

Using Skylight for PSM Risk Assessment

Regional Training Course for Fisheries Inspectors in the Implementation of Port State Measures (PSM)
29 September - 1 October 2026, SEAFDEC/TD, Bangkok, Thailand





Skylight provides various features to help analysts and operators refine their analysis based on their operational needs.

Map Functionalities

- Event Centric Display
- > Vessel Centric Display
- > Filter Settings: Vessel Information
- > Filter Settings: Vessel Detection (Satellite Imagery)
- > Map Layers
- > Visualization Settings: Events
- > Visualization Settings: Vessel Positions
- > Visualization Settings: Tracks
- > Ruler
- > Show All AIS Tracks
- > Date Range
- > Timeslider
- > Download data from Skylight

Customization Features

- Create and Delete an Area of Interest
- Create a Saved Filter and an Alert



Map Functionalities



Event Centric Display



Click on the Events button at the top left of the screen to show or hide events on the map. You can also click on the arrow to filter by event type and choose to display only a specific category of events.



Vessel Centric Display

In Skylight, vessel positions can be shown or hidden by clicking the “Vessels” button in the top-left corner of your screen. Since this feature is designed solely to provide the last known positions of vessels, it can only be activated for a date range spanning from to real time up to a maximum of 72 hours in the past.



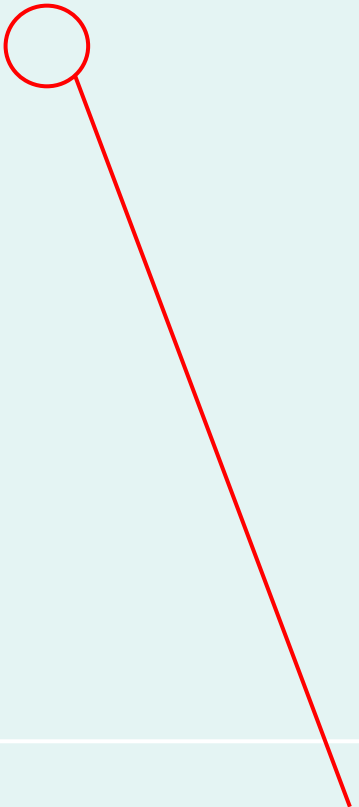


Filter Settings: Vessel Information (AIS/GFW)

Skylight allows users to **filter events and vessel positions** on the main map based on a wide range of vessel information. Please note that vessel-information filters **apply only to AIS-based insights**.

You can filter vessels by:

- Vessel Type (fishing, cargo, etc.)
- Vessel Flag
- Gear Type (trawlers, purse seiners, etc.)
- Authorizations (RFMO licenses, etc.)
- Vessel Identity Information (MMSI, IMO, or vessel name)
- Owner Name
- Owner Nationality

A diagram consisting of a red circle at the top right, connected by a red line to a red-bordered rounded rectangle at the bottom right. The circle is positioned over a large, empty rectangular area that represents a map.

The Vessel information filters are particularly useful to analyze Vessels of Interest (VoI). In this example, filters have been applied to only display Skylight Events for Chinese-flagged fishing vessels.



Filter Settings: Vessel Detections

The vessel detection filters in Skylight can **filter vessel detections (satellite imagery)** based on the following criteria:

- The type of satellite technology used
- Whether the vessel has AIS correlation or is considered "dark"
- The estimated vessel length from imagery (Sentinel-2 only)

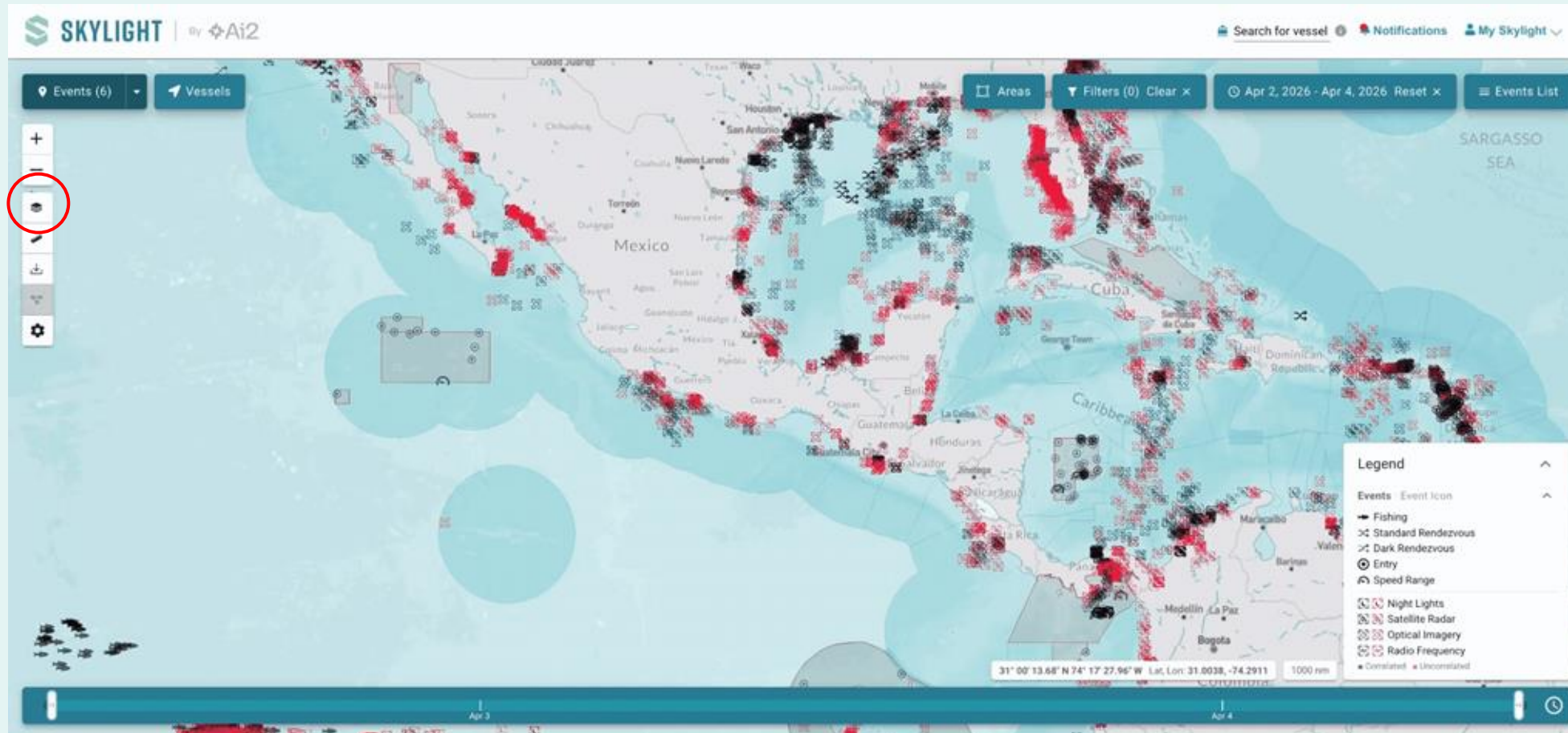
In this example, we filter vessel detections to focus on dark vessels captured via electro-optical imagery.



Map Layers

Skylight offers a range of map display features to help analysts interpret data through the most relevant visual representation for their needs.

Available map layers include bathymetry, exclusive economic zone (EEZ) boundaries, 12 nautical mile boundaries, user-defined Areas of Interest (AOIs), and an option to toggle on/off satellite imagery frames.

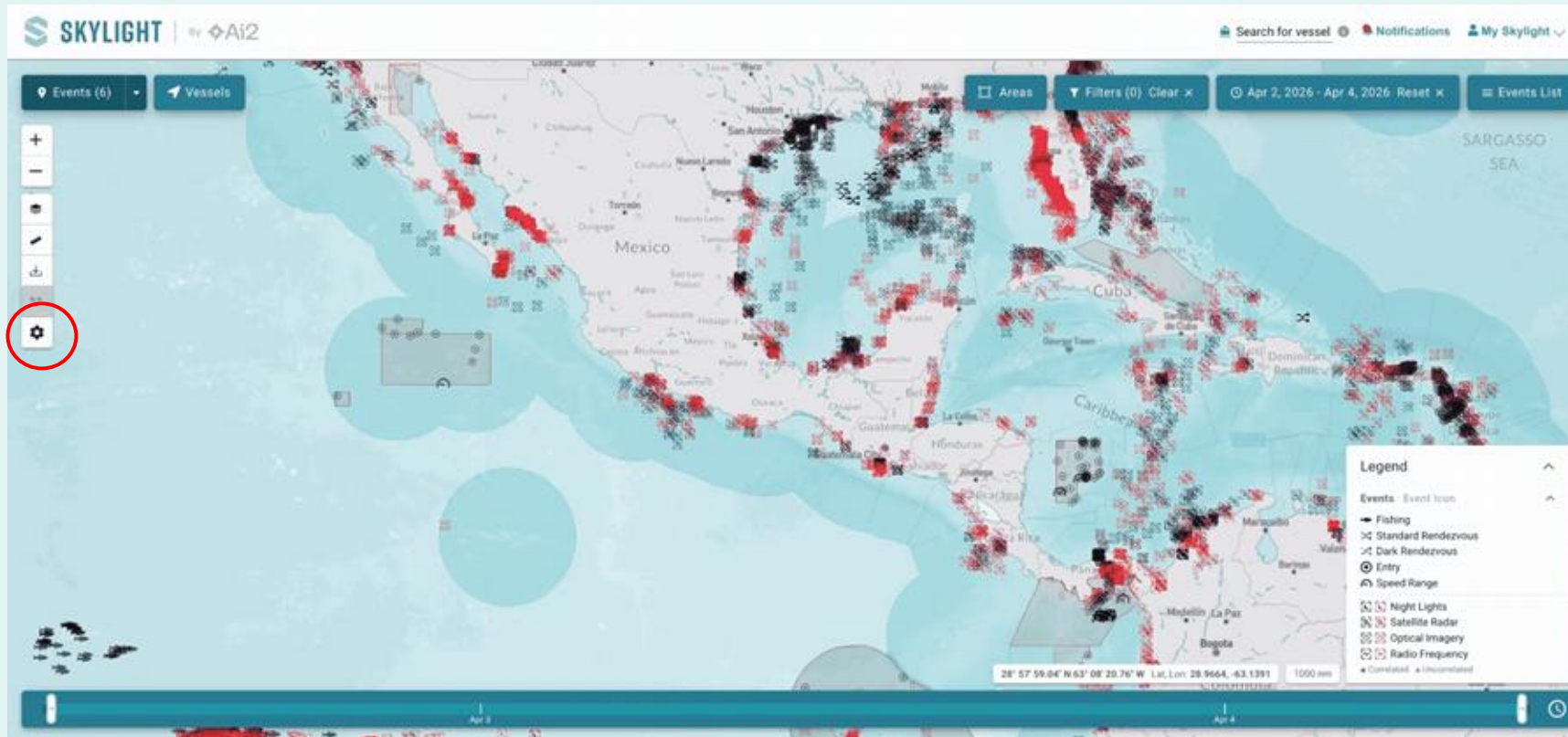


Click on the map display settings and select the desired map layer.



Visualizations Settings: Events

Data (Events) on the map can also be displayed in three different modes.



Click on the visualization settings and select the desired event display style.

- **Heatmap Mode** – to highlight areas with high concentrations of activity.
- **Event Mode** – to display individual detected events.
- **Flag Mode** – to visualize events by vessel flag.



Visualizations Settings: Vessel Positions



The Legend automatically adjust to display the visualization settings selected by the user.



Skylight offers **advanced visualization settings to display vessel positions** based on MMSI, vessel type, flag, Speed Over Ground, latest AIS update (to identify vessels that have not transmitted AIS recently), and recent events (to highlight vessels associated with Skylight Events in the last 5 days).



Visualizations Settings: AIS Tracks



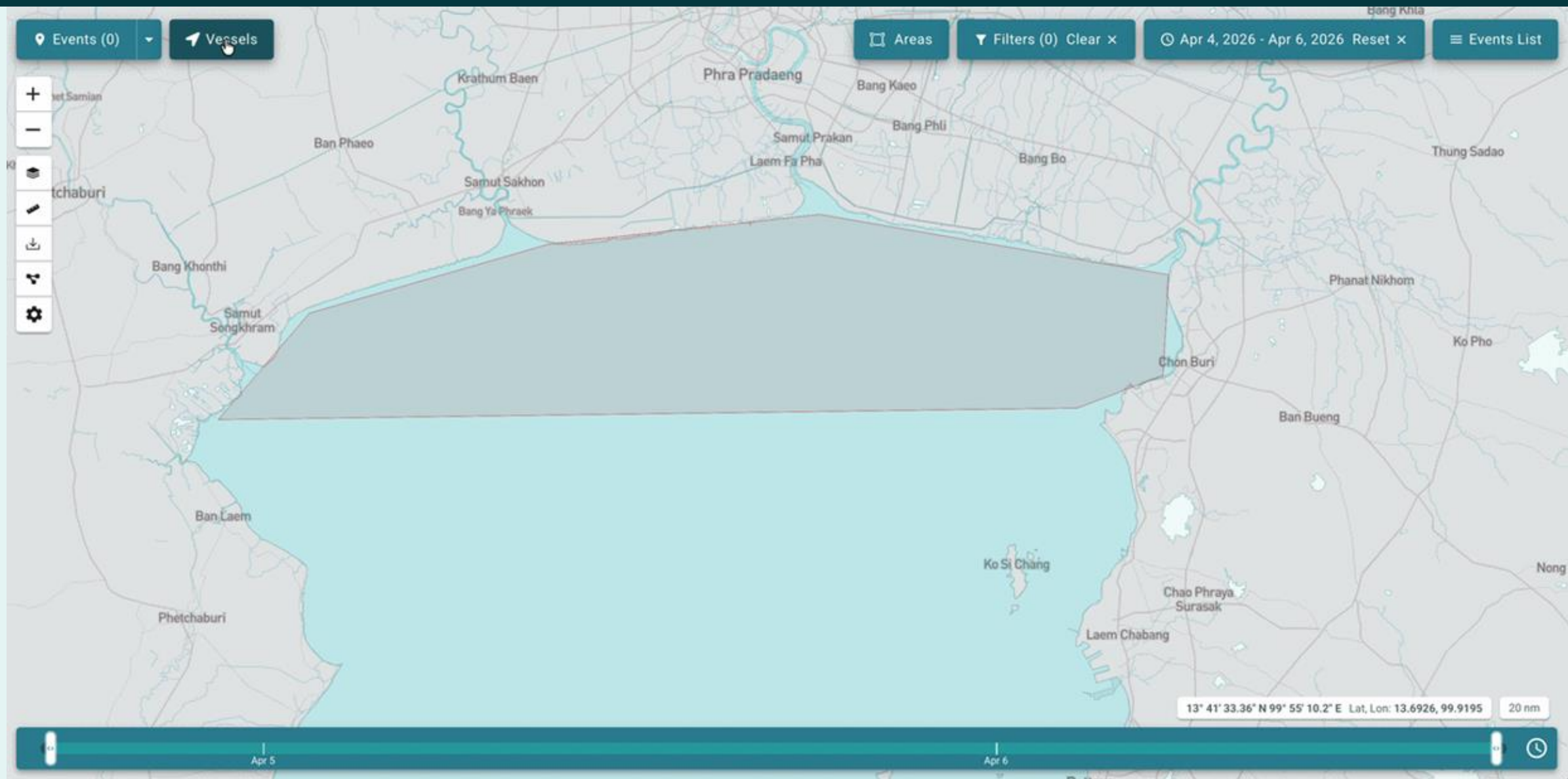
The Legend automatically adjust to display the visualization settings selected by the user.



Skylight offers **advanced visualization settings for track analysis**. This is a key tool for further investigating vessel positions and Skylight events. The visualization settings enable analysis of vessel tracks based on MMSI (useful for distinguishing multiple vessels), Speed Over Ground, latest AIS position update (helpful for understanding the chronology of movements over the past 72 hours), and time of day (to assess whether activity occurred during daytime or nighttime).



Workflow example: Using visualization settings to investigate Rendez-Vous Events

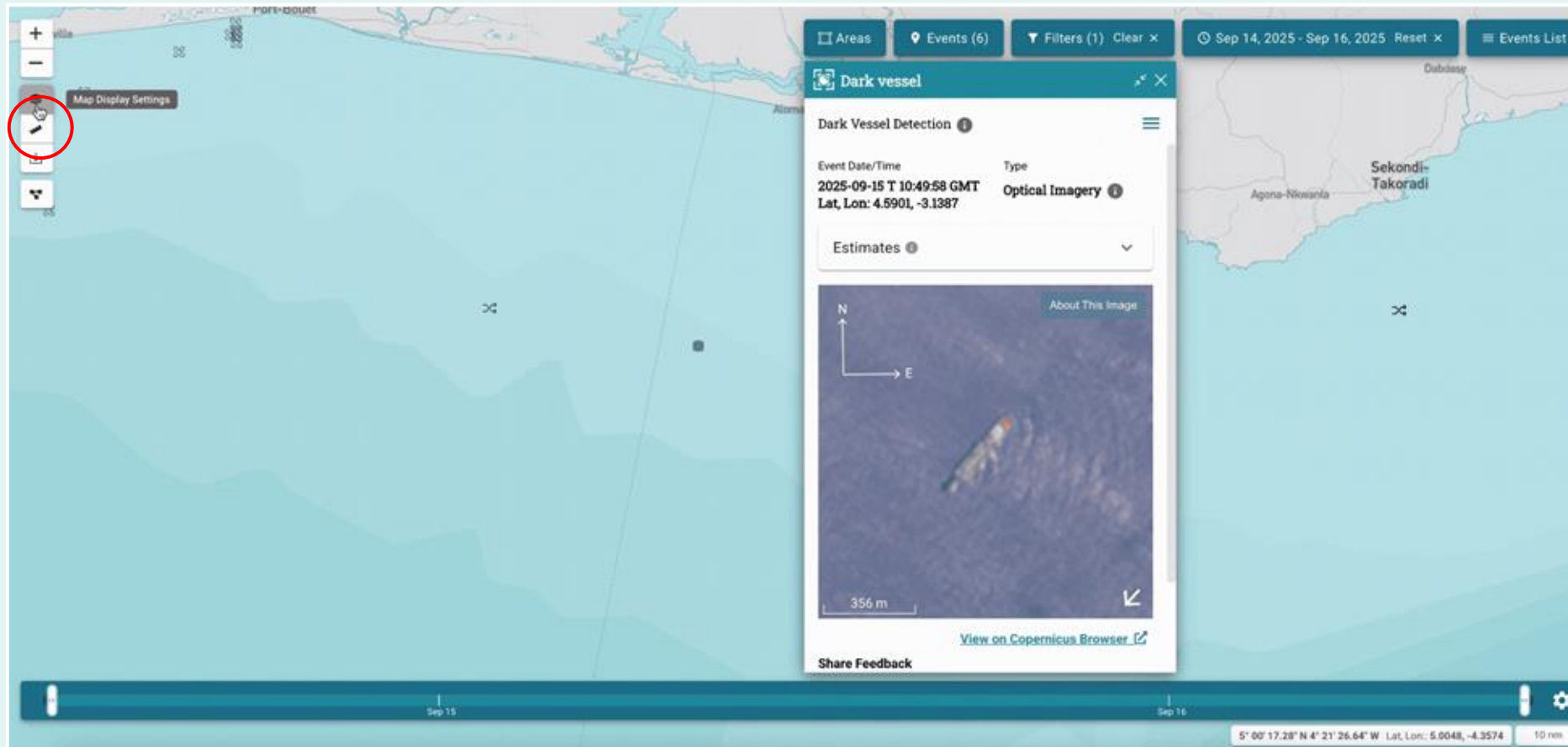


Workflow example: Using visualization settings to investigate Vessel Positions



Ruler

Skylight offers a ruler feature that allows users to measure distances on the map. This can be useful for various scenarios, such as calculating the distance from an event to the coast or between two events.



Click on the 'Ruler' icon (highlighted in red in the image), select the desired units from the menu, and draw a line between the points you want to measure. You can also use the ruler to measure multiple data points.



Show All AIS Tracks

Skylight offers a feature that allows you to unhide all AIS tracks in the immediate vicinity of a specific event. This feature is activated only when you zoom in sufficiently on the event, as it is primarily designed for contextual analysis of a particular event.



Click on the 'Show All Tracks' feature (highlighted in red in the picture on the right) to display all AIS tracks around the event

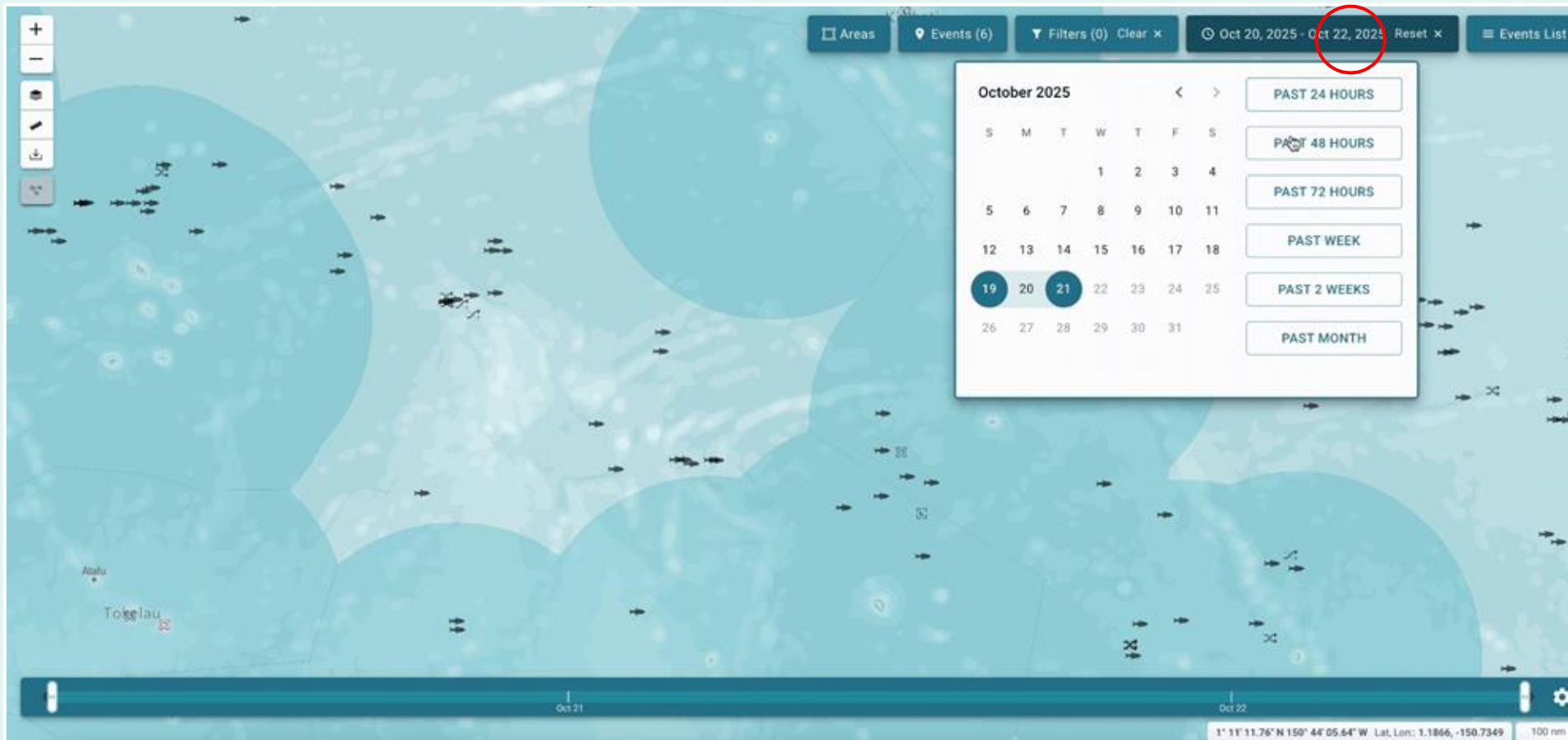
In the specific example above, the “Show All Tracks” feature helps the user understand the broader maritime context surrounding this fishing event. It highlights nearby vessel activity, including transiting vessels and additional fishing activity to the southeast.



Date Range

Skylight users have access to 18 months of historical data. From the main map users can either:

- View data for selected dates of interest,
- View data for a selected timespan of up to 30 days at a time within the same display.

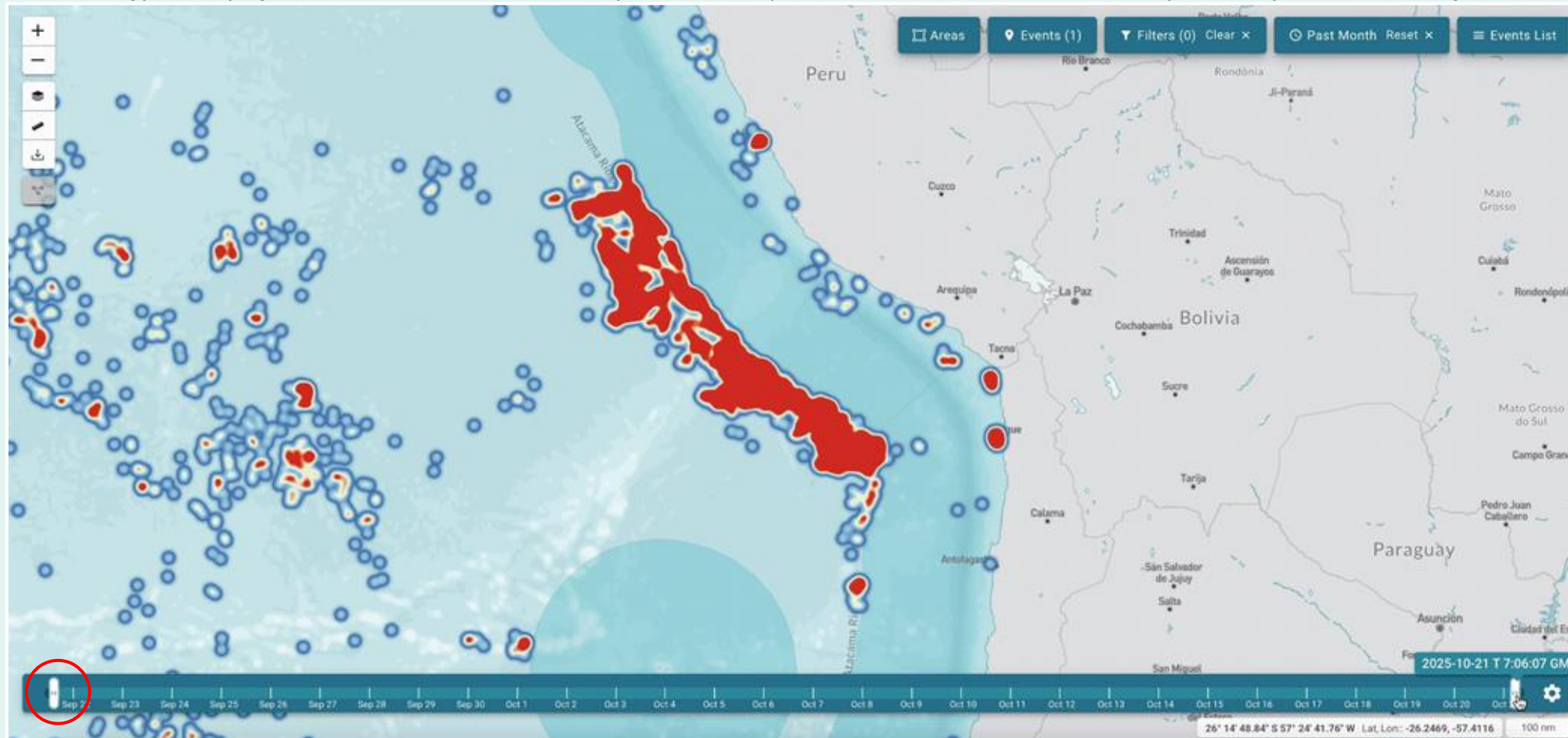


Click on the 'Timeline' option on the far left of the display. Then, either select one of the preset timespans (ranging from 6 hours to 1 month) or customize your timespan using the date range option.



Timeslider

Skylight offers a time slider that enables a more dynamic visualization of data. By moving the time slider, users can better understand the chronology of Skylight Events and vessel activity. The timespan of the time slider can be adjusted by first selecting the date range.



Hold and hover the white tips of the time slider from left to right to dynamically visualize vessel activity.

In the example above, the timeslider is used to track distant-water fishing fleet movements across a one month period.



Customization Features

**1**

Create an Area of Interest

To access advanced monitoring capabilities and generate events based on area entry and vessel speed ranges



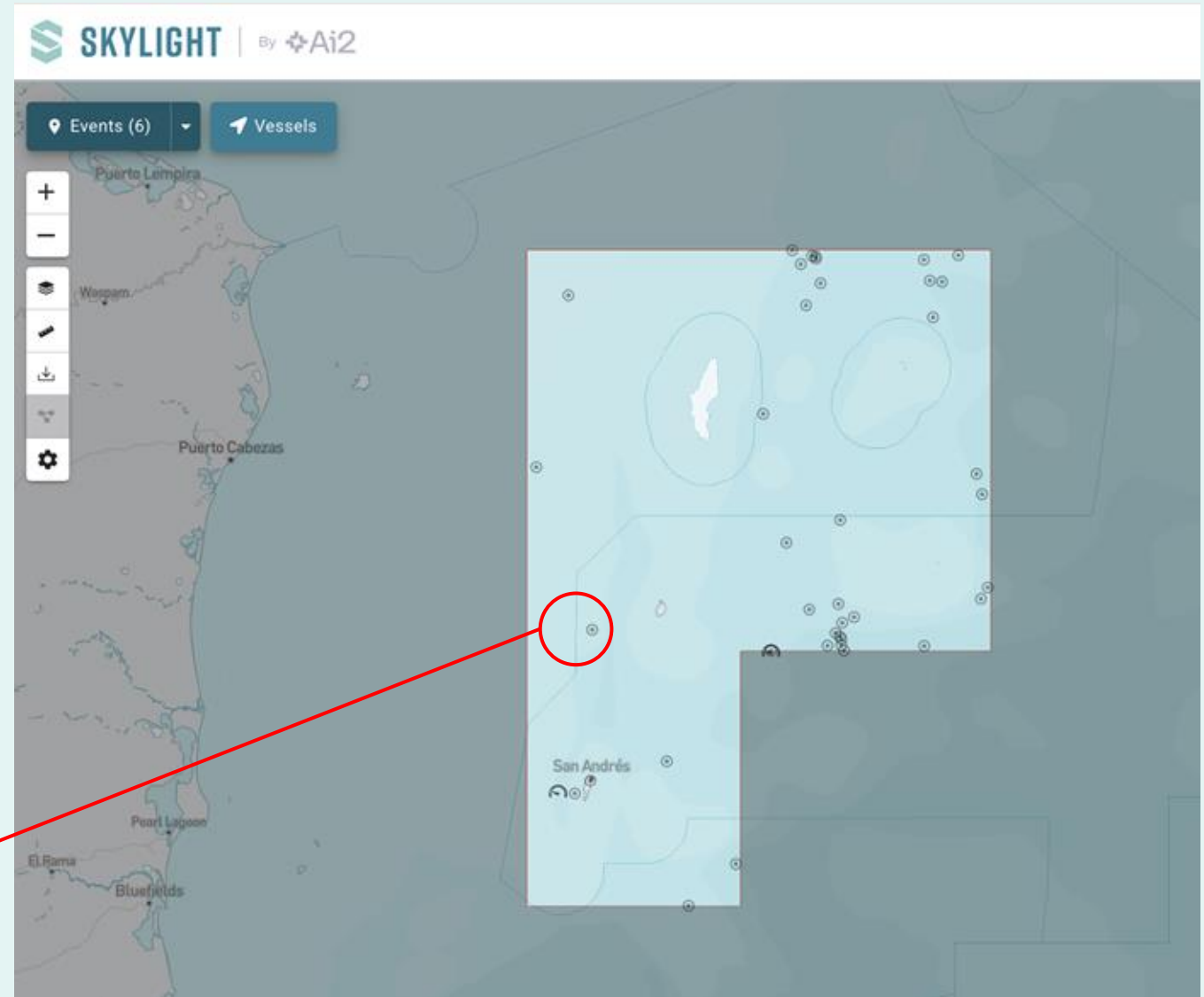
Definition of an Area of Interest

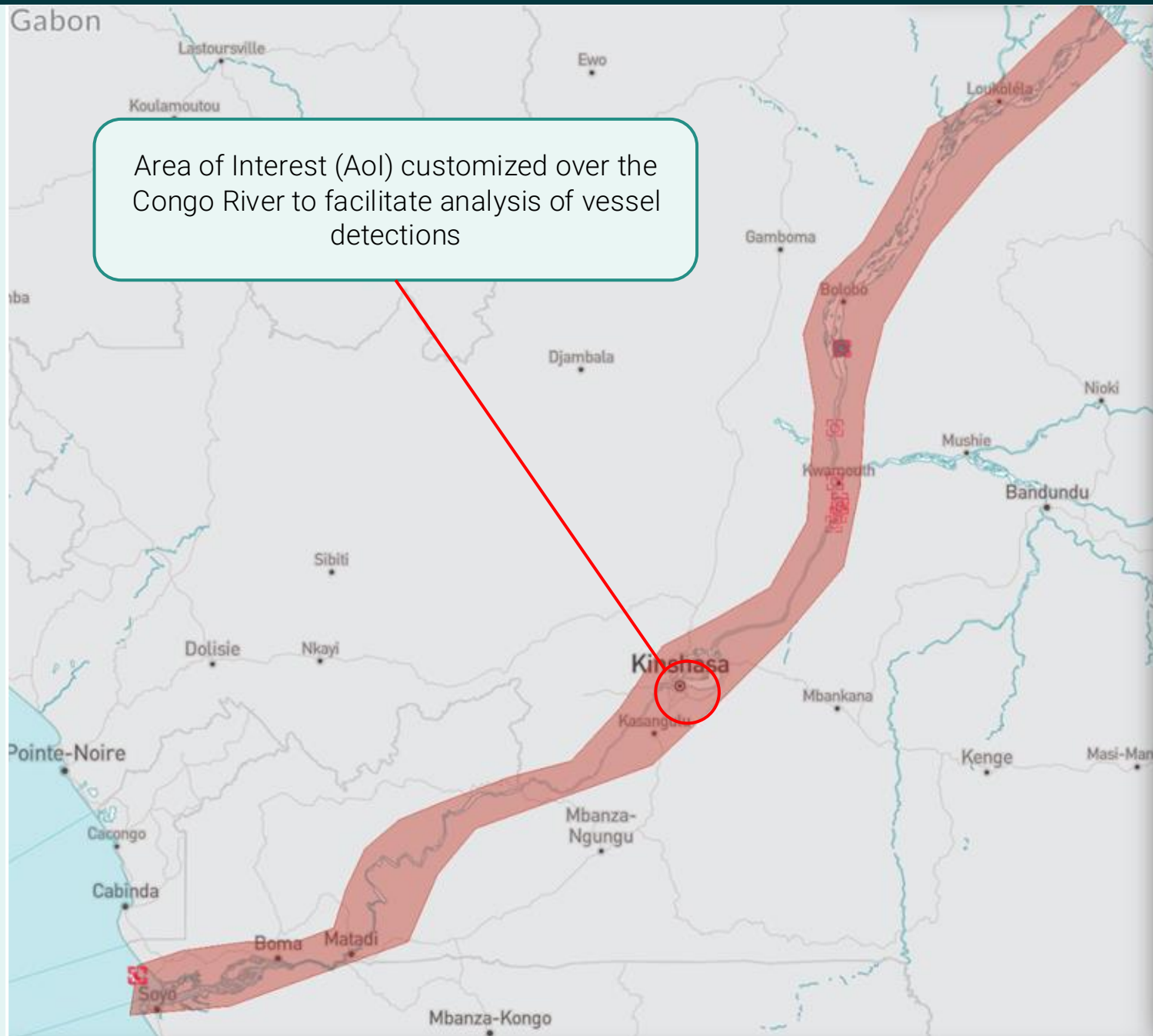
An Area of Interest (Aoi) in Skylight allows users to monitor specific regions more closely, such as protected areas, port facilities or buffers around an Exclusive Economic Zone (EEZ). These user-created custom areas are essential for various functionalities within the Skylight platform, including:

- Creating Saved Filters and Alerts
- Generating Entry Events and Speed Range Events
- Download data specific to the Aoi.

Skylight currently supports the creation of Areas of Interest (Aoi) up to a maximum size of 1,000,000 km².

The picture on the right shows a customized Area of Interest (Aoi) created by a user in a regulated area in the Colombian Caribbean. This Aoi is designed to monitor entries/exits of vessels (Entry Event) and highlight vessels transiting within the Aoi at speeds below a certain threshold (Speed Event).





Dark vessel

Dark Vessel Detection ⓘ

Event Date/Time

2025-10-20 T 9:21:29 GMT

Lat, Lon: -2.4242, 16.2187

Type

Optical Imagery ⓘ

Estimates ⓘ

▼

About This Image

[View on Copernicus Browser](#) ↗

Share Feedback

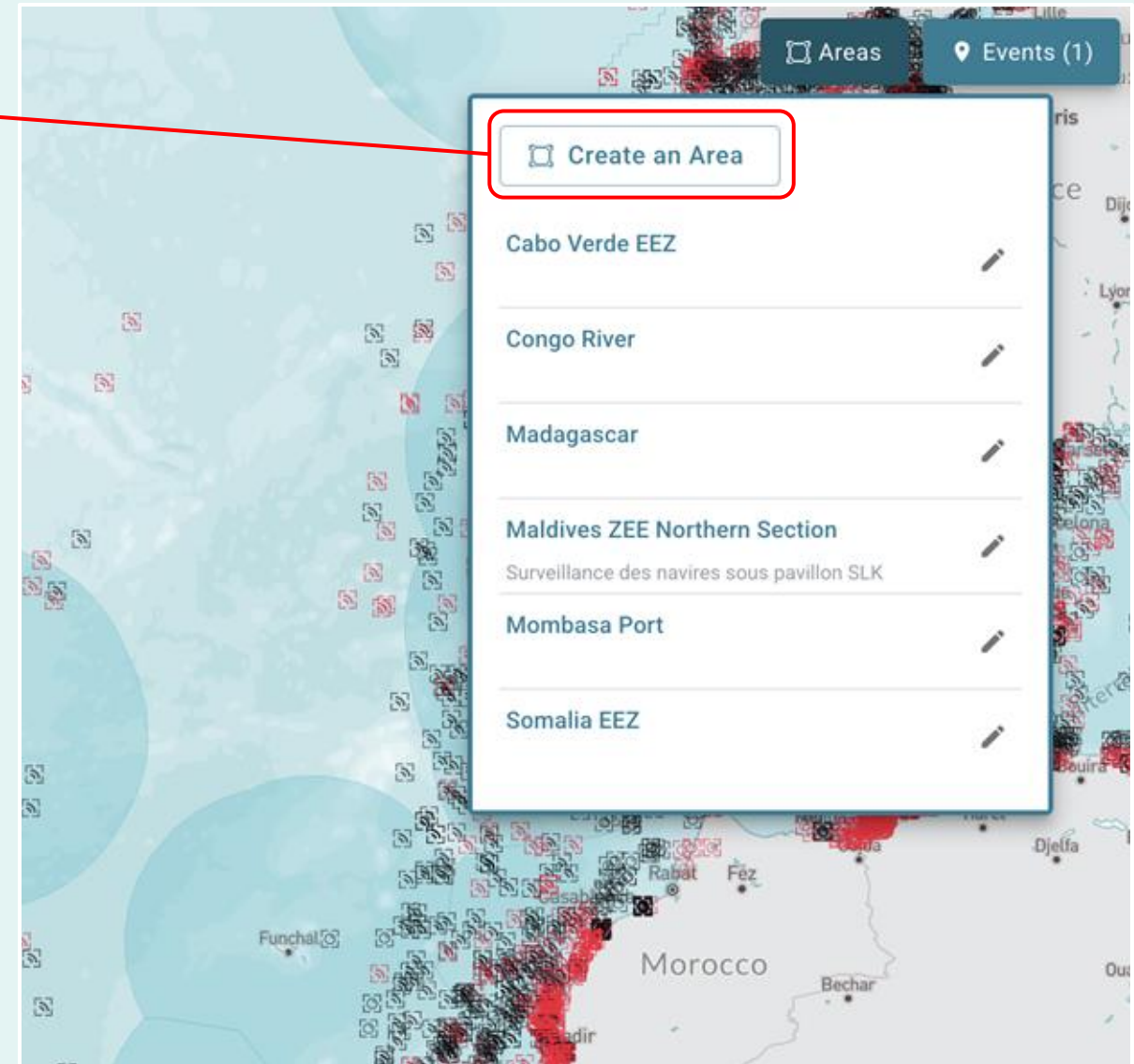


Create an Area of Interest

To create an Area of Interest (Aoi) in Skylight, open the Areas menu and select Create an Area

A configuration panel will appear, guiding you through three steps:

- 1. Define the Area of Interest (Aoi) boundary.** Choose how you would like to create the polygon for your Area of Interest. You can:
 - Draw the area manually on the map
 - Enter geographic coordinates
 - Upload a KML or KMZ file
- 2. Configure Aoi-dependent events.** Select which events should be associated with the Area. You can enable:
 - Entry events
 - Speed range events, based on customizable parameters
- 3. Name and save the Area of Interest.** Provide a name for the Area and, optionally, a short description. Once completed, save the Area of Interest.



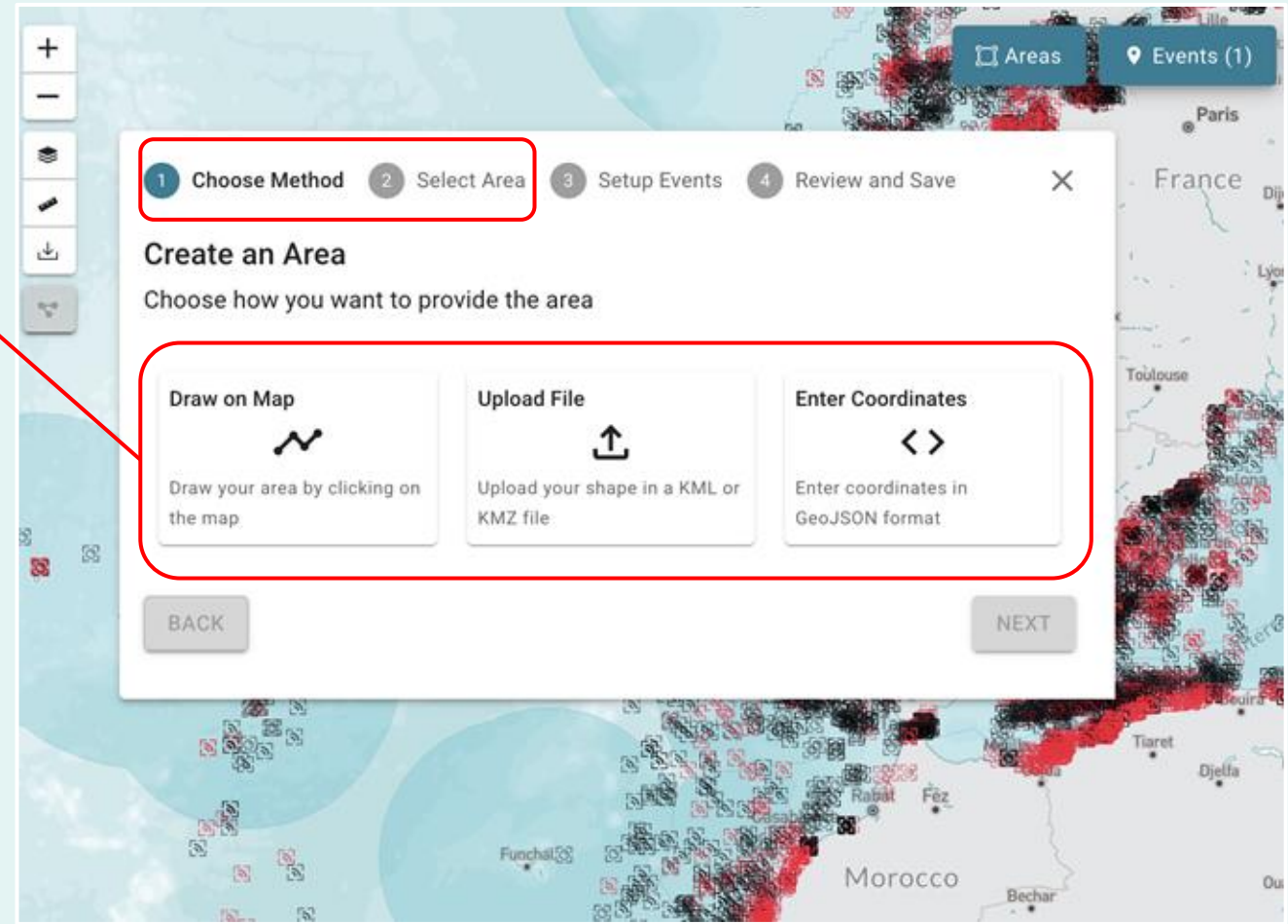


Create an Area of Interest

To create an Area of Interest (Aoi) in Skylight, open the Areas menu and select Create an Area.

A configuration panel will appear, guiding you through three steps.

- 1. Define the Area of Interest (Aoi) boundary.** Choose how you would like to create the polygon for your Area of Interest. You can:
 - Draw the area manually on the map
 - Enter geographic coordinates
 - Upload a KML or KMZ file
- 2. Configure Aoi-dependent events.** Select which events should be associated with the Area. You can enable:
 - Entry events
 - Speed range events, based on customizable parameters
- 3. Name and save the Area of Interest.** Provide a name for the Area and, optionally, a short description. Once completed, save the Area of Interest.



Create an Area of Interest



To create an Area of Interest (Aoi) in Skylight, open the Areas menu and select Create an Area.

A configuration panel will appear, guiding you through three steps:

- 1. Define the Area of Interest (Aoi) boundary.** Choose how you would like to create the polygon for your Area of Interest. You can:
 - Draw the area manually on the map
 - Enter geographic coordinates
 - Upload a KML or KMZ file
- 2. Configure Aoi-dependent events.** Select which events should be associated with the Area. You can enable:
 - Entry events
 - Speed range events, based on customizable parameters
- 3. Name and save the Area of Interest.** Provide a name for the Area and, optionally, a short description. Once completed, save the Area of Interest.

Areas Events (1)

✓ Choose Method ✓ Select Area **3 Setup Events** 4 Review and Save X

Create an Area

Entry Events

☒ Generate Entry Events

This will create an event any time a vessel enters this area

Speed Range Events

Generate events when a vessel remains in a specified speed range for a period of time

+ ADD SPEED RANGE EVENT

Minimum kts — Maximum kts for Units **SAVE** X

BACK **NEXT**



Create an Area of Interest

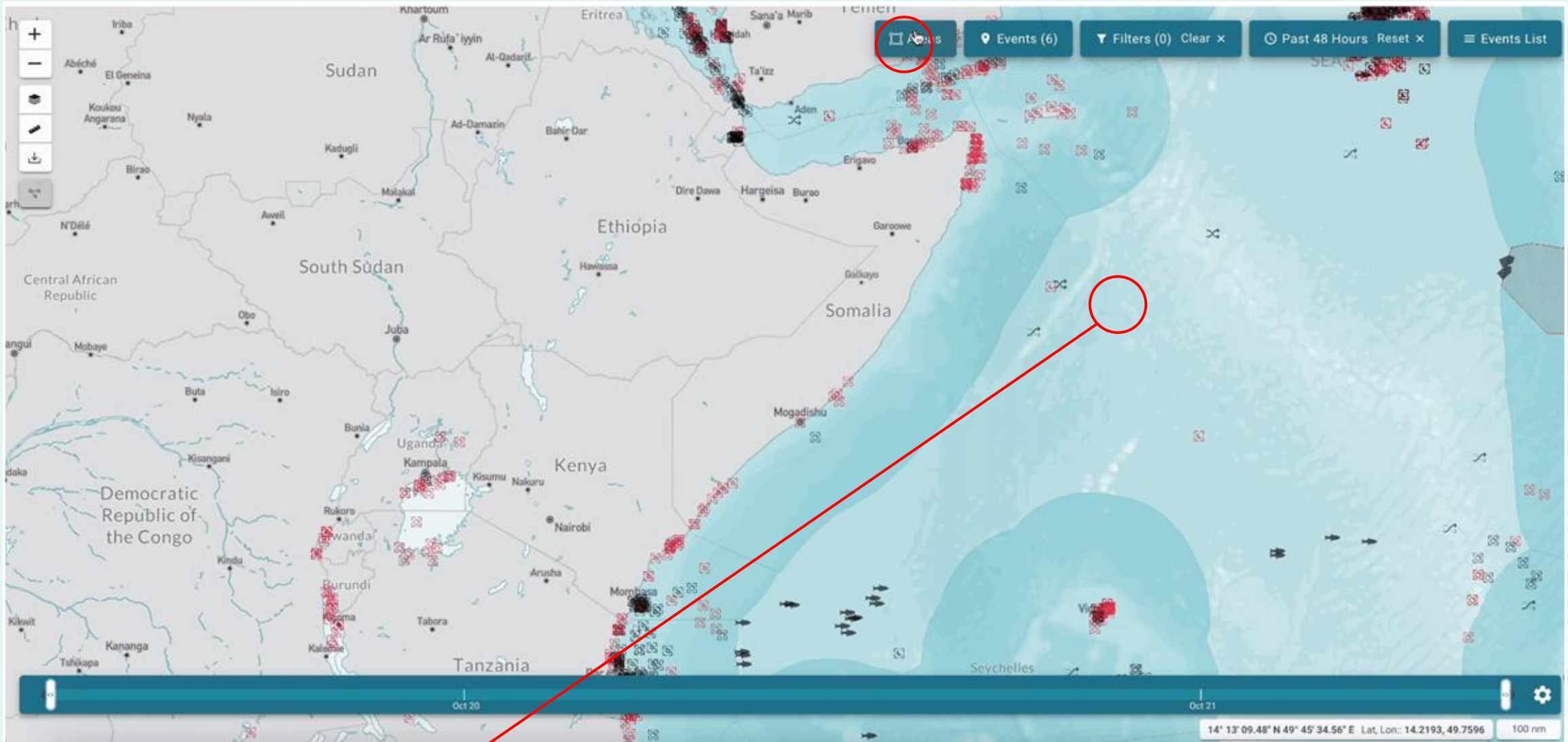
To create an Area of Interest (Aoi) in Skylight, open the Areas menu and select Create an Area.

A configuration panel will appear, guiding you through three steps:

- 1. Define the Area of Interest (Aoi) boundary.** Choose how you would like to create the polygon for your Area of Interest. You can:
 - Draw the area manually on the map
 - Enter geographic coordinates
 - Upload a KML or KMZ file
- 2. Configure Aoi-dependent events.** Select which events should be associated with the Area. You can enable:
 - Entry events
 - Speed range events, based on customizable parameters
- 3. Name and save the Area of Interest.** Provide a name for the Area and, optionally, a short description. Once completed, save the Area of Interest



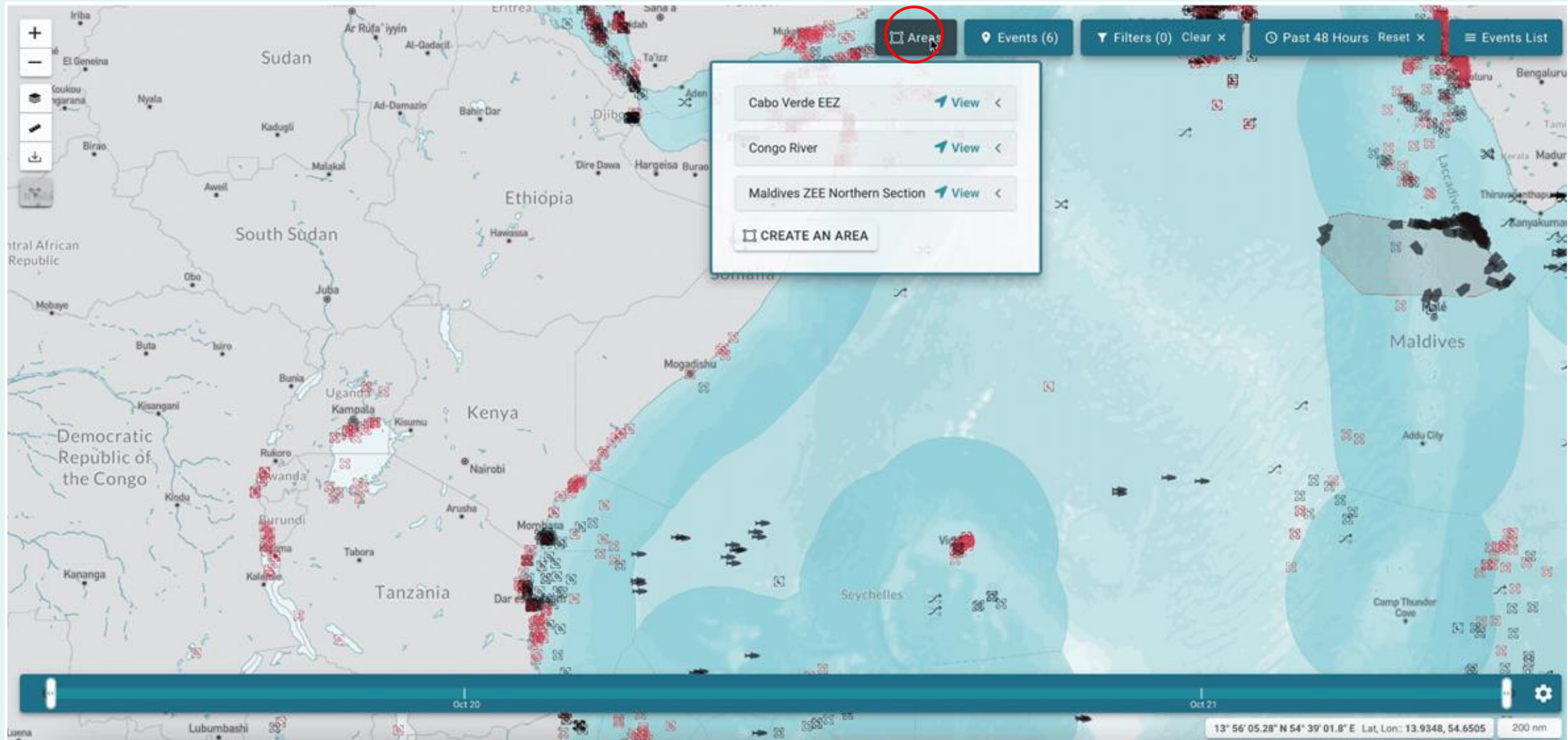
Create an Area of Interest – Manual Polygon



To finalize a polygon, click on the starting point of the shape you began drawing.



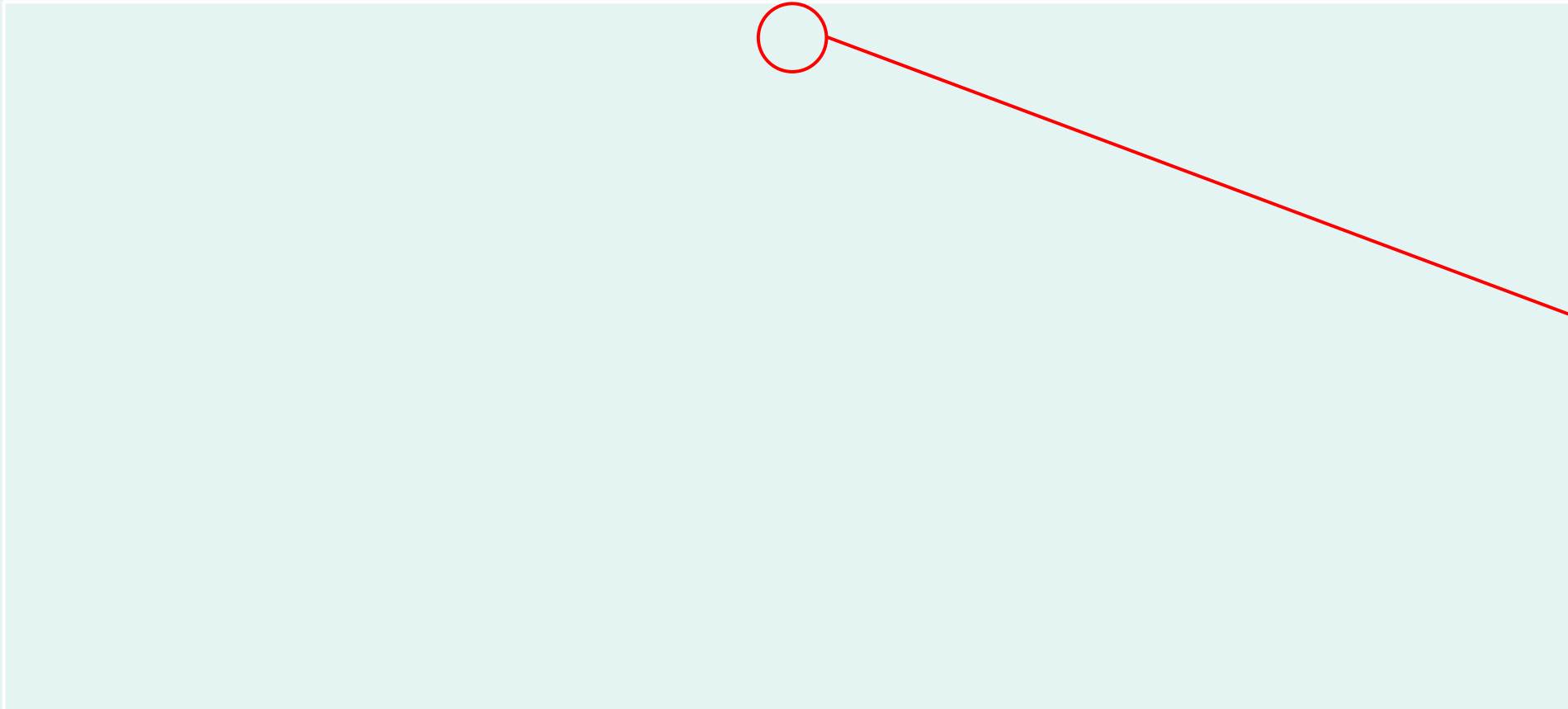
Create an Area of Interest – KML/KMZ File



Users can also choose to create their Aoi by uploading a KML/KMZ file into the system.



Delete an Area of Interest



Select your Area of Interest and see under the 'Area Information' subsection to find the delete button.

To note:

- Once a AoI is created, its polygon cannot be modified. The only way to adapt a polygon shape is to delete the AoI and create another one.
- Once an Area of Interest (AoI) is deleted, all associated data—such as Entry Events and Speed Range Events—will be permanently lost.

**2**

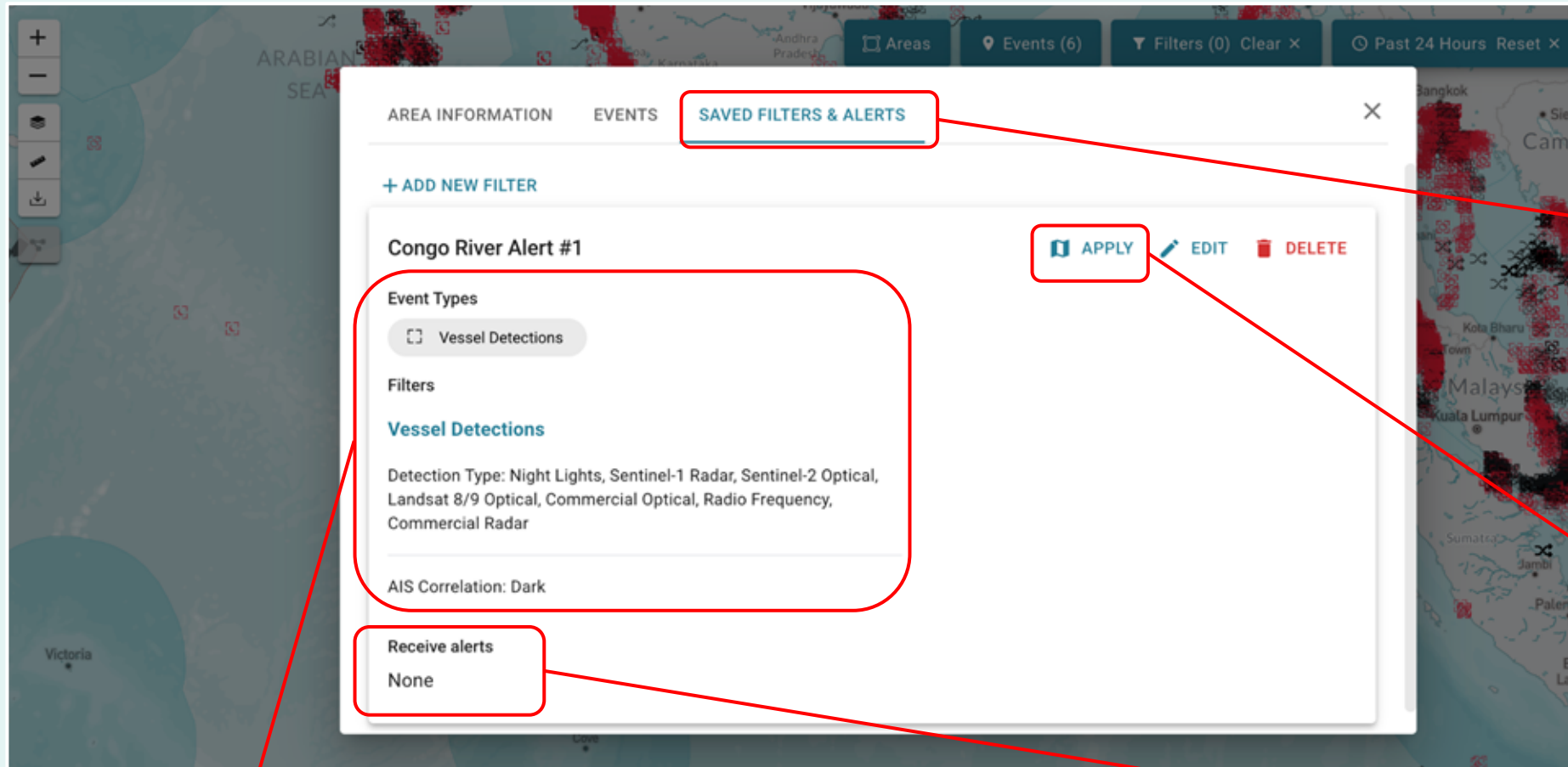
Create Saved Filters and Set up Alerts

To save time on repetitive search conditions and receive real-time notifications



Definition of a Saved Filter

A Saved Filter allows you to quickly apply your preferred monitoring settings to an Aoi without needing to remember or manually reset filters.

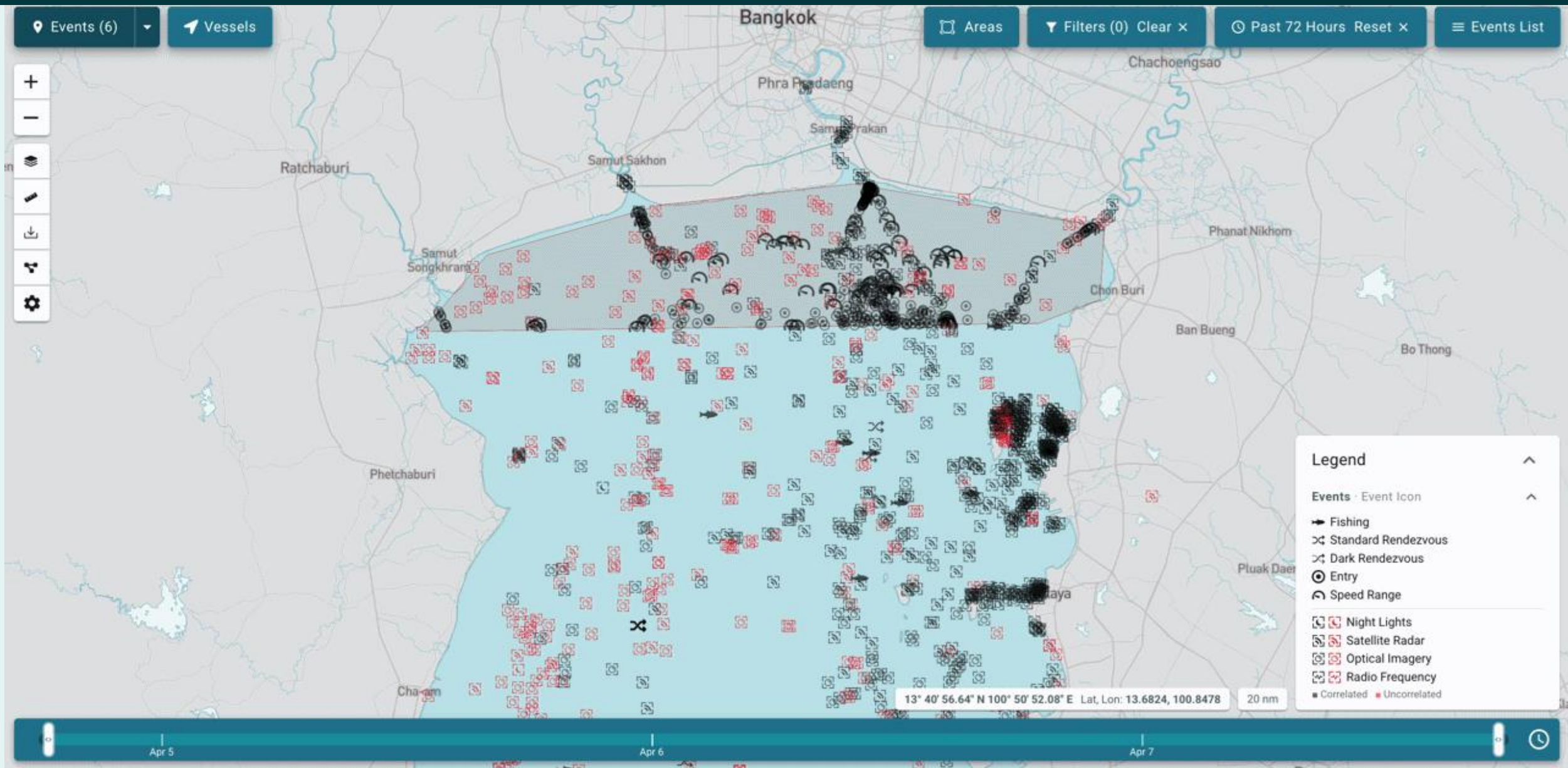


Open the 'Areas' menu and select 'Saved Filters & Alerts' subsection to see your saved filters.

Click on 'Apply' to display data according to the saved filter.

In this example, the saved filter is configured to filter Skylight data to show only vessel detections associated with dark vessels.

No alerts have been set up for this saved filter.

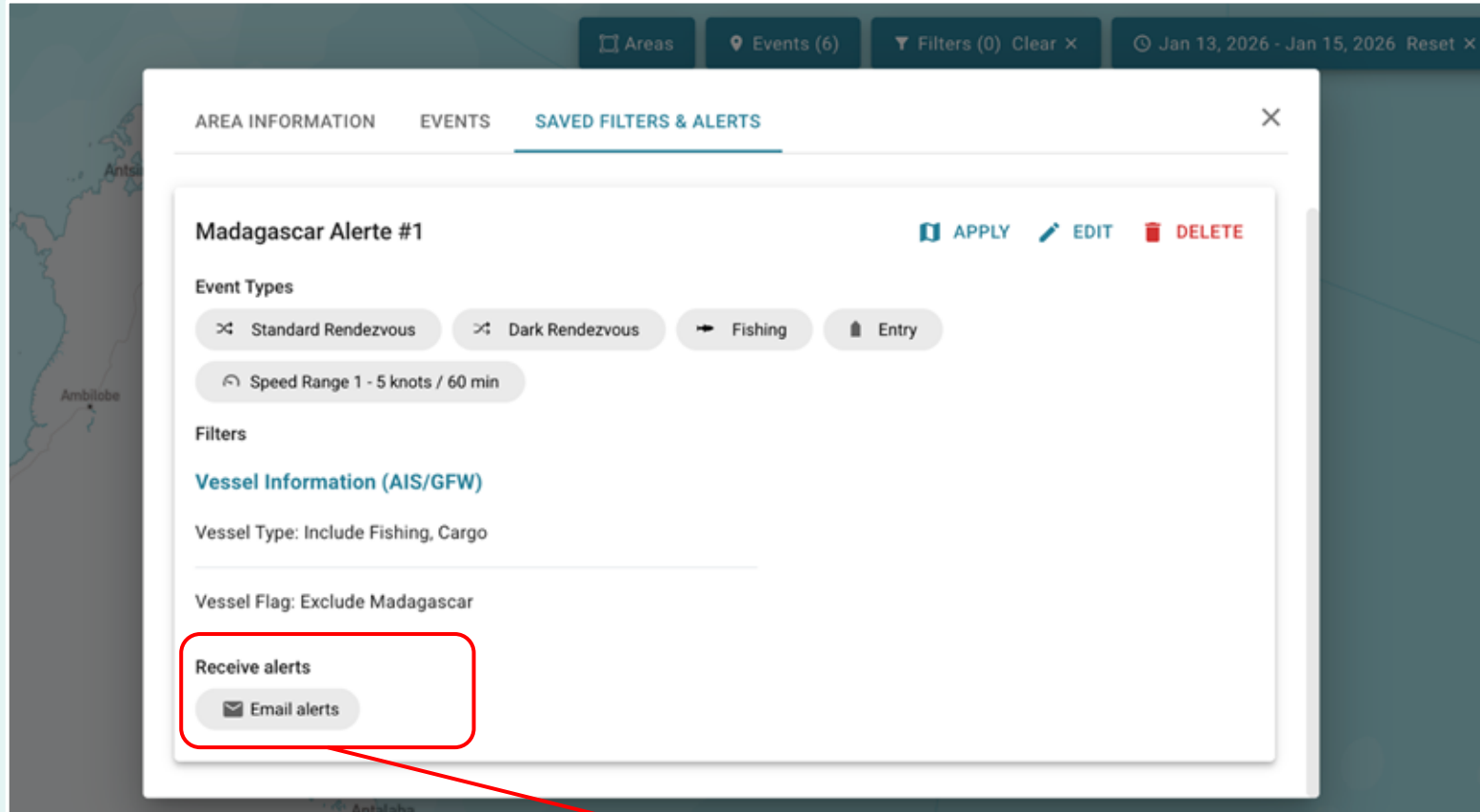


By default, a Saved Filter applies only to its associated Aoi. You can then extend the filter to the entire map by clicking anywhere outside the Aoi.

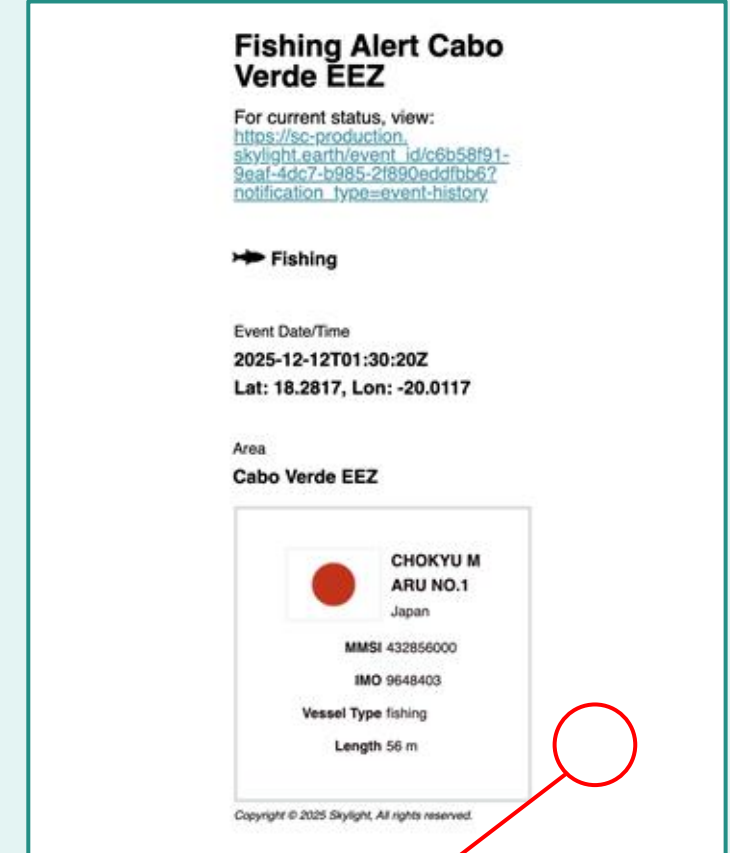


Definition of an Alert

Alerts can be set up from any saved filter to notify you via automated email every time Skylight detects an Event matching the criteria of your saved filter within your Area of Interest (AoI).



This saved filter is set up to generate alerts for AIS-transmitting vessels that display suspicious low-speed behaviour—such as potential transshipment or fishing—within the Area of Interest.



Example of an alert received via email.

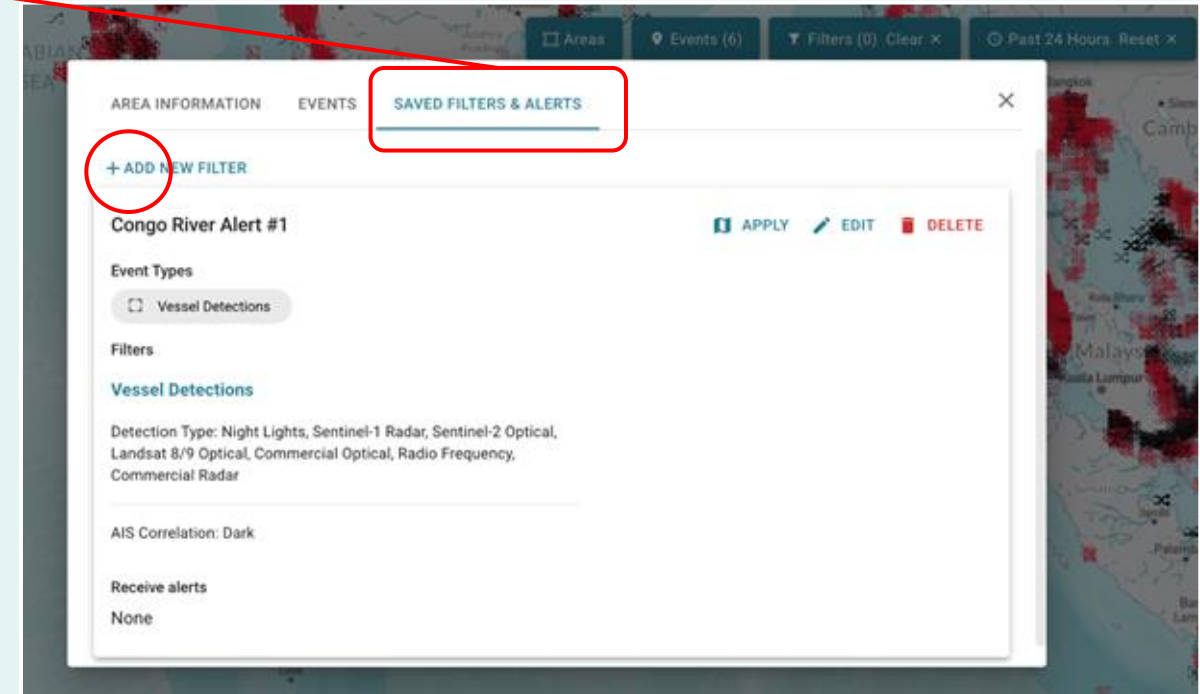


Create a Saved Filter and an Alert

Open the Areas menu and select the Area of Interest (Aoi) for which you want to set up a saved filter and alert. Navigate to the third subsection called 'Saved Filters & Alerts', and click Add a new filter.

A configuration panel will appear, guiding you through the following steps:

- 1. Name the saved filter.** Provide a clear and descriptive name that reflects the monitoring condition of the saved filter to facilitate follow-up. *Example: Saved Filter_Fishing*
- 2. Select Skylight events.** Choose which Skylight events should be monitored under this saved filter.
- 3. Define vessel and detection filters.** Select which vessel information or vessel detection criteria should apply to the saved filter. For example, you can configure a saved filter to monitor only cargo vessel entries within your Aoi.
- 4. Enable email alerts (optional).** Choose whether this saved filter should generate email alerts.



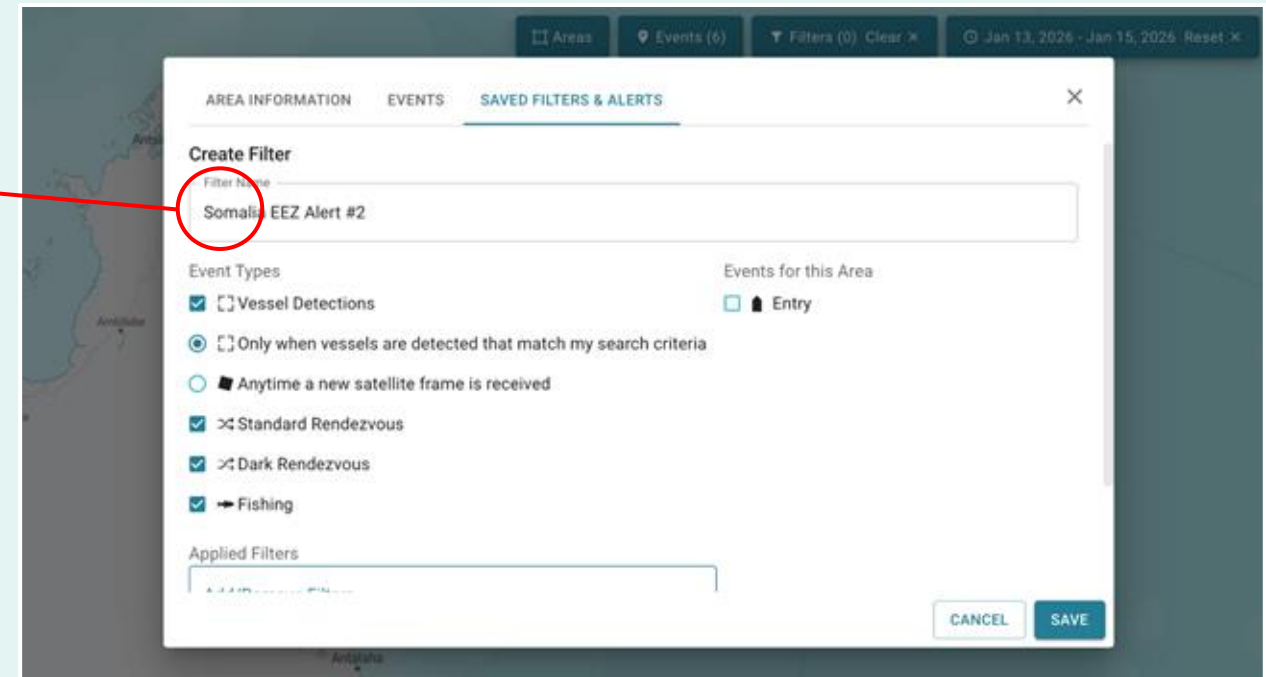


Create a Saved Filter and an Alert

Open the Areas menu and select the Area of Interest (Aoi) for which you want to set up a saved filter and alert. Navigate to the third subsection called 'Saved Filters & Alerts', and click Add a new filter.

A configuration panel will appear, guiding you through the following steps:

- 1. Name the saved filter.** Provide a clear and descriptive name that reflects the monitoring condition of the saved filter to facilitate follow-up. *Example: Saved_Filter_Fishing*
- 2. Select Skylight events.** Choose which Skylight events should be monitored under this saved filter.
- 3. Define vessel and detection filters.** Select which vessel information or vessel detection criteria should apply to the saved filter. For example, you can configure a saved filter to monitor only cargo vessel entries within your Aoi.
- 4. Enable email alerts (optional).** Choose whether this saved filter should generate email alerts.



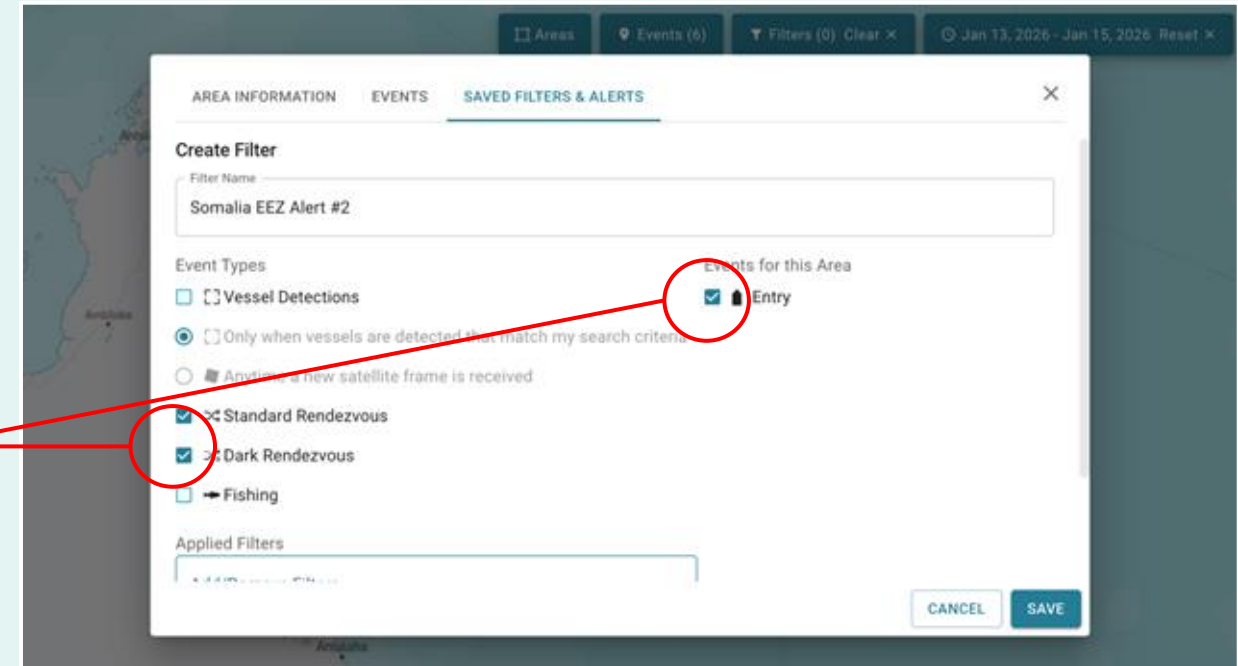


Create a Saved Filter and an Alert

Open the Areas menu and select the Area of Interest (Aoi) for which you want to set up a saved filter and alert. Navigate to the third subsection called 'Saved Filters & Alerts', and click Add a new filter.

A configuration panel will appear, guiding you through the following steps:

- 1. Name the saved filter.** Provide a clear and descriptive name that reflects the monitoring condition of the saved filter to facilitate follow-up. *Example: Saved Filter_Fishing*
- 2. Select Skylight events.** Choose which Skylight events should be monitored under this saved filter.
- 3. Define vessel and detection filters.** Select which vessel information or vessel detection criteria should apply to the saved filter. For example, you can configure a saved filter to monitor only cargo vessel entries within your Aoi.
- 4. Enable email alerts (optional).** Choose whether this saved filter should generate email alerts.





Create a Saved Filter and an Alert

Open the Areas menu and select the Area of Interest (Aoi) for which you want to set up a saved filter and alert. Navigate to the third subsection called 'Saved Filters & Alerts', and click Add a new filter.

A configuration panel will appear, guiding you through the following steps:

- 1. Name the saved filter.** Provide a clear and descriptive name that reflects the monitoring condition of the saved filter to facilitate follow-up. *Example: Saved Filter_Fishing*
- 2. Select Skylight events.** Choose which Skylight events should be monitored under this saved filter.
- 3. Define vessel and detection filters.** Select which vessel information or vessel detection criteria should apply to the saved filter. For example, you can configure a saved filter to monitor only cargo vessel entries within your Aoi.
- 4. Enable email alerts (optional).** Choose whether this saved filter should generate email alerts.

> In this demo, the saved filter is configured to monitor cargo or fishing vessels that are not flagged to Somalia.



Create a Saved Filter and an Alert

Open the Areas menu and select the Area of Interest (Aoi) for which you want to set up a saved filter and alert. Navigate to the third subsection called 'Saved Filters & Alerts', and click Add a new filter.

A configuration panel will appear, guiding you through the following steps:

- 1. Name the saved filter.** Provide a clear and descriptive name that reflects the monitoring condition of the saved filter to facilitate follow-up. *Example: Saved Filter_Fishing*
- 2. Select Skylight events.** Choose which Skylight events should be monitored under this saved filter.
- 3. Define vessel and detection filters.** Select which vessel information or vessel detection criteria should apply to the saved filter. For example, you can configure a saved filter to monitor only cargo vessel entries within your Aoi.
- 4. Enable email alerts (optional).** Choose whether this saved filter should generate email alerts.



Example 1. Creating a Saved Filter and Alert for **fishing activity of fishing vessels** in the Somalia EEZ.



Example 2. Creating a Saved Filter and Alert for **dark vessel detections** in the Congo River Estuary.



AREA INFORMATION

EVENTS

SAVED FILTERS & ALERTS

×

Congo River Alert_DVD

APPLY

CANCEL

DELETE

Event Types

☒ Vessel Detections

☒ Only when vessels are detected that match my search criteria

☐ Anytime a new satellite frame is received

☐ Standard Rendezvous

☐ Dark Rendezvous

☐ Fishing

In the case of a vessel detection alert, notifications can be triggered either whenever new satellite imagery has been received or when vessels have actually been detected in satellite imagery within the Area of Interest (Aoi).



Vessel Information Data

› Vessel Details Page

Users investigating specific Vessels of Interest can refer to the Skylight Vessel Details Page, which provides comprehensive information on each vessel. This includes identity, vessel type, flag state, and registration details, up to 18 months of historical activity.

Information

AIS

BORE WAVE
Netherlands

MMSI 246278000
IMO 9892896
Call Sign PEVW
Vessel Type Cargo
Length (m) 121
Width (m) 21
Last POC FERROL, Spain (PSMA)
Of Note ⚠️ Associated with a potential oil slick
[SkyTruth Cerulean](#)
[GFW & TMT Vessel Viewer](#)
Other Sources [C4ADS Triton](#)
[MarineTraffic](#)
[CRAVT](#)

Global Fishing Watch

BORE WAVE
Netherlands

Tracks and Event History

Events (6) Jan 9, 2026 - Feb 9, 2026 Reset X

Tracks Legend

Events

	Event	Start/Arrival Date ↓	Duration	Location
[X]	Vessel Detections	2026-02-08 T 6:33:25 GMT		45.0924, -7.6255
[X]	Vessel Detections	2026-02-08 T 11:12:30 GMT		45.9224, -7.1935
[X]	Vessel Detections	2026-02-04 T 18:12:09 GMT		43.6892, -5.1126
[X]	Vessel Detections	2026-02-03 T 6:25:16 GMT		43.5993, -3.3334

Toggle on/off to collapse the table and expand the map view

AIS-based vessel information

AIS

 **ESCUALO CUATRO**
Spain

MMSI 224140000
IMO 9476496
Call Sign ECNU
Vessel Type Fishing
Length (m) 40
Width (m) 8
Other Sources [GFW & TMT Vessel Viewer](#)
[C4ADS Triton](#)
[MarineTraffic](#)

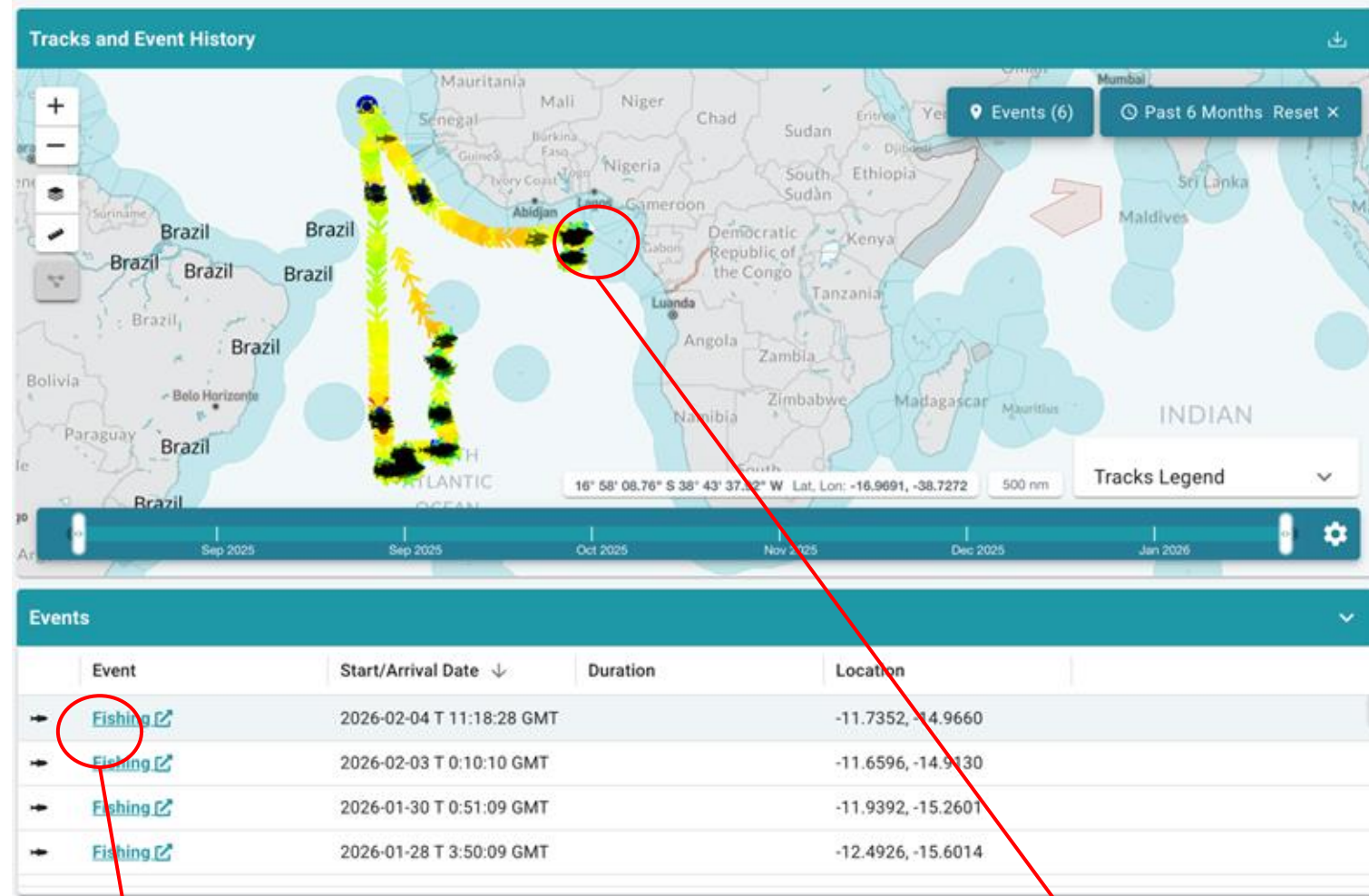
Global Fishing Watch (GFW) vessel data

GFW

 **ESCUALO CUATRO**
Spain

MMSI 224140000
IMO 9476496
Call Sign ECNU
Vessel Type Fishing
Gear Type Fishing
Length (m) 40.3
Tonnage (gt) 399
Owner MAZAIDO SA Y RAMON LORENZO GARCIA
Owner Flag Spain
Owner Source RESEARCH-PAPER
Owner Last Verified On 2025-03-31 T 16:14:37 GMT

Manually verified vessel information, including details on gear type, tonnage, vessel ownership and RFMO authorizations.



Vessel History by AIS tracks
(< 18 months)

Vessel History by AIS Events (< 18 months)

Information 

AIS 

**SEIYU**
Panama

MMSI 352737000

IMO 9888625

Call Sign 3ETX3

Vessel Type Cargo

Length (m) 229

Width (m) 32

Last POC FUSHIKI-TOYAMA, Japan (PSMA)

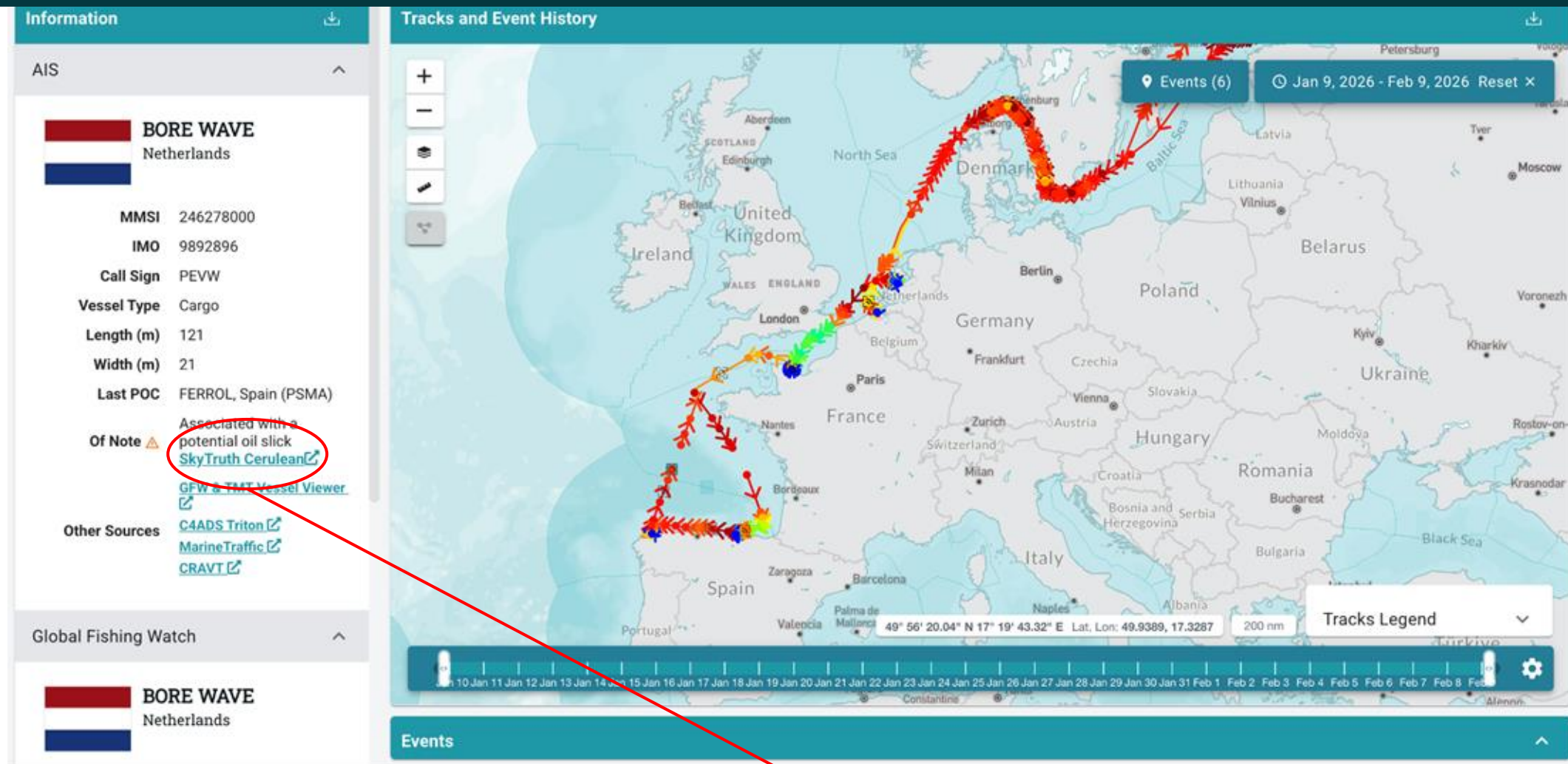
Other Sources

- [GFW & TMT Vessel Viewer](#) 
- [C4ADS Triton](#) 
- [CRAVT](#) 
- [VesselFinder](#) 

Deep-links to external data sources

Skylight's Vessel Details Page integrates direct deep links to help users navigate vessel profiles across multiple external platforms and access complementary data and insights:

- **Global Fishing Watch** — up to 16 years of historical vessel activity data
- **C4ADS Triton** — manually verified information on vessel networks and beneficial ownership
- **CRAVT** — vessel authorisation data issued by Regional Fisheries Management Organizations (RFMOs) and Regional Fisheries Bodies (RFBs)
- **VesselFinder** — generic AIS feeds for maritime traffic monitoring



SkyTruth – Maritime Pollution Incidents

Skylight's vessel database can identify vessels associated with oil slicks detected by our partner SkyTruth. A dedicated entry appears for any vessel identified in connection with a potential oil slick, based on satellite data. Users can click the link to access the SkyTruth User Interface & analyze the corresponding incident. For questions, expert slick review and training is available via support@skytruth.org.



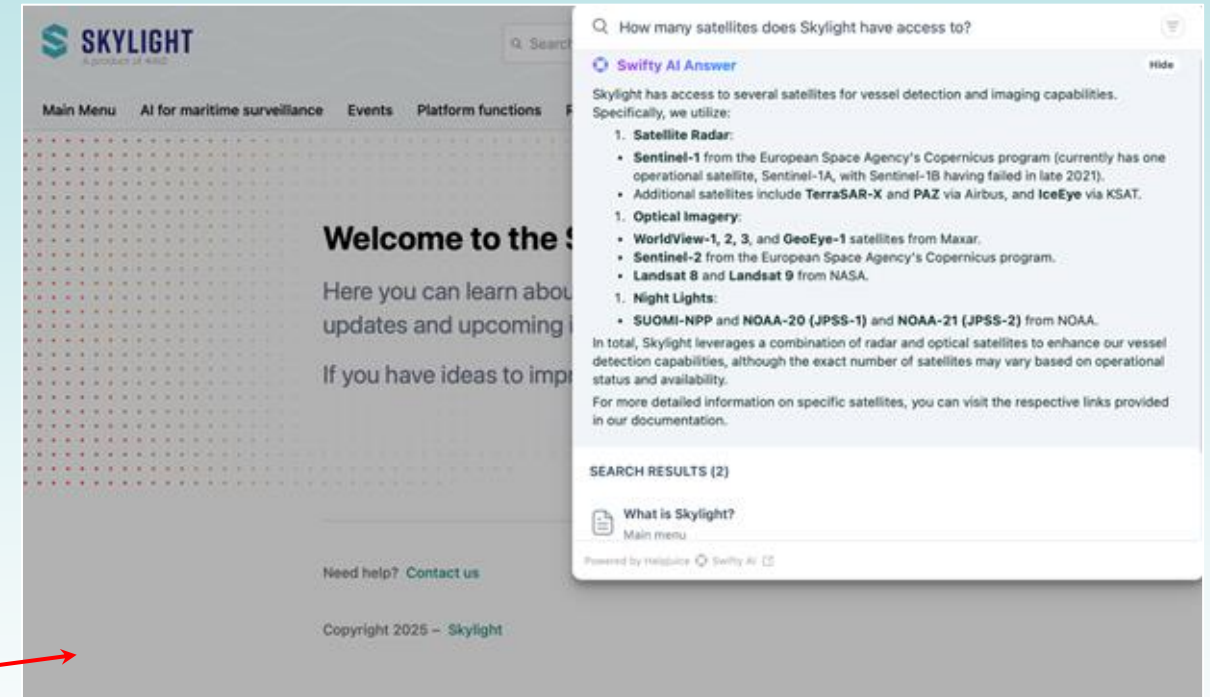
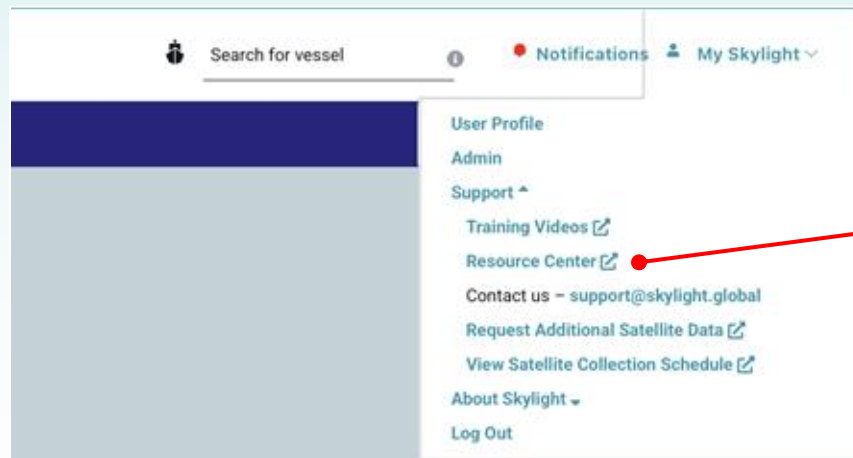
Resource Centre



Skylight provides users with access to a Resource Centre which offers a variety of documentation about how our data works and detailed information about our features.

The Resource Centre can be accessed [here](#) and from the Skylight User Interface under 'My Skylight' and 'Support'.

The Resource Centre includes an AI-powered chatbot. You can ask your questions to the chatbot, which will automatically provide answers and guide you to the relevant resources.



About the Joint Analytical Cell:

The Joint Analytical Cell (JAC) is a unique collective of organizations that provides maritime authorities with high quality fisheries intelligence, technology, data analysis and capacity building to combat illegal, unreported and unregulated fishing (IUU). Together, the JAC members, IMCS Network, Global Fishing Watch, TMT, C4ADS and Skylight, harness innovative technology and complementary expertise to improve the effectiveness of fisheries monitoring control and surveillance, and foster cooperation to build insights and capacity that support and enhance fisheries management.

Contact: jac-coord@tm-tracking.org

www.jointanalyticalcell.org | www.imcsnet.org | www.globalfishingwatch.org | www.tm-tracking.org