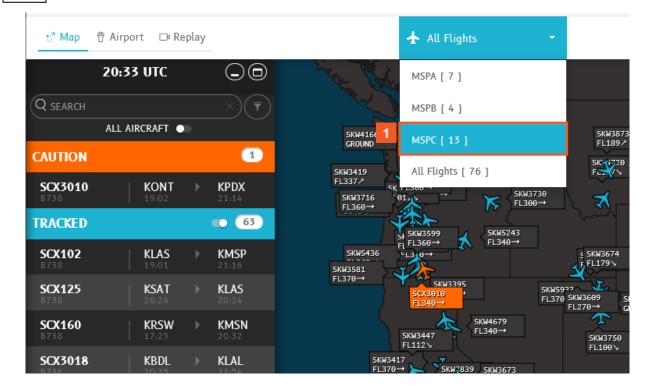
The Flight list also includes all flights.

1 Click the **Desk assignment** dropdown button.

Change the display to show only those flights (13) assigned to the MSPC desk.
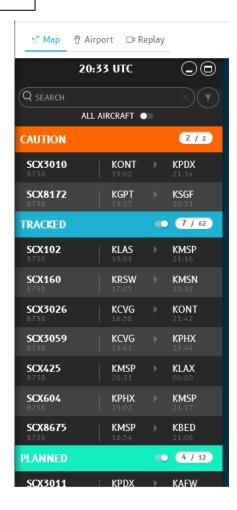
1 Click the **MSPC** list item.

The map shows only those flights assigned to the MSPC desk: 2 flights with caution alerts and 7 tracked flights.
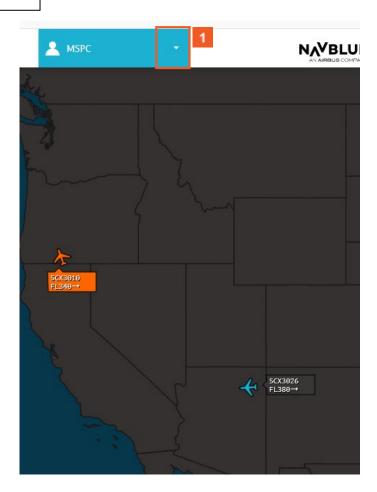
The Flight list also includes 4 planned flights assigned to this desk, for a total of 13 flights.
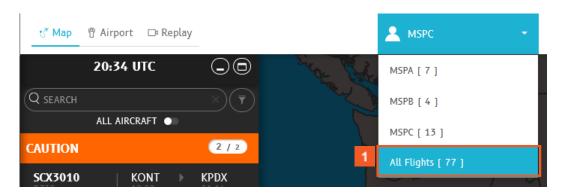
To change the display, make another selection from the **Desk** assignment dropdown menu.

1 Click the **Desk assignment** dropdown button.

1 Click the **All Flights** list item.
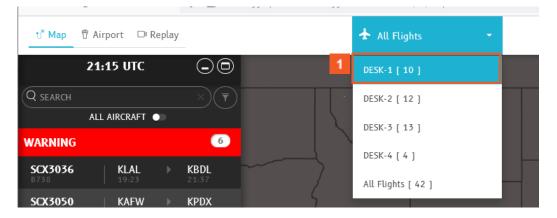
Let's look closer at how the **WARNING** and **CAUTION** banners in the Flight list work, based on desk assignment.

Currently, **all** flights display on the map.

1 Click the **All Flights** dropdown button.
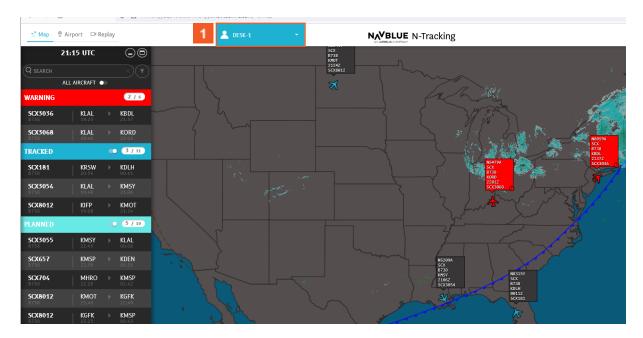
1 Click the **DESK-1** list item.

None of the flights assigned to Desk 1 have any caution alerts, so the CAUTION banner does not display on the Flight list.
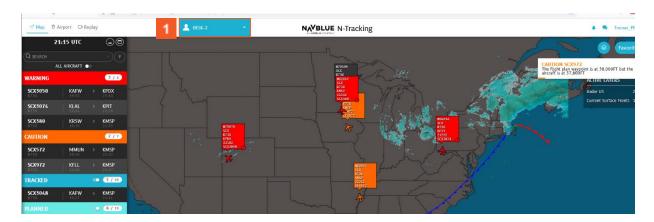
1 Click the **DESK-1** dropdown button.
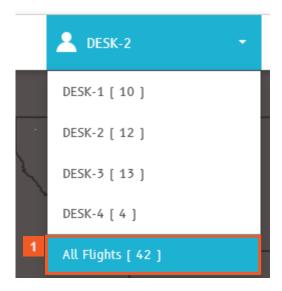
1 Click the **DESK-2** list item.

Desk 2 is managing flights that currently have active cautions and warnings. Consequently, both of those banners display on the Flight list.
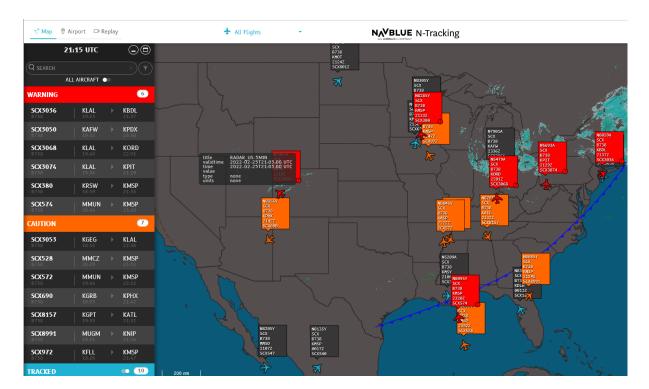
1 Click the **DESK-2** dropdown button.

1 Click the **All Flights** list item.

The Flight list displays all flights, those with applicable warnings and cautions in corresponding sections with **tracked** flights following later in the list.

SUCCESS

Congratulations! You have successfully changed the display of flights on the map according to dispatch desk assignments.

4.2 Working with planned flights

4.2.1 Working with planned flights

4.2.1.1 Introduction

Working with planned flights

In this topic, you learn how to work with the flights in the PLANNED section of the Flight list.

We estimate that this will take 2 minutes to complete.
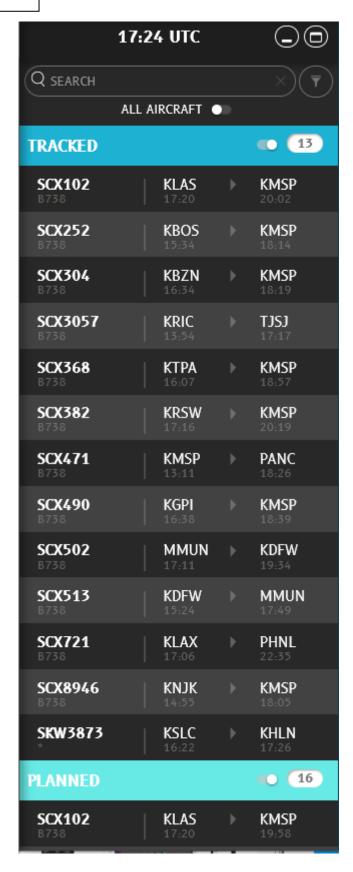
4.2.1.2 Detailed explanation

Using the PLANNED section of the Flight list

The PLANNED section of the Flight list contains flights for which flight plans have been computed in N-Flight Planning (for N-FP users).

You can view scheduled flights for an interval of -6 to +8 hours before/after their scheduled takeoff time. With weather layers active on the map, you can analyze and evaluate the planned route.
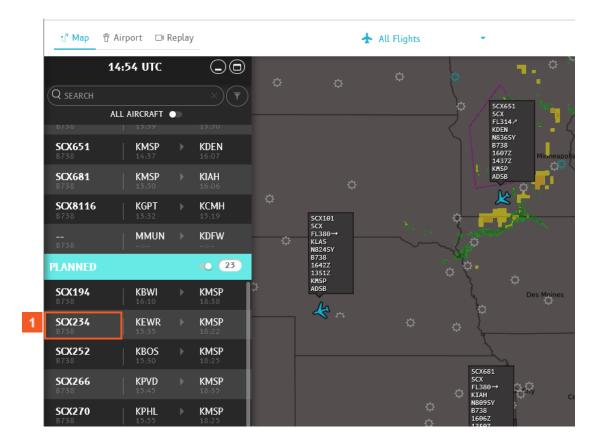
For clients using N-Flight Planning, flights appear in the PLANNED section as soon as a flight plan is computed and within a period of 6 hours before and up to 8 hours after their scheduled takeoff.

Dispatchers planning multi-leg flights where the same aircraft with the same call sign complete the consecutive legs (but with different city pairs) may see the same flight

number display in the PLANNED section twice.

Flights move from PLANNED to TRACKED once in flight.
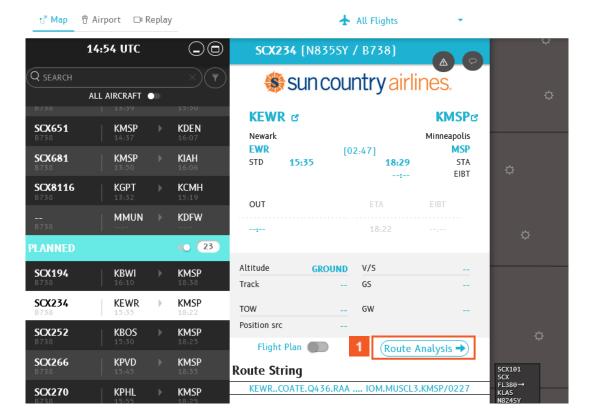
1 Click **SCX234**.

For planned flights, N-Tracking displays basic flight information on the Flight Details pane.

The **Flight Plan** slider is inactive for planned flights.

Flight plans do not continue to display on the map after you close the **Flight Details** pane.

Customers who subscribe to Route Analysis can launch their analysis directly from the **Flight Details** pane.

1 Click the **Route Analysis** button.

HINT
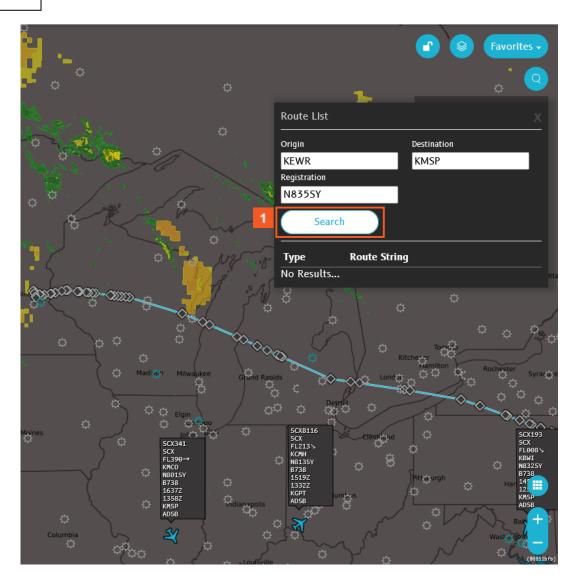
You can link the flight plan of a planned flight to an active (tracked) flight if needed. For more details, consult the topic, *Manually link the flight plan from a planned flight with an active flight*, which is the next topic in this section.

N-Tracking launches route analysis.

Launching route analysis from the **Flight Details** pane for planned flights provides you with more flexibility in completing your planning.

For more details on using this feature, consult the "Route analysis" topic.
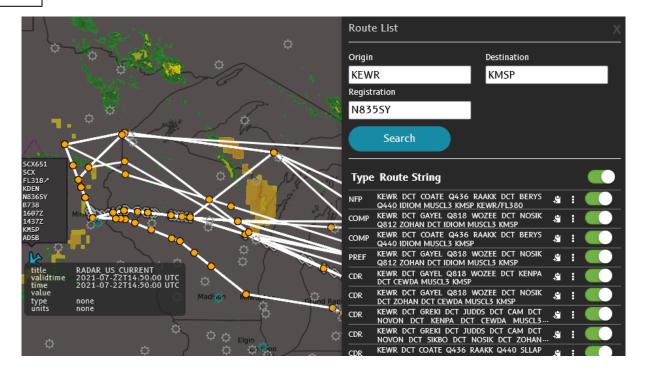
1 Click the **Search** button.
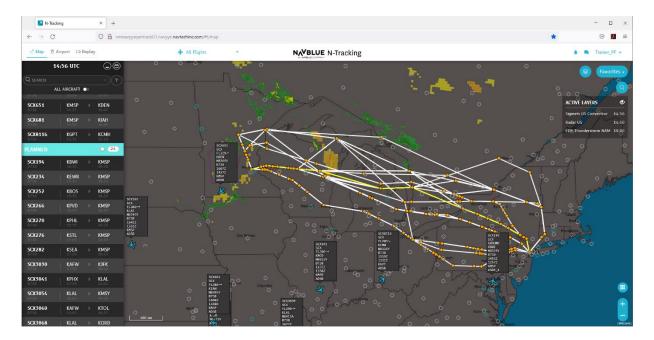
The search results display all possible route strings computed by N-Flight Planning (NFP) and imported into N-Tracking.

For the purposes of this topic, close the **Route List** pane.

1 Click the **Close (X)** button.

SUCCESS

Congratulations! You have worked with a planned flight, displaying its projected flight plan on the map, looking at route analysis data, and seeing any available information for this flight on its **Flight Details** pane.

4.2.2   Manually link the flight plan from a planned flight with an active flight

4.2.2.1 Introduction

Manually link the flight plan from a planned flight with an active flight

In this topic, you learn how to link a flight plan to a tracked flight when linking doesn't happen automatically.

We estimate that this will take 3 minutes to complete.

4.2.2.2 Detailed explanation

You can link a flight plan to a tracked flight when linking doesn't happen automatically (because some data didn't match).
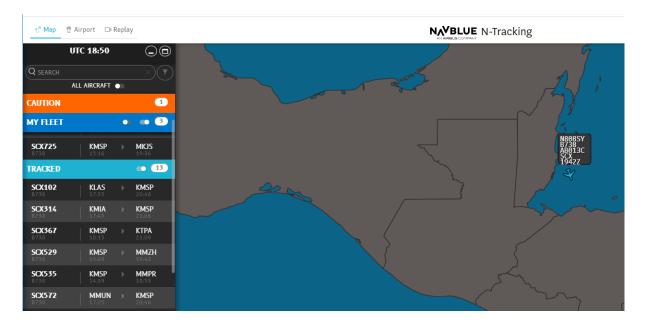
When you link a flight plan of a planned flight with an active flight, you correct missing or incorrect data in the tracked flight with the data from the other flight.

For N-FP users, more flights link automatically if your N-Tracking administrator enables the "Easy matching" option for flight plans and when the following is true:

- Registration matches
- Callsign/flight number matches
- Departure airport matches
- Time of departure is within current window
- Only one "matching" N-FP flight plan exists.

If there are more than one possible matching flight plans, you, the Dispatcher, can continue to use your judgment and manually link flight plans.

You must be logged in as a user with **reporter** rights to perform this procedure.
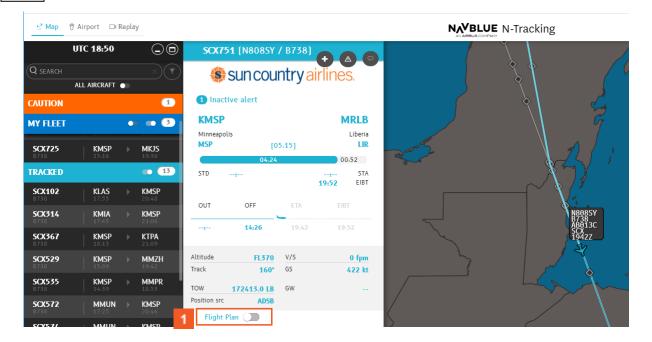
1 Click **SCX751**.

Imagine that in this scenario, tail **N808SY** (flight SCX **751**) is showing the wrong flight path or no flight path. To correct that, first investigate the data on the **Flight Details** pane for that flight.

Data that could be missing (although not in this case), include the call sign or the arrival or departure airport codes. On occasion, any of these data elements could be missing from the FlightAware feed.

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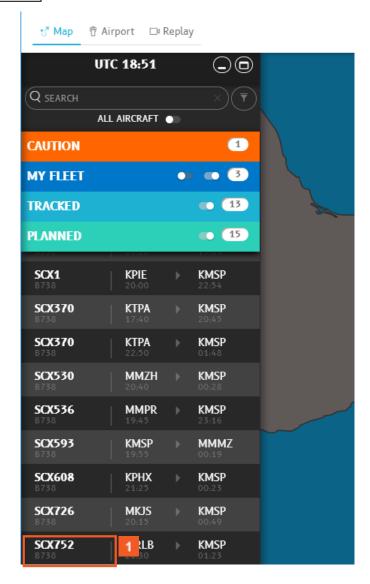
Set the **Flight Plan** slider so that the flight plan continues to display after you close the **Flight Details** pane.

1 Click the **Flight Plan** slider.

2 Click **anywhere on the map**.
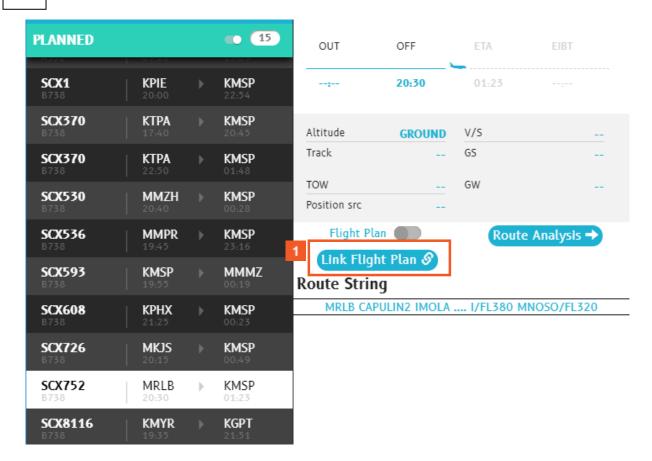
If you know there is a flight later in the schedule that uses the appropriate flight plan, click the flight in the **PLANNED** section of the **Flight list** that you know contains the correct flight plan.

1 Click **SCX752**.

1 Click the **Link Flight Plan** button.

Review the displayed message carefully to be sure that you want the displayed data to be linked to the active flight.

If this is not the replacement you want to make, click **Cancel**.

1 Click the **Link** button.
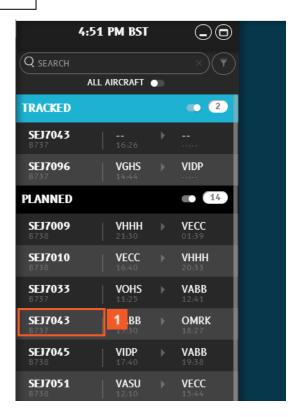
When you click **Link**, the missing or incorrect flight plan is replaced and the new flight plan will be used for any alert purposes.

Next, look at another example, where you might want to manually link a flight plan to an active flight.
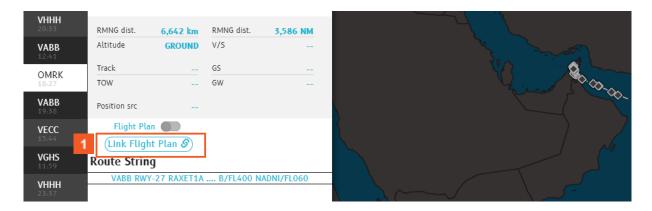
In this example, the same flight number displays in both the TRACKED and the PLANNED sections of the Flight list.

The active flight **SEJ7043** (in TRACKED) is missing its city pair (departure and arrival airport codes).

There is a later flight in the PLANNED section of the Flight list for a flight that flies the same route.

1 Click **SEJ7043**.

1 Click the **Link Flight Plan** button.
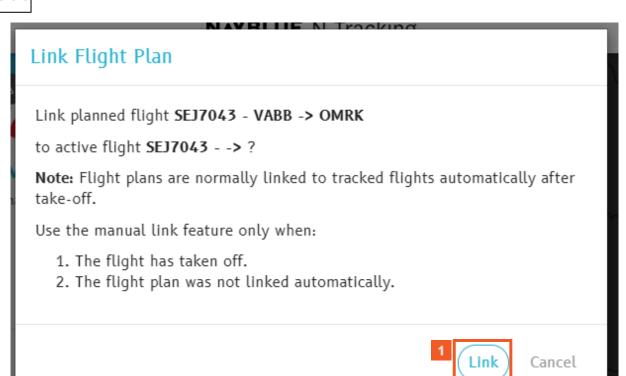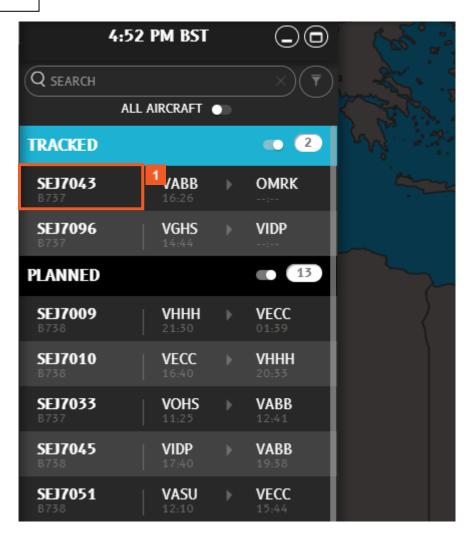
1 Click the **Link** button.

After a short delay, SEJ7043 disappears from the PLANNED section and the flight's city pair appears with the flight ID for **SEJ7043** in the **TRACKED** section of the **Flight list**.
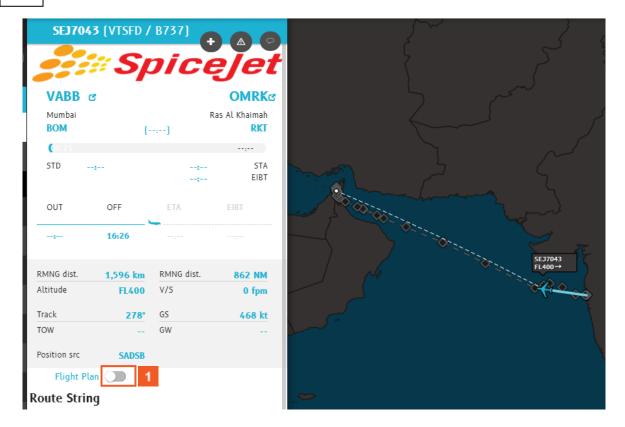
Click the flight ID (SEJ7043) again to view the **Flight Details** pane.

1 Click **SEJ7043**.

1 Click the **Flight Plan** slider.

Optionally, zoom in to a zoom level of 20 nm. At that zoom, you can read waypoint labels on the map.

1 Click the **Zoom in (+)** button.

At a zoom level of 20 nm, you can see the flight path and read the names of way-points on the flight plan.

Optionally, minimize the **Flight list**.

1 Click the **Minimize** button.

With the **Flight list** minimized, you can see more of the flight path on the map.

SUCCESS

Congratulations! You have successfully linked flight plans manually for two different scenarios.

4.2.3   Unlink an incorrectly linked flight plan

4.2.3.1 Introduction
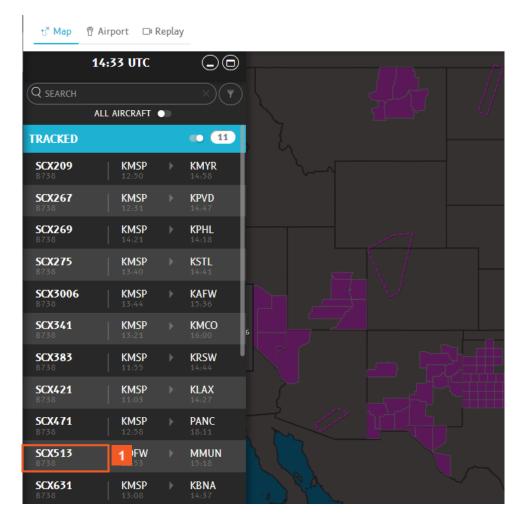
Unlink an incorrectly linked flight plan

In this topic, you learn how to unlink a flight plan that has been mistakenly manually linked to an active flight.

We estimate that this will take 1 minute to complete.

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4.2.3.2 Detailed explanation

1 Click the **SCX513** table cell.
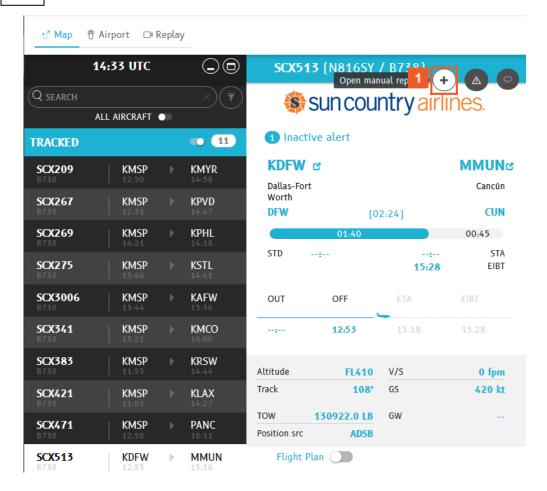
It is possible that when you manually link a flight plan to a flight that you make a mistake. In that case, follow the steps in this topic to correct the error.

For detailed instructions on how to manually link a planned flight with an active flight plan, consult the topic of the same name.
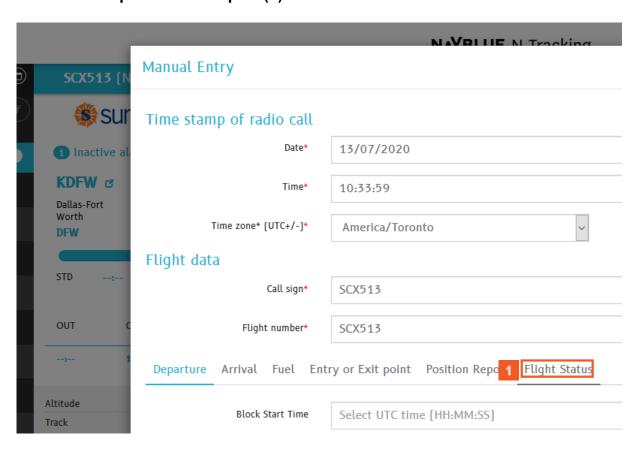
ATTENTION

You must be logged in as a user with **reporter rights** to perform this operation.
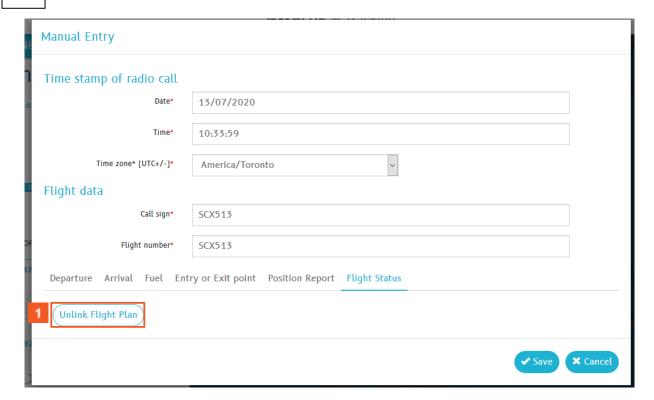
1 Click the **Open manual report (+)** button.
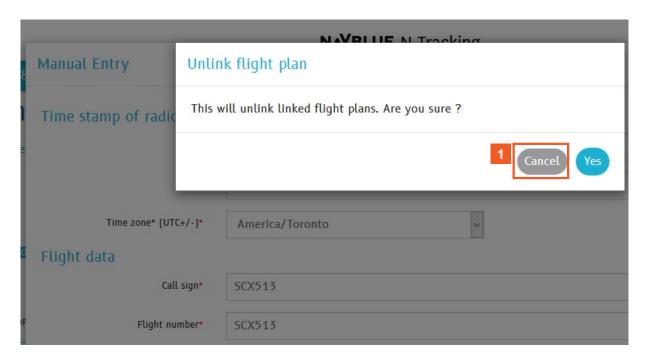
1 Click the **Flight Status** tab.

1 Click the **Unlink Flight Plan** button.

In your operational environment, you will click **Yes**.
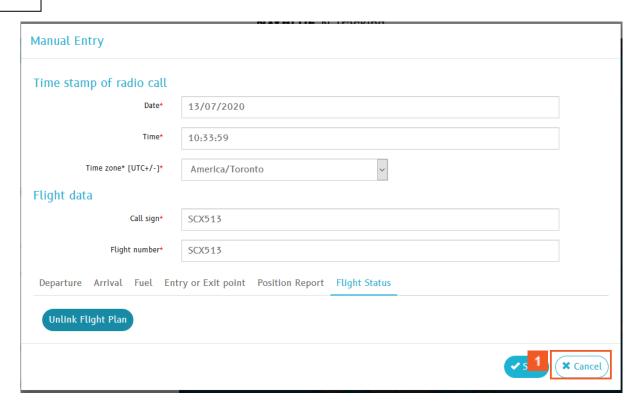
1 Click the **Cancel** button.

In this example, click **Cancel** again.

In your operational environment, click **Save**.

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1 Click the **Cancel** button.

You have successfully un-linked the incorrectly assigned flight plan.
You can now manually link the correct flight plan or update the flight data by entering a new manual report.

4.3   Measuring distances

4.3.1   Measure the distance between two points on the map

4.3.1.1 Introduction

Measure the distance between two points on the map
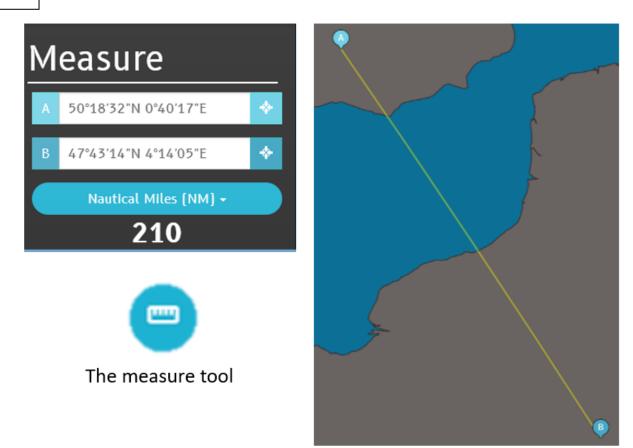
In this topic, you learn to measure distances between locations on the map, between different airports, and between aircraft and waypoints.

We estimate that this will take 6 minutes to complete.

4.3.1.2 Detailed explanation

Working with the measure tool

The measure tool

Occasionally in your flight-following activities, you want to measure the distance between two points. You can use the N-Tracking measure tool to measure the distance between:

- two airports

- an aircraft and a navigational point on the map (such as an airport icon from the Airports layer)

- two aircraft

- any two points you designate (by clicking) on the map.

In a first example, determine the distance between airports EGKK (Gatwick) in England and LFPV (Vélizy) in France.

Hover your mouse over the **Palette** button until the **measure** button displays.
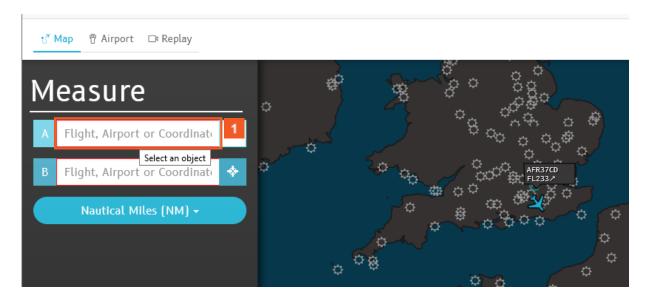
1 Click the **measure** button.

A is considered as the starting point and **B** as the ending point for a distance that you want to measure. You can select a flight number, ICAO/IATA airport code, or any

point on the map if you use the position button .
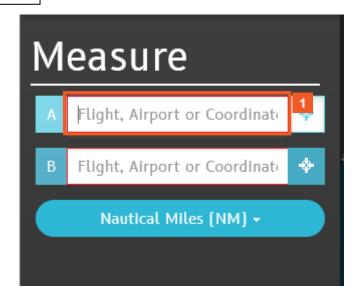
1 Click the **(A) Flight, Airport or Coordinates** input field.

HINT
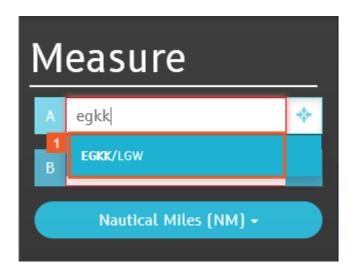
If your map scale uses kilometers, the distance is also reported in kilometers.

Start by entering an ICAO/IATA airport code. N-Tracking filters all possible airport codes based on your typed input.

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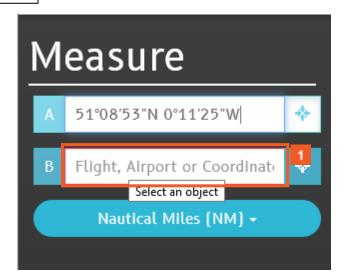
1 Enter **egkk** into the **Flight, Airport or Coordinates** field.
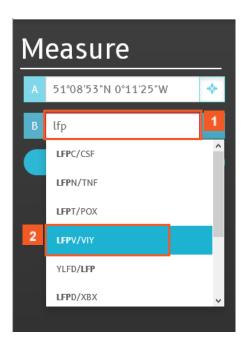
1 Click the **EGKK/LGW** list item.

The ICAO/IATA airport code changes to match the aerodrome reference point (ARP) of the airport that you chose.

1 Click the **(B) Flight, Airport or Coordinates** input field.
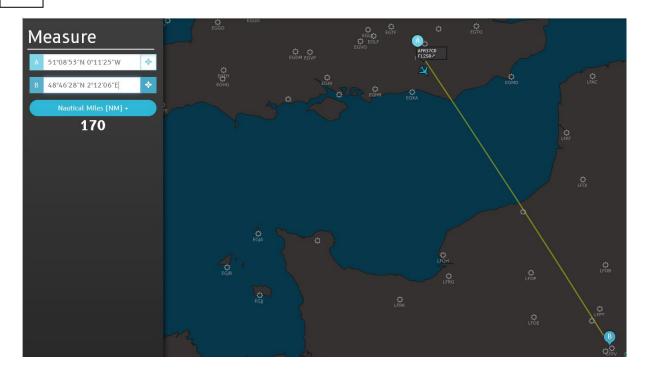
1 Enter **lfp** into the **(B) Flight, Airport or Coordinates** field.

2 Click the **LFPV/VIY** list item.

The distance between the two airports is 170 NM. You can also see the equivalent distance in kilometers by clicking the drop-down beside "NM".

Imagine that instead of planning for a landing at LFPV (Vélizy), you want to know the distance to airport LFPG (Paris, Charles de Gaulle) instead.

N-Tracking displays a straight line on the map between Gatwick and Vélizy airports.

Imagine a scenario where the aircraft, instead of landing at airport LFPV is diverted to LFPG instead. You can change the location of B away from the Vélizy airport to the Charles de Gaulle airport.

What is the changed distance?

1 Click the **(B) position** button.

HINT

You can measure the distance between any two points on the map by clicking the location on the map. For example, to measure the distance from EGKK and the southern coastline, click on the relevant location on the English coast as position B.

You can also enter a set of known coordinates in the Measure table: separate the degrees, minutes and seconds by spaces, and use a comma to separate the two directions; for example to manually enter the first coordinates, enter 51 08 53 N,0 11 25

![NAVBLUE ACADEMY logo - AN AIRBUS COMPANY]

W.
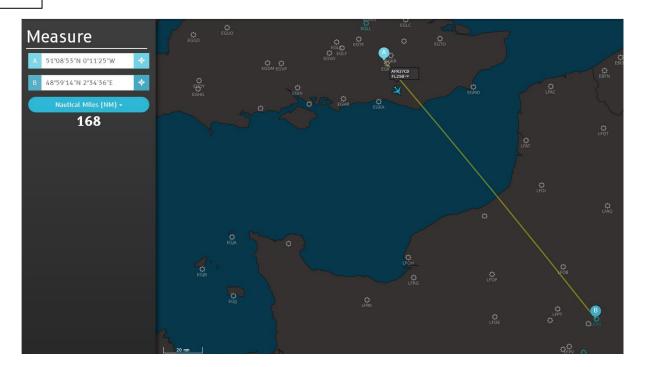
Regardless of how you enter the coordinates, only the DMS format is used for display.

1 Click **the LFPG airport icon**.

The distance changes by 2 NM.
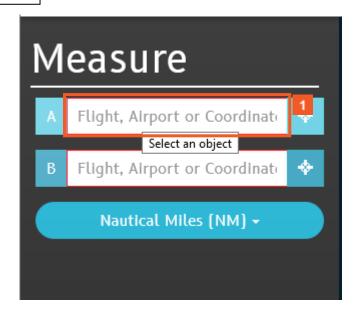
Begin the next example with the measure tool closed again.

For this example, measure the distance between two flights (AFR37CD and AFR7709).

1 Click the **measure** button.

1 Click the **(A) Flight, Airport or Coordinates** input field.
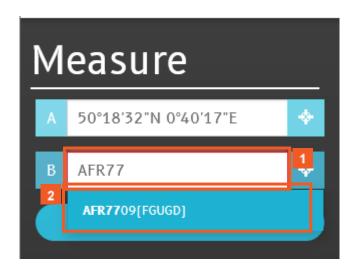
1 Enter **AFR37** into the **Flight, Airport or Coordinates** field.

2 Click the **AFR37CD** list item.

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1 Click the **(B) Flight, Airport or Coordinates** input field.
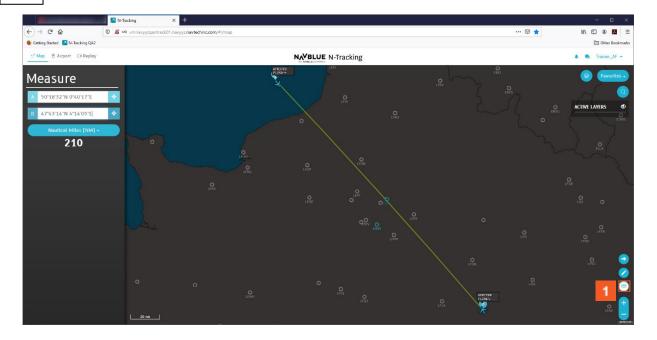
1 Enter **AFR77** into the **(B) Flight, Airport or Coordinates** field.

2 Click the **AFR7709** list item.

Currently, the distance between the two aircraft is 210 NM.
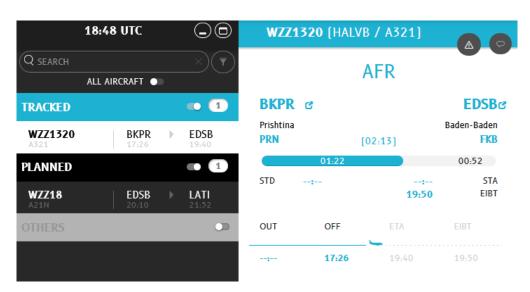
HINT

When points A and B are two different flights, be aware that results in the **Measure** pane do not automatically update.

If you want to monitor this distance over the course of several minutes, or the course of the flights, you must refresh the changed locations of the aircraft (click the position button and then click the related aircraft icon again) to display the changed distance between them.

Click the measure button to disable the tool.
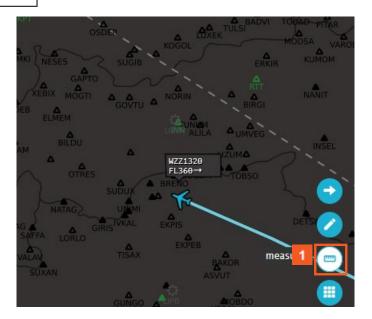
1 Click the **measure** button.

Next, use the measure tool to determine the flying distance between an aircraft and its original destination airport compared to an alternate destination.

For this example, begin with the flight selected in the Flight list. Measure the change in distance for flight WZZ1320, currently flying between Prishtina and Baden-Baden.

1 Click the **measure** button.

HINT

Type hint to help learners. (12pt)
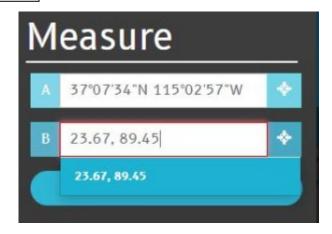
1 Click the **(A) position** button.

HINT

If you have a known set of coordinates, you can also enter them directly into the appropriate position field, using DMS format. In this example, the entry for position field (**B**), shows how to enter the pair of coordinates (separated by a comma).
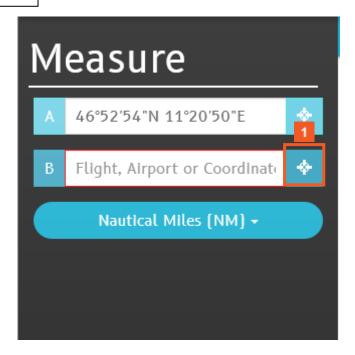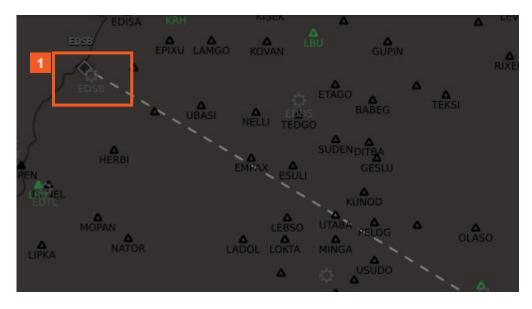
1 Click **the WZZ1320 aircraft icon**.

Field **A** displays the current coordinates of flight WZZ1320.

1 Click the **(B) position** button.
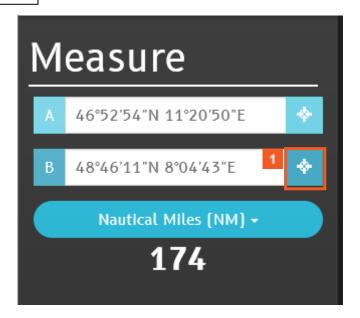
1 Click **the EDSB airport icon**.

The distance between the aircraft and the waypoint (and airport) is 174 NM.

If the aircraft needed to land at the **LFSX** airport instead, what would be the flying distance?

Click the **B** position button a second time to update its position.

1 Click the **(B) position** button.
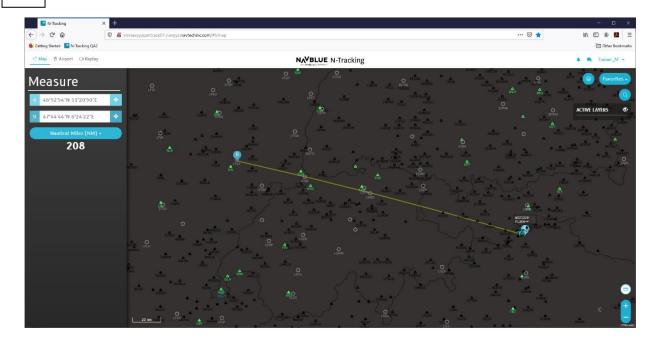
1 Click **the LFSX airport icon**.

N-Tracking displays the coordinates for the new destination.

The revised flying distance is 208 NM.

SUCCESS

Congratulations! You have successfully measured distances on the map, measuring the distances between flights, between a position indicated by coordinates, and between airports.

4.3.2   Using the distance and bearing tool

4.3.2.1 Introduction

Using the distance and bearing tool

In this topic, you learn how to find the distance and bearing between an aircraft position and other "objects" displayed on the map, such as weather masses or the official flight plan.
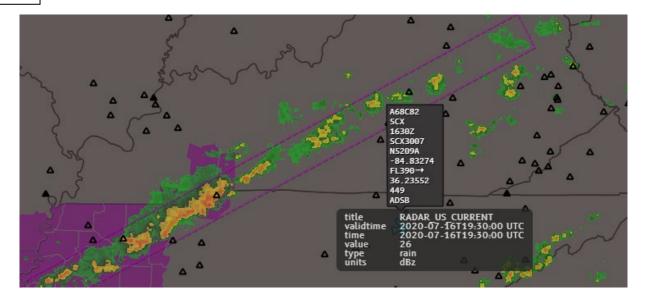
We estimate that this will take 2 minutes to complete.

4.3.2.2 Detailed explanation

In this example, you learn how to use the distance and bearing tool to measure the distance between an aircraft and a weather mass. You can also use the tool to measure distance to an object, such as a waypoint or navaid.
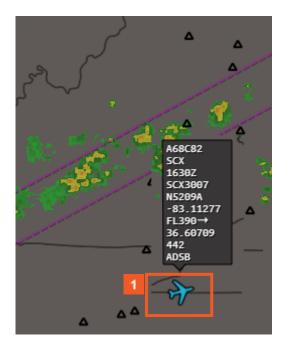
In this scenario, the **US Convective** weather layer shows a band of weather signaled by a SIGMET and outlined in purple.

HINT

When you hover your mouse over a part of the radar image, N-Tracking displays more details about the weather system.
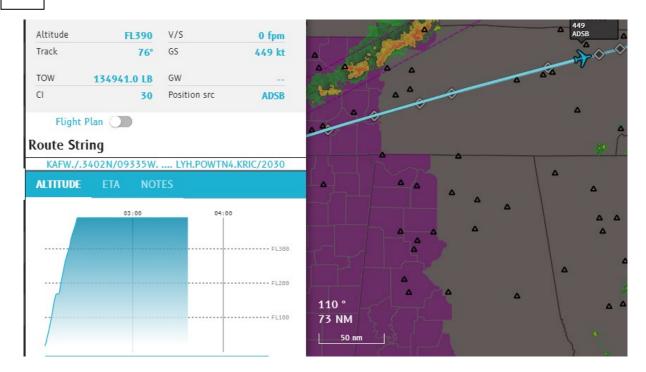
1 Click **aircraft icon (SCX3007)**.

In your operational environment, hovering your mouse over the radar image of the smaller weather mass to the southwest. causes more details to display on-screen.

Review the information provided by the distance and bearing tool near the map scale line in the left corner.
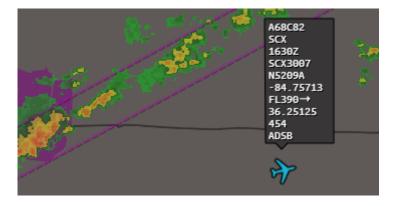
The distance and bearing tool displays only when the **Flight Details** pane is open.
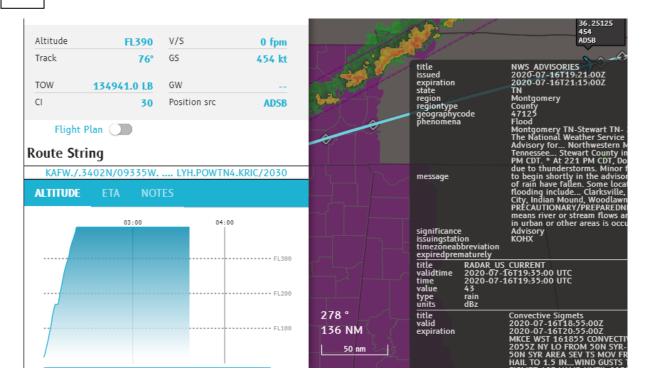
The distance and bearing tool, above the map scale, indicates the aircraft's position relative to that weather mass.

Next, hover your mouse over the orange/yellow of the northern weather system to identify the location or "object" whose distance from the flight you want to measure.
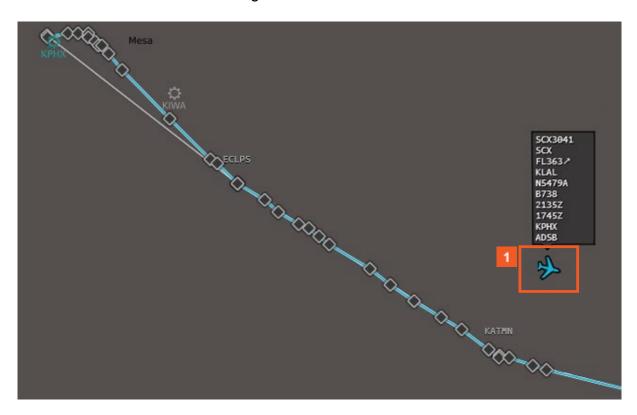
N-Tracking shows the distance and bearing of that weather mass from the aircraft.

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Look at another example: Flight **SCX3041** is flying from airport **KPHX** to airport **KLAL**.

Measure the distance and bearing of the aircraft from the OFP.
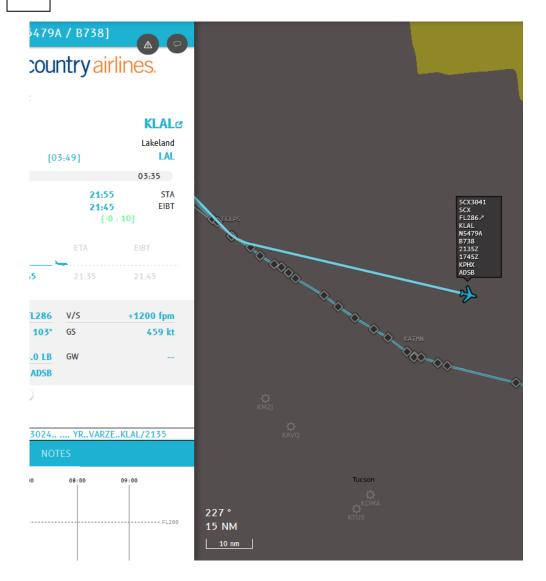
1 Click **SCX3041 aircraft icon**.

HINT

For this example, the mouse hovers over the waypoint **KATMN** on the flight plan.

At this point, N-Tracking calculates that the flight is 15 NM at a bearing of 227 degrees off the official flight plan.

4.4   Replay, download or save flight recordings

4.4.1   Replay flights

4.4.1.1   Introduction

Replay flights

In this topic, you learn how to download, save, and replay a recording of a completed flight.
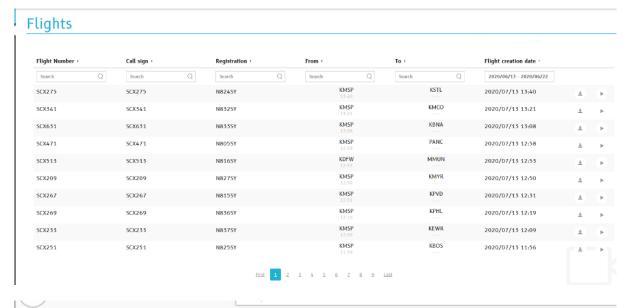
We estimate that this will take 5 minutes to complete.
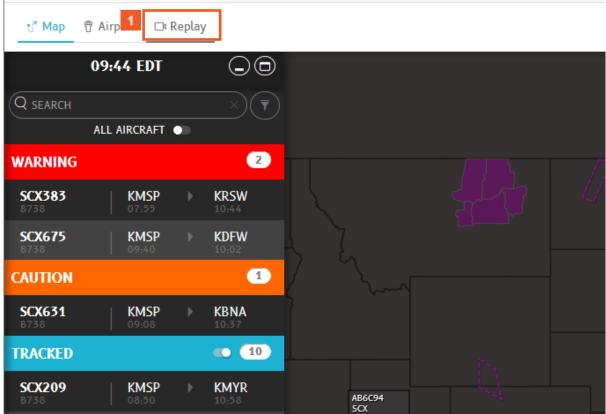
4.4.1.2   Detailed explanation

Replay Overview

Use N-Tracking's replay functionality to download and/or replay a completed flight. Saving the flight locally provides you with access to the event log.

Flights

Flight Number	Call sign	Registration	From	To	Flight creation date
Search	Search	Search	Search	Search	2020/06/13 – 2020/06/22
SCX275	SCX275	N824SY	KMSP 13:40	KSTL	2020/07/13 13:40
SCX341	SCX341	N832SY	KMSP 13:21	KMCO	2020/07/13 13:21
SCX631	SCX631	N833SY	KMSP 13:08	KBNA	2020/07/13 13:08
SCX471	SCX471	N805SY	KMSP 12:58	PANC	2020/07/13 12:58
SCX513	SCX513	N816SY	KDFW 12:53	MMUN	2020/07/13 12:53
SCX209	SCX209	N827SY	KMSP 12:50	KMYR	2020/07/13 12:50
SCX267	SCX267	N815SY	KMSP 12:31	KPVD	2020/07/13 12:31
SCX269	SCX269	N836SY	KMSP 12:19	KPHL	2020/07/13 12:19
SCX233	SCX233	N837SY	KMSP 12:09	KEWR	2020/07/13 12:09
SCX251	SCX251	N825SY	KMSP 11:56	KBOS	2020/07/13 11:56

First **1** 2 3 4 5 6 7 8 9 Last

1 Click the **Replay** tab.

To learn how to replay a flight recording and view its event log within N-Tracking, imagine that flight SCX251 is the flight you want to investigate.

In this example, the flight you're interested is visible in the list. That won't always be the case, so search for it instead (for this example, by flight number).
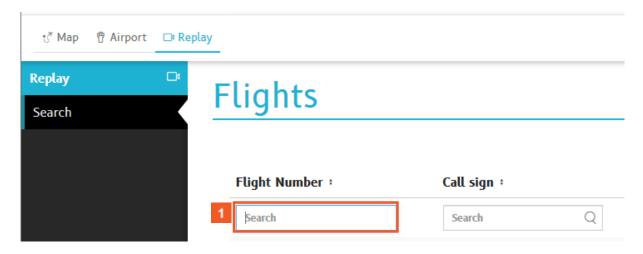
Use the search fields on the **Flights** page to search for a flight by a variety of characteristics, such as:

- Flight number
- Call sign
- Aircraft registration
- From/To with OFF and ON time
- Date of flight creation

N-Tracking retains flight information for 6 months.

1 Click the **Search** input field.
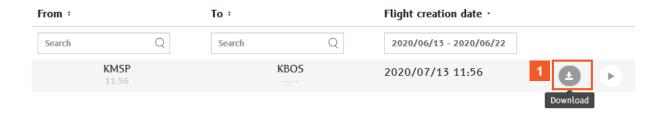
To find the replay of a flight on a particular date, using the **Flight creation date** filter is your best strategy.

1 Enter **scx251** into the **Flight Number Search** field.

You have access to several pages of stored flights.
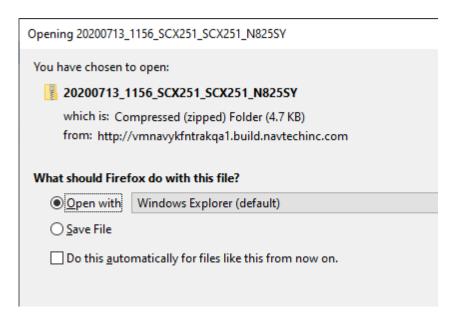
1 Click the **Download** button.

The steps to download a file vary by browser. This example uses Mozilla Firefox, but we recommend that you use Chrome.

In Chrome, N-Tracking generates a zip file that automatically downloads to your **Downloads** directory.
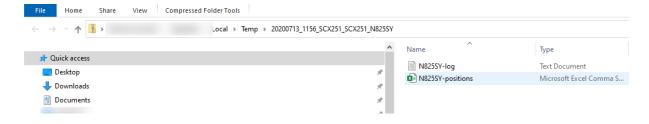
In this example, you have the option of saving the file (to a default directory) or opening the file. Go ahead and open the file.

1 Click the **OK** button.

Flight information is saved in a .csv file.
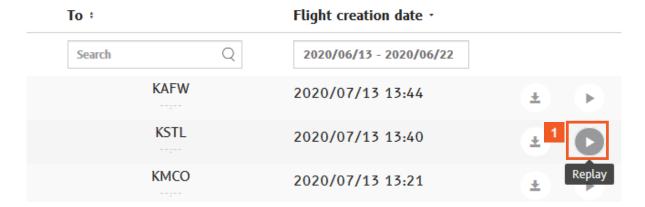
You can use MS Excel to review positions data and any cautions/warnings conditions that were created and cleared during the flight and recorded in the flight log.

For this example, return to N-Tracking and review the information presented when you choose to replay a flight.

Use the **Replay** button to play back an animated script of the flight.

1 Click the **Replay** button.
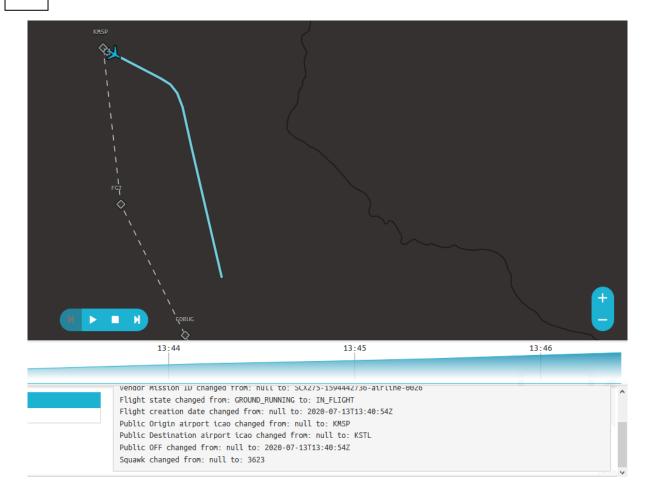
Scroll down as needed to view more of the text in the events log pane.

1 Click the **vertical** scroll bar.

You can use the player controls embedded in the **Replay** function to play, stop, and re-start the recording.

In the next image, you learn all the different parts of the **Replay** page (a different flight, AF934) is used for the example).

```
Vendor Mission ID changed from: null to: SCX275-1594442736-airline-0026
Flight state changed from: GROUND_RUNNING to: IN_FLIGHT
Flight creation date changed from: null to: 2020-07-13T13:40:54Z
Public Origin airport icao changed from: null to: KMSP
Public Destination airport icao changed from: null to: KSTL
Public OFF changed from: null to: 2020-07-13T13:40:54Z
Squawk changed from: null to: 3623
```

You can use the zoom controls to adjust this map image.
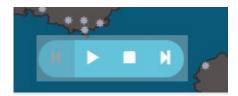
The header summarizes flight information.
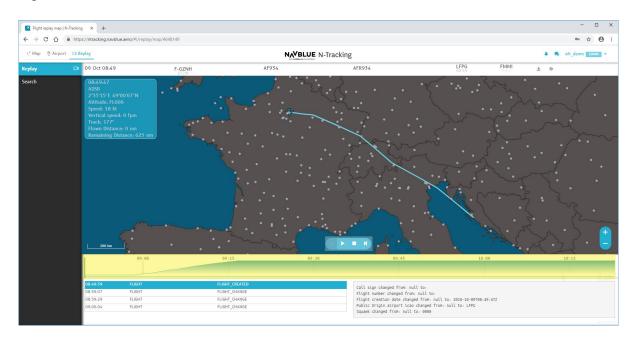
Position data is available for consultation.

Replay has its own video controllers.

The flight path displays on the map. Use the on-screen video controls to replay the flight.

The graph below the map indicates the flight level trajectory.

You can click along the time line to review different flight stages.

You can review logged events on the log panel.

The changes in altitude depicted by the plane icon and the events log are synchronized.

You can click on the depicted flight path, on the altitude graph, or on a line in the event log table to change the focus to the selected position and context.

5 Airport

5.1 Using the information on the Airport tab

5.1.1 Surface tracking

5.1.1.1 Introduction

Surface tracking

In this topic, you learn how to identify aircraft currently on the ground at a selected airport to assess potential congestion and ground delays.

We estimate that this will take 5 minutes to complete.

Surface tracking and the airport surface map

Surface tracking is an optional feature and may not be deployed by all users.

Use N-Tracking surface tracking to monitor the level of congestion at most airports or to verify if a particular flight is at its arrival gate.

Colors you assign to your tracked, and "other" aircraft help you visualize which airlines are using an airport at any given time. Pre-departure positions received on the ground at the departure airport are seamlessly fused with the enroute positions. As a result, the flight position trail includes "gate-to-gate" positions, including pre-departure (taxi and take-off), along with landing and taxi-in.

Flights remain on the surface map for 15 minutes after their last position report and display tail registration numbers. This makes it easier for Ground Control/Dispatch to identify which gate the plane is assigned and to analyze the movement of planes on runways and around the gates.

In this topic, you learn how to open an airport map in three different ways: First, from the **Flight Details** pane for a specific flight. Secondly, from the **Airport** tab (for a specific airport), and finally by zooming in to 2NM or lower on the main map.

You also learn how to view city pair (departure and arrival airport) and other flight information for the aircraft depicted on the airport map.

NAVBLUE ACADEMY
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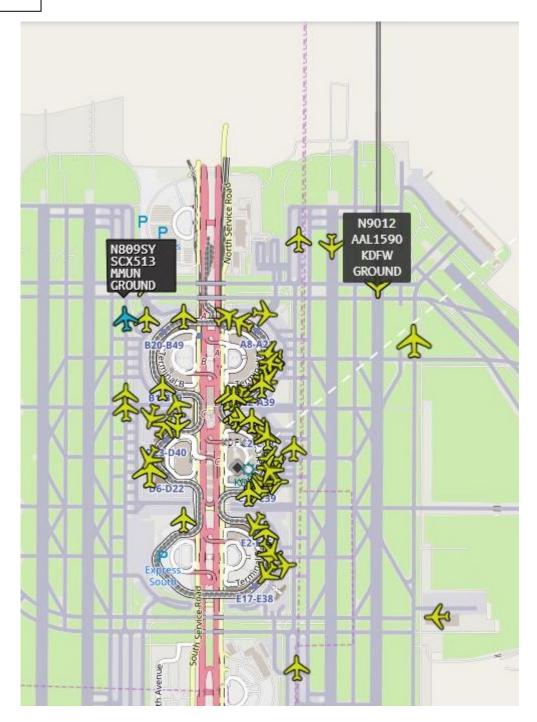
Flight trail visibility for landing aircraft

For "just landing" flights, a good contrast between the flight trail (contrasted against the gray runway) and the runway color improves the visibility of the flight trail.

This image shows the flight trail of "just landed" flight AAL1590. The black outline added to the flight trail of the aircraft in the OTHERS category improves contrast for better visibility.

5.1.1.2 Detailed Explanation

For this first example, access an airport map from within the **Flight Details** pane for a specific flight.

In a later example, you'll learn how to use the map with the same techniques, but accessing that map from the **Airport** tab.

Based on the colors used in the **Flight list**, tracked aircraft display in blue. While the OTHERS section of the Flight list is not shown here, for this airline, non-fleet aircraft display in gray.

These same colors depict aircraft on the airport map.

AFR14AR is enroute for the Amsterdam airport (EHAM). Let's see how congested that airport is.

1 Click **the AFR14R aircraft icon**.

HINT

While the **Surface Map** icon causes the airport map for the selected airport to display, you can click either of the city pair (departure and arrival airport) codes to navigate to the **Airport** tab for that airport.

For more details on the information available on the **Airport** tab, consult the topic, *Search for airports*.

1 Click the **Surface map** button.
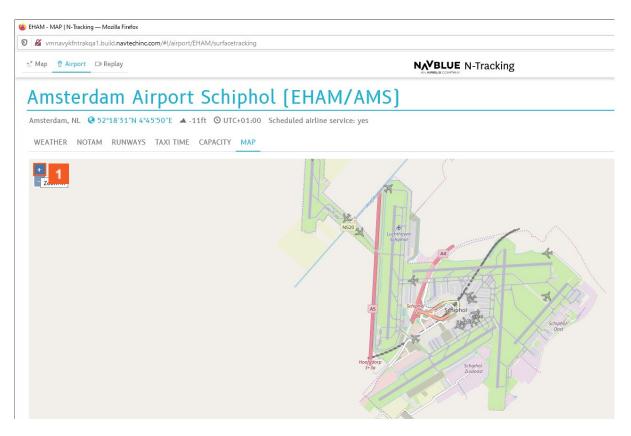
Click the respective **Surface Map** icon ⧉ to view airport maps for either the departure or the arrival airport from the **Flight Details** pane.

For this example, use the arrival airport, EHAM(Amsterdam).

In this example, you no longer see the underlying N-Tracking map, but it remains active -- in exactly the same state it was when this new browser window containing the airport map opened.

The new browser window may open less than full screen, on top of the main window. In that case, simply maximize the new browser window while you work with the airport map.

In your operational environment, you do not lose connection with the main map.

On the airport map, the zoom controls appear in the upper left corner.

By default, when you first access a map, you are at maximum zoom. You can zoom in for further detail, but you cannot zoom out at this point.

To pan (either within the boundaries of the airport or to see features outside of the airport boundaries), click on the map, and drag to the desired position.
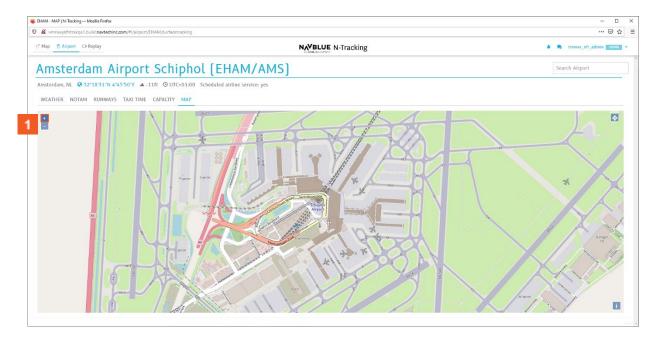
1 Click the **Zoom in (+)** button.

With the map positioned around the appropriate terminal (if there is more than one), zoom in far enough to see the gate labels.

1 Click the **Zoom in (+)** button.

1 Click the **Zoom in (+)** button.

When you zoom in, you can see individual aircraft locations on the ground more clearly. With gate labels displaying, you can see relative surface traffic around all gates and which aircraft is at which gate.

Click **+** as many times as needed to achieve the focus you want.

Click **-** to zoom out again, if you go too far.
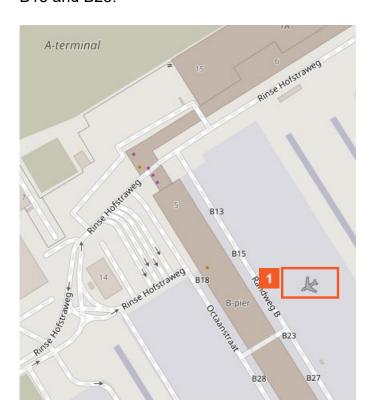
All the depicted aircraft are gray. The colors used to depict aircraft match those on the **Flight list.** In this example, these flights do not belong to the TRACKED category, but to the OTHERS category.

1 Click the **Zoom in (+)** button.

Click the icon of the aircraft near Randweg **B**. You can see that it is between gate B15 and B23.
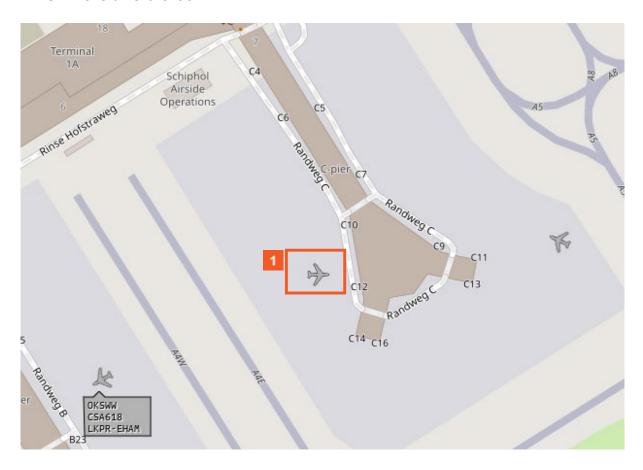
1 Click **the aircraft icon**.

The aircraft label displays the aircraft registration number, flight number and city pair (departure and arrival airport).

Click the aircraft approaching gate **C12**.

2 Click **the aircraft icon**.

Registration numbers continue to display until you deactivate them by clicking the aircraft icon again or until 15 minutes after the aircraft's last position report.

You can display registration numbers for all aircraft, regardless of whether or not they are part of your fleet.

Next, click the icon of the aircraft near Randweg D, gate **D16**.

1 Click **the aircraft icon**.
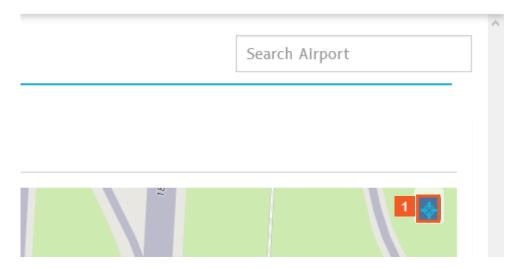
HINT

When the aircraft stops sending position messages after landing, city pair information no longer displays. In all cases, the display of departure and arrival airport information depends on the information contained in the flight plan feed.

Optionally, you can zoom out to see more of the traffic and congestion situation at this airport.

1 Click the **Zoom out (−)** button.
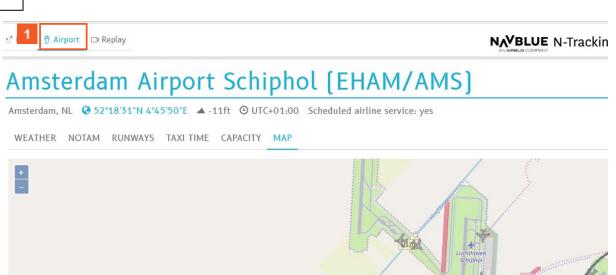
Optionally, to center the map, returning it to its original position and zoom level, click

the **Center map** button in the upper right corner of the map.

1 Click the **Center map** button.

Next, explore the second method for accessing the surface map -- from the **Airport** tab.

1 Click the **Airport** tab.

If the airport you want to investigate is in your list of airports, click its entry. Otherwise, enter the IATA code in the **Search Airport** field.

Search Airport

Search Airport
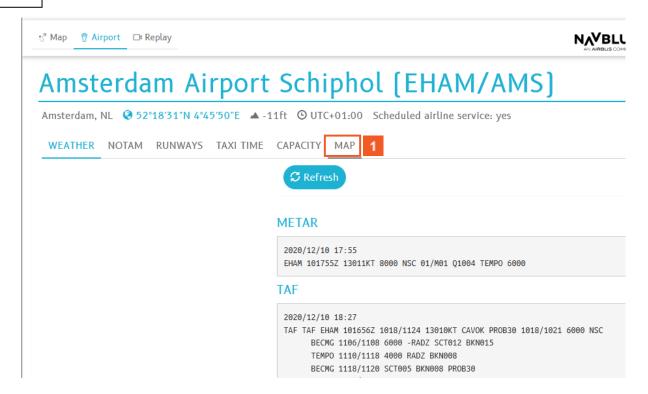
My airports

♆ EGLL - London Heathrow Airport
♆ DAOO - Es Senia Airport
♆ EDDH - Hamburg Airport
♆ LSGG - Geneva Cointrin International Airport
♆ LGIR - Heraklion International Nikos Kazantzakis Airport
♆ EDDL - Düsseldorf International Airport
♆ CYYZ - Lester B. Pearson International Airport
♆ EDDM - Munich International Airport
♆ EDDT - Berlin-Tegel International Airport
♆ LIPE - Bologna Guglielmo Marconi Airport
♆ LFPG - Charles de Gaulle International Airport
♆ LIRF - Leonardo da Vinci–Fiumicino Airport
♆ LFLL - Lyon Saint-Exupéry Airport
♆ ESSA - Stockholm-Arlanda Airport
♆ GMME - Rabat-Salé Airport
♆ LIRQ - Peretola Airport
♆ LEBL - Barcelona International Airport
♆ LIPZ - Venice Marco Polo Airport
♆ LPPR - Francisco de Sá Carneiro Airport
♆ LLBG - Ben Gurion International Airport
♆ GMMN - Mohammed V International Airport
♆ LPPT - Lisbon Portela Airport
♆ EKCH - Copenhagen Kastrup Airport
♆ EHAM - Amsterdam Airport Schiphol **1**
♆ MMMX - Licenciado Benito Juarez International Airport
♆ LIMC - Malpensa International Airport

Approaching surface tracking from this point, your first step is to search for the appropriate airport or select it from **My airports**.

1 Click the **EHAM - Amsterdam Airport Schiphol** list item.

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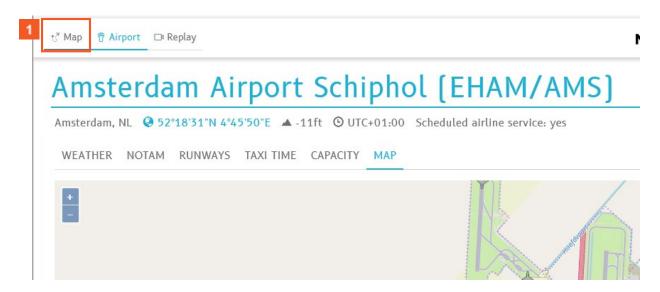
Weather information for the airport displays first. Access the airport map from the **MAP** tab.

1 Click the **MAP** tab.

From this point, surface tracking works exactly as you just learned.

Click the **Map** tab (beside the **Airport** tab) to display the main map again.

1 Click the **Map** tab.

ATTENTION

For the following function to work, you must have the **Display Airport Surface Map** option (User Settings > Map) selected.

For more details, review the topic, *Display airport map (for Surface Tracking users*

only) in the User Settings section.

In this next example, flight SCX341 is flying into airport KMCO and as a dispatcher, you want to see what level of congestion exists on the ground.

You are currently at a zoom level of 20 NM.

The airport surface map displays at a zoom level of 2 NM or lower, so zoom in at least that far.
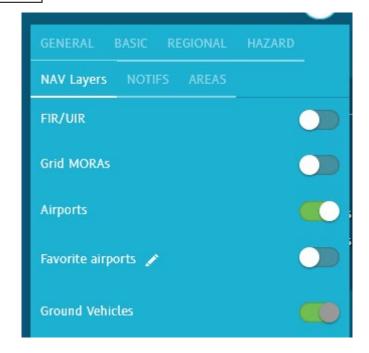
1 Click the **Zoom in (+)** button.

If you want to also see ground vehicles on the airport surface map, there is one other key setting: **Ground Vehicles** on the NAV layer.

At the current zoom level, the option is active, but disabled.

This option is automatically enabled at a zoom level of 2NM, but if you want to remove ground vehicles from the surface display, disable the option in the NAV layer.

In this example, you are at a zoom level of 2NM.

For this airport, zoom in even farther to see ground activity better.

1 Click the **Zoom in (+)** button.

At a zoom of 1NM, the location of ground vehicles (shown in yellow) becomes clearer.
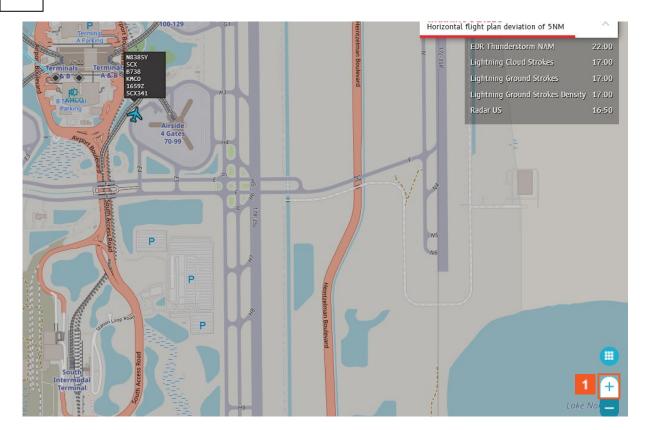
1 Click the **Zoom in (+)** button.

Ground vehicles (snowplows and cargo carriers) display on the surface map.

Flight SCX341 is traveling towards its ramp.
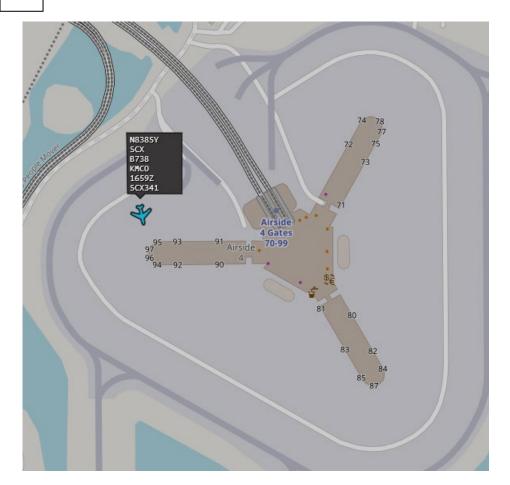
1 Click the **Zoom in (+)** button.

At a zoom level of .05 NM, it is very clear that there is no congestion around the ramps for gates 70-99. Disembarking should flow seamlessly.

SUCCESS

Congratulations! You have viewed airport surface information in a variety of different ways and have learned how to distinguish ground vehicles, such as snowplows or cargo vehicles, from aircraft on the map.

With better awareness of activity on the ground, you can assess traffic at airport gates and better advise ground personnel or flight crew.

5.1.2   Display ground vehicles on the airport surface map (Surface Tracking users only)

5.1.2.1   Introduction

Display ground vehicles on the airport surface map (Surface Tracking users only)

In this topic, you learn how to make ground vehicles display on the airport map when doing surface tracking operations (such as checking congestion at an airport).

We estimate that this will take 2 minutes to complete.

Displaying ground vehicles on the map

Customers who subscribe to N-Tracking Surface Tracking functionality have the option of displaying ground vehicles, such as snowplows or cargo transporters on the airport surface map.

To display or disable the display of these vehicles, choose the **Ground Vehicles** option in the NAV Layers pane of the Layers menu.

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NOTE: Airport surface tracking is dependent on our ADSB data provider and its network of ground position receivers; therefore, coverage may vary from one airport to another.

5.1.2.2 Detailed Explanation

Flight SCX407 is traveling to the KSAN airport.

Zoom in to a 2 nm zoom level so that the airport surface map displays on the main map.

In your operational environment, you would zoom in several times to change from the current 100 nm zoom to the 2 nm zoom level. For the purposes of this training, the next image is at 5 nm zoom.
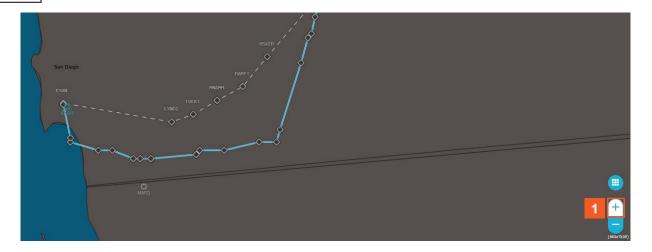
1 Click the **Zoom in (+)** button.

At the 5 nm zoom level, zoom in one more time.
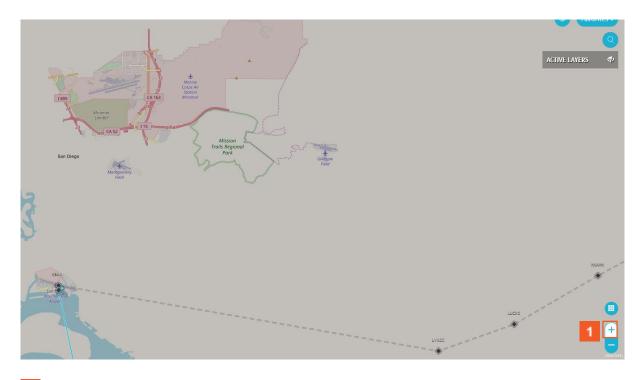
1 Click the **Zoom in (+)** button.

Airport surface maps begin to appear. In this case, the Marine Corps Air Station Miramar is a larger airport, so it is more visible.

Zoom in further.

1 Click the **Zoom in (+)** button.

Once the map is displaying at a zoom level that provides you with the level of detail you need, access the NAV Layers in the **Layers** menu to enable the display of ground vehicles.

1 Click the **Layers** button.
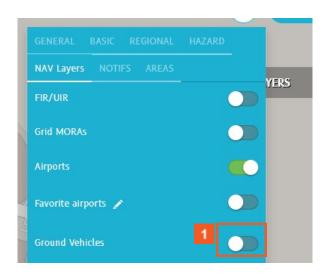
2 Click the **NAV Layers** tab.

Select the Ground Vehicles slider to display ground vehicles on the map.

When you want to turn off the display of ground vehicles, move the slider to the left.
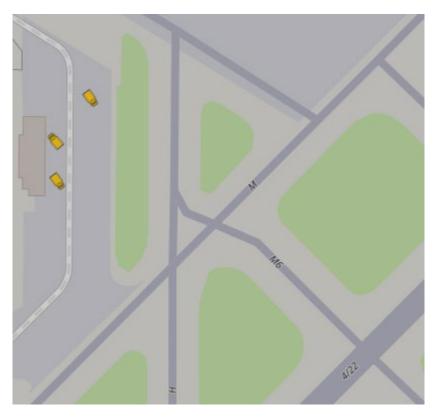
1 Click the **Ground Vehicles** slider.

Unfortunately, at this particular moment, there are no ground vehicles active at this airport.

When ground vehicles are active, you can distinguish them from aircraft by their shape (similar to a truck) and color (in this example, yellow). Using the color assigned to "Other" flights in the Flight list, snowplows or other such vehicles and cargo transporters are depicted with the same icon, which looks like this:

SUCCESS

Congratulations! You have successfully enabled the display of ground vehicles on the airport surface map.

5.1.3   Search for airports

5.1.3.1 Introduction

Search for airports

In this topic, you learn how to search for a specific airport to view and verify information weather, NOTAM, runway, surface tracking and other information about that airport.

We estimate that this will take 4 minutes to complete.

5.1.3.2 Detailed explanation

Why Search for Airports?

We search for airports in N-Tracking to view information associated with a specific airport. This can be useful in a number of different scenarios - for example, if a flight needs to divert to an alternate airport, you have all the information you need in the control center about that airport. For each airport, you can see the following information:

- Current (within 5 minutes) weather reports including TAFs and METARs
- Notices to Airmen (NOTAMs)
- A list of possible runways and their characteristics
- Taxi time (between ramp and runway) information
- Surface tracking maps

With the airport CDM option activated, you can access your preferred airports in a list called "My airports".
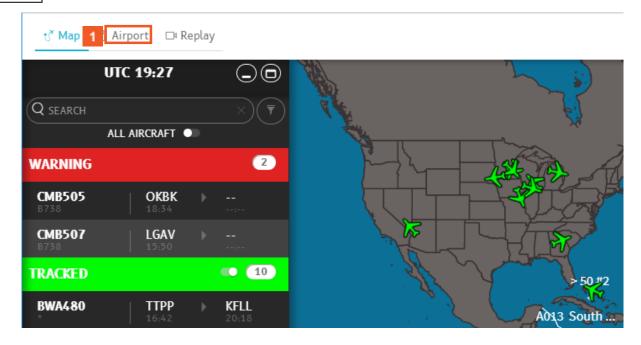
> You can search by airport name, ICAO or IATA codes. Do not use special characters such as asterisks in your search parameters.
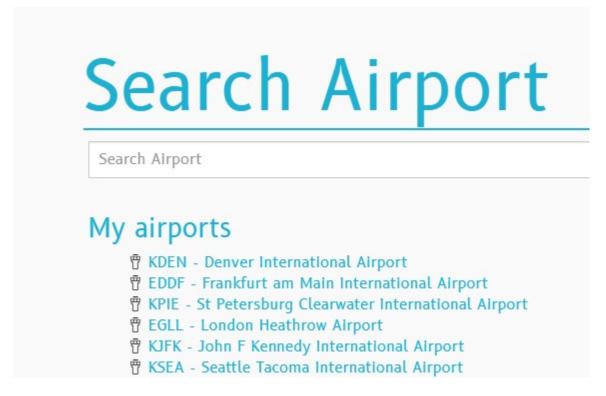
Let's get started!

First, you need to search for an airport.

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1 Click the **Airport** tab.

1 Click the **Search Airport** input field.

Enter either the ICAO or IATA code to generate a list of possible airports.

For this example, use an ICAO code.

N-Tracking begins searching as soon as you begin typing -- the more you type in, the more quickly the airport is retrieved.

If the airport you want to review already displays in the list, you can click its name to access the information directly.

1 Enter **kmsp** into the **Search Airport** field.

ⓘ   Searching is not case sensitive; you can type kmsp or KMSP.

1 Click the **KMSP/MSP** list item.

Any of the terms in the airport description retrieve the airport. Had you searched for "Minneapolis", "St Paul" or "Chamberlan", N-Tracking would present this option.

With an airport selected, you have lots of information at your fingertips -- on different tabs.

Let's navigate through these tabs so you can familiarize yourself with the information available in N-Tracking, beginning with the **WEATHER** tab.

The header, which displays on all tabs, displays the airport name and codes (ICAO and 1ATA) and provides basic geographic, elevation and time zone information.

The latitude and longitude coordinates are linked to the Map page.

The **WEATHER** tab provides the latest meteorological information:

- TAF: a Terminal Aerodrome Forecast is a weather forecast report from trans-mitting stations located locally to the airport. Reports have validity durations of 9 hours, 24 hours or 30 hours. 9 hour TAFs are issued every three hours whereas a 24 hour TAF or 30 hour TAF are given every 6 hours.

- METAR: a Meteorological Airport Report is a weather report given once an hour or every half-hour by airports or weather observation stations.

⚠ Meteorological information is not automatically refreshed.

Click **Refresh** to ensure that the data displayed is current.

⟳ Refresh

Minneapolis-St Paul International/Wold-Chamb

Minneapolis, US ⊕ 44°52'55"N 93°13'18"W ▲ 841ft ⊙ UTC-05:00   Scheduled airline service: yes

WEATHER   NOTAM   RUNWAYS   TAXI TIME   CAPACITY   MAP

⟳ Refresh

METAR

```
2019/10/07 18:53
KMSP 071853Z 28009KT 10SM FEW250 18/01 A3014 RMK AO2 SLP205 T01830011
```

TAF

```
2019/10/07 18:24
TAF KMSP 071722Z 0718/0824 26008KT P6SM SKC
     FM072100 20005KT P6SM SKC
     FM080100 17005KT P6SM SKC
     FM081100 15009KT P6SM SKC WS015/21040KT
     FM081600 18015G25KT P6SM SKC
```
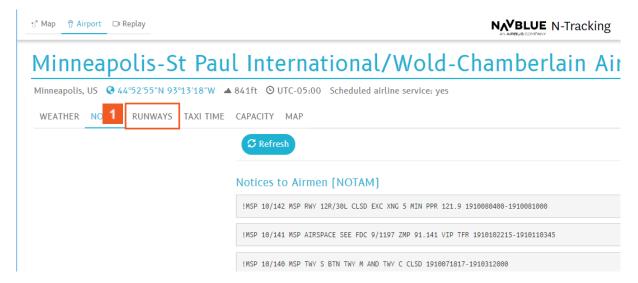
1 Click the **NOTAM** tab.

⚠ NOTAM data is not automatically refreshed. Click the **Refresh** button to en-sure that data displayed is the latest information available for the airport.

⟳ Refresh

NAVBLUE ACADEMY
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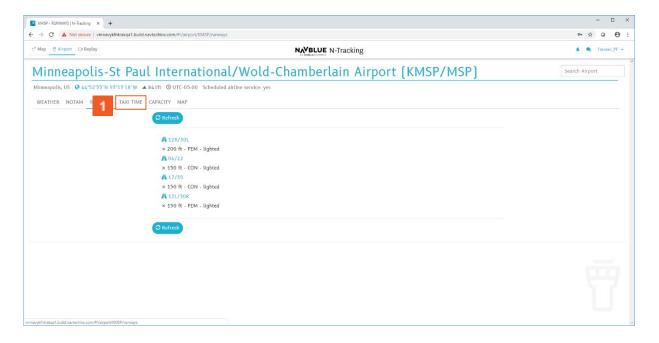
1 Click the **RUNWAYS** tab.

> 💬 A NOTAM is a notice written by an aviation authority to alert aircraft pilots of potential events that could affect the safety of the flight.

Consult the **RUNWAYS** tab to view general runway specifications (dimensions, paved or grass, etc.) for the selected airport.

The tab also displays the last landing or take off from each runway. (Not all airports support this feature.)

> ⓘ When "last on runway" information displays, you can also click the flight call sign to display flight information.
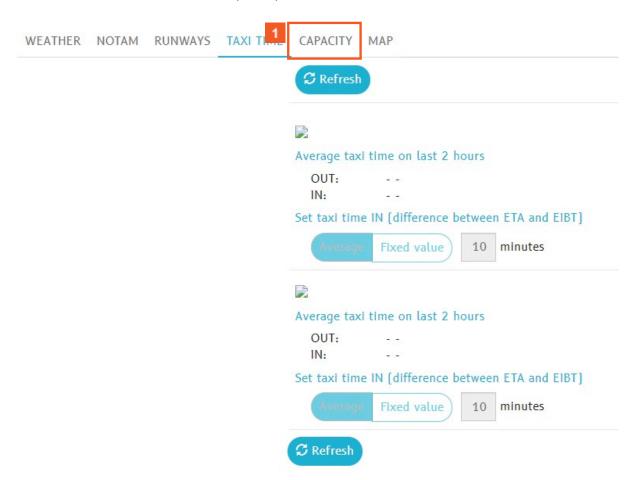
last on *27L* by BAW9L a d ago

1 Click the **TAXI TIME** tab.

The **TAXI TIME** tab displays for those customers who have implemented the airport CDM option.

The **TAXI TIME** tab displays an average based on ACARS movement messages. Consequently, this information is updated only for those flights that N-Tracking is receiving ACARS messages for:
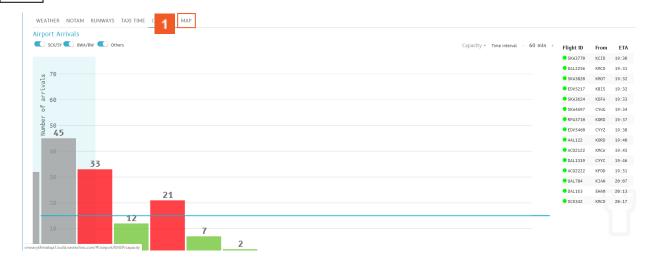
- Statistics
- Average taxi time in and out
- Estimated in block time (EIBT)

WEATHER   NOTAM   RUNWAYS   TAXI TIME **1**   CAPACITY   MAP

C Refresh

Average taxi time on last 2 hours
   OUT: - -
   IN: - -

Set taxi time IN (difference between ETA and EIBT)

| Average | Fixed value | 10 | minutes |

Average taxi time on last 2 hours
   OUT: - -
   IN: - -

Set taxi time IN (difference between ETA and EIBT)

| Average | Fixed value | 10 | minutes |

C Refresh

1 Click the **CAPACITY** tab.

⚠ You may experience a slight delay while the capacity information loads.

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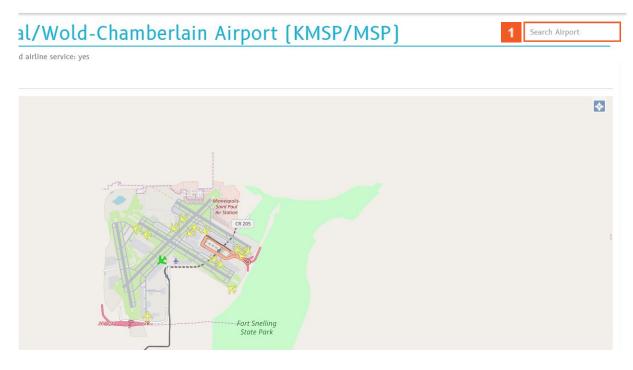
1 Click the **MAP** tab.

If your N-Tracking subscription includes it, the **MAP** tab provides surface tracking functionality.

For more details on this functionality, consult the Surface Tracking topic.

On any tab, you can click in the Search field in the upper right corner to search for a different airport to displays its information.

1 Click the **Search Airport** input field.

Let's check the JFK airport in New York.
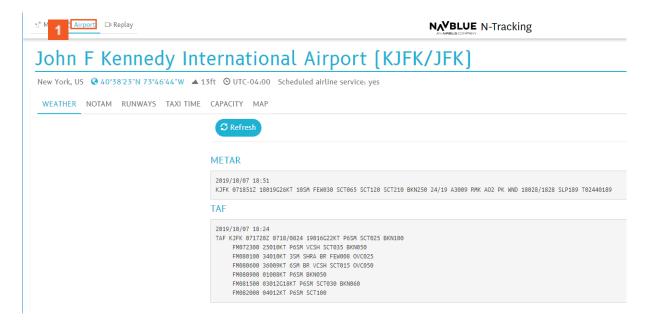
1 Enter **kjfk** into the **Search Airport** field.

2 Click **KJFK/JFK - John F Kennedy International Airport**.

N-Tracking provides the same level of information for all airports in your subscription.

Another way to start a search for a different airport is to display your "My airports" list again on the **Airport** tab.

1 Click the **Airport** tab.

On the **Search Airport** page, you can repeat the steps you just learned to view airport details for any airport included in your subscription.

Search Airport

Search Airport

My airports

- KDEN - Denver International Airport
- EDDF - Frankfurt am Main International Airport
- KPIE - St Petersburg Clearwater International Airport
- EGLL - London Heathrow Airport
- KJFK - John F Kennedy International Airport
- KSEA - Seattle Tacoma International Airport
- KRSW - Southwest Florida International Airport
- CYYZ - Lester B. Pearson International Airport
- KPHL - Philadelphia International Airport
- KMCO - Orlando International Airport
- KLAS - McCarran International Airport
- KORD - Chicago O'Hare International Airport
- KEWR - Newark Liberty International Airport
- KBOS - General Edward Lawrence Logan International Airport
- KSAT - San Antonio International Airport
- OMDB - Dubai International Airport
- KLAX - Los Angeles International Airport
- OMAA - Abu Dhabi International Airport

6 Administrator training

6.1 Administration

6.1.1 Log in and out of N-Tracking

6.1.1.1 Introduction

Log in and out of N-Tracking
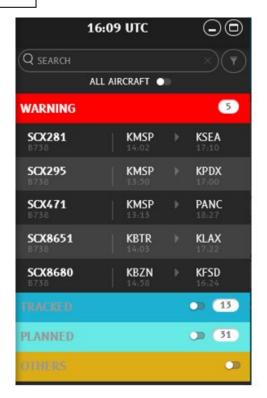
In this topic, you learn how to log in and out as an N-Tracking Administrator.

We estimate that this will take 2 minutes to complete.
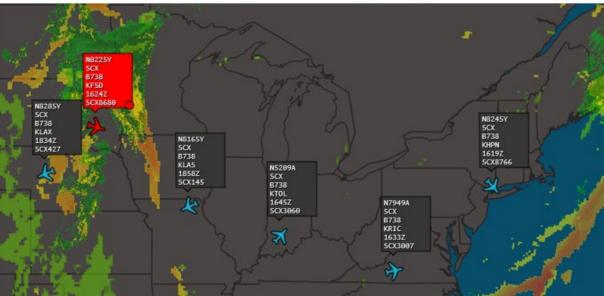
6.1.1.2 Detailed explanation

Welcome to N-Tracking

Your first time logging in

N-Tracking is accessed on the Internet using a standard modern browser.

Use this URL:

https://ntracking.navblue.aero

During your N-Tracking implementation, NAVBLUE sets up user accounts, including your Administrator account. As other airline employees join the team to use N-Tracking, you will add those user records as needed. New users receive an automated email with their username and password when the account has been created.

Users will contact you if the password reset function fails. Users must have their email address recorded in N-Tracking for the password reset process to work.

HINT

Add the N-Tracking URL to your list of bookmarks in whichever browser you are using.
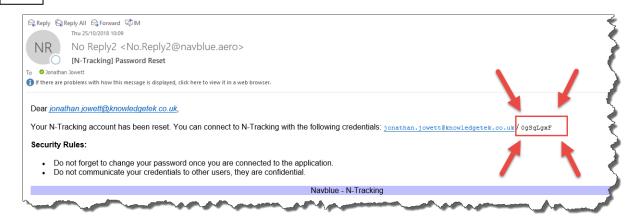
After a password reset request is made, the new password is emailed to the user. The message looks similar to the one below. Within the message body is the user's initial password.

For more details, review the *Resetting your password* topic.

For the purposes of this demonstration, we have pre-filled the **Username** and **Password** fields for you.
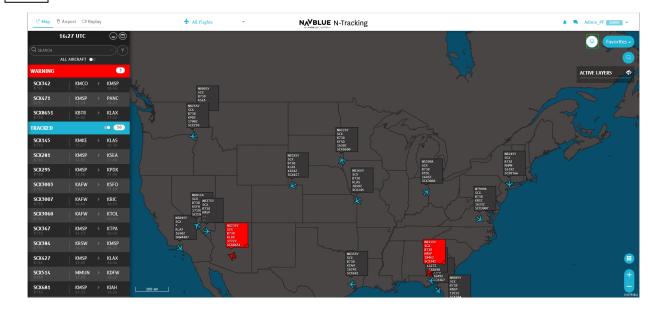
1 Click the **Sign in** button.

HINT
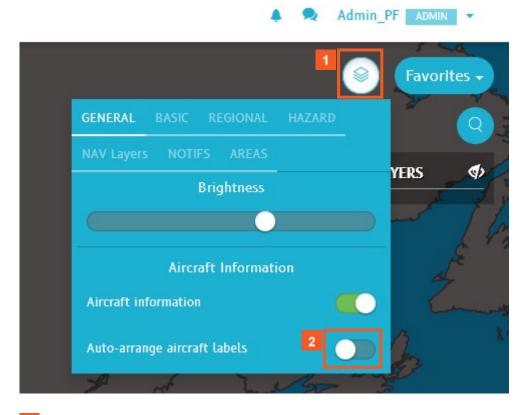
If you are the only person to work on the device you are using, consider activating

the option.

Do not do this on a shared device.

On logging in for the first time, you might choose to set the aircraft labels to automatically rearrange themselves. Do this in the **Layers** menu on the **General** tab.

1 Click the **Layers menu** button.

2 Click the **Auto-arrange aircraft labels** slider.

SUCCESS

Congratulations! You have successfully... (12pt)
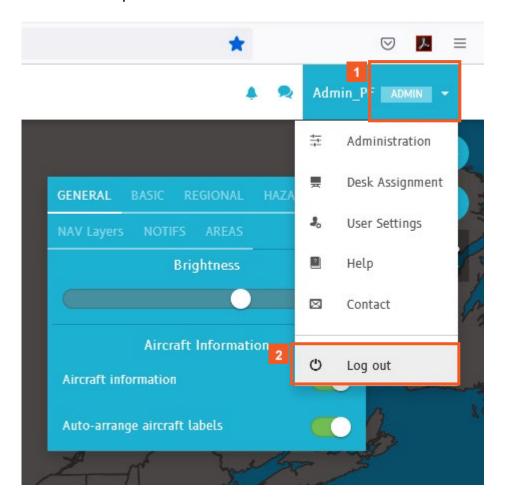
If you have not already been provided with an overview of the N-Tracking user interface by the Product team, take some time to review the topic *User orientation* in the Dispatcher-oriented training content.

You can also find more detailed information about all the tabs in the Layers menu and the other N-Tracking features in the Dispatcher-oriented training content.

Now, for practice: Log out.

Look for this option in the Administration menu.

1 Click the **ADMIN** dropdown button.

2 Click the **Log out** menu button.

When you log out, the N-Tracking Login pane re-appears.

SUCCESS

Congratulations! You have successfully logged in and out of N-Tracking.

As an N-Tracking administrator, your next step may be to orient yourself to the user interface (UI) by reviewing the related topic in the Dispatcher-oriented training content.

Alternatively, continue learning how to perform administrator duties such as:

- assigning the colors to be used for the aircraft icons on the map and for the different section banners (Tracked, Planned, and Others) of the Flight list
- choosing the data that displays in aircraft labels on the map
- defining the thresholds at which various caution and warning alerts display on the map, and
- other administrative tasks.

These topics and more are covered in the following training content.

6.1.2 User management

6.1.2.1 Introduction

User management

In this topic, Administrators learn how to create accounts for new users and to update existing accounts. You also learn how to configure user access rights that determine the airports users can view.

We estimate that this will take 3 minutes to complete.

6.1.2.2 Detailed explanation

The importance of user management
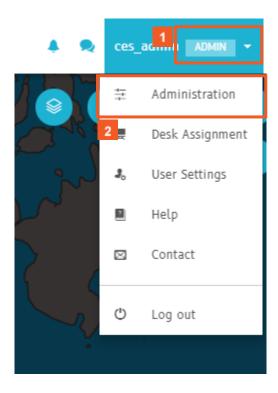
User management is an important task for all system administrators. It is important to keep on top of this task as it determines who has access rights to the N-Tracking system. It's not only important to add new users when they join your company or department, but it's just as important to remove users if they leave.

When you configure a new user, you give them access rights to view the data associated with certain airports. It is not necessary to give all users access rights to all airports. You can modify the airports that a particular user has access to at any time by granting them access to additional airports or revoking access to airports that have already been granted to them.
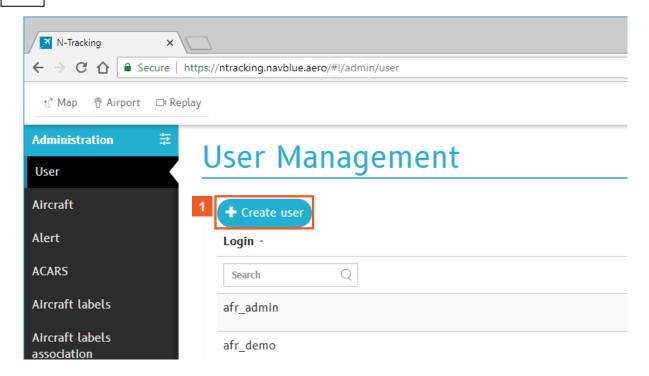
> ⓘ We recommend that you review your user access rights on at least a monthly basis.

1 Click the **username (Admin)** dropdown button.

2 Click the **Administration** menu item.

1 Click the **+ Create user** button.

The ❌ button can be used to delete an existing account and the ✏️ button can be used to edit an existing account.

ⓘ Once an account has been created, it is not possible to edit the username. If this is needed, delete the account and create it again with a new username.

⚠ Be accurate and careful when entering an email address. When you create a user, a password is sent to that address. The email address is also used for password reset requests from users.

It is mandatory to give a login username and email address. When you enter an email address, N-Tracking checks its format to ensure it looks like a proper email address, e.g., name@domain.extension and that the email address is appropriate for the airline.

Once you enter login credentials and email address, you can use the sliders to configure the airlines and airports that this new user can access.

> Administrators have the ability to update the passwords of other users. This supports cases where the password reset mechanism cannot be used.

The slider buttons are used to determine which airlines and which airports this new user will have access to.

= no access

= access granted

After you supply the required user creation details, click "Save user".
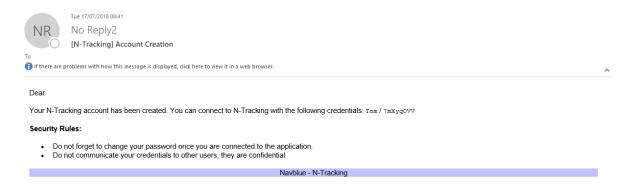
The "Reporter?" slider allows the new user to manually update a flight's data, for example if an update from the pilot via HF radio is received. Updates can be more than just position and may also include fuel quantity, etc.

Reporter ?

Email Message

After you click the "Save user" button, N-Tracking creates an account for that user and generates a password. The username and password are then emailed to the address that you specified.

Tue 17/07/2018 08:41

NR   No Reply2
[N-Tracking] Account Creation

To

If there are problems with how this message is displayed, click here to view it in a web browser.

Dear

Your N-Tracking account has been created. You can connect to N-Tracking with the following credentials: Tom / 7mXyqOVV

Security Rules:

- Do not forget to change your password once you are connected to the application.
- Do not communicate your credentials to other users, they are confidential.

Navblue - N-Tracking

> Our NAVBLUE Support Desk often receives requests asking us to create users on your behalf (i.e., you, as our customer). Unfortunately, it is not possible for us to do this for all of our customers as standard practice.
>
> If you do require this service, please note that it will be billable. Please contact your Account Manager to request a quote.

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When the list of users displays, you can edit any of the accounts by clicking on the pencil icon to access any details that you want to change.

Let's go ahead and edit this user.
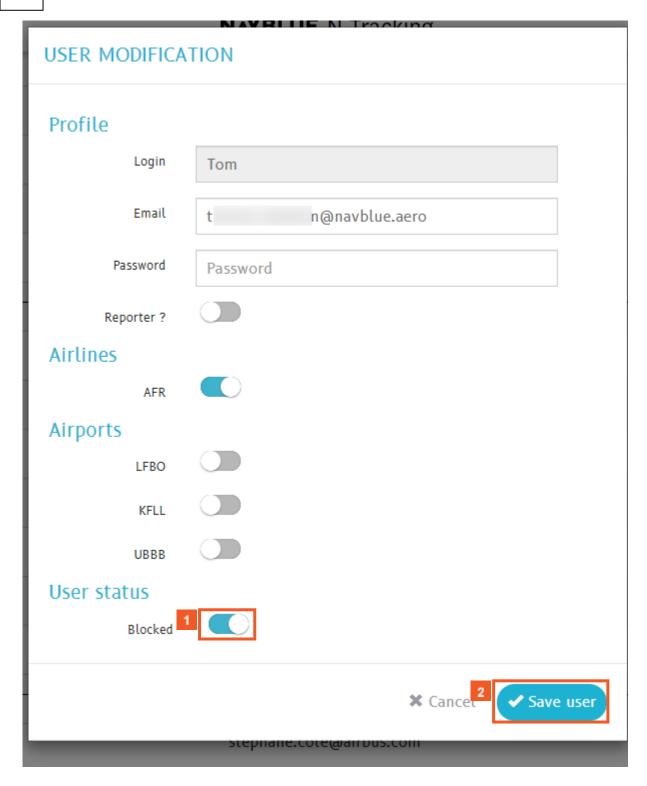
1 Click the **pencil** button.

Use the **User Modification** screen to edit user account details, including the user status.

You can block and unblock individual users.

A user may be blocked if they get their password wrong three times in a row, or if you, as an Administrator decide to manually block them. As mentioned, Administrators also have the right to change other users' passwords, should they require it. Let's practice blocking this user.

1 Click the **Blocked** slider.

2 Click the **Save user** button.

Once you save the change, N-Tracking shows the username stricken through and the user is locked out (blocked). To undo this, access the record and unblock the user as needed.

> 💬 If you do not immediately see a strike through the user name you just blocked, refresh your screen.

6.1.3 Aircraft labels

6.1.3.1 Introduction

Aircraft labels

In this topic, Administrators learn how to create aircraft labels to display flight information on the map. You also learn how to assign a label to one or more of your airline's aircraft.

We estimate that this will take 7 minutes to complete.

Create and assign aircraft labels

When you create an aircraft label to display flight details on the N-Tracking map, you can choose a maximum of 10 data fields per label from the following data elements:

- Aircraft registration
- Aircraft type
- Airline code
- Destination (To)
- ETA (Estimated Time of Arrival)
- Flight ID
- Altitude
- Flight number
- Latitude (in degrees)
- Longitude (in degrees)
- OFF time (take-off time)
- Origin (From)
- Ground speed (in knots)
- Squawk (transponder code)
- Position source
  (ADSB (terrestrial ADS-B), SADSB (Aireon space based ADS-B), Transoceanic, Radar (ATC radar), or ACARS (ACARS position or ADS-C))
- Track (orientation in degrees 000-359)
- Vertical speed (in feet per minute)
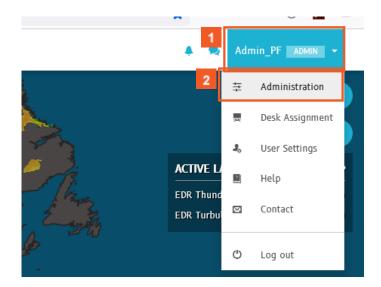
After you create the label, you can assign it to your entire fleet or to individual aircraft (as needed).

Users can choose to display aircraft labels in small, medium, or large fonts.

Aircraft labels can be configured and assigned by both Administrators and non-administrative users.

6.1.3.2 Detailed explanation

1 Click the **ADMIN (Admin_PF)** dropdown button.
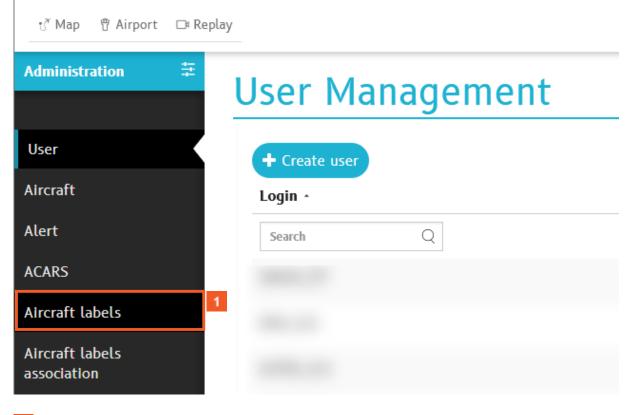
In this example, the airline has configured an aircraft label containing two different flight data elements, including Flight ID and flight level.

While all N-Tracking users can create and apply "custom" aircraft labels, you, as Administrator, can set up a default label to ensure that all aircraft displayed on the map are labeled.

Practice creating and assigning custom aircraft labels, from an N-Tracking administrator's perspective. Start the procedure logged in with your Administrator credentials.

2 Click the **Administration** list item.

1 Click the **Aircraft labels** menu item.

1 Click the **Add** button.

When you first access the **Aircraft labels management** page, it won't show any labels. In this example, some labels had already been created in the training environment.

The **Add** button displays at the bottom of the list of labels. This means you may need to scroll down the page to see the **Add** button.

You can always click **Delete** to remove a label if it is no longer useful.

NAVBLUE   ⊘ Delete

Aircraft label name

| 1 | NAVBLUE | 2 |

Fields to display

| 3 | Select 10 fields maximum... |

+ Add

Give the label a descriptive, meaningful name.

For this example, use "NAVBLUE".

1 Click the **Aircraft label name** input field.

2 Enter **NAVBLUE** into the **Aircraft label name** field.

3 Click the **Fields to display** input field.
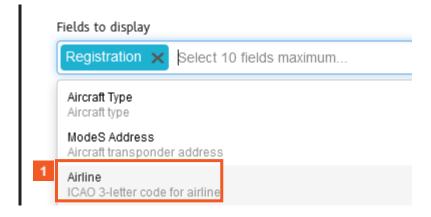
As the screen indicates, you can add up to 10 different data elements to each label.

You cannot re-arrange the data elements without removing them and re-doing your work, so give some thought to the order you want them in the label before you select the different data elements.

Fields to display

Select 10 fields maximum...

| 1 | Registration
Tail number i.e. 'F-GLZQ' |

Aircraft Type
Aircraft type
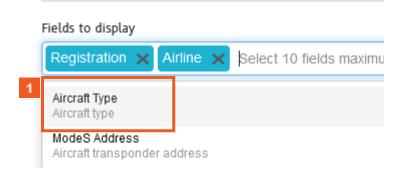
1 Click the **Registration** menu item.

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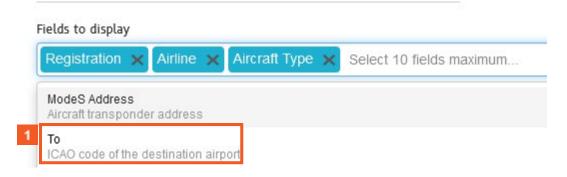
1 Click the **Airline** menu item.
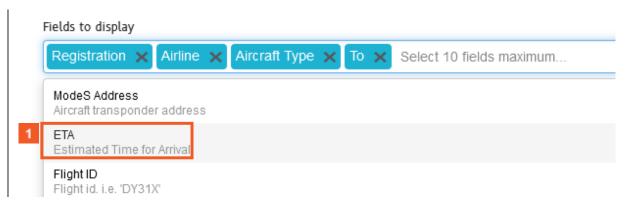
1 Click the **Aircraft Type** menu item.

1 Click the **To** menu item.

If you decide you want to remove a data element and/or remove one and replace it, click the **X** beside the element to remove it. Then, select another data element, as applicable.

Fields to display

| Registration ✕ | Airline ✕ | Aircraft Type ✕ | To ✕ | Select 10 fields maximum... |

ModeS Address
Aircraft transponder address

1 ETA
Estimated Time for Arrival

Flight ID
Flight id. i.e. 'DY31X'

1 Click the **ETA** menu item.

Aircraft transponder address

Flight ID
Flight id. i.e. 'DY31X'

Altitude
Altitude in Flight Level

1 Flight number
Flight number i.e. 'DY311'
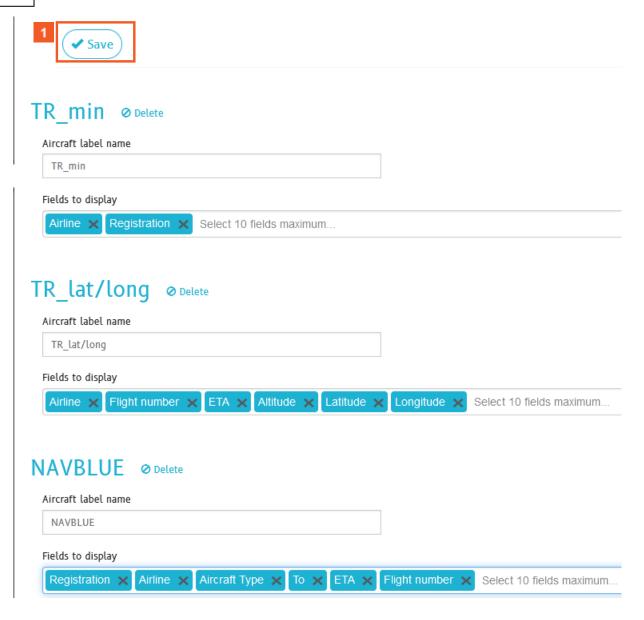
1 Click the **Flight number** menu item.

1

✔ Save

TR_min   ⊘ Delete

Aircraft label name

TR_min

Fields to display

Airline ✕   Registration ✕   Select 10 fields maximum...

TR_lat/long   ⊘ Delete

Aircraft label name

TR_lat/long

Fields to display

Airline ✕   Flight number ✕   ETA ✕   Altitude ✕   Latitude ✕   Longitude ✕   Select 10 fields maximum...

NAVBLUE   ⊘ Delete

Aircraft label name

NAVBLUE

Fields to display

Registration ✕   Airline ✕   Aircraft Type ✕   To ✕   ETA ✕   Flight number ✕   Select 10 fields maximum...

HINT

You can use either of the **Save** buttons. For this example, use the upper one.

1 Click the **Save** button.
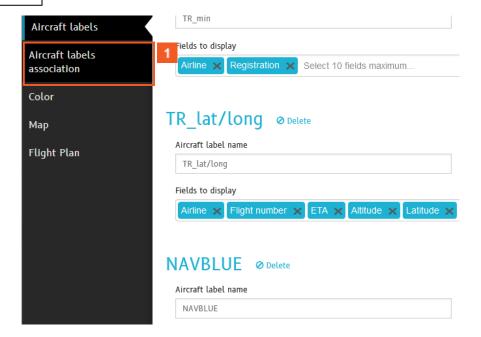
After you save your newly created or changed label, wait for the message
Successfully updated that confirms the change.

Now that you have designed a label, let's assign it to particular aircraft or a type of aircraft.
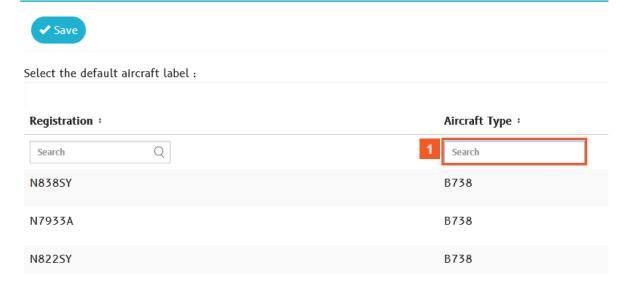
1 Click the **Aircraft labels association** menu button.

When you assign labels to aircraft, you have two choices:

- assign to a specific aircraft based on its registration, or
- assign based on aircraft type.

Use the search field that meets your needs.
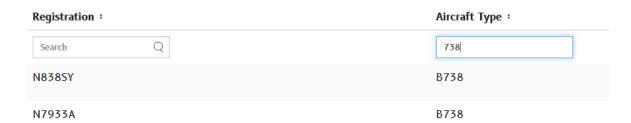
1 Click the **Aircraft Type Search** input field.

The current list contains one aircraft that has type "*" associated with it.

For this example, assign the new label to all B738 aircraft in the fleet.

2 Enter **738** into the **Aircraft Type Search** field.

Registration ⬍	Aircraft Type ⬍
🔍 Search	738
N838SY	B738
N7933A	B738

1 Press the **Enter** key.

Aircraft Type ⬍	Aircraft labels :
🔍 738	Remove selected templates
B738	Select a template... **1**
B738	AIRLINE TEMPLATES
B738	TR_min Airline, Reg.
B738	TR_lat/long Airline, Flight Num, ETA, Altitude, Lat., Long.
B738	**2** NAVBLUE Req., Airline, Type, To, ETA, Flight Num
	-- Use default template --

Now, assign the new label to all aircraft whose type includes "738".

1 Click the **Aircraft labels** dropdown button.

2 Click the **NAVBLUE** list item.
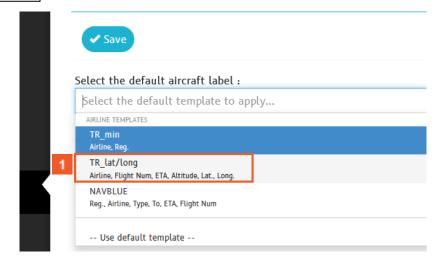
As administrator, you may want to set up and choose a particular label to use as a default. Let's do that.

In this example, use the label that shows aircraft latitude and longitude for demonstration purposes.

Aircraft labels association Management

✔ Save

Select the default aircraft label :

1

Registration ⬍	Aircraft Type ⬍	Aircraft labels :

1 Click the **Select the default aircraft label** dropdown button.

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1 Click the **TR_lat/long** list item.

Aircraft labels association Management

1 **Save**

Select the default aircraft label :

TR_lat/long

Registration ÷	Aircraft Type ÷	Aircraft labels :
Search	738	Remove selected templates
N838SY	B738	NAVBLUE

1 Click the **Save** button.

If you decide to change the default label, you can always select a different one.

If you decide to change the label associated with a particular aircraft, click the **Remove selected template** button and assign another label.

Let's see how your changes look on the map.
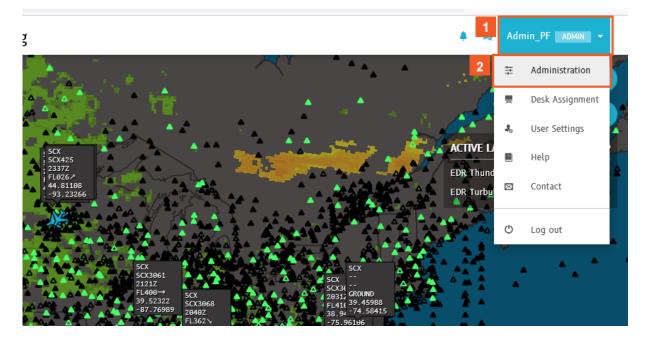
1 Click the **Map** tab.
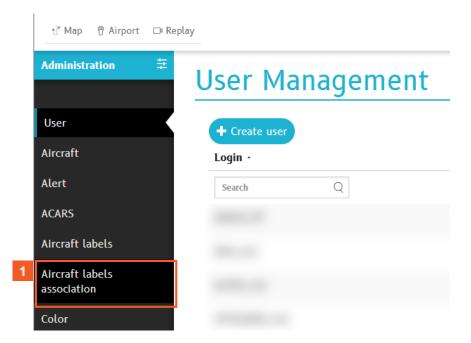
The aircraft labels follow the TR_lat/long format -- the one that ends with the latitude and longitude.

Let's change that and use the new label format you defined.
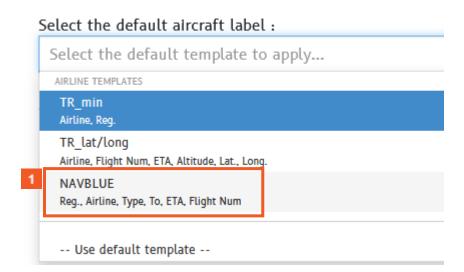
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1 Click the **ADMIN** dropdown button.

2 Click the **Administration** list item.

1 Click the **Aircraft labels association** menu button.

1 Click the **Select the default aircraft label** dropdown button.

Select the default aircraft label :

Select the default template to apply...

AIRLINE TEMPLATES

TR_min
Airline, Reg.

TR_lat/long
Airline, Flight Num, ETA, Altitude, Lat., Long.

1 NAVBLUE
Reg., Airline, Type, To, ETA, Flight Num

-- Use default template --
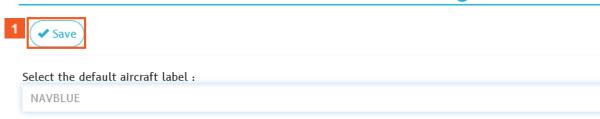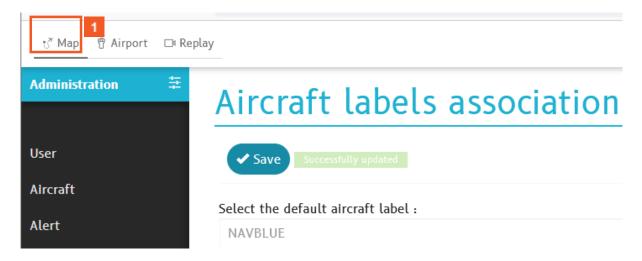
1 Click the **NAVBLUE** list item.

Always remember to save your changes.

Aircraft labels association Management

1 ✔ Save

Select the default aircraft label :

NAVBLUE

1 Click the **Save** button.

1 ✈ Map   ☗ Airport   ◻ Replay

Administration

User

Aircraft

Alert

Aircraft labels association

✔ Save   Successfully updated

Select the default aircraft label :

NAVBLUE

1 Click the **Map** tab.

Zoom out for a clearer view of the aircraft labels.

2 Click the **Zoom out (-)** button.

SUCCESS

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Congratulations! You have successfully... (12pt)

SUCCESS

Congratulations! You have customized and assigned aircraft labels.

The aircraft shown on the map are now identified using the custom label you created and set as a default label.

Other (non-administrative) users can use this default label, which provides the benefit of consistency. Alternatively, users can customize and assign their own labels.

Users can also choose to display aircraft labels using small, medium, or large fonts. For more information, consult the *User Settings -- Aircraft labels* topic.

6.1.4   Searching your fleet by registration, aircraft type, or other characteristic

6.1.4.1 Introduction

Searching your fleet by registration, aircraft type, or other characteristic

In this topic, Administrators learn how to search through your aircraft fleet.
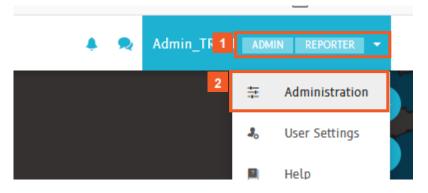
We estimate that this will take 2 minutes to complete.

6.1.4.2 Detailed explanation
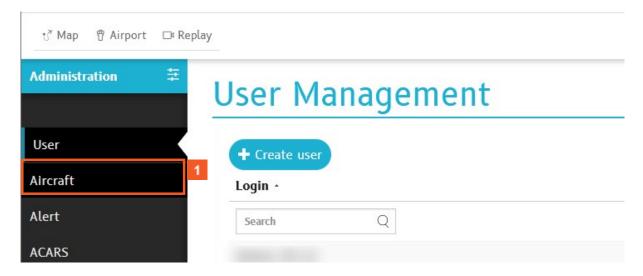
In this topic, you learn how to list the aircraft in your fleet, and how to filter that list based on aircraft registration, type, state, and other criteria.

N-Tracking administrators perform this task, so you must be logged in using an AD-MIN account.

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1 Click the **ADMIN** dropdown button.

2 Click the **Administration** menu button.
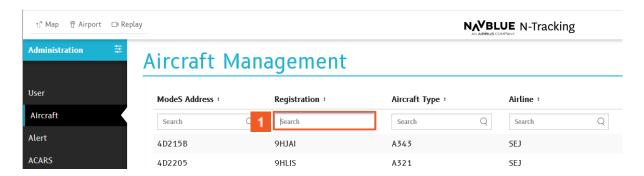
1 Click the **Aircraft** menu item.

The Aircraft Management screen lists all the aircraft in your fleet.

You can search and filter the list using any of the search fields, such as for Registration, Aircraft Type, or State.

Start by filtering the list based on registration ID and look for all registrations containing the letters **"SQ"**.
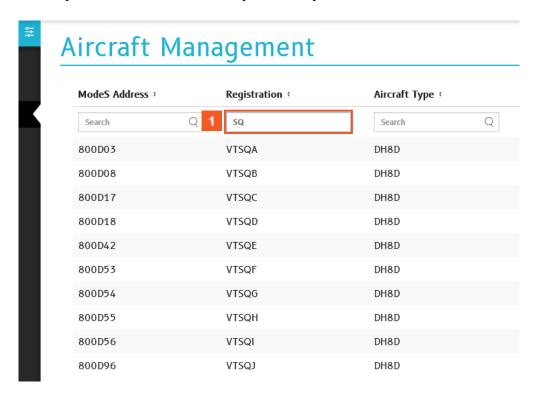
1 Click the **Registration (Search)** input field.

2 Enter **SQ** into the **Search** field.

Now the list displays only those aircraft with **"SQ"** somewhere their registration code. In this case, they all happen to be type DH8D.

Erase your search term so that you can try a different search.

Aircraft Management

ModeS Address ⁝	Registration ⁝	Aircraft Type ⁝
Search 🔍 **1**	SQ	Search 🔍
800D03	VTSQA	DH8D
800D08	VTSQB	DH8D
800D17	VTSQC	DH8D
800D18	VTSQD	DH8D
800D42	VTSQE	DH8D
800D53	VTSQF	DH8D
800D54	VTSQG	DH8D
800D55	VTSQH	DH8D
800D56	VTSQI	DH8D
800D96	VTSQJ	DH8D
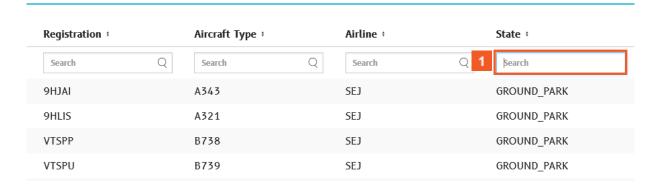
1 Click the **Search** input field.

Use the Backspace key twice to remove the search term.

2 Press the ⬅ key.

Next, with the full list restored, search the fleet based on the aircraft state (in-flight, parked, running, etc.)

Registration ⁝	Aircraft Type ⁝	Airline ⁝	State ⁝
Search 🔍	Search 🔍	Search 🔍 **1**	Search
9HJAI	A343	SEJ	GROUND_PARK
9HLIS	A321	SEJ	GROUND_PARK
VTSPP	B738	SEJ	GROUND_PARK
VTSPU	B739	SEJ	GROUND_PARK

1 Click the **State (Search)** input field.

2 Enter **IN** into the **Search** field.

Now you see only those aircraft that are currently in flight.

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HINT

Think carefully about the search term you enter: While none are shown in this example, if there were aircraft with a status of "GROUND_RUNNING" (on the ground, with engine running), they would also be listed, because the search term contains "in".

Optionally, consult the map to see how the same aircraft display there.

1 Click the **Map** tab.

SUCCESS

Congratulations! You have learned how to filter the list of aircraft in your fleet by registration, the state of the aircraft (on ground or in-flight), and other characteristics.

6.1.5   Alert management

6.1.5.1 Introduction

Alert management

In this topic, Administrators learn how to update and activate or deactivate alerting rules for the aircraft in your fleet. You learn how to use the two levels of alert and how to modify each of the alert rules.

We estimate that this will take 5 minutes to complete.

6.1.5.2 Detailed explanation

Alert management rules

Alerting rules apply to the aircraft in your fleet only.

You can configure and modify alerts based on the following criteria:

- Signal lost
- New destination
- Minimal flight level during cruise
- Squawk
- Vertical speed
- Horizontal or vertical deviation from flight plan
- ETA

Alert criteria

N-Tracking supports several different types of alerts:

- **Signal Lost**: Loss of ADS-B, ACARS or any other data source position for this individual aircraft
  You can configure the threshold time in minutes.

- **New Destination**: New destination airport activated on FMS

- **Minimal flight level during cruise**: Aircraft goes below FL150, 20 minutes after take-off or 30 minutes before landing
  You can configure the threshold flight level.

- **Squawk**: Emergency/distress code on transponder
  You select the transponder code that raises the alert.

- **Vertical Speed**: Vertical speed during descent
  You can configure the threshold vertical speed in feet per minute.

- **Horizontal and vertical deviation**: The aircraft deviates from the flight plan.

- ETA: ETA is later than ETA set at takeoff.
  You can configure the threshold time in minutes.

Alert thresholds

Each alert rule has two levels of severity:

- a caution -- triggered when the lower value of a threshold is breached.

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- a warning -- triggered when a higher and more significant threshold is breached.

Accordingly, more attention should be given to warnings compared to cautions.

Level :	Criterion :	Threshold :
CAUTION	SIGNAL LOST	1
WARNING	SIGNAL LOST	6
CAUTION	MINIMAL FLIGHT LEVEL DURING CRUISE	100
WARNING	MINIMAL FLIGHT LEVEL DURING CRUISE	150
CAUTION	FLIGHT PLAN VERTICAL	2500
WARNING	FLIGHT PLAN VERTICAL	5000

Start your work on the Alert Management page, available in the Administration menu.

Administration	Alert Management
User	
Aircraft	Level : Criterion :
Alert	CAUTION SIGNAL LOST
ACARS	WARNING SIGNAL LOST

In this example, for the *Minimal flight level during cruise* alert, the threshold for the caution and warning are set at the same value.
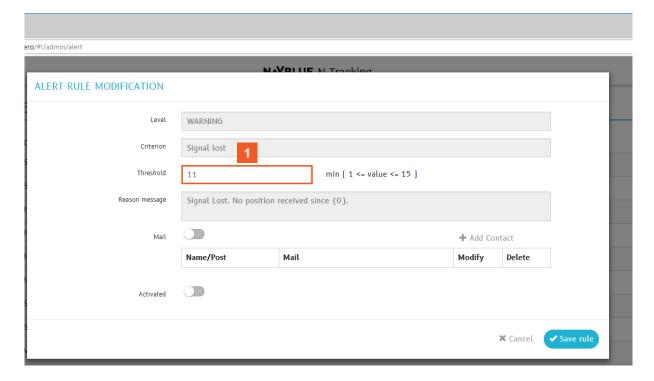
CAUTION	MINIMAL FLIGHT LEVEL DURING CRUISE	150
WARNING	MINIMAL FLIGHT LEVEL DURING CRUISE	150

To change the Signal Lost rule, click the **Edit** icon for the corresponding rule (in this example, the **Warning** Signal lost rule).

Reason message ⁝		Mail ⁝	Activated ⁝	
Signal Lost. No position received since {0}.		⬜		✏
Signal Lost. No position received since {0}.		⬜	**1**	✏

1 Click **the Edit icon**.

ero/#!/admin/alert

ALERT RULE MODIFICATION

Level	WARNING
Criterion	Signal lost **1**
Threshold	11 min [1 <= value <= 15]
Reason message	Signal Lost. No position received since {0}.
Mail	⬜ + Add Contact

Name/Post	Mail	Modify	Delete

Activated	⬜

✖ Cancel   ✔ Save rule

1 Click the **Threshold** input field.

ALERT RULE MODIFICATION

Level	WARNING
Criterion	Signal lost **1**
Threshold	10| min [1 <= value <= 15]
Reason message	Signal Lost. No position received since {0}.
Mail	⬭ ➕ Add Contact

Name/Post	Mail	Modify	Delete

Activated	⬭

✖ Ca   **2**   ✔ Save rule

Use the information in brackets as guidance for the value you enter.

In this example, the number of minutes should be between 1 and 15.

1 Enter **10** into the **Threshold** field.

You can use the **Activated** slider on the **ALERT RULE MODIFICATION** panel to activate an alert or you can activate it on the list on the **Alert Management** page.

That's where you'll do it for this example.

You cannot edit any of the fields that are grayed out.

In this example, you enter the threshold value and save the change.

Your next step is to activate the alert, which triggers N-Tracking to monitor if a threshold is breached.

HINT

If you choose to use the Mail option and/or create a mail distribution list (by clicking Add Contact), mail addresses are checked to make sure they follow the standard format for an email address e.g., name@domain.extension.

2 Click the **Save rule** button.

Having defined the threshold to be used, you can now activate the Signal Lost **warning** rule.

Alert Management

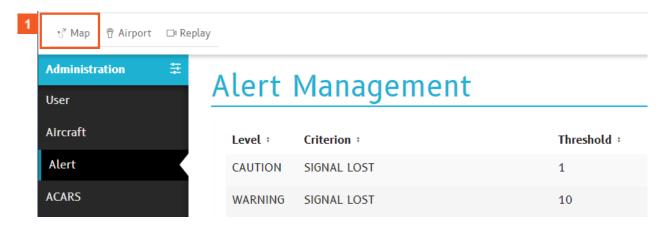| Level	Criterion	Threshold	Reason message	Mail	Activated
CAUTION	SIGNAL LOST	1	Signal Lost. No position received since {0}.		🔵
WARNING	SIGNAL LOST	10	Signal Lost. No position received since {0}.		**1** ⬭

1 Click the **Activated** slider.

HINT

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When you activate an alert, N-Tracking immediately emits alerts for any flights for which the threshold conditions are met.
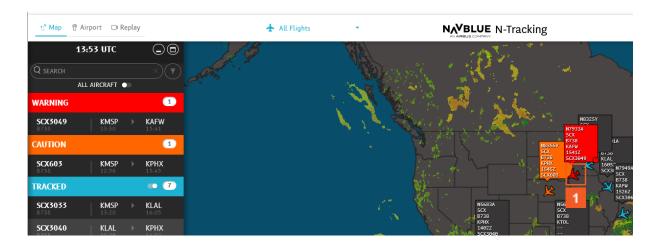
Next, review the display of cautions and alerts on the map.

1 Click the **Map** tab.

In this example, the Flight list indicates one aircraft has an associated warning and a different aircraft has an active caution.

The warnings and cautions for the different types of alerts all look the same at this stage. The color (red or orange, respectively) tells you the severity of the alert. To see the alert context, open the Flight details pane to review the alert text.

HINT

You can click any of the aircraft icons or click the flight in the Flight list to display flight details.
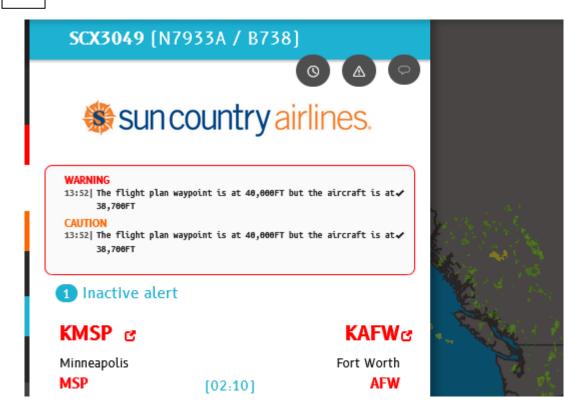
1 Click **the red aircraft icon**.

Review the warning detail.

When a warning (or caution) has been acknowledged by a user, a message displays above the text, like this: Ack by UserJinal .
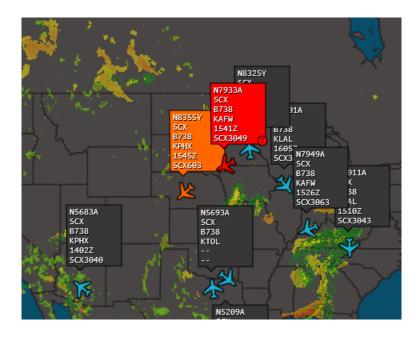
1 Click **anywhere on the map**.

Although most customers leave the default colors (red and orange) for warning and caution alerts, you can customize these colors using the Color menu option on the Administration menu.

HINT

To change Flight list banner and aircraft icon colors, use the technique outlined in the topic, *Assign colors to the Flight list and to aircraft icons on the map*.

SUCCESS

Congratulations! You have learned how to update and activate or deactivate alerting rules.

The topic, *View automatic alerts and create manual alerts* in **Working with flights on the map** provides more information on working with alerts -- and alert notifications. It is recommended that you, as an N-Tracking Administrator, review this important topic to fully understand N-Tracking alert functionality.

6.1.6   Assign colors to the Flight list and to aircraft icons on the map

6.1.6.1   Introduction

Assign colors to the Flight list and to aircraft icons on the map

In this topic, Administrators learn to set the color N-Tracking uses to display warning and caution information and different categories of aircraft in the Flight list and as icons on the map

We estimate that this will take 4 minutes to complete.

6.1.6.2   Detailed explanation

Introduction

N-Tracking default colors are applied to aircraft symbols on the map for a visual indication of status.

For airlines using surface tracking, these same colors apply to tracked and "other" planes on the surface tracking maps.

In this topic, you learn how to choose the color to use in N-Tracking for:

- warning and caution information and aircraft symbols
- tracked flights
- planned flights
- aircraft in "my fleet" (allocated to a user's desk)
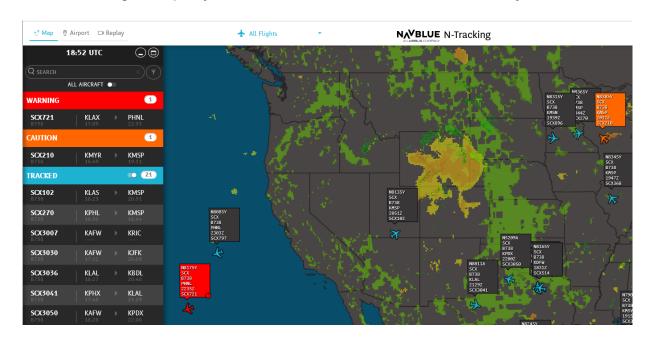- other flights (active flights of other airlines)

Warning Flight color	☐ #FF0000	➡	(red aircraft icon)
Caution Flight color	☐ #FF6600	➡	(orange aircraft icon)
My Fleet color	☐ #0077C8	➡	(blue aircraft icon)
Tracked Flight color	☐ #1DB1D2	➡	(cyan aircraft icon)
Other Flight color	☑ #d3dd15	➡	(yellow aircraft icon)
Planned Flight color	☑ #47d21d	➡	(green aircraft icon)

When you first access the map, you'll notice two things -- the Flight List on the left and colored aircraft icons overlaying the map.

The colors used in the Flight List section headers match the coloring of the aircraft icons on the map. You can tailor these color assignments.

For example, you might choose to assign a corporate color to the TRACKED banner and icons, a slightly different color to the PLANNED banner, and a very contrasting color to the OTHERS banner and aircraft icons that display on the map.

In the following example, you learn how to customize these colors for your airline.
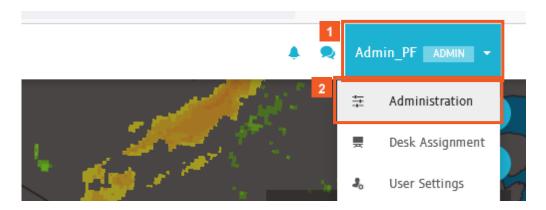

Depending on the number of tracked flights in the Flight list, you may need to scroll down in the Flight list to see the PLANNED and OTHERS sections.
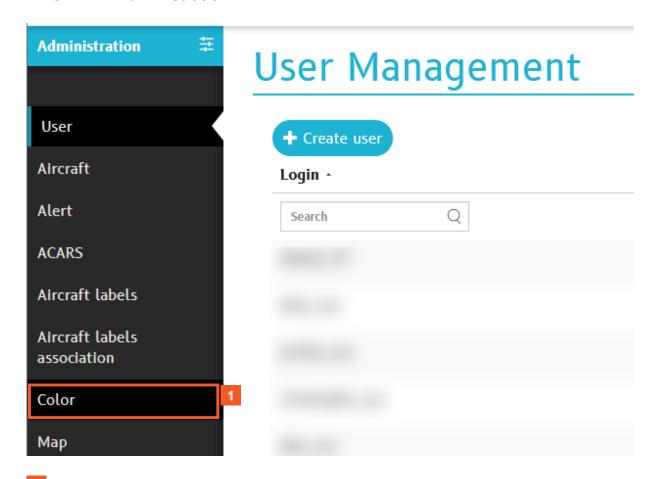
HINT

In your operational environment, you can use the scroll bar on the right side of the Flight list to scroll down. (That step is not shown here.)

1 Click the **Admin_PF ADMIN** dropdown button.

2 Click the **Administration** list item.

1 Click the **Color** menu item.

The Custom Colors page shows the current selection of colors used by N-Tracking for this example. Also in this case, the icons for aircraft for which alerts are being emitted are bright red.
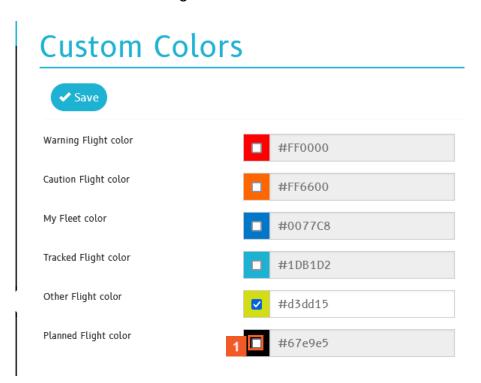
Each color displays its associated hexadecimal ("HEX") code, such as #FF6600.

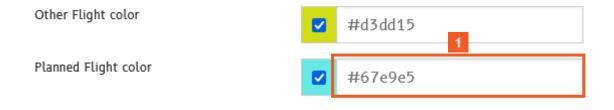Each of the color swatches shown on this page features a checkbox.

If the checkbox is **not** selected, the default color applies. The default color used for planned flights is black. You can assign a different color to signal planned flights.

HINT

If the checkbox is not selected, N-Tracking uses the default color, even if the HEX number has been changed.

1 Click the **Planned Flight color** check box.

1 Click the **Planned Flight color** input field.

Choose a color hue in the vertical bar on the right of the color picker. For this example, click in the green zone.

HINT

The vertical color bar also features a black horizontal bar that works like a slider in your operational environment. You can use it to drag up and down the color spectrum to choose the desired hue.

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Planned Flight color

#67e9e5

✔ Save

1 Click ▮.

The horizontal bar in the color picker now indicates that you're in the green range.

Next, click in the larger color swatch to select the precise green you want to use on the map. (A small circle indicates your cursor position.)

If you know the HEX code for the color, you can type that code in the input field, after the hashtag (#) symbol.
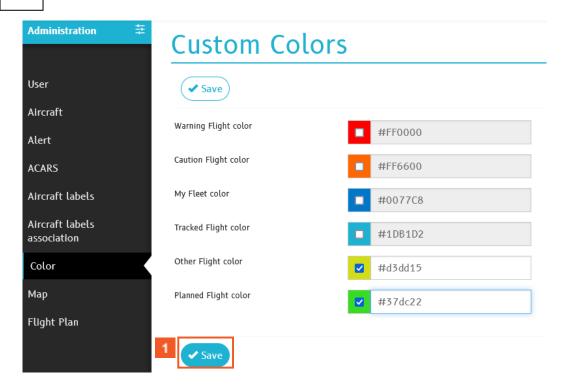
Planned Flight color

#37dc22

✔ Save

1 Click ▮.

2 Click the **× (Close)** button.

The input field for the Planned Flight color shows the new hex code of the shade of green you chose.

Save your change.

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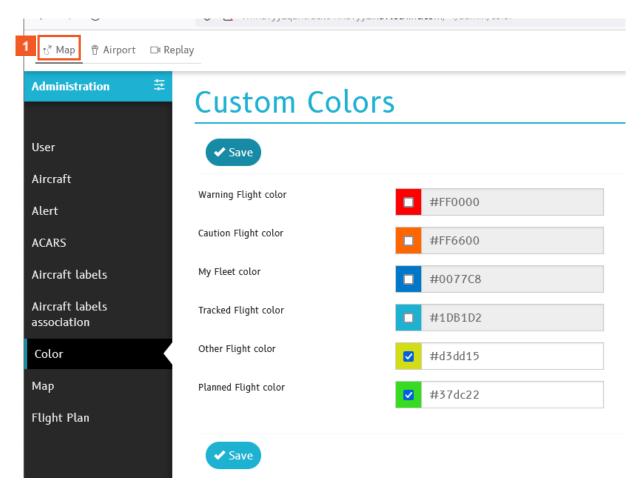
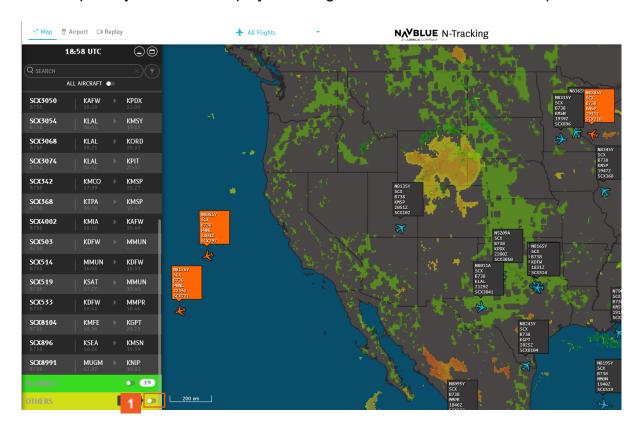**1** Click the **Save** button.

Check the impact of your color change on the map.

1 Click the **Map** tab.

To best appreciate the change, scroll down to the OTHERS section of the Flight list and temporarily enable the display of the flights of other airlines on the map.
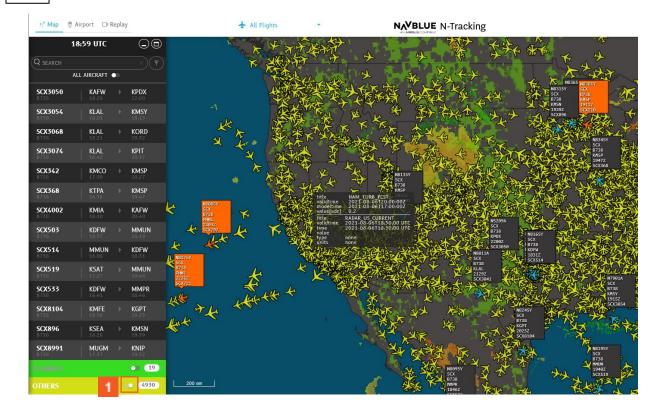

1 Click the **OTHERS Flights** slider.

You can see how well the blue color of your tracked flights contrasts with the yellow of other airlines' flights.

HINT

There may be a slight delay while all the flights in the OTHERS category load on the map.

Reset the OTHERS **Flights** slider to hide those flights from display when you're ready.

1 Click the **OTHERS Flights** slider.

SUCCESS

Congratulations! You have assigned a desired color to one of the categories of aircraft listed in the Flight list -- and to the icons used to represent those aircraft on the map.

6.1.7   Enable easier flight plan matching (for N-FP users only)

6.1.7.1   Introduction

Enable easier flight plan matching (for N-FP users only)

In this topic, Administrators learn how to implement less restrictive flight plan matching criteria.
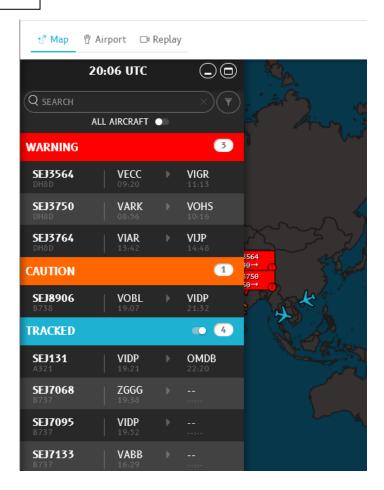
We estimate that this will take 4 minutes to complete.

6.1.7.2   Detailed explanation

In this example, no destination airport nor ETA displays in the Flight list for flight **SEJ7133**. In previous N-Tracking versions, dispatchers could manually link the flight plan of a planned (later) flight with the tracked (active) flight to have a flight plan that can be displayed on the map and monitored.

You, as an N-Tracking administrator can make the matching criteria less restrictive, allowing more flights to link with matching flight plans automatically, leaving only more exceptional ones for dispatchers to manually link. Follow the next steps to learn how this works.

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In the following scenario, you, as an N-Tracking administrator learn how to set the "Easy matching" option to link more matching flight plans automatically when for whatever reason, some flight plan data is initially missing.

With the setting enabled, there are fewer of the flights missing data that dispatchers must match "manually" as described in the topic, *Manually link a the flight plan from a planned flight with an active flight*.

As necessary, scroll down in the PLANNED section of the Flight list to find the later flight using the same flight plan.

This flight must have the same flight number, departure and arrival airport, and the same registration to match. All of this information comes from the N-FP flight plan.
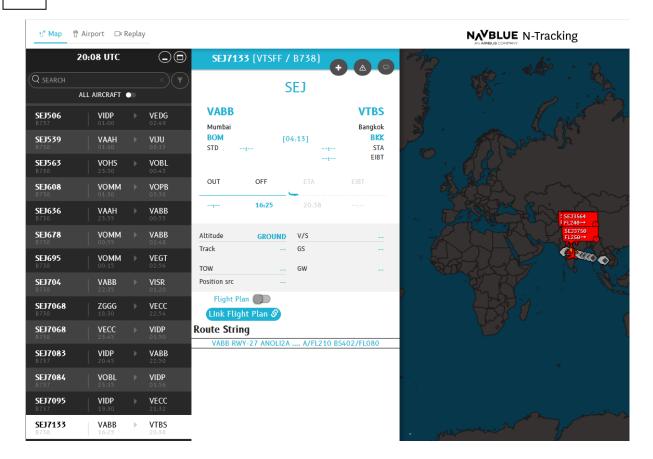
1 Click **flight number SEJ7133**.

In previous N-Tracking versions, dispatchers clicked the **Link Flight Plan** button to copy the flight plan of the planned flight to the matching active flight.
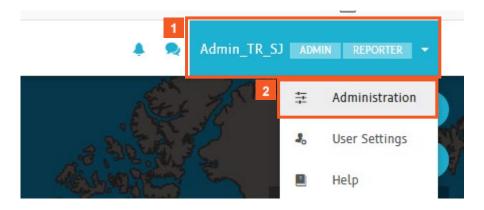
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1 Click **anywhere on the map**.
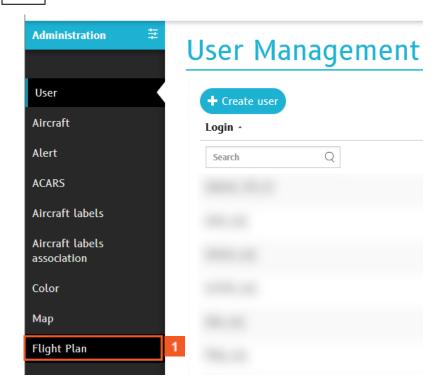
Click anywhere on the map to close the **Flight Details** pane.

Next, enable a setting that makes flight matching easier so that more flight plans link automatically.

This demonstration scenario may give the impression that you, the Administrator are doing this on a flight by flight basis. This is **not** the case. You enable this option once -- and flight plan matching happens automatically until you disable the option.
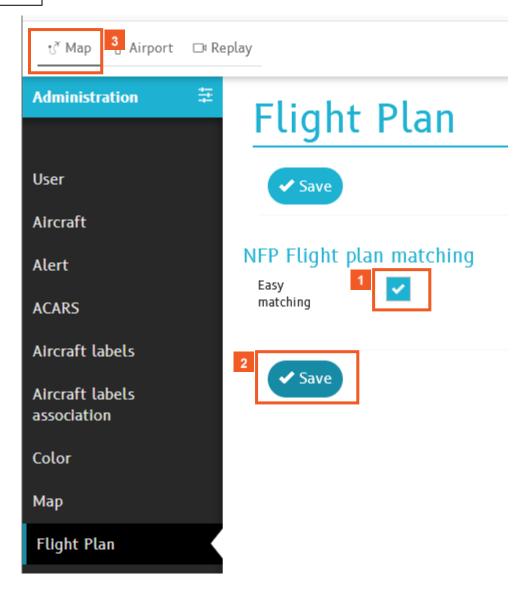

1 Click the **Admin (Admin_TR_SJ)** dropdown button.

2 Click the **Administration** menu button.

1 Click the **Flight Plan** menu item.

1 Click the **Easy matching** check box.

2 Click the **Save** button.

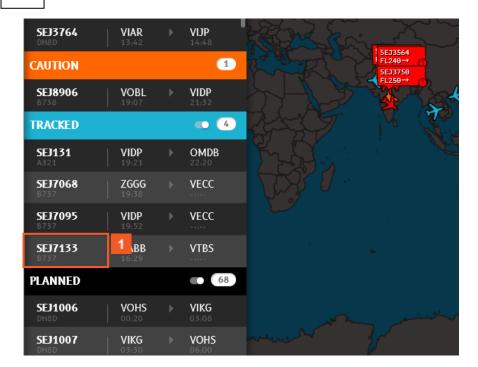**3** Click the **Map** tab.

SUCCESS

Congratulations! You have successfully made more automatic flight plan matching possible. It's that easy.

Next, view the automatic update in the Flight list that will happen without dispatchers needing to link flight plans "manually".
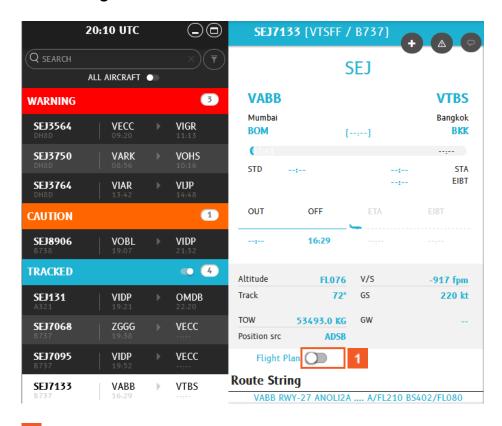
N-Tracking updates the destination airport for the tracked flight in the Flight list. (There may be a slight delay before the destination airport code displays.)

Dispatchers can toggle the flight plan to display on the map following the usual steps, which are outlined for demonstration purposes.
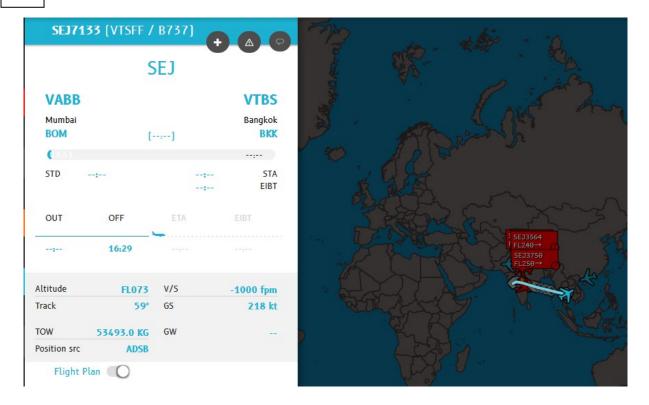
1 Click **flight number SEJ7133**.

1 Click the **Flight Plan** slider.

1 Click **anywhere on the map**.

The flight plan continues to display on the map after you close the **Flight Details** pane.

HINT

Type hint to help learners. (12pt)

6.1.8 ACARS management

6.1.8.1 Introduction

ACARS management

In this topic, Administrators learn how to configure the time frame between two position messages.

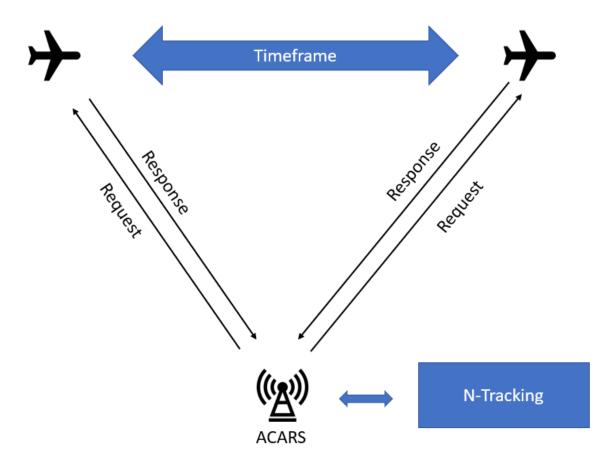We estimate that this will take 2 minutes to complete.
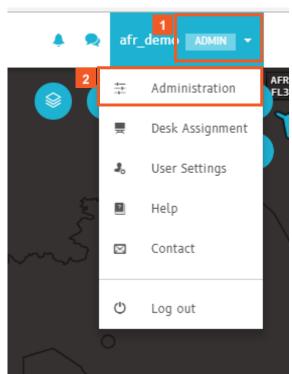
6.1.8.2 Detailed explanation

Tracking methods

N-Tracking uses both ACARS and ADS-B to track flights. In addition, users with the "reporter" access rights can also enter flight data manually. In this topic however, you
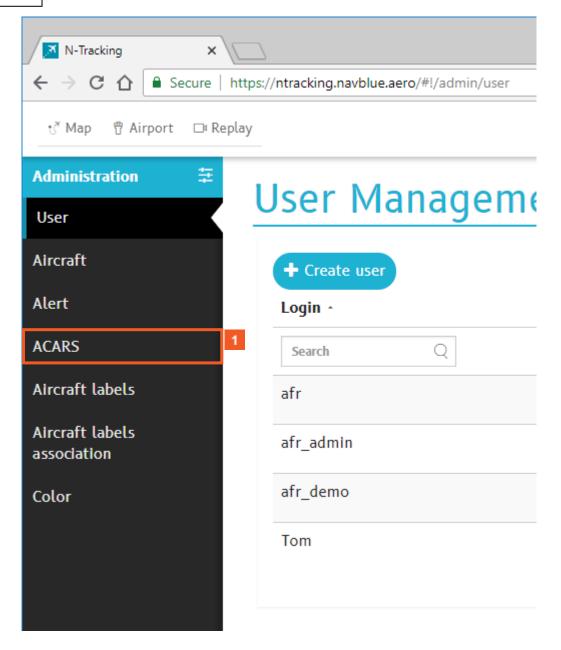
focus on ACARS and how to set it up so that the interval between different data requests is managed.

1 Click the **ADMIN** dropdown button.

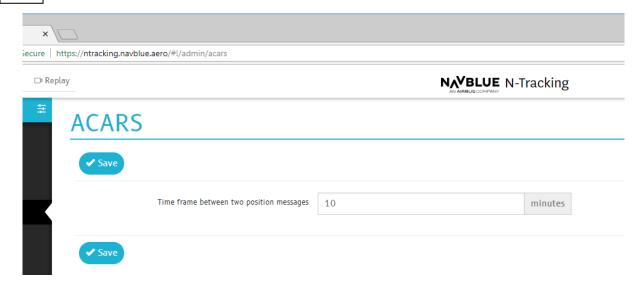**2** Click the **Administration** menu item.

1 Click the **ACARS** menu item.

You can change the interval between two position reports. The setting is the maximum time without any source of position after which N-Tracking will automatically request an ACARS position. If an alert is set to detect that a position report was not received during that interval, the aircraft is highlighted in red on the map.
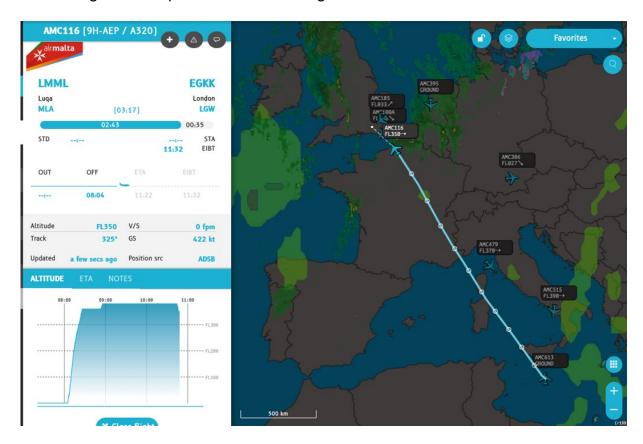

The default interval setting is 15 minutes. Changing the value affects only those customers with an ACARS integration.

Insert your time in minutes, then click **Save**.

Here is a good example of an aircraft using ACARS

6.1.9   Set map scale line units

6.1.9.1 Introduction

Set map scale line units

In this topic, Administrators learn how to change the unit for the map scale from kilometers to nautical miles.

We estimate that this will take 2 minutes to complete.

6.1.9.2 Detailed explanation

N-Tracking map scale line units

N-Tracking supports two units of measurement for the map scale:

- kilometers
- nautical miles.

N-Tracking Administrators choose the appropriate measure
as one of their first administrative tasks.

REMINDER

Your airline's map scale line unit is typically set during an initial implementation meeting with N-Tracking Product personnel and you need never change this setting again.
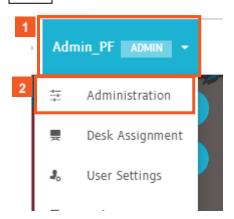
This documentation is provided as reference.

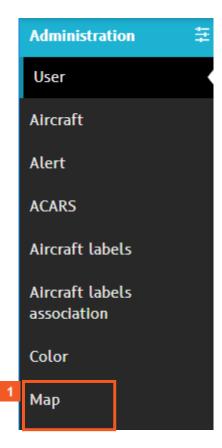Only N-Tracking Administrators can change the map scale unit setting.

By default, the map scale unit is km (kilometers).

Let's change that scale unit to nautical miles.

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1 Click the **ADMIN** dropdown button.

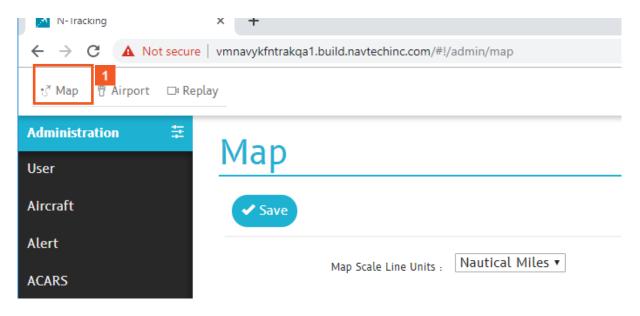**2** Click the **Administration** menu item.

1 Click the **Map** menu item.

1 Click the **Map Scale Line Units** dropdown button.

2 Click **Nautical Miles**.

3 Click the **Save** button.

Let's check the impact of the change on the map.

1 Click the **Map** tab.

The map scale line unit reflects your change.

You have completed this operation.

6.1.10 Remove UDAs (User Defined Areas)

6.1.10.1   Introduction

Remove UDAs (User Defined Areas)

In this topic, you learn how to remove UDAs created by other users that are no longer required.

We estimate that this will take 2 minutes to complete.

6.1.10.2   Detailed Explanation

Introduction

User Defined Areas (UDAs) can be created by all N-Tracking users. They can be shared or remain "private," but only the creator of a UDA can change or delete their own UDAs. This can create some "housekeeping" issues if a user leaves an airline without clearing out their UDAs.

To resolve this issue, N-Tracking administrators are authorized to remove UDAs created by other users.

In this example, you see a UDA "East-West -2" created for testing purposes. Imagine that this is a UDA created by a user who has since left the airline and no one else needs this UDA to show on the map.
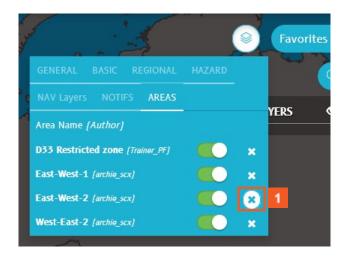
Logged in as an Admin user, access the existing User Defined Areas (UDAs) in the **Layers** menu.
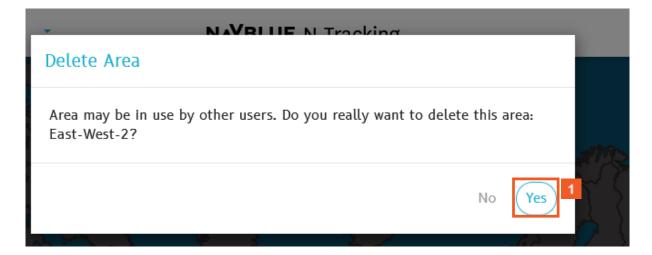

1 Click the **Layers** button.

On the **AREAS** tab, locate the UDA you want to remove.
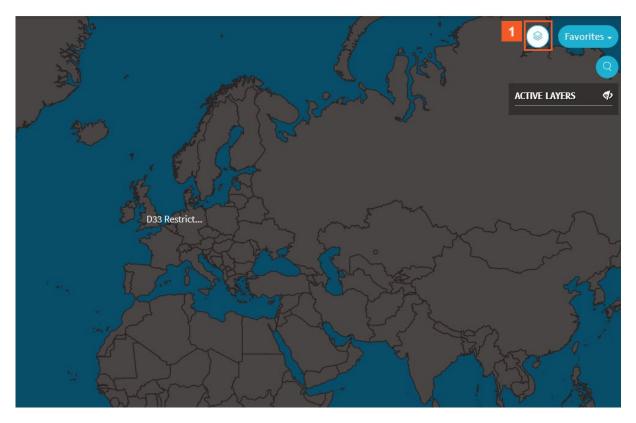

1 Click the **Delete (X)** button.

Click **Yes** to confirm you choice to delete the UDA.

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1 Click the **Yes** button.

The UDA disappears from the map. Let's check the impact on the **AREAS** tab.

1 Click the **Layers** button.

The UDA is no longer in the list of User Defined Areas.

SUCCESS

Congratulations! You have successfully removed a UDA created by another user.