

Introduction

Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Understand an overview of the SeaVision (SV) application
- Understand the capabilities of SV
- Identify SV development and support
- Understand the role of the SeaVision Technical Assistance Field Team (SV-TAFT)
- Identify SV data sources
 - Automatic Identification System (AIS)
 - Fairplay by IHS Markit
 - Visible Infrared Radiometer Suite (VIIRS)
 - Satellite Synthetic Aperture Radar (SAT-SAR)
 - Coastal Radar

SeaVision Overview

- Web-based, unclassified Maritime Domain Awareness (MDA) tool:
 - View and share a broad array of maritime information
 - Enhance maritime safety and security
 - Build partnerships with participating countries

SEA VISION
UNITED STATES DEPARTMENT OF TRANSPORTATION

Home Communities Data Sources Releases FAQ User Guide

Our Mission
SeaVision provides a web-based unclassified maritime information sharing and management environment that enables both Public Key Infrastructure (PKI) and non-PKI users to share a broad array of unclassified maritime information to increase maritime security and build partnerships within the maritime community.

SeaVision Team

- PEO C4I/PMW 120, Maritime Domain Awareness Program Office (MDA) SeaVision Office of Primary Responsibility, ensures development and improvement of the tool.
- Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM) Requirements owner/manager for all Fleet Maritime Operations Centers (MOCs).
- Naval Information Warfare Center Pacific (NIWC PAC) Project/Technical manager and responsible for the technical oversight of the SeaVision development teams.
- Department of Transportation (DoT) Volpe Center and NIWC PAC Development teams making enhancements to SeaVision based on COMUSFLTFORCOM requirements.

Welcome to the Information Website for SeaVision!

Guidance Documents

- [United States Fleet Forces Command Request for non-PKI MDA Solution](#)
- [Naval Oceanographer Response Letter to USFF Command](#)
- [MOC Baseline Requirements](#)
- [SeaVision Rules Guidance](#)
- [SeaVision Project Description](#)
- [System Requirements Specifications \(SRS\)](#)

Overview
SeaVision is a web-based maritime situational awareness tool that enables users to view and share a broad array of maritime information to improve maritime operations. To assist the user in managing the information, SeaVision provides user defined rules based analytics to evaluate and notify the user of defined maritime activities or events. SeaVision is a low cost visualization and management tool that has the ability to quickly add and correlate multiple data sources to meet various mission needs.

What SeaVision Can Do

- View & track position & movement information for tens of thousands of ships around the world with advanced filtering & search capabilities.
- Provide users the ability to develop a standardized set of user-defined queries and automated business rules to integrate and correlate data necessary for conducting risk assessments, highlight anomalies, and generate alerts and warnings that automatically notify users.
- Enable users to easily share advanced searches, rules, alerts, shapes and vessel lists with other users within their Community and Persona.
- Query large amounts of data & see where a vessel has been and/or its expected destination.
- Allow users to import & export data products, layers, shapes etc. into the system.
- Monitor Exclusive Economic Zone (EEZ) transits & port visits.

Participating Nations

SeaVision Capabilities

- View and track tens of thousands of ships around the world
- Share searches, rules, alerts, shapes, and vessel lists with other SV users
- Monitor Exclusive Economic Zone (EEZ) transits and port visits



SeaVision Development and Support

- Codeveloped and managed by U.S. Department of Transportation (DOT) Volpe and U.S. Naval Information Warfare Center (NIWC) Pacific
- Designed to take advantage of the Maritime Safety and Security Information System (MSSIS) network
- Field training and support provided by NIWC Pacific's SV-TAFT



SeaVision Technical Assistance Field Team

- SV-TAFT is a group of technical experts from NIWC Pacific, San Diego, California that support MDA and information-sharing capabilities between partner nations
- Possess technical expertise in tools, sensors, applications and solutions to collect, process, and display maritime data
- Offer on-site expertise and assistance on current mission focus, equipment, systems, and processes with the goal of identifying areas for potential capabilities enhancement
 - Equipment Installation
 - MDA Sensor Site Training
 - Exercise Support
 - Sensor Data Integration
 - AIS Sensor Field Demonstration
 - RADAR relay using AIS Transponder

SeaVision Technical Assistance Field Team Cont.

- Establishes, sustains, and integrates data for partner nations' Regional Maritime Pictures (RMPs)
- Provides basic-to-advanced SV training courses:
 - Operator
 - Analyst
 - Executive
 - Train-the-Trainer



SeaVision Data Sources

- SV integrates multiple government and commercial data sources to aid in developing an RMP:
 - Automatic Identification System (AIS)
 - Fairplay by IHS Markit
 - Visible Infrared Imaging Radiometer Suite (VIIRS)
 - Satellite Synthetic Aperture Radar (SAT-SAR)
 - Coastal Radar

AIS

- AIS is a maritime navigation safety communication system that automatically provides:
 - Vessel identity
 - Type
 - Position
 - Course/Speed
- AIS data is provided to SV by the following sources:
 - MSSIS network
 - ORBCOMM (Satellite AIS)
 - ORBCOMM_T (Terrestrial AIS)
 - ORBCOMM_LR (Long-Range AIS)

Fairplay by IHS Markit

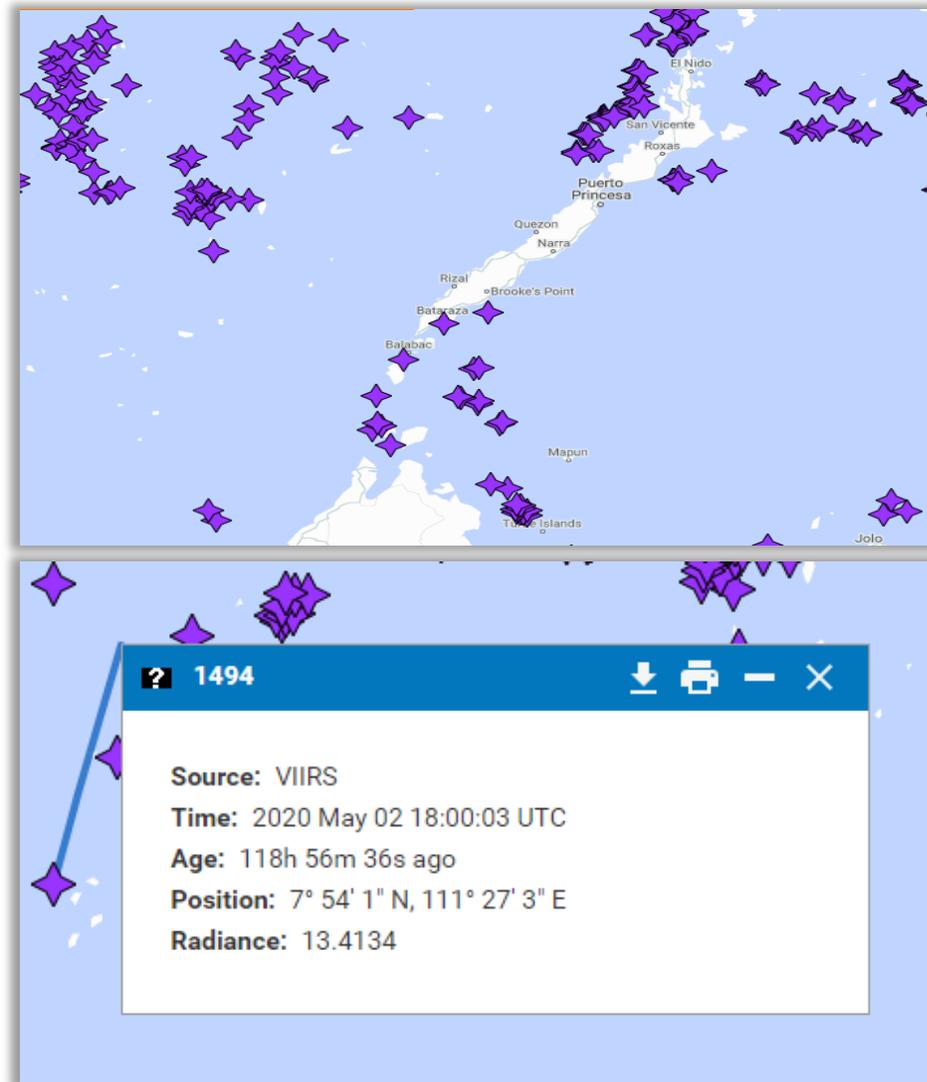
- Fairplay is a repository for International Maritime Organization (IMO) ship registry data:
 - Vessel Details
 - Crew
 - Inspections
 - Port History

The screenshot shows a 'Vessel Card' interface with a search bar at the top containing 'MMSI' and 'IMO Number 9294537', and a 'FIND' button. Below the search bar is a navigation menu with tabs: Summary, Details (selected), EEZ History, Port History, Rules, Alerts, Warnings, Lists, Notes, Recently Viewed, and Images. An 'EXPORT AS' button is located on the right side of the interface. The main content area is titled 'REGISTRATION' and contains a table with the following data:

REGISTRATION	
Fairplay Sid	75128
Name	As Penelope
IMO Number	9294537
Call Sign	D5RB3
MMSI	636092863
Flag	Liberia
SubType	Container Ship (Fully Cellular)
Gross Tonnage	26611
Deadweight	34740
Year Due Or Delivered	2005
Sub Status	In Service/commission
Builder	STX Shipbuilding Co Ltd
Port of Registry	Monrovia

VIIRS

- Joint NASA/NOAA project with the primary mission of weather tracking
- An algorithm developed for reporting the locations of boats based on satellite sensing of light sources
- Ships detected in images are displayed as position reports in SeaVision
- Has the ability to correlate data with AIS position reports



SAT-SAR

- Benefits

- Very large coverage area
- Works in all weather, day or night
- Well suited for ship detection
- Able to see through clouds

- Limitations

- Does not look like a picture
- Ships need to have a reflective surface
- Lower resolution than electro-optical imagery

- Results

- Ships detected in the image are displayed as position reports in SeaVision

Source: SAT-SAR
Time: 2020 May 06 22:44:47 UTC
Age: 15h 16m 15s ago
Position: 2° 35' 44" N, 108° 2' 38" E
Speed: - kts
Heading: 279°
Length: 202.3 m
Width: 76.5 m
Sensor: TSX1

Time	SAT-SAR	AIS	Delta
2019 Dec 26 23:27:05 UTC	2019 Dec 26 23:36:12 UTC	00h 09m 07s	307s
Age: 260h 40m 42s ago	Age: 260h 31m 35s ago	00h 09m 07s	307s
Position: 8° 57' 30" N, 97° 41' 59" E	Position: 8° 57' 30" N, 97° 41' 59" E	144 m	144 m
Heading: 339°	Heading: 339°	20°	20°
Width: 60.6 m	Width: 18 m	42 m	42 m
Length: 84.5 m	Length: 154 m	18 m	18 m

SAT-SAR Attributes

Possible Correlation with AIS

Name: Eastern Pearl
 MMSI: 47702320
 IMO Number: 958217
 Speed: 9.8 kts
 Call Sign: —
 Navigation Status: 0 (Underway/engines)
 Ship Type: 7 (Cargo)
 Cargo: 0 (AllShips)
 Draft: 8.4 m

Coastal Radar

- Sourced from a SeaVision participant nation's shore-based sea radar network
- Ships detected are displayed as position reports in SV
- Has the ability to correlate data with AIS position reports
- Integration of Coastal Radar data in SV is possible. Please contact SV-TAFT for more information



Differences of Data Sources Content

Data Source		Range	Delay into SeaVision
AIS	Terrestrial	20-40 NM	Near Real-Time (NRT) 30 sec - 3min
	Satellite	Footprint of Satellite	1-3 Hours
RADAR	Coastal/Vessel	20-60 NM	Near Real-Time (NRT) 30 sec - 3min
	SAT-SAR	Footprint Of Satellite	1-3 Hours
VIIRS		Footprint of Satellite	24 Hours

Summary

In this lesson, we covered:

- An overview of the SV application
- Capabilities of SV
- SV development and support
- The role SV-TAFT plays in SV
- SV data sources
 - AIS
 - Fairplay by IHS Markit
 - VIIRS
 - SAT-SAR
 - Coastal Radar

Account Management

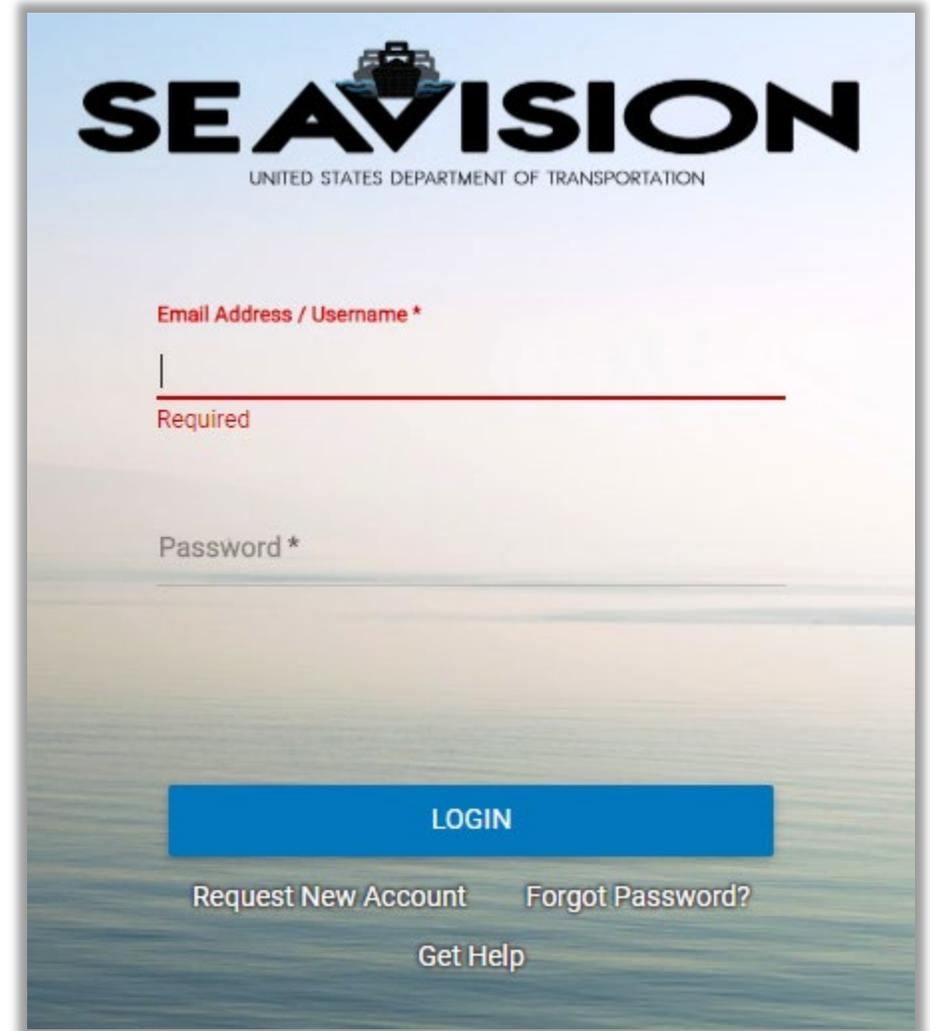
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Determine account access requirements
- Create a SeaVision account
- Understand SeaVision Communities and Personas
- Identify what SeaVision data and objects can be accessed and shared

Account Access Requirements

- A computer with a working internet connection and web browser (Chrome recommended)
- An active, reliable, and easily accessible email address
- A government maritime-focused career or a government sponsor with a maritime-focused mission



SEAVISION
UNITED STATES DEPARTMENT OF TRANSPORTATION

Email Address / Username *

Required

Password *

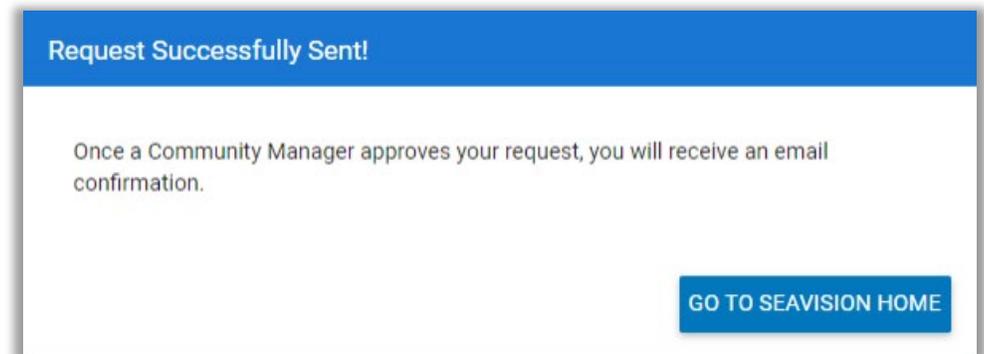
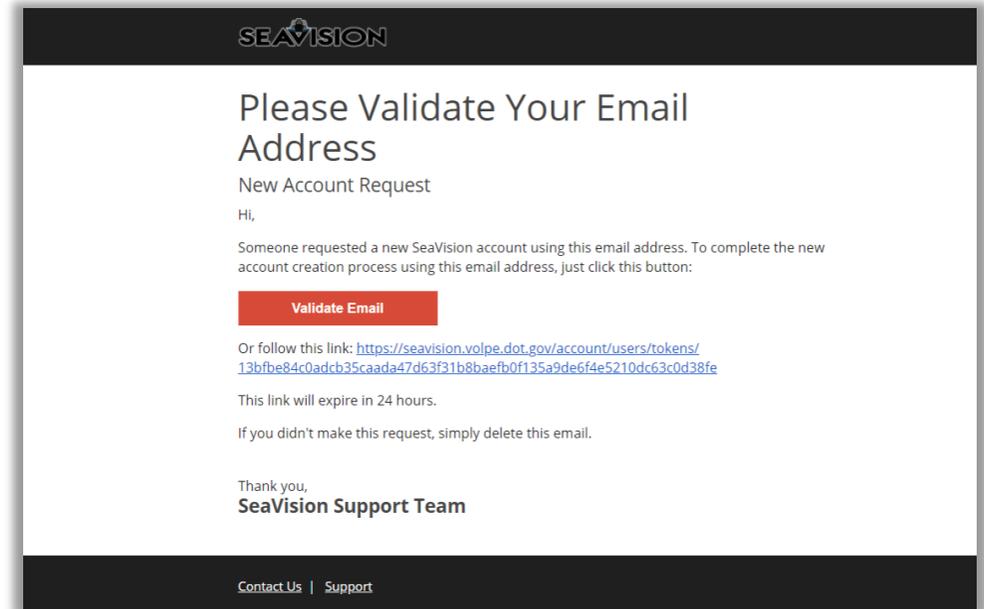
LOGIN

[Request New Account](#) [Forgot Password?](#)

[Get Help](#)

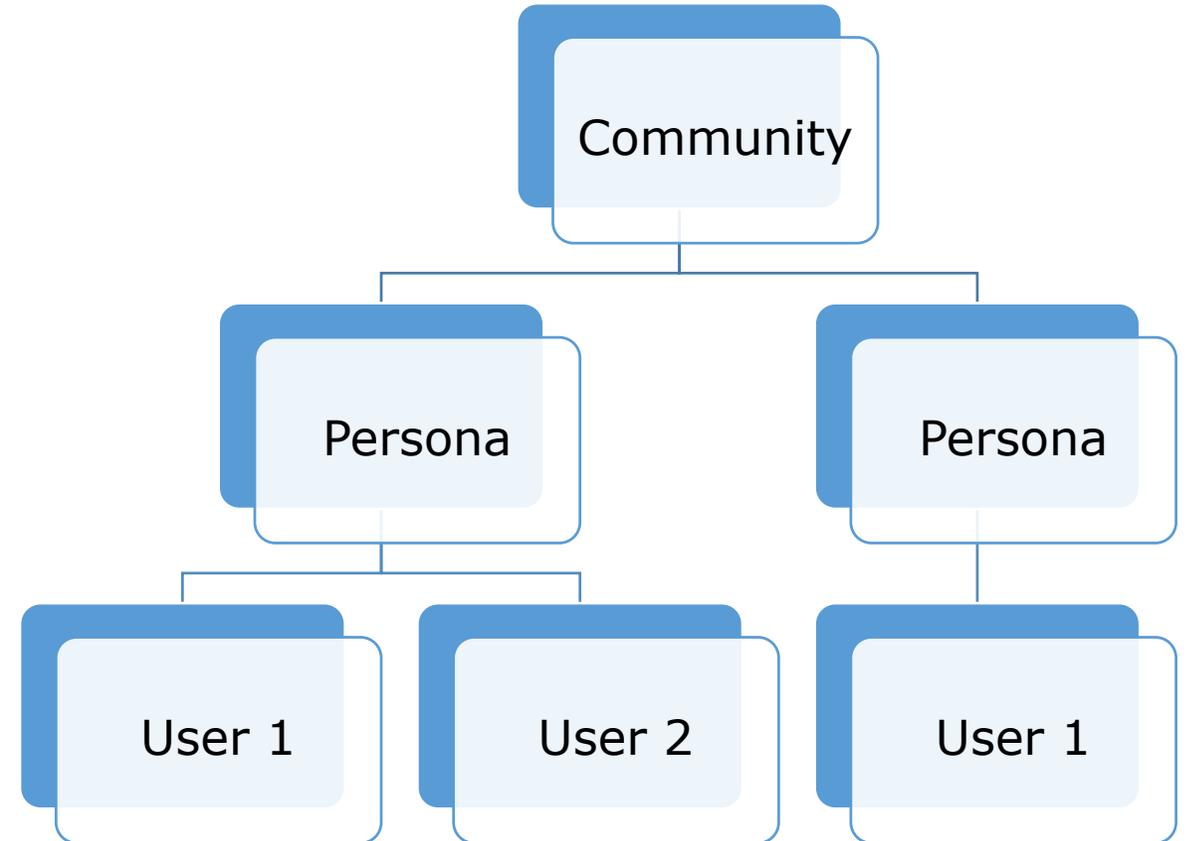
Creating a SeaVision Account

1. Navigate to <https://seavision.volpe.dot.gov/login> to request a new account
2. Validate email address
3. Submit a New Account Request with personal information
4. Wait for a Community Manager to approve the request
5. Receive email confirmation with login information
6. Log in to new SeaVision account



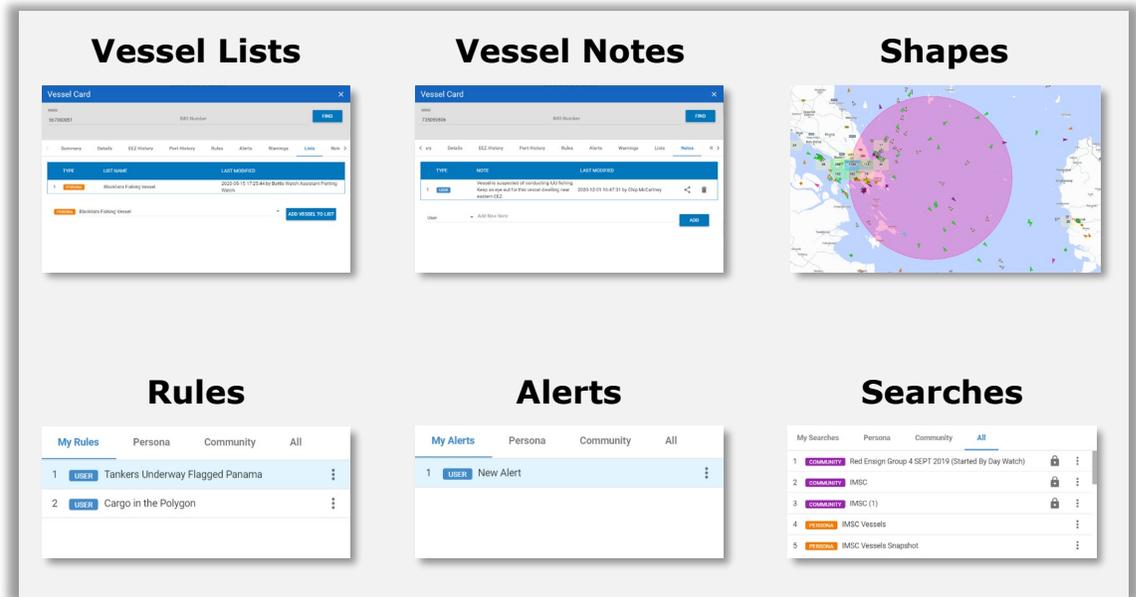
Communities and Personas

- Users, Communities, and Personas are all managed by a Community Manager
- Users can belong to more than one Community and to multiple Personas within each Community
- Users can request to join other Communities, but the Community Manager must review and approve each request



Sharing SeaVision Data and Objects

- Sharing leads to collaboration and understanding within Communities and Personas
- Users can share:
 - Vessel Lists/Notes
 - Shapes
 - Rules/Alerts
 - Searches
- Users have full control in choosing how they share their data



Summary

In this lesson, we covered:

- Account access requirements
- Creating a SeaVision account
- SeaVision Communities and Personas
- SeaVision data and objects that can be accessed and shared

User Interface (UI) Navigation

Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Navigate the User Interface
 - Describe Main Menu and SeaVision Logo
 - Describe Map
 - Describe Dashboard
 - Describe Search
 - Describe Chat
 - Describe Notifications
 - Describe Communities/Personas
 - Describe User Account
 - Describe Help and Time (UTC)

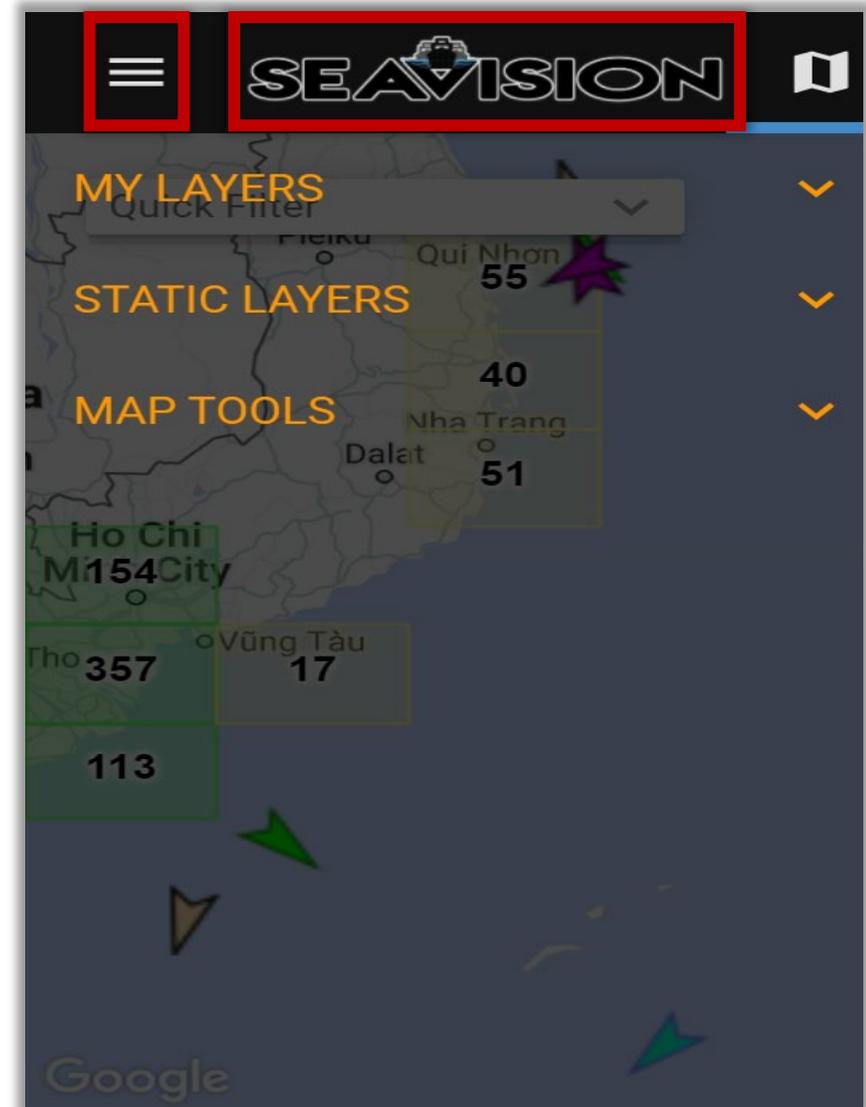
Navigation Bar Tabs



- Provides access to the main tabs of SeaVision
- Located at the top of the SeaVision screen
 - Main Menu
 - SeaVision Logo
 - Map
 - Dashboard
 - Search
 - Chat
 - Notifications
 - Communities/Personas
 - User Account
 - Help
 - Time

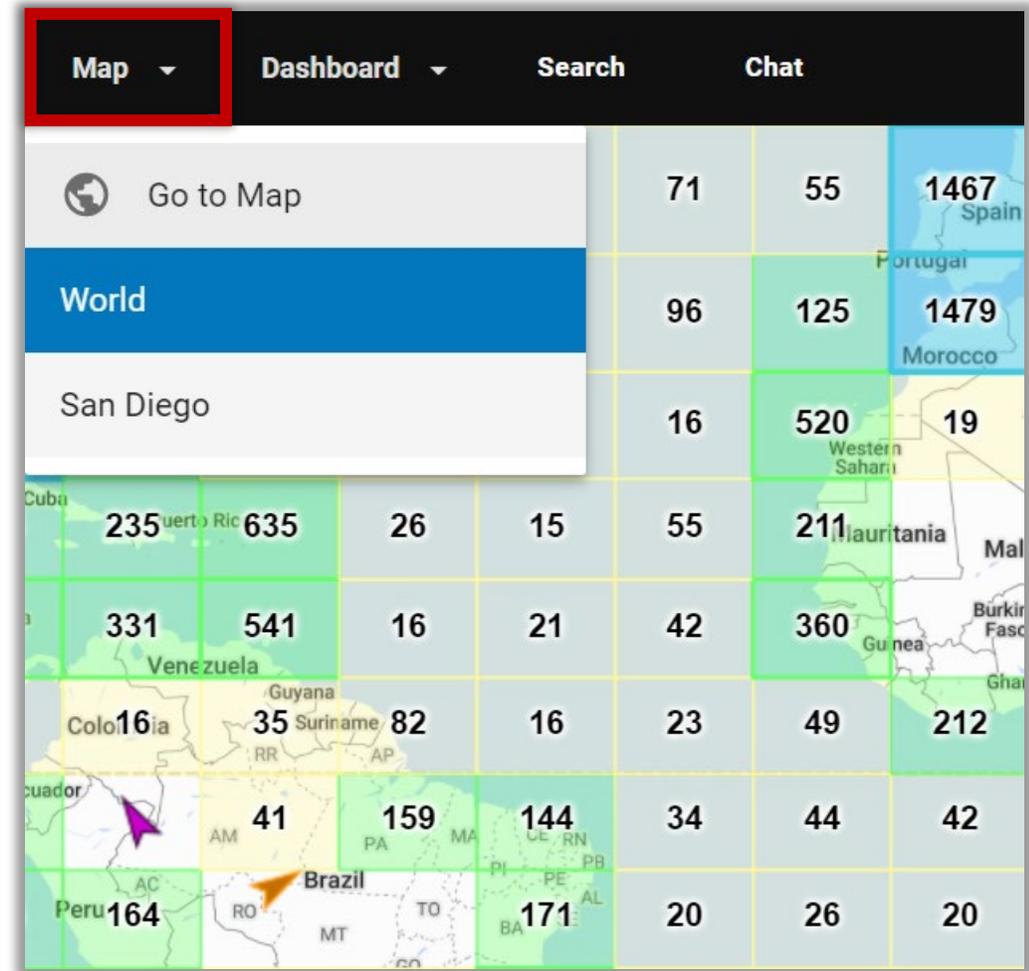
Main Menu and SeaVision Logo

- The Main Menu icon opens a menu of expandable and collapsible options, divided into three categories:
 - MY LAYERS
 - STATIC LAYERS
 - MAP TOOLS
- The SeaVision Logo returns a user to the Map View



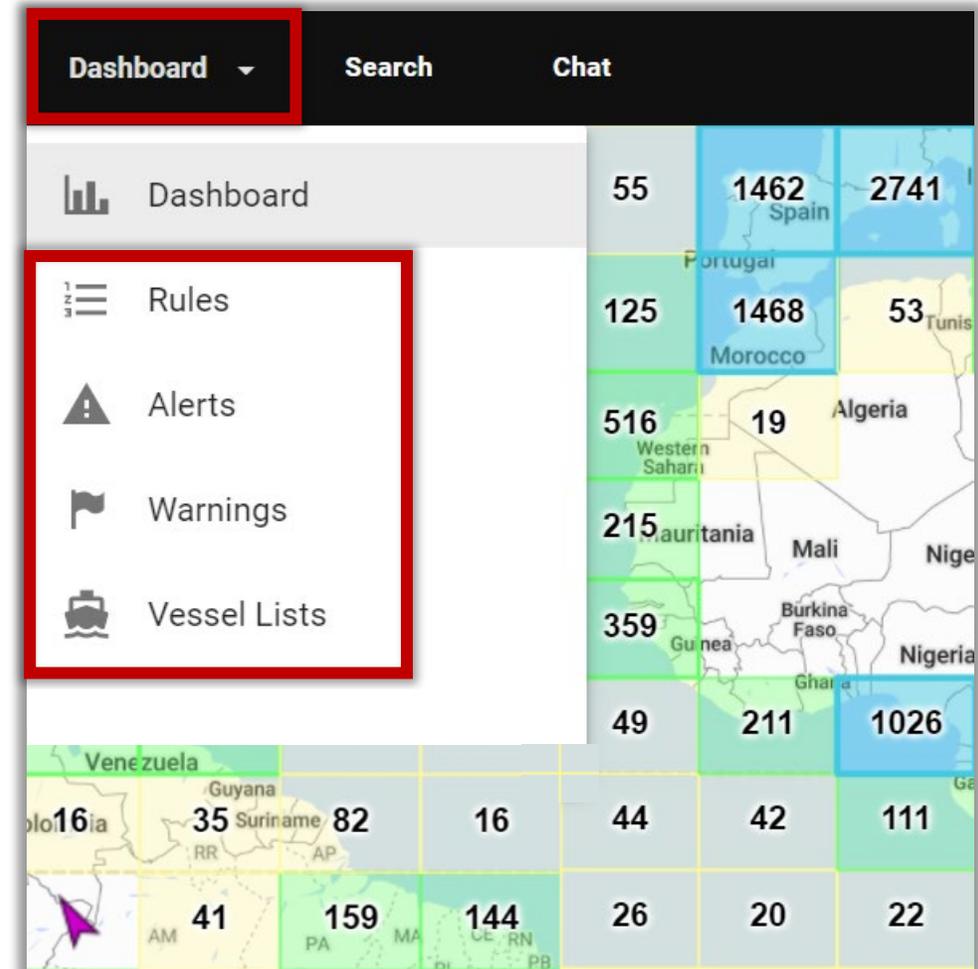
Map

- Opens a drop-down list of user-created Map Views, totaling up to six (6) saved views
- Users can quickly move between saved Map Views from within this drop-down
- Selecting a Map View from this drop-down brings the user to that Map View



Dashboard

- Opens a drop-down list of four features:
 - Rules
 - User-created vessel searches configured to run on a daily schedule to provide a prioritized list of vessels
 - Alerts
 - Notifications set up for all vessels entering or exiting a Region of Interest
 - Warnings
 - Shows Safety and Security scores and the Inspection and Detention issues of vessels
 - Vessel Lists
 - Enables users to monitor ships they are interested in tracking or reviewing



Search

- Allows users to perform vessel searches that can be saved, loaded, shared, and/or saved as a Rule

The screenshot displays a search interface with a map of West Africa and a search configuration panel. The map shows vessel counts for various regions, with a red box highlighting the 'Search' tab. The search configuration panel is titled 'Search' and includes the following options:

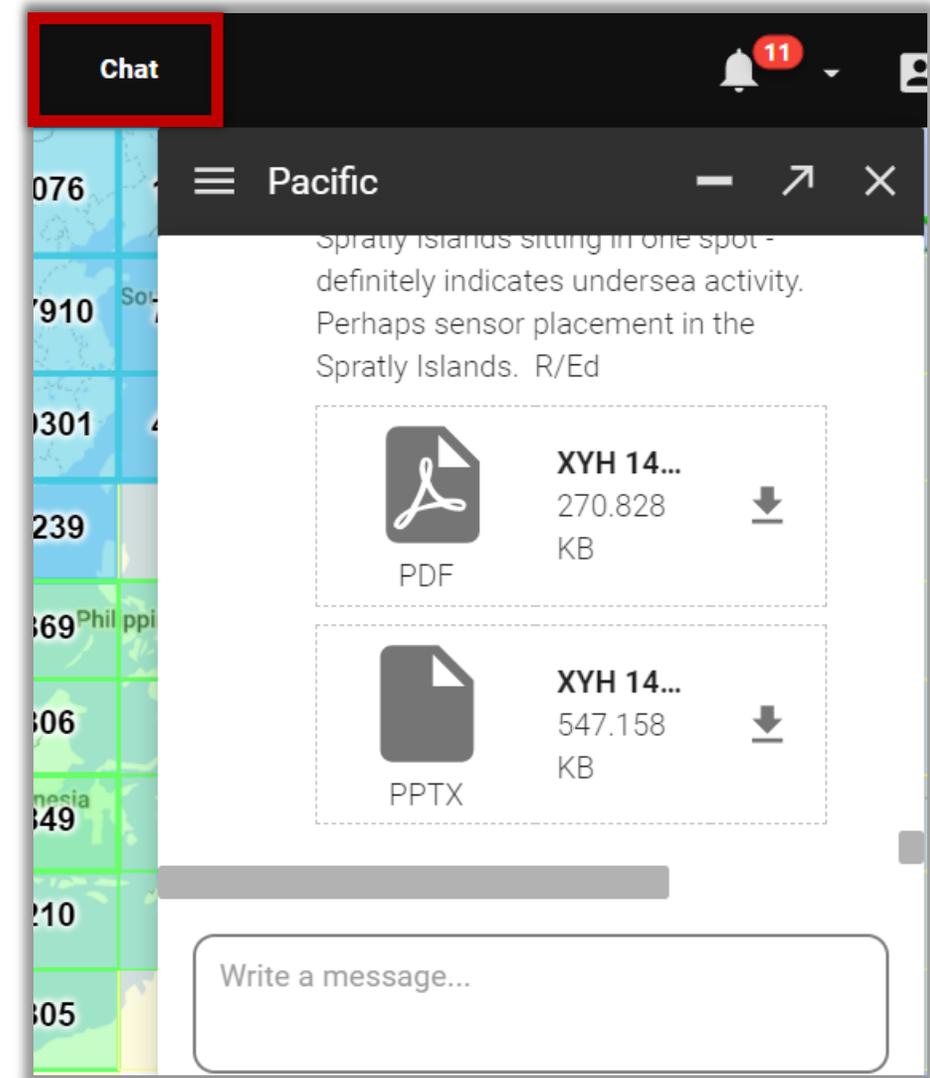
- Choose Your Search Type
 - Search by current data
 - Search by historical data
- Choose How To Evaluate Your Conditions
 - Vessels must meet all conditions
 - Vessels can meet any condition
- 3 Set Up Your Conditions
 - Pick a field *

The map shows vessel counts for various regions, with a red box highlighting the 'Search' tab. The search configuration panel is titled 'Search' and includes the following options:

Search	Chat				
39	72	55	1461	2735	1607
44	96	125	1467	54	807
		516	19		
		216			
		359			
		49	212	1025	
		44	42	111	234

Chat

- Collaborate and share data with other users in your Community and Persona(s)
 - Share files, videos, and images
 - Google Translate is built-in, removing potential language barriers between users
- Chat Channels
 - Community Channel
 - Persona Channel
 - Direct Message Channel



Notifications

- Notifications show unread status updates

The screenshot shows a software interface with a notification system. At the top right, a notification bell icon is highlighted with a red box and a '1' badge. Below it, a 'NOTIFICATIONS' panel displays a message: '1 new vessels matched your alerts' with a timestamp of '2 minutes ago'. The background features a map of Southeast Asia with a data table overlaid on it. The table has 7 columns and 7 rows of data.

2641	7894	73	51	42	14	22
1309	372	271	67	62	13	31
2980	303	115	86	67	35	56
710	842	187	179	141	121	22
42	215	110	228	121	55	33
10	302	8	6	338	34	163
55				576	13	

COMMUNITIES/PERSONAS

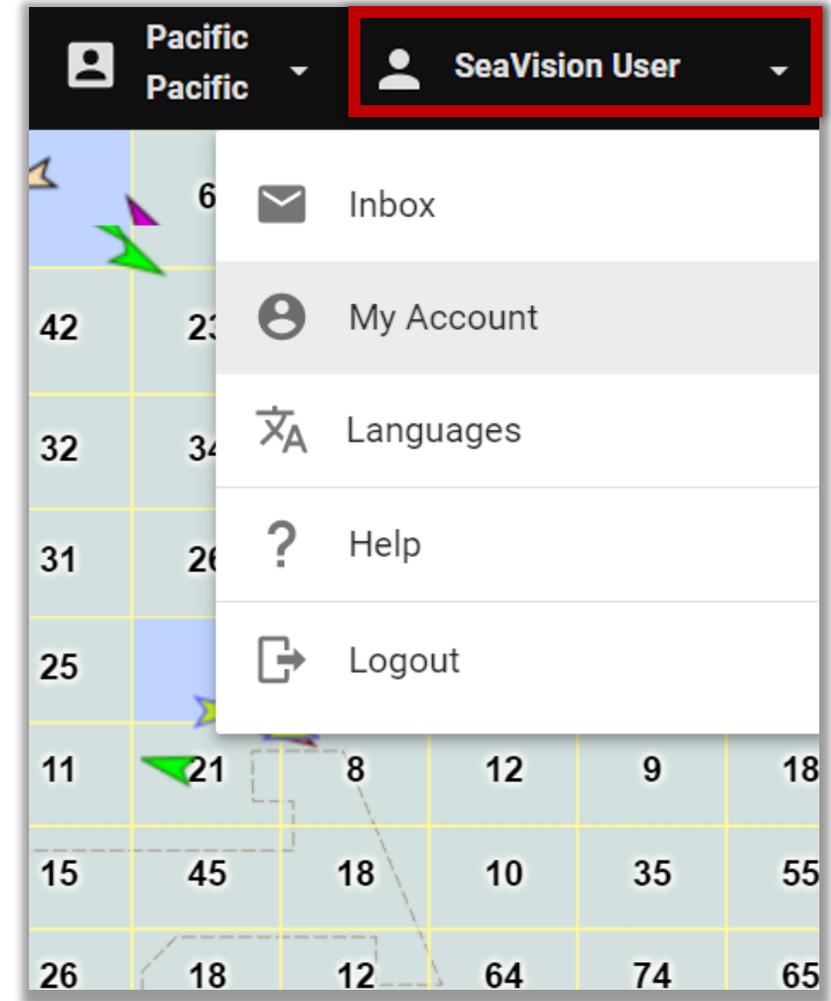
- Community/Persona drop-downs allow the user to switch between COMMUNITIES and PERSONAS
 - Users can also change their default Persona from this drop-down

The screenshot shows a mobile application interface with a 'Chat' header. Below the header is a map of Africa with numerical data points overlaid on various countries. A dropdown menu is open, showing two sections: 'COMMUNITIES' and 'PERSONAS'. The 'PERSONAS' section is currently selected and expanded, listing several options. The 'COMMUNITIES' section is also visible, showing 'Administrator', 'Pacific', and 'Change Default Persona'. Red arrows point to the 'Pacific' label in the top right corner and the 'COMMUNITIES' dropdown header.

Country	Value 1	Value 2	Value 3	Value 4
Ethiopia	78	160	81	
Somalia	15	37		
Kenya	116	153	75	
Tanzania	71	240	169	
Zambia	96	75	149	
Zimbabwe	150	90	75	19

User Account

- Allows users to:
 - Check their Inbox
 - Update My Account information
 - Change Languages
 - Go to the Help menu
 - Logout manually from SeaVision



Help and Time (UTC)

- Help
 - Help Desk
 - Frequently Asked Questions
 - SeaVision Info Page
- Universal Time Coordinated (UTC)
 - Provides a quick reference for the current time in UTC

Help 19:20 UTC

Help Desk

Frequently Asked Questions

1. How do I join a new Community?
2. How do I change my default Persona after logging in?
3. Why are no vessels showing up on the map?
4. Why do I get an error message when trying to toggle on a history trail?
5. Is there a quick way to remove all history trails on map?

How do I join a new Community?

1. Go to *My Account > Communities > Join a Community*
2. Select a Community from the list of Communities available.
3. To begin, click on the quick link: [Join A Community](#)

Summary

In this lesson, we covered:

- Navigating the User Interface
 - Main Menu and SeaVision Logo
 - Map
 - Dashboard
 - Search
 - Chat
 - Notifications
 - Communities/Personas
 - User Account
 - Help and Time (UTC)

Map Displays

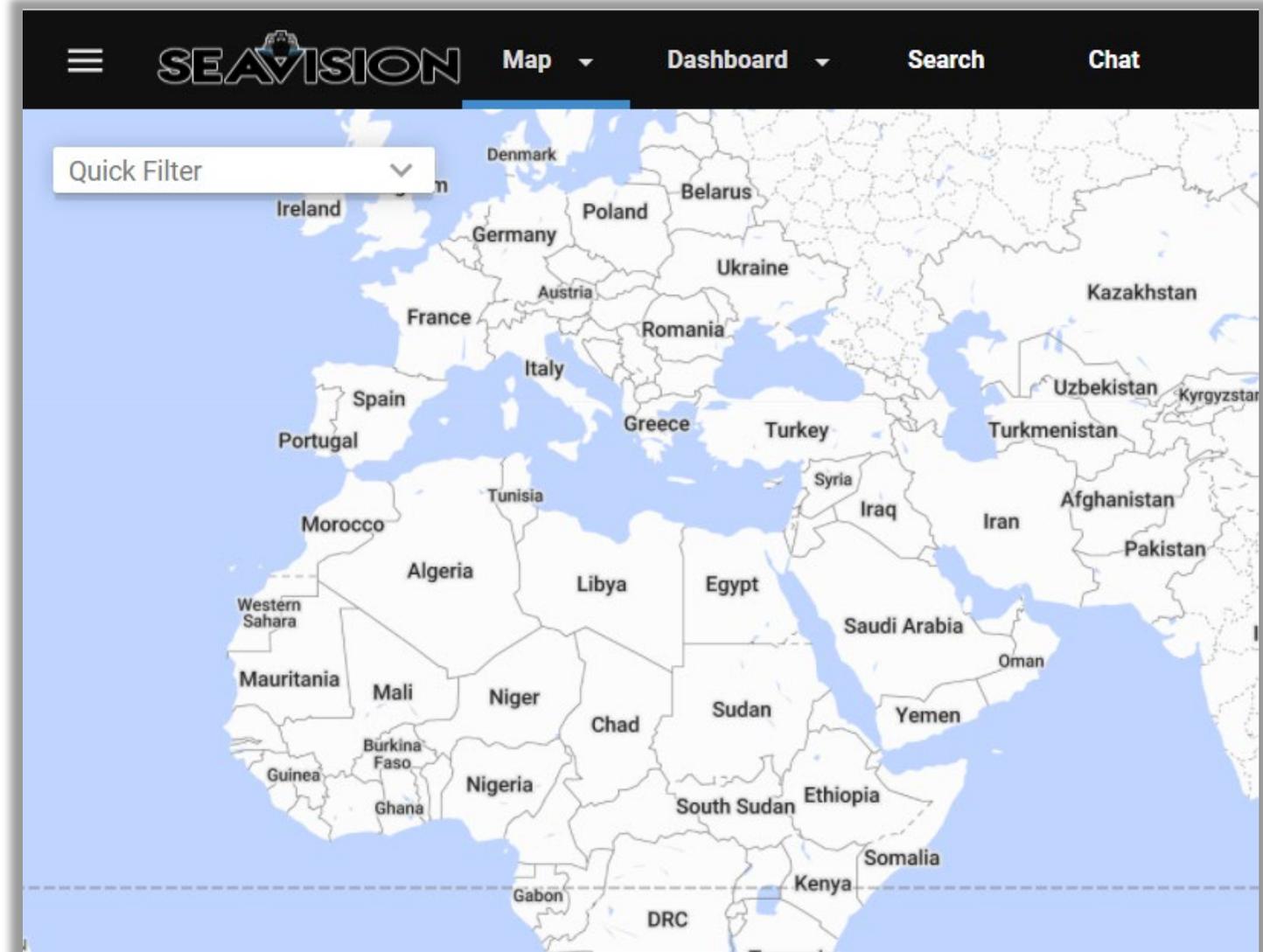
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Explain the features of Map Display
- Locate map backgrounds
- Explain User Views
- Describe the Go to Map menu
- Explain the Jump To Location option

Map Display Features

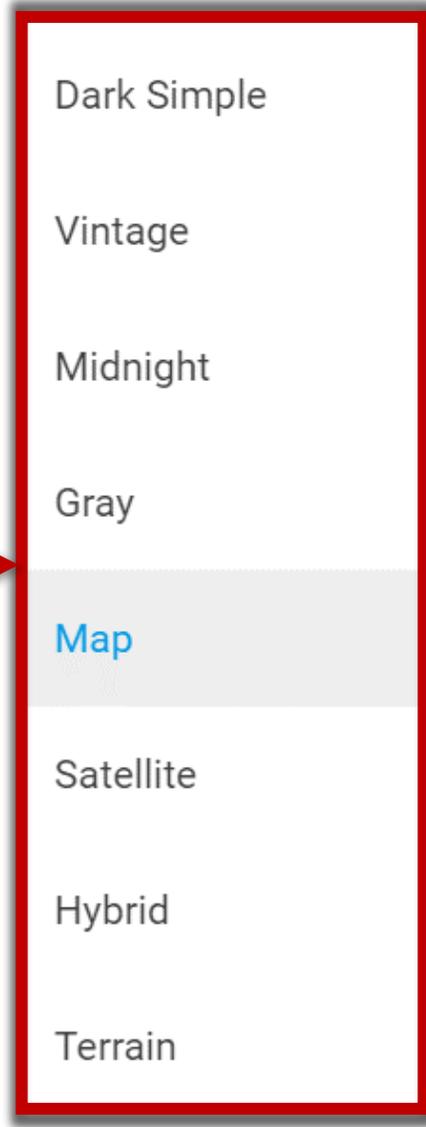
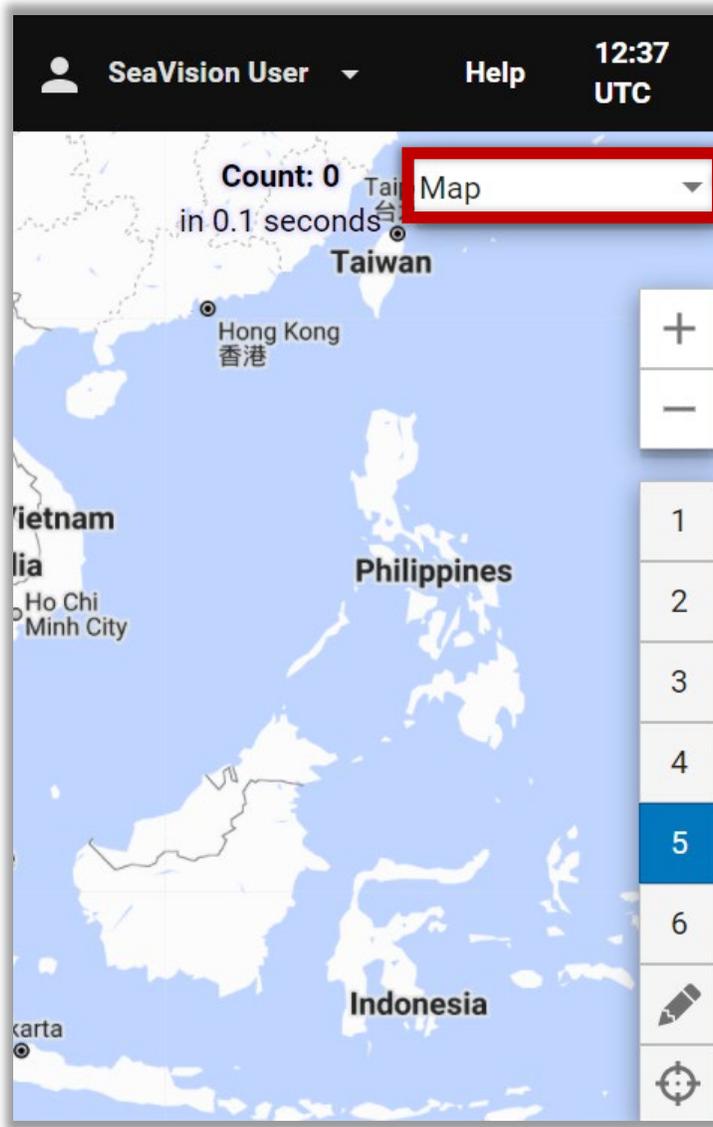
- Map background options
 - Various map backgrounds
- Custom map views
 - Six custom views may be set
- Go to Map
 - Quick access to custom views
- Jump To Location
 - Coordinates
 - Cities/Ports
 - Countries
 - Regions
 - Bodies of water



Map Backgrounds

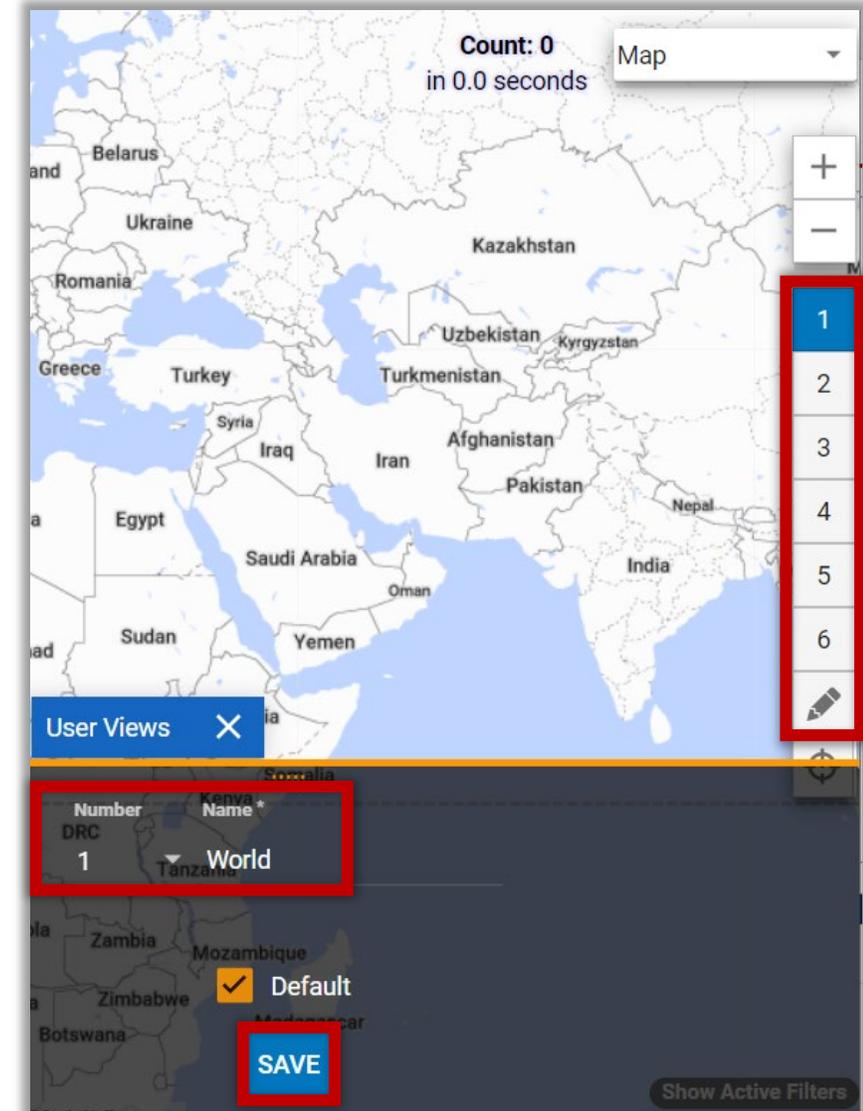
- Map background options:

- Dark Simple
- Vintage
- Midnight
- Gray
- Map (Default)
- Satellite
- Hybrid
- Terrain



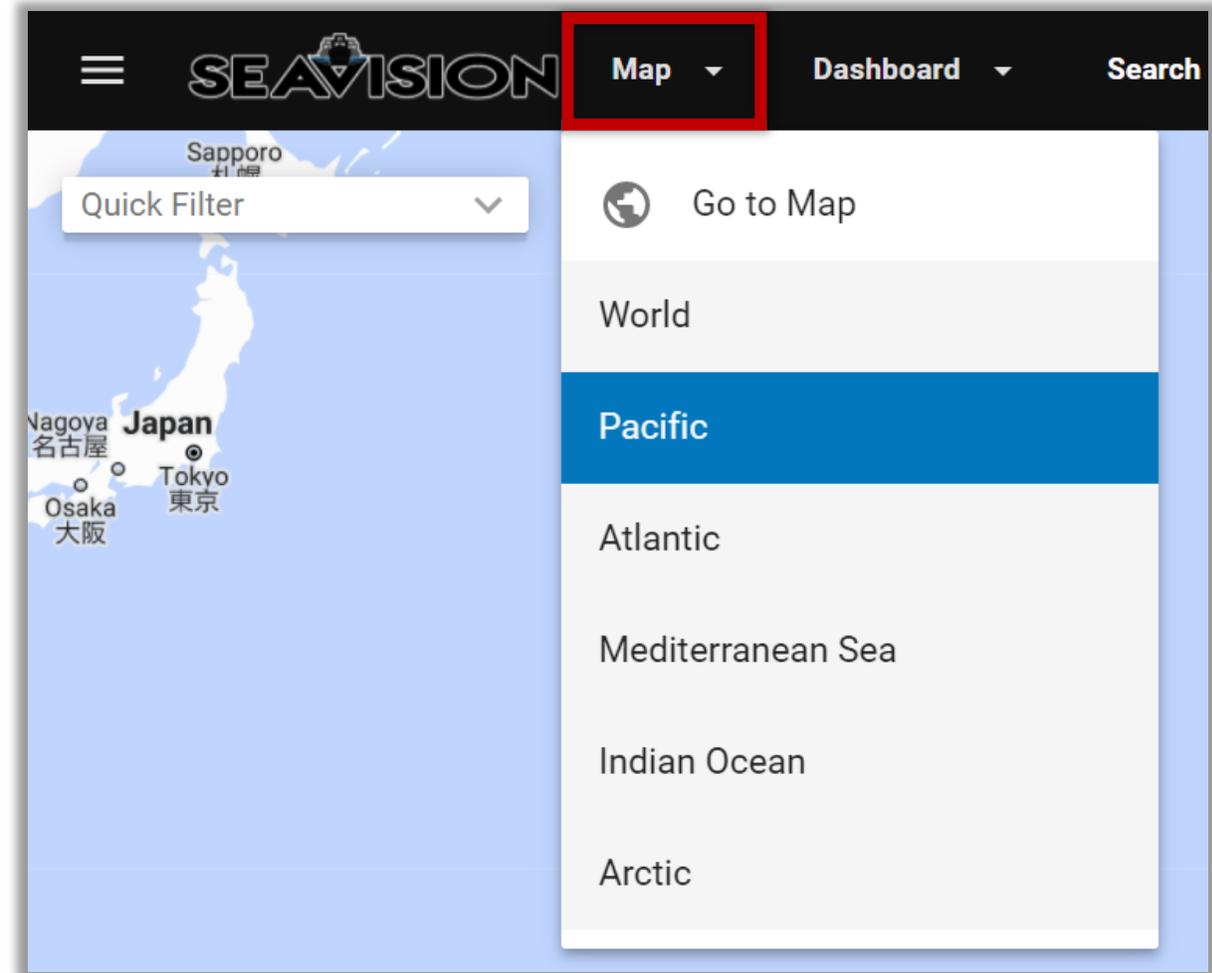
User Views

- Users can create and save up to six custom User Views
- When creating User Views, the current map settings, filters, and static layers, etc., applied will be saved to the custom User View
 - Any numbered User View can be set as the default



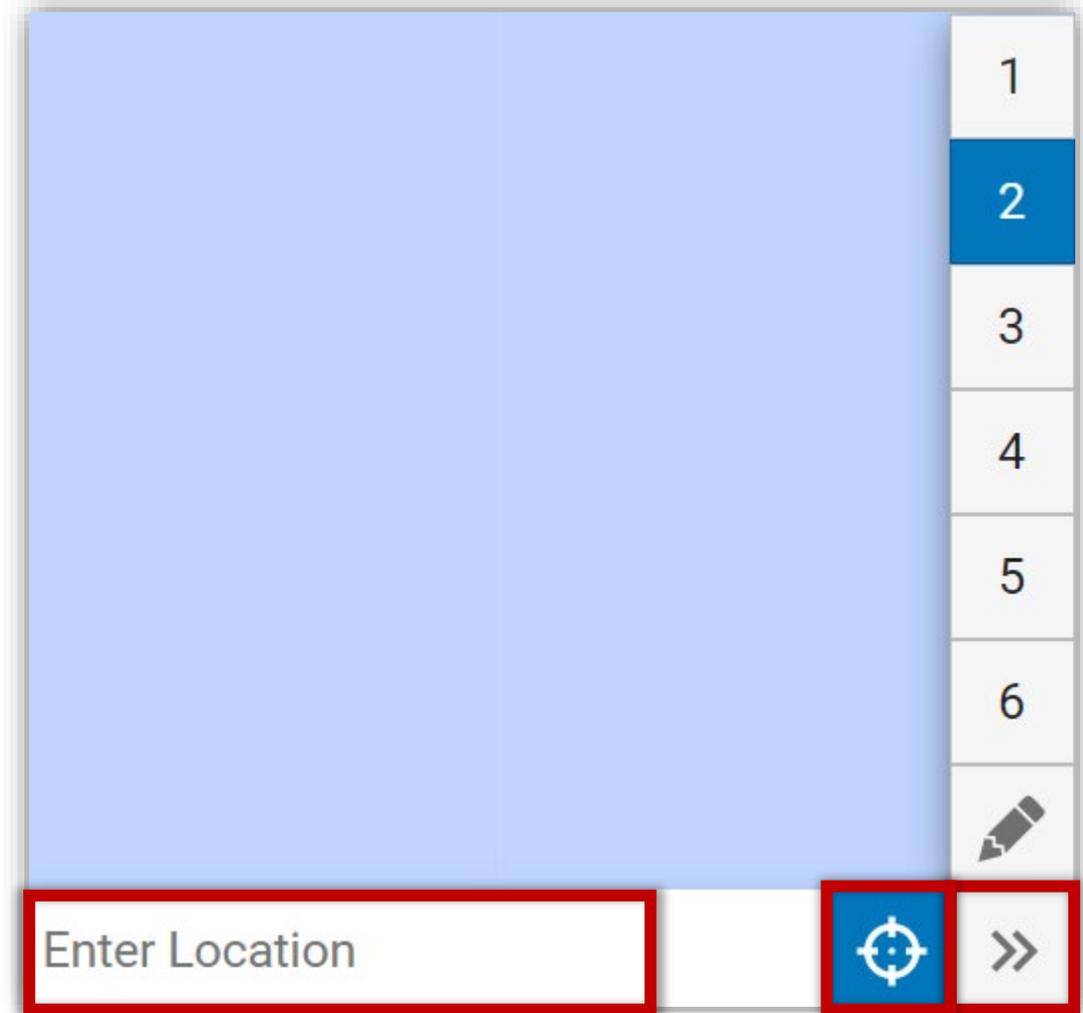
Go to Map

- The Go to Map is a quick access dropdown menu for saved User Views



Jump To Location

- The Jump To Location feature allows users to quickly center the map display to the following:
 - Coordinates
 - Cities/Ports
 - Countries
 - Regions
 - Bodies of water



Summary

- In this lesson, we covered:
 - The features of Map Display
 - Map backgrounds
 - User Views
 - The Go to Map menu
 - The Jump To Location option

Shapes

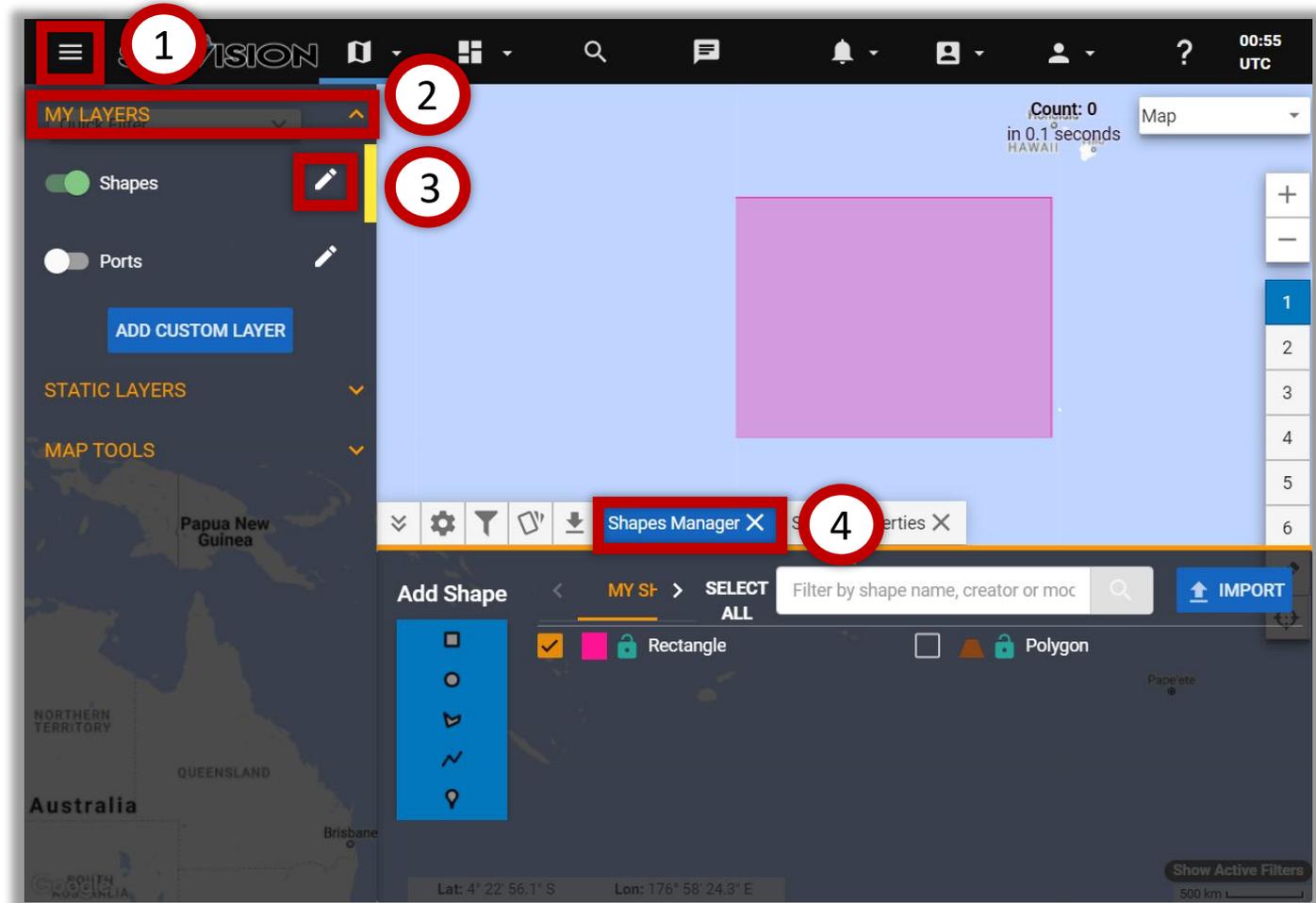
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access the Shapes Manager
- Understand the features of Shapes
- Customize a Shape
- Share a Shape

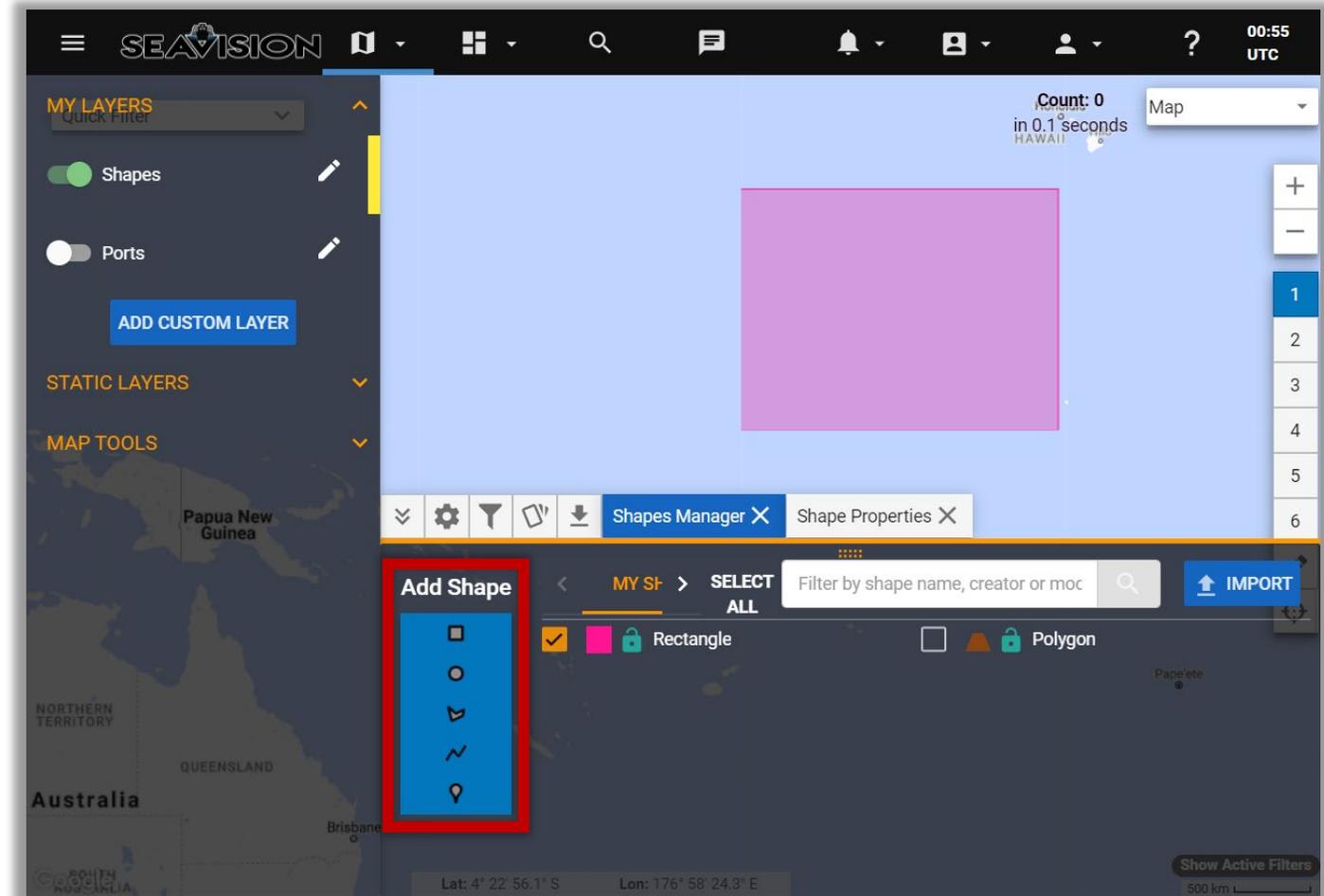
Accessing the Shapes Manager

1. Main Menu
2. MY LAYERS
3. Shapes
4. Shapes Manager



Shapes Features

- Shapes enable a user to select and highlight a region of interest to track vessel activity
- User-defined Shapes designate a geospatial area for Searches, Rules, and/or Alerts
- Supported Shape types include rectangle, circle, polyline, and marker



Customizing Shapes

- Users can customize Shapes using the Shape Properties tab
- Points can be refined to specific coordinates
- Shapes can be given color fill to distinguish them from other areas
- Notes can be added to better describe Shapes and their purposes

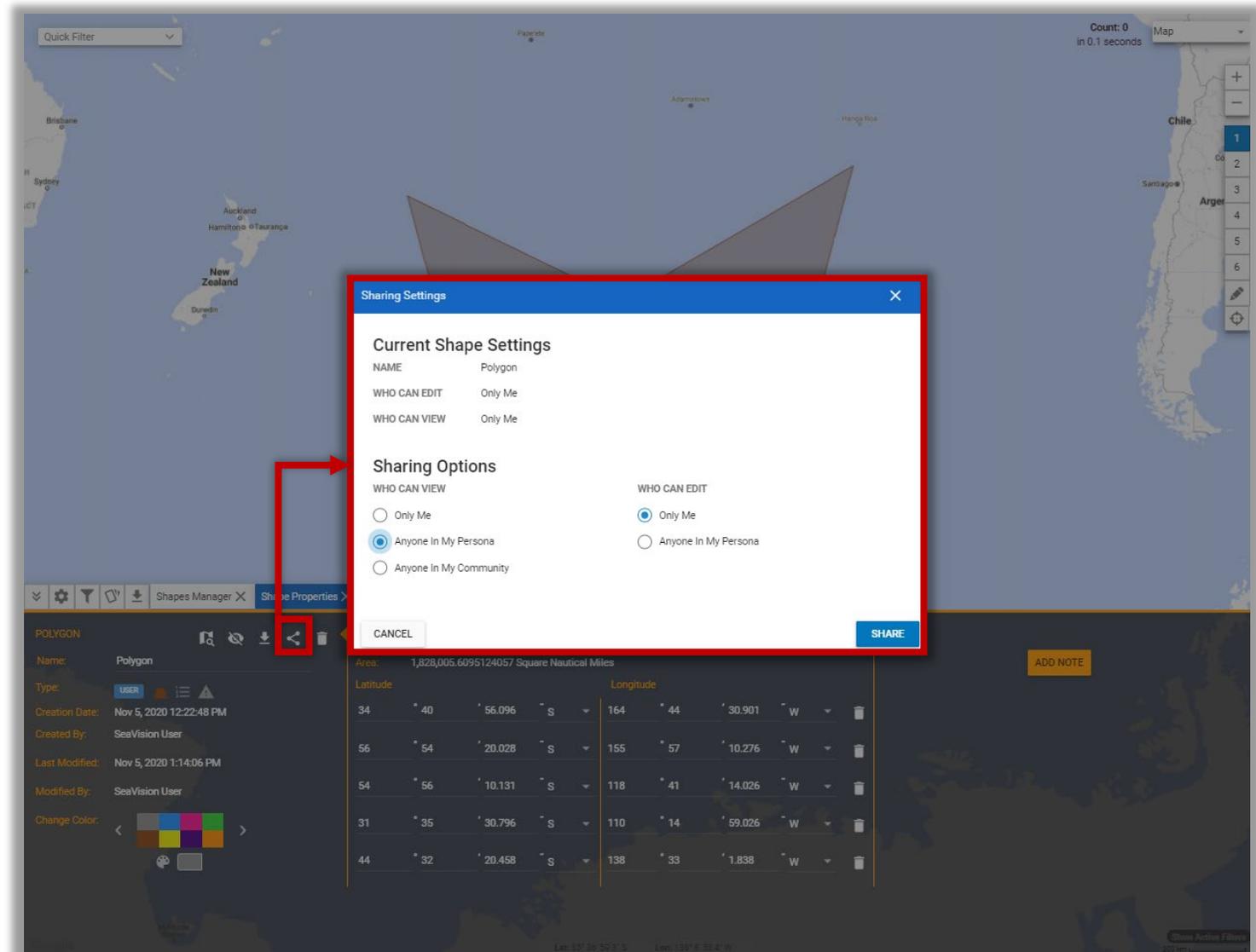
The screenshot displays a map interface with a large grey polygon shape overlaid on the ocean. The interface includes a 'Quick Filter' dropdown, a 'Map' control with zoom and pan options, and a 'Count: 0 in 0.1 seconds' indicator. Below the map, there are two tabs: 'Shapes Manager' and 'Shape Properties'. The 'Shape Properties' tab is active and shows the following information:

- POLYGON**
 - Name: Polygon
 - Type: USER
 - Creation Date: Nov 5, 2020 12:22:48 PM
 - Created By: SeaVision User
 - Last Modified: Nov 5, 2020 1:14:06 PM
 - Modified By: SeaVision User
 - Change Color: [Color selection palette]
- Dimensions**
 - Area: 1,828,005.6095124057 Square Nautical Miles
 - Latitude and Longitude coordinates table:

Latitude	Longitude
34 ° 40 ' 56.096 " S	164 ° 44 ' 30.901 " W
56 ° 54 ' 20.028 " S	155 ° 57 ' 10.276 " W
54 ° 56 ' 10.131 " S	118 ° 41 ' 14.026 " W
31 ° 35 ' 30.796 " S	110 ° 14 ' 59.026 " W
44 ° 32 ' 20.458 " S	138 ° 33 ' 1.838 " W
- Notes**
 - ADD NOTE

Sharing Shapes

- Shapes can be shared to My Persona or My Community
- If a Shape is shared to My Persona, users control who can edit the Shape
- If a Shape is shared to My Community, only a Community Manager can edit the Shape and Sharing settings



Summary

In this lesson, we covered:

- Accessing the Shapes Manager
- Shapes features
- Customizing a Shape
- Sharing a Shape

Ports

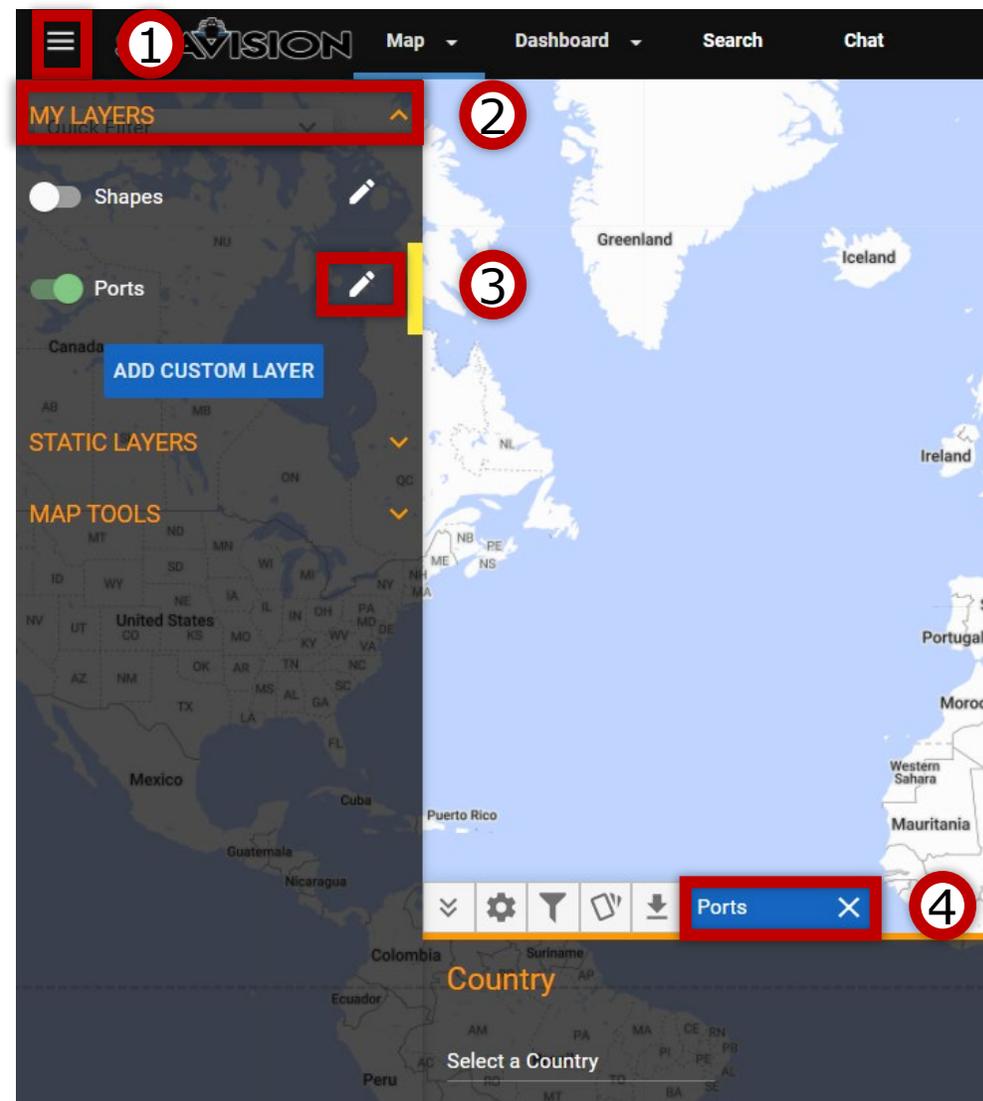
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Ports
- Explain the features of Ports
 - PORT DETAILS and AUTHORITIES
 - OPERATORS, OTHER ADDRESSES, and SHIPS INSPECTED

Accessing Ports

1. Main Menu
2. MY LAYERS
3. Ports
4. Ports tab



Ports Features

- Displays port markers for the selected country
- Lists the PORT DETAILS, OPERATORS, AUTHORITIES, OTHER ADDRESSES, and SHIPS INSPECTED for the selected port marker



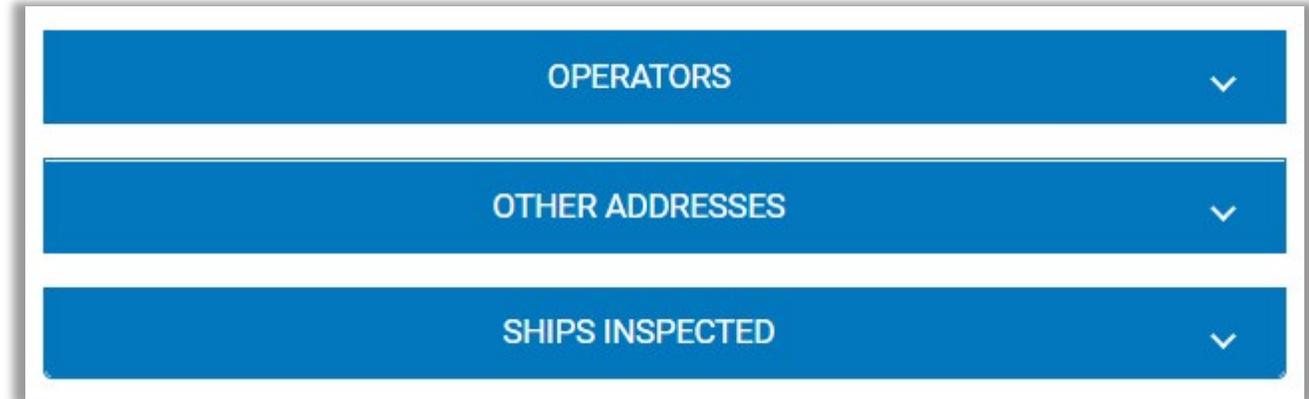
PORT DETAILS and AUTHORITIES

- PORT DETAILS provides general port information
- AUTHORITIES provides Port Authority contact information



OPERATORS, OTHER ADDRESSES, and SHIPS INSPECTED

- OPERATORS provides Port Operator contact information
- OTHER ADDRESSES provides Port Agent contact information
- SHIPS INSPECTED provides a sortable list of ships inspected while in that port



Summary

In this lesson, we covered:

- Accessing Ports
- The features of Ports
 - PORT DETAILS and AUTHORITIES
 - OPERATORS, OTHER ADDRESSES, and SHIPS INSPECTED

STATIC LAYERS

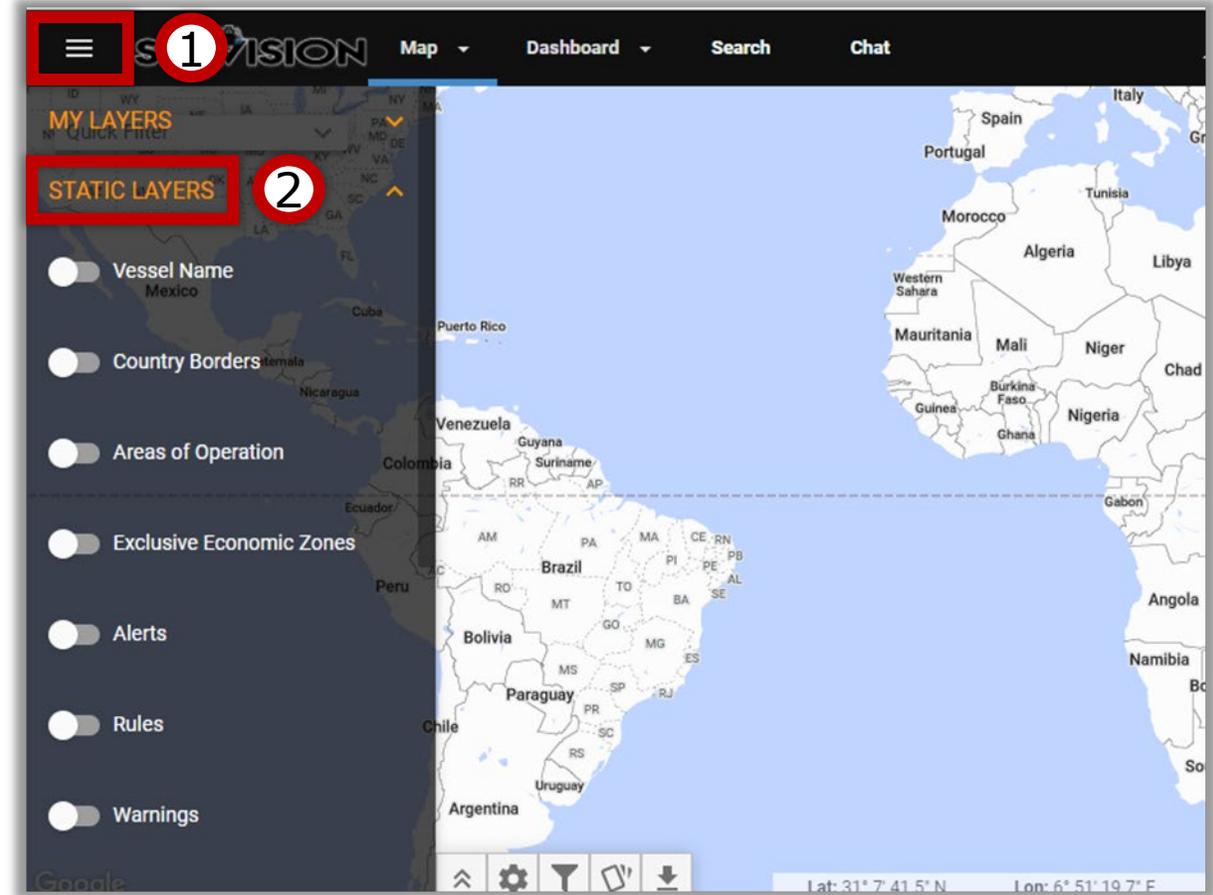
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access STATIC LAYERS
- Explain the features of STATIC LAYERS
- Explain the information displayed in STATIC LAYERS
 - Vessel Name and Country Borders
 - Areas of Operation (AO) and Exclusive Economic Zones (EEZs)
 - Alerts and Rules
 - Warnings and Vessel Lists
 - Automatic Identification System (AIS) Vessels Summary
 - Boundaries and Anomalous Data
 - Invalid Data

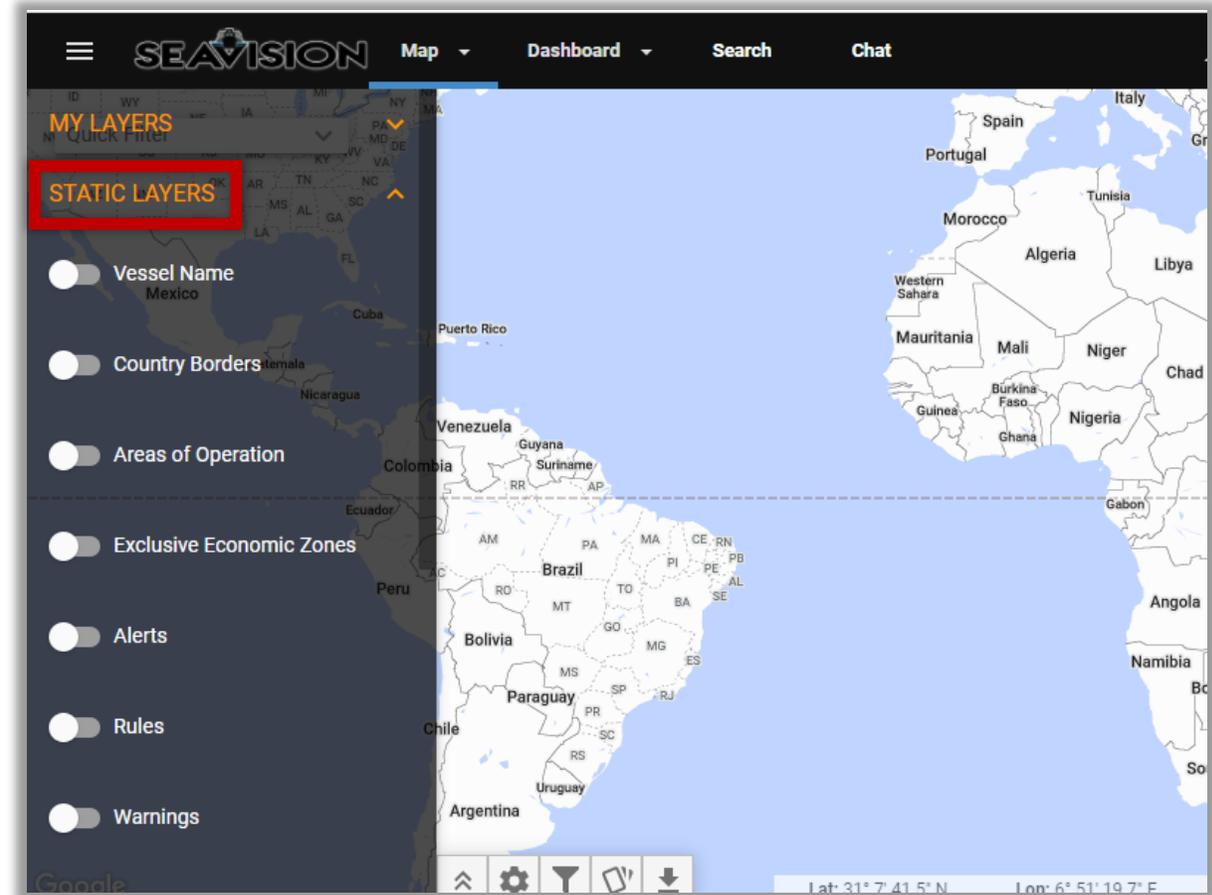
Accessing STATIC LAYERS

1. Main Menu
2. STATIC LAYERS



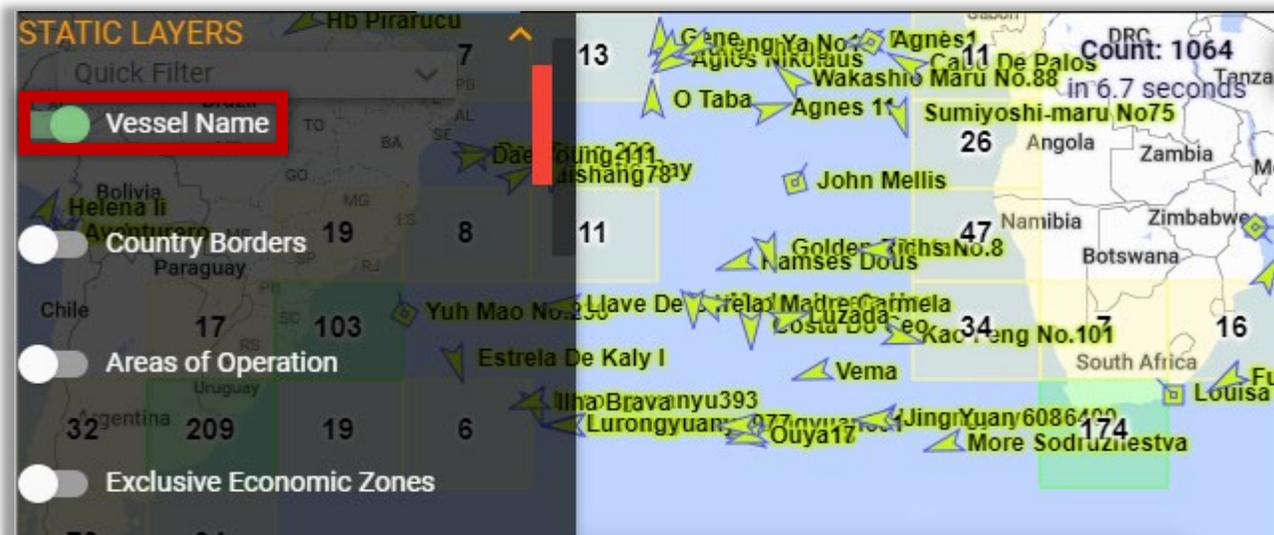
STATIC LAYERS Features

- STATIC LAYERS
 - Are map overlays of publicly available information
 - Displays aggregated vessel data
 - User-defined indicators for use as quick references
 - Visualization and analytic tools



Vessel Name and Country Borders

- Vessel Name
 - Displays the names of vessels as received from AIS position reports
- Country Borders
 - Distinguishes countries by color



Areas of Operation and Exclusive Economic Zones

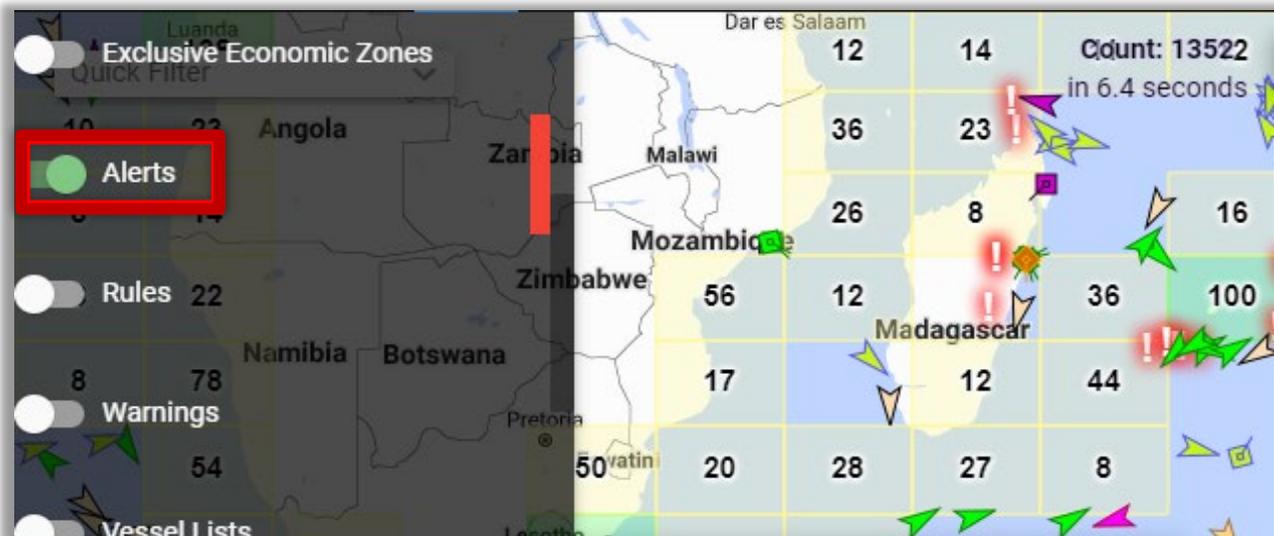
- AOs
 - Distinguishes United States Navy Numbered Fleets by color
- EEZs
 - Displays all EEZs within SeaVision



Alerts and Rules

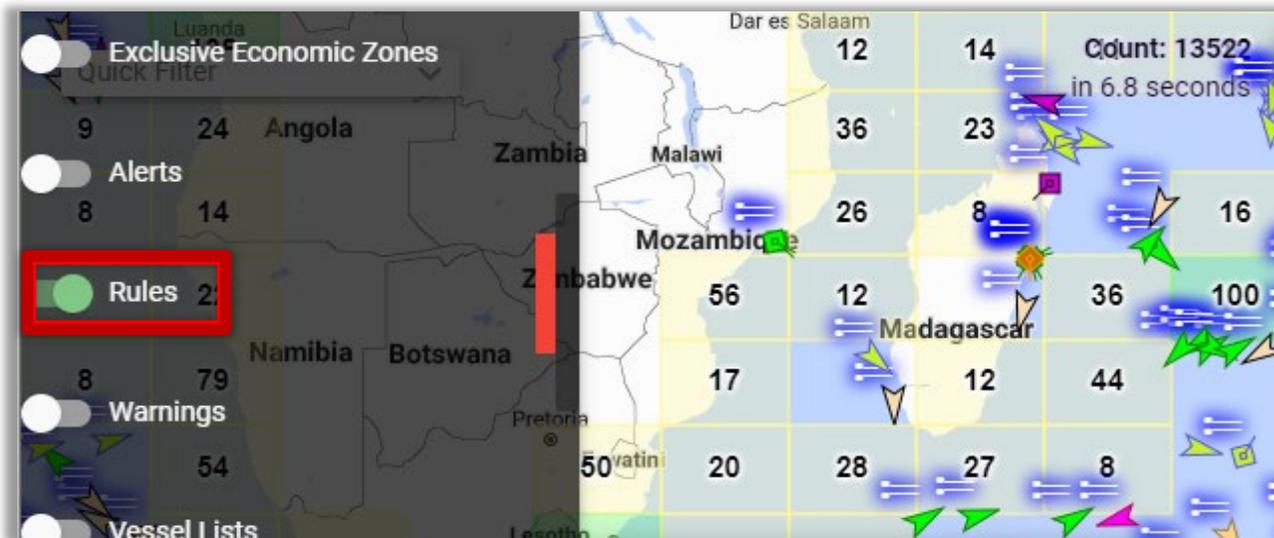
- Alerts

- Displays red exclamation points in correlation with vessels that match active Alerts



- Rules

- Displays blue icons in correlation with vessels that match active Rules



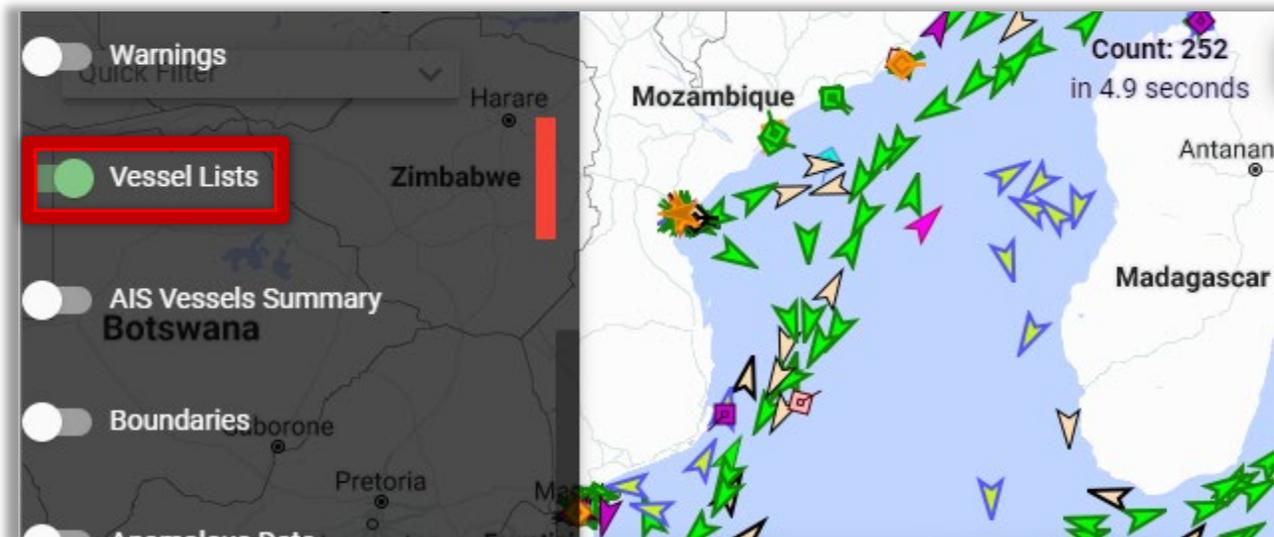
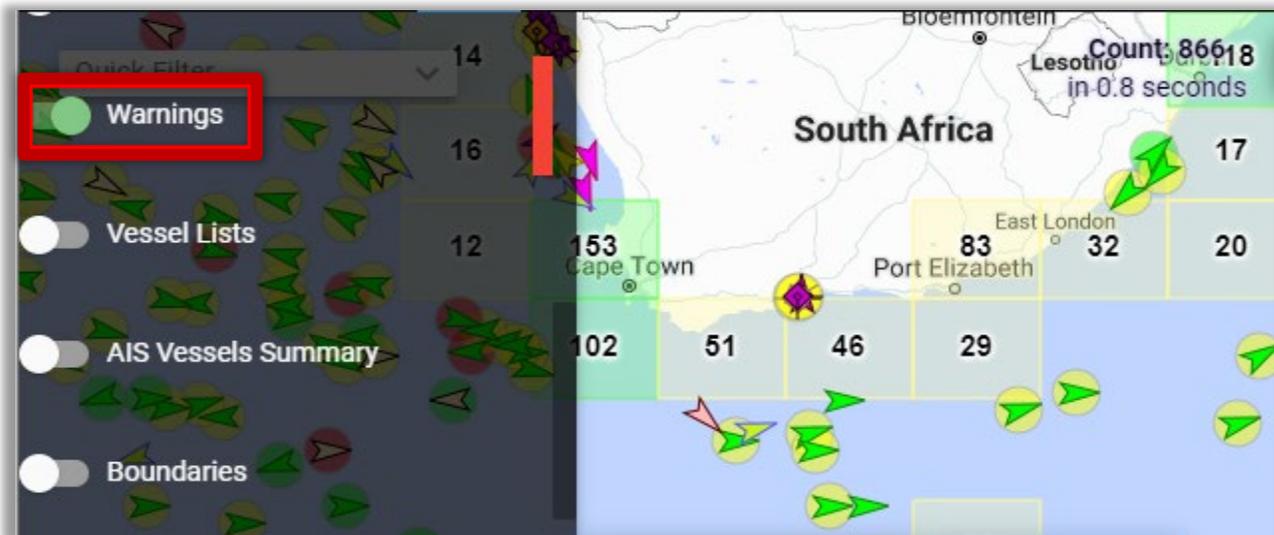
Warnings and Vessel Lists

- Warnings

- Highlights vessels with Warning Scores
 - Red for vessels with a high Warning Score
 - Yellow for vessels with a medium Warning Score
 - Green for vessels with a low Warning Score

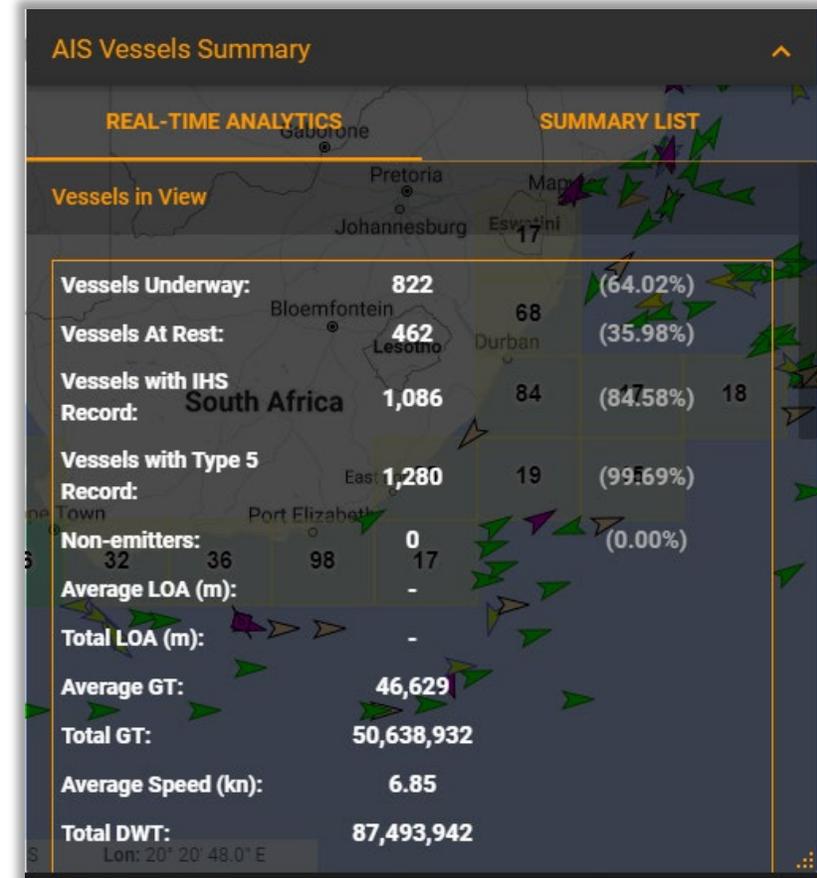
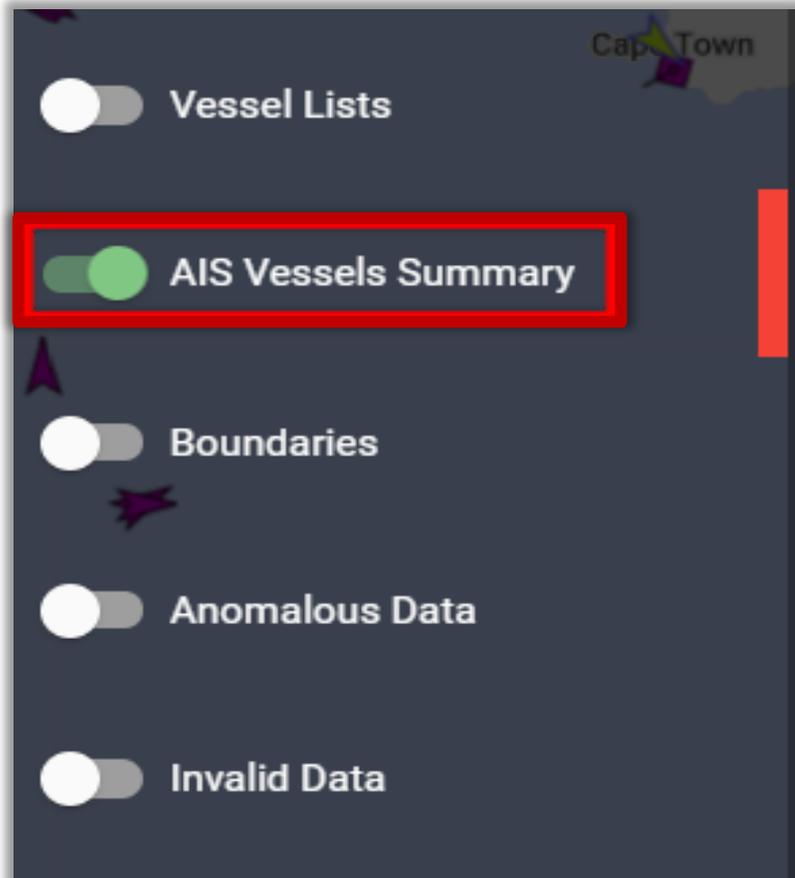
- Vessel Lists

- Vessels correlating to saved Vessel Lists will appear with a bolder outline



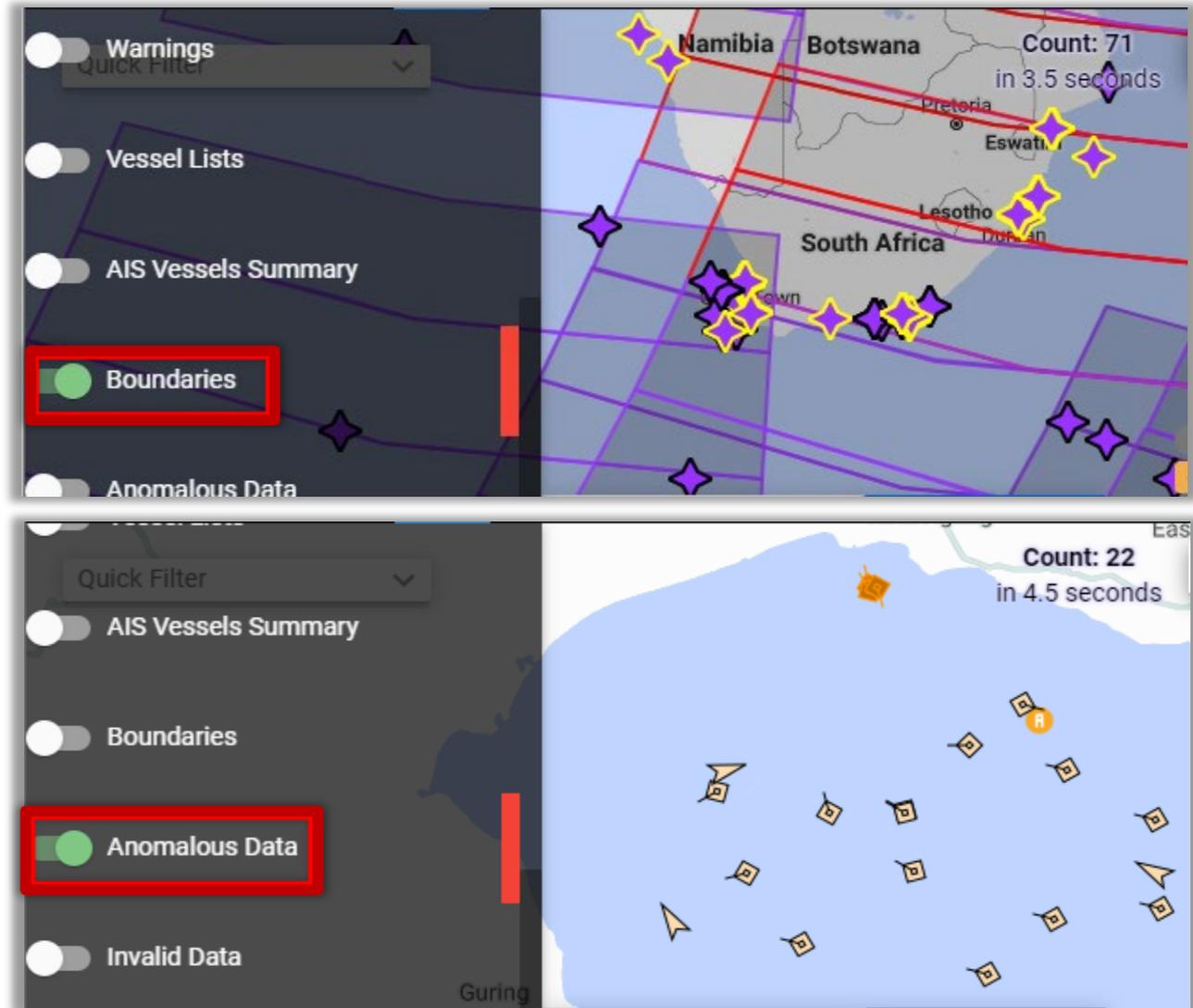
AIS Vessels Summary

- AIS Vessels Summary
 - Provides real-time AIS information for vessels that are currently displayed



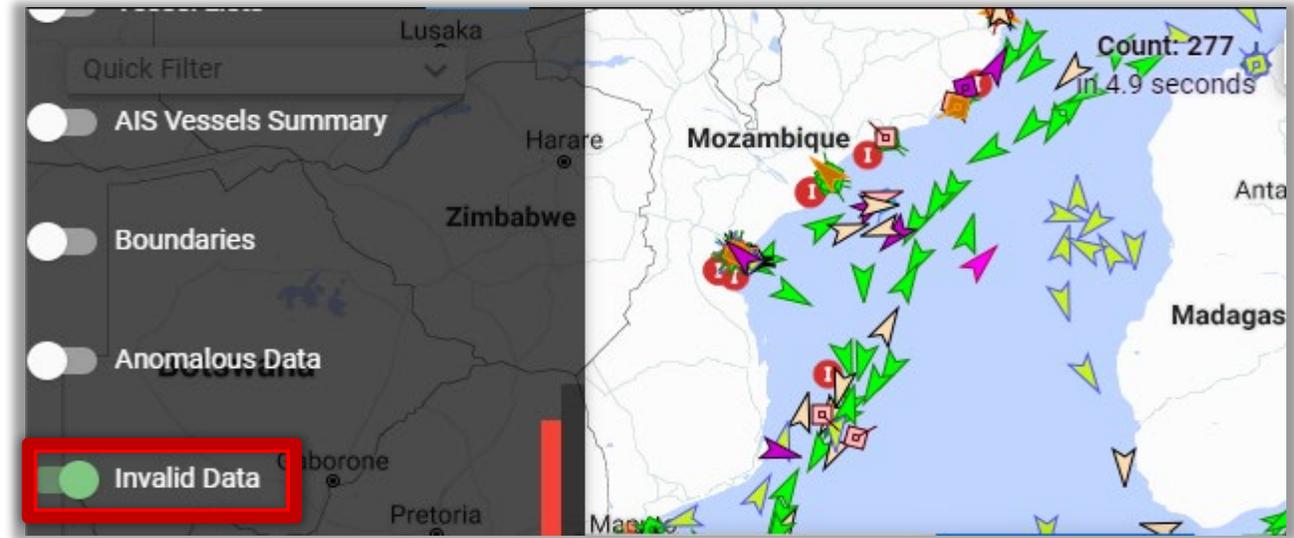
Boundaries and Anomalous Data

- Boundaries
 - Displays Visible Infrared Imaging Radiometer Suite (VIIRS) satellite boundary boxes
 - Only visible if the VIIRS data source is selected from Map Filters
- Anomalous Data
 - Attaches the letter "A" to vessels with Anomalous Data



Invalid Data

- Invalid Data
 - Attaches the letter "I" to vessels with Invalid Data



Summary

In this lesson, we covered:

- Accessing STATIC LAYERS
- The features of STATIC LAYERS
- The information displayed in STATIC LAYERS
 - Vessel Name and Country Borders
 - AOs and EEZs
 - Alerts and Rules
 - Warnings and Vessel Lists
 - AIS Vessels Summary
 - Boundaries and Anomalous Data
 - Invalid Data

Distance Tool

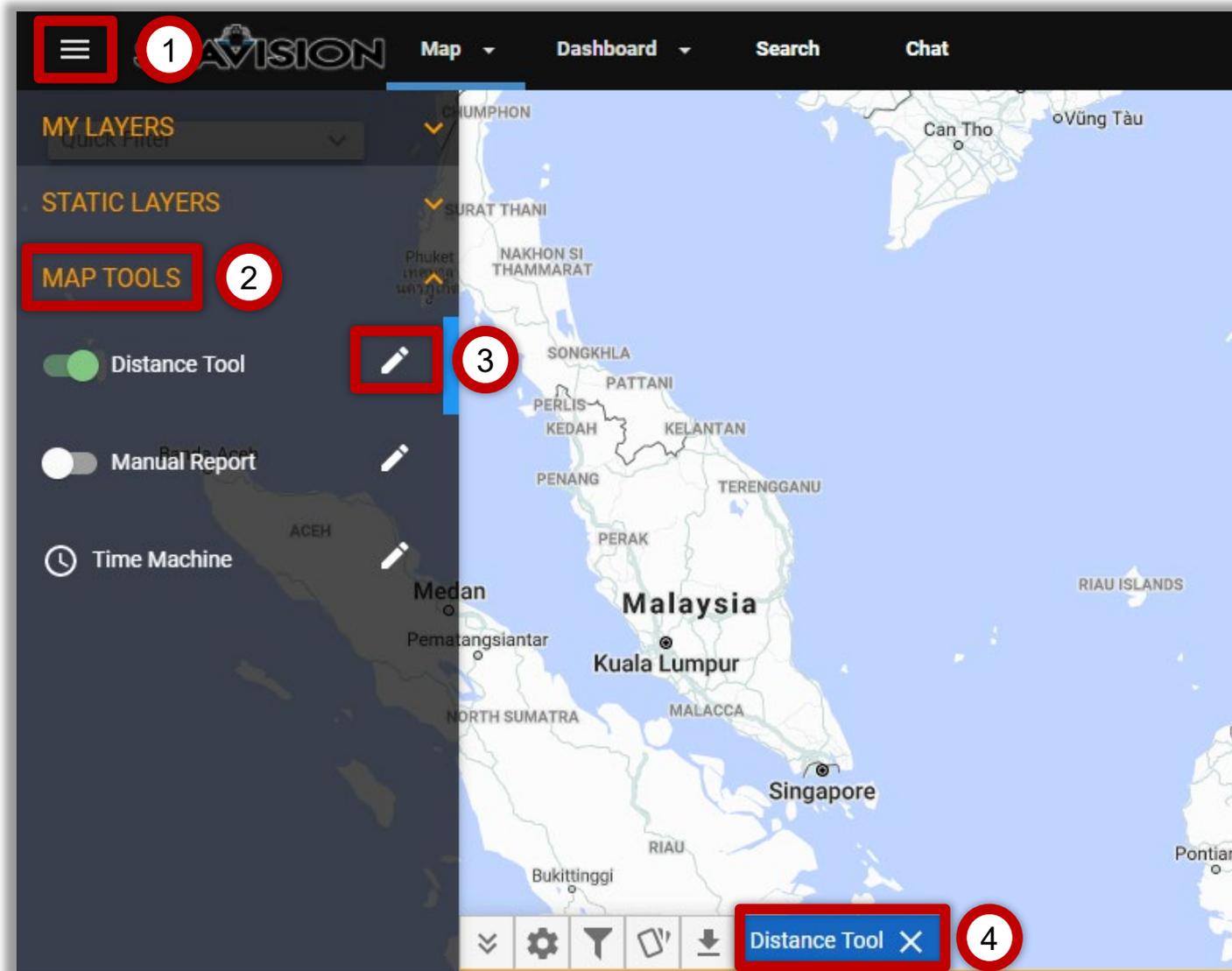
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access the Distance Tool
- Explain the features of the Distance Tool
- Create segments and paths
- Understand distance measurements obtained using the Distance Tool
- Edit segments and paths

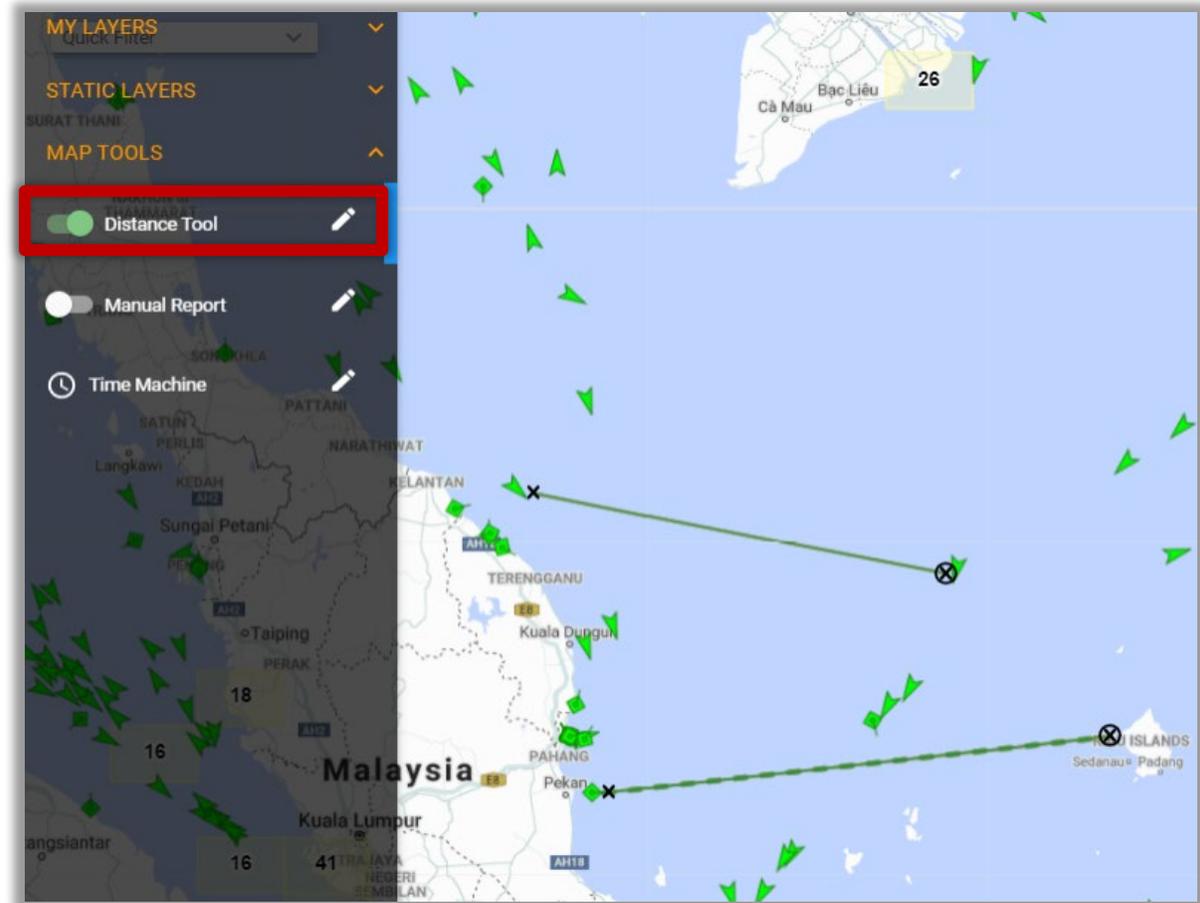
Accessing the Distance Tool

1. Main Menu
2. Map Tools
3. Distance Tool
4. Distance Tool tab



Distance Tool Features

- Determines the bearing/azimuth between two points
- Determines the length/range between two or more points
- Units of measurement can be set by the user
 - Meters
 - Nautical Miles
 - Kilometers
 - Miles
 - Feet



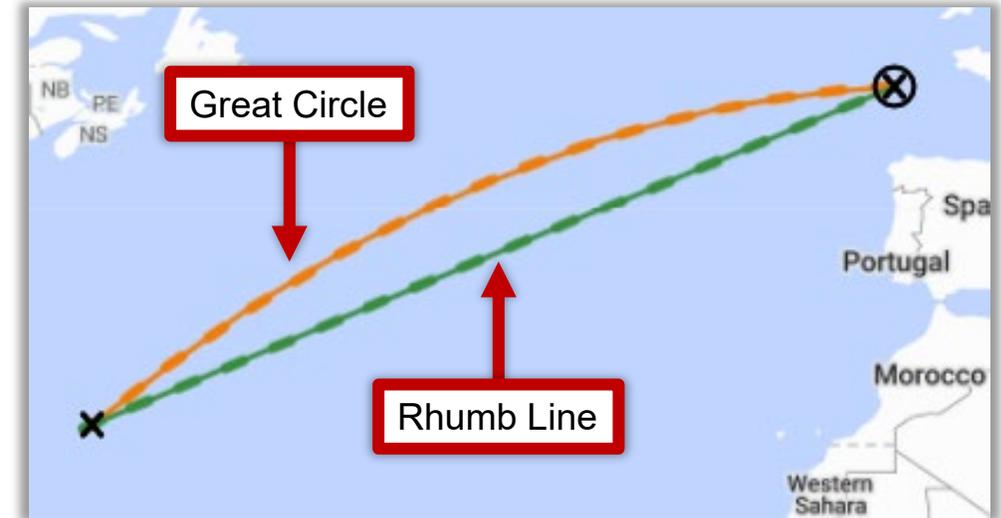
Creating Segments and Paths

- Paths can consist of a single segment or multiple segments
 - Create a single-segment path by plotting two points
 - Create a multi-segment path by plotting two or more connected segments



Distance Measurements

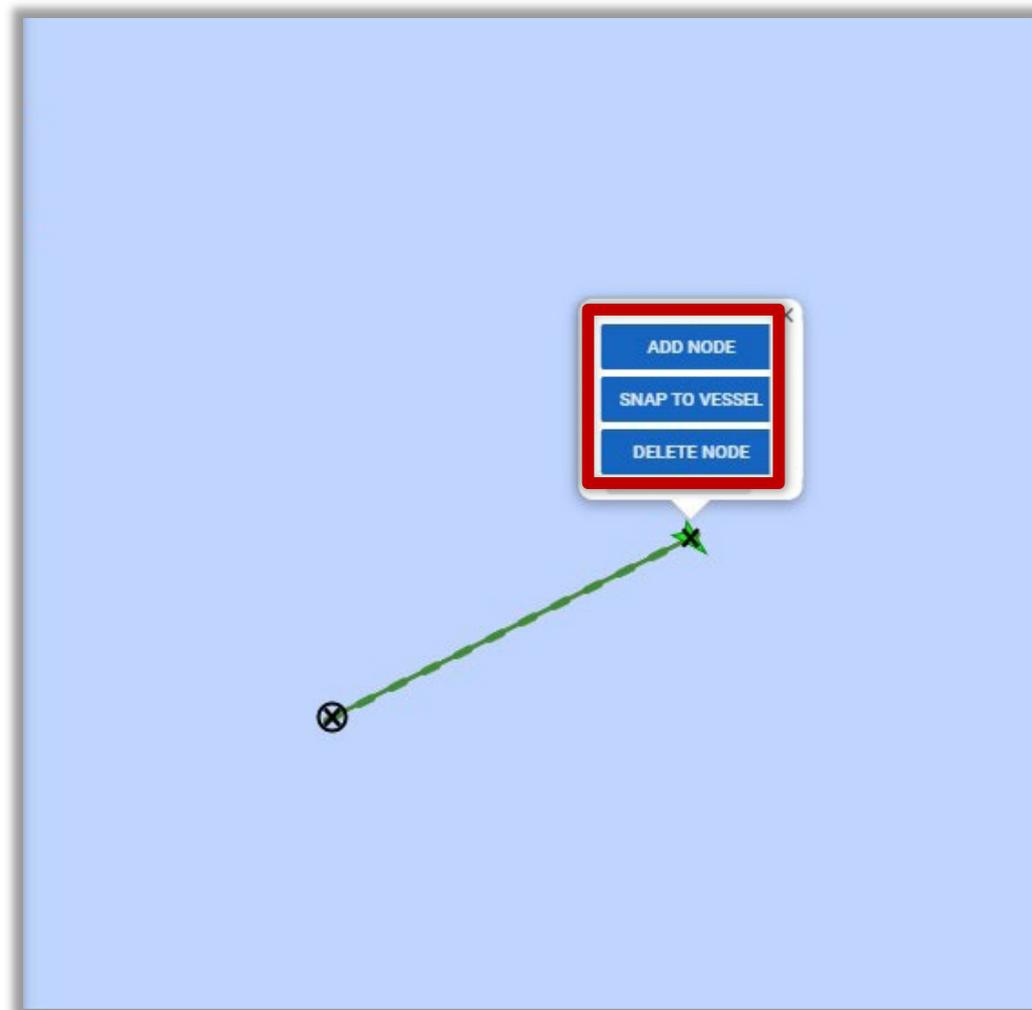
- Path distances are calculated using both Great Circle and Rhumb Line measurements
- The total length of the Current Path is displayed
- Both the range and bearing/azimuth of the Current Segment are displayed



Current Path		Current Segment	
Total Rhumb Line Length (m)	1165141.654896	Rhumbline Range (m)	1165141.654896
		Bearing (Degrees)	89.639801
Total Great Circle Length (m)	1159419.811616	Great Circle Range (m)	1159419.811616
		Initial Azimuth (Degrees)	89.641362

Editing Segments and Paths

- Segments can be edited after creation
- Additional segments can be added to the path by using ADD NODE
- SNAP TO VESSEL connects a segment node to a vessel for precise measurement
- Use DELETE NODE to remove unwanted segments



Summary

In this lesson, we covered:

- Accessing the Distance Tool
- The features of the Distance Tool
- Creating segments and paths
- Understanding distance measurements
- Editing segments and paths

Manual Reports

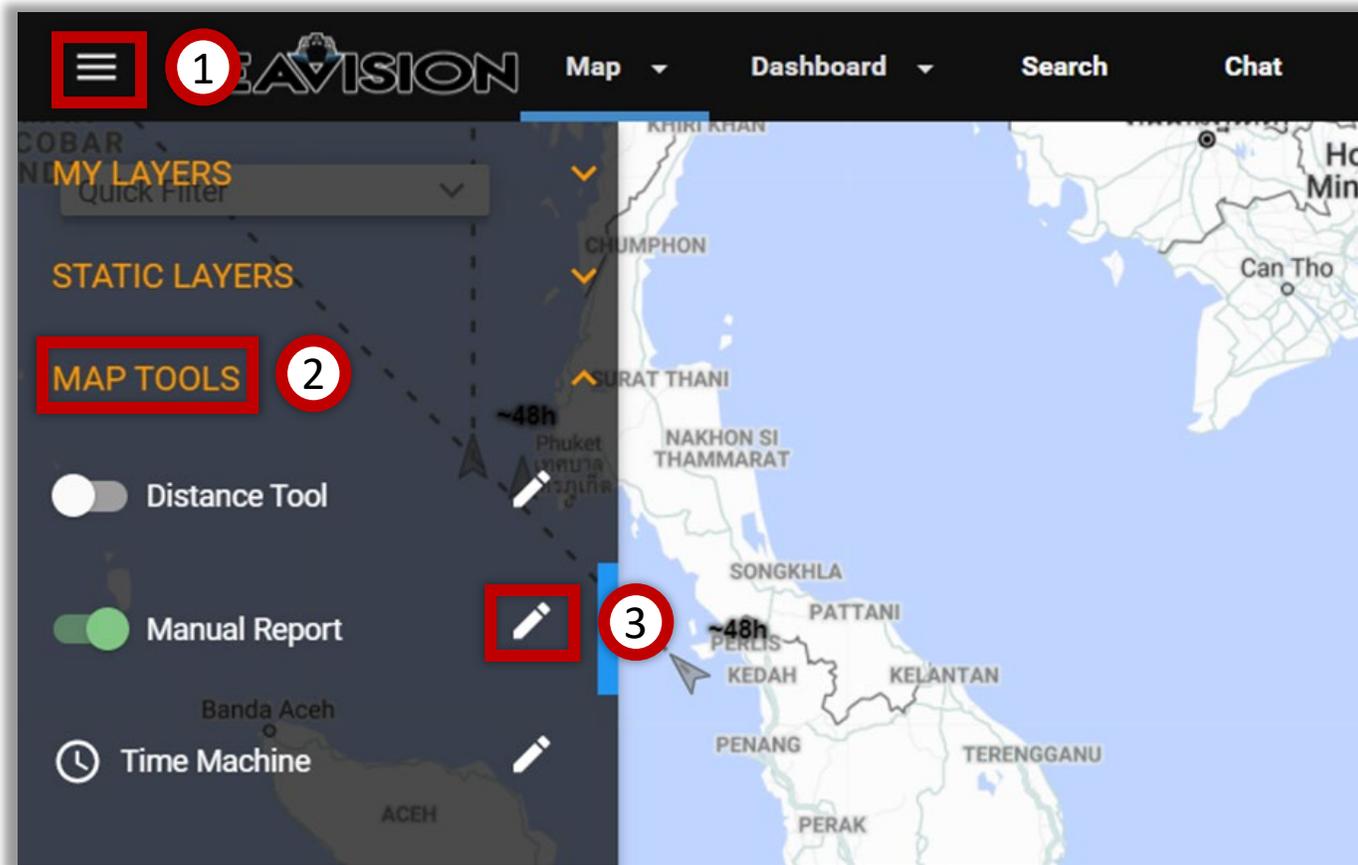
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access the Manual Report Manager
- Explain the features of Manual Reports in SeaVision
- Understand the Manual Report types
 - Vessel
 - Incident

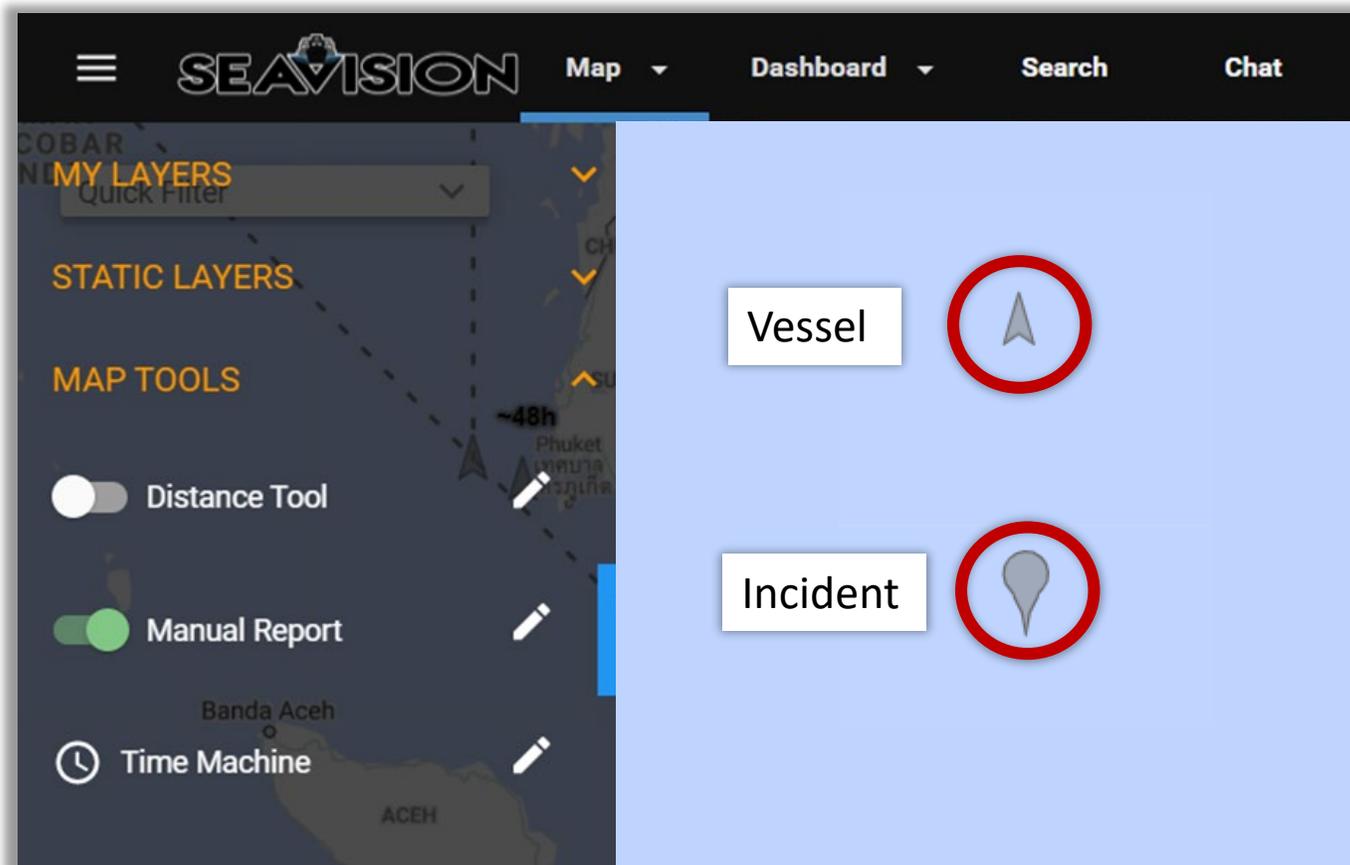
Accessing Manual Report Manager

1. Main Menu
2. MAP TOOLS
3. Manual Report



Manual Reports Features

- Manual Reports
 - User-created reports of vessels or incidents
 - Contacts of Interest (COI)
 - Search and Rescue
 - Hazards to Navigation
 - Suspected illegal activities
 - Oil spills
 - Vessel
 - Known vessel location
 - Course and speed
 - Dead reckoning
 - Incident
 - Known incident location
 - Static positioning



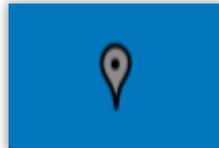
Manual Report Types

- Choose report type

- Vessel



- Incident



Enter Vessel Name

MV Louis|

CANCEL SAVE

Enter Incident Name

Navigation Hazard|

CANCEL SAVE

Add Marker

MY MANUAL REPORTS 5 PERSONA 0 COMMUNITY 3 ALL 8 UNSELECT ALL

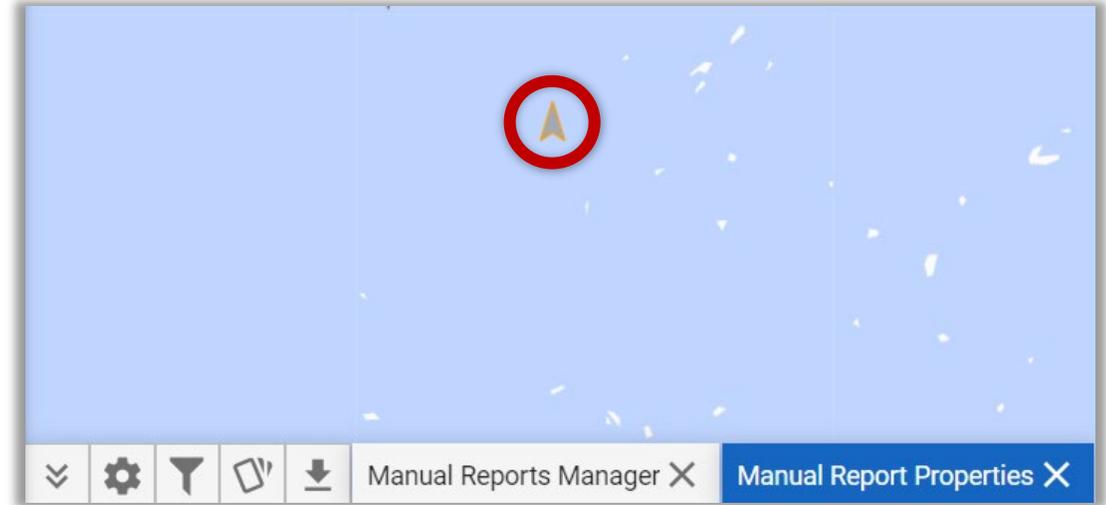
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oil Spill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Navigation Hazard	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cargo With Illegal waste
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Suspicious Vessel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Oil Spill				

Lat: 8° 30' 25.2" N Lon: 112° 26' 44.7" E

SABAH Papar Sandakan Turtle Islands Kinabatangan

Vessel Report

- Vessel
 - Dead Reckoning Position
 - Position
 - Latitude/Longitude
 - Heading
 - Course Over Ground
 - Notes



MV LOUIS

Name: MV Louis 8 / 60

Type: USER

Dead Reckoning Position

Position

Latitude: 10 ° 33 ' 55.44 " N Longitude: 113 ° 39 ' 14.4 " E

Heading: 0 Degrees

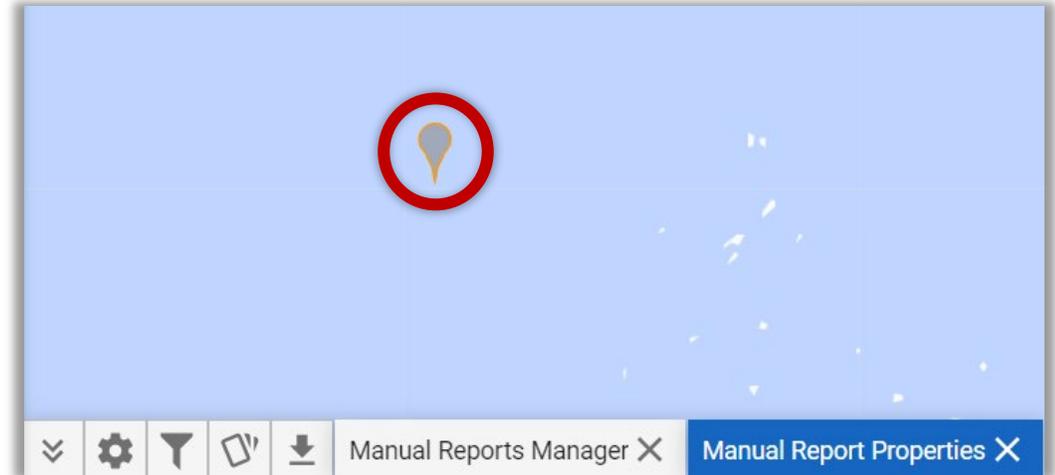
Course Over Ground: Degrees

Lat: 8° 50' 37.2" N Lon: 113° 16' 11.0" E

Notes: ADD NOTE

Incident Report

- Incident
 - Position
 - Latitude/Longitude
 - Date/Time
 - Notes



NAVIGATION HAZARD 17 / 60

Name: Navigation Hazard

Type: USER

Creation Date: 2020-11-12 14:43:30

Created By: SeaVision User

Last Modified: —

Modified By: —

Position

Latitude: 11° 12' 21.6" N

Longitude: 112° 40' 58.8" E

Date/Time: November 12, 2020 8 : 43

Notes < 1 of 1 >

USER submerged obstacle

Map labels: Puerto Princesa, Quezon, Narra, Brooke's Point, Zamboanga, Isabela, Oza, Paga, AH26, Dumagi, Balabac, Bataraza, Rizal, Mapun.

Summary

In this lesson, we covered:

- Accessing the Manual Report Manager
- The features of Manual Reports in SeaVision
- The Manual Report types
 - Vessel
 - Incident

Time Machine and Playback

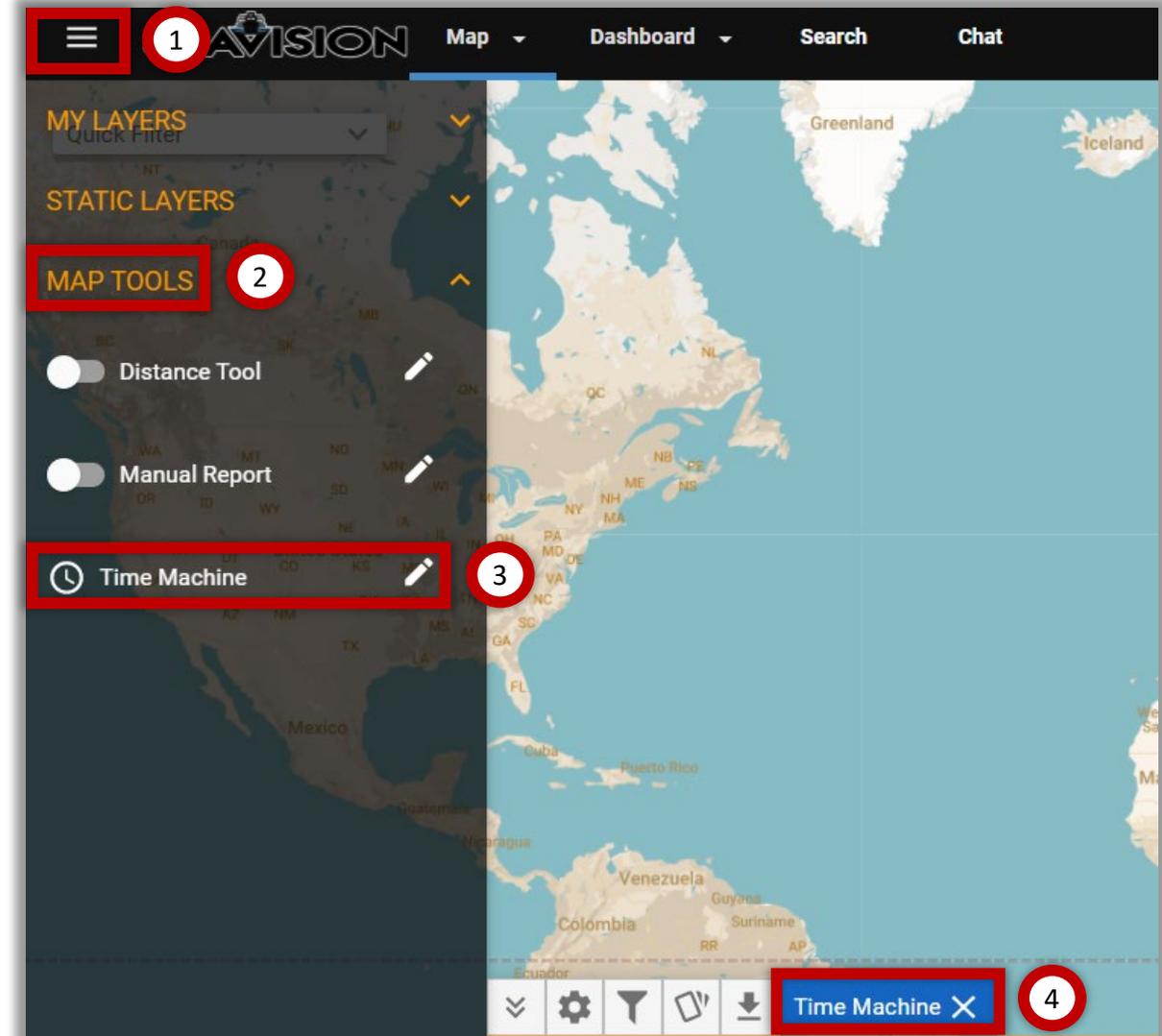
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access the Time Machine and Playback functions
- Explain the features of the Time Machine function
- Configure the Time Machine function
- Explain the features of the Playback function
- Configure the Playback function

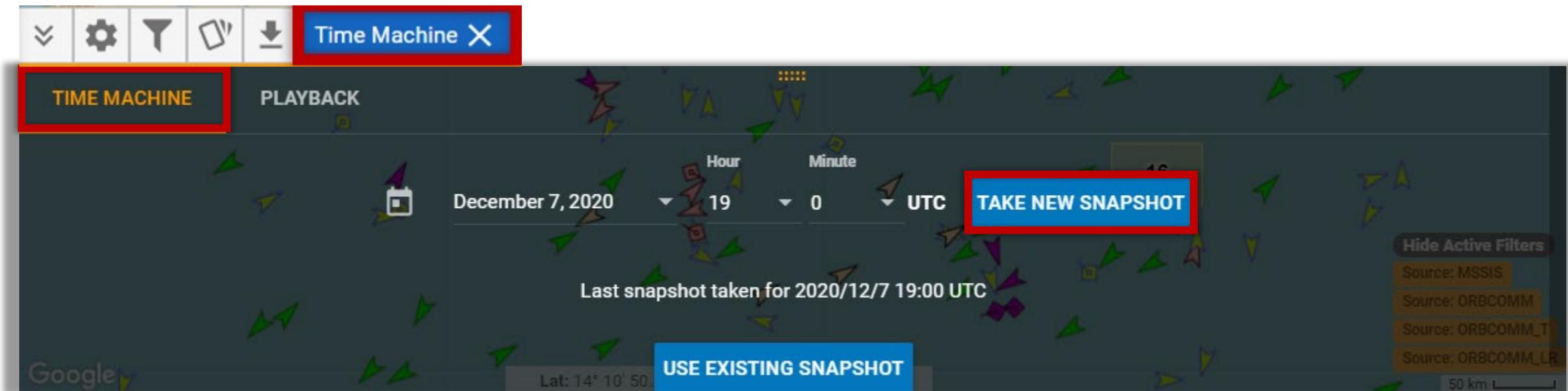
Accessing Time Machine and Playback

1. Main Menu
2. MAP TOOLS
3. Time Machine
4. Time Machine tab



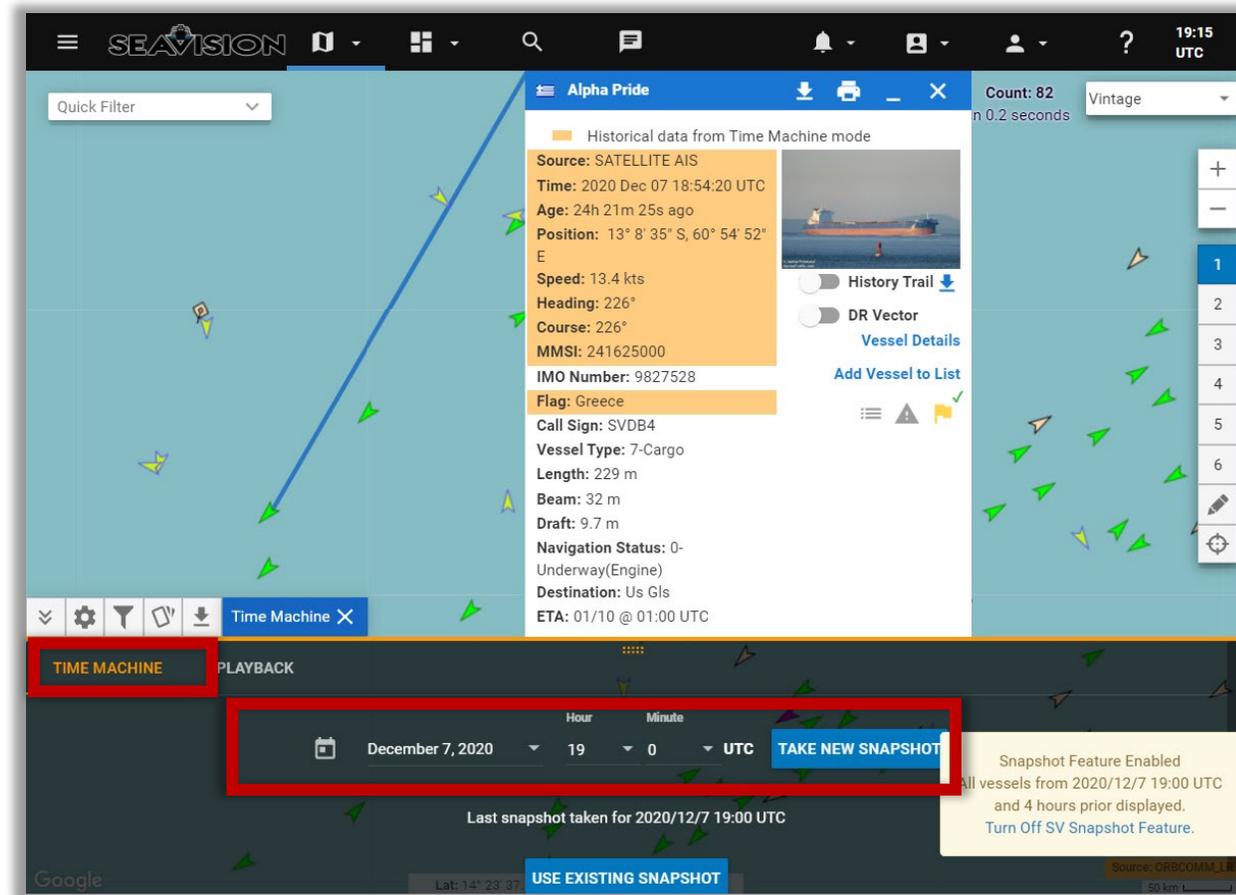
TIME MACHINE Features

- A SNAPSHOT of all AIS traffic for a chosen date and time (UTC) up to 1 year prior
- Displays the last known position of vessels within 4 hours prior to the specified date and time



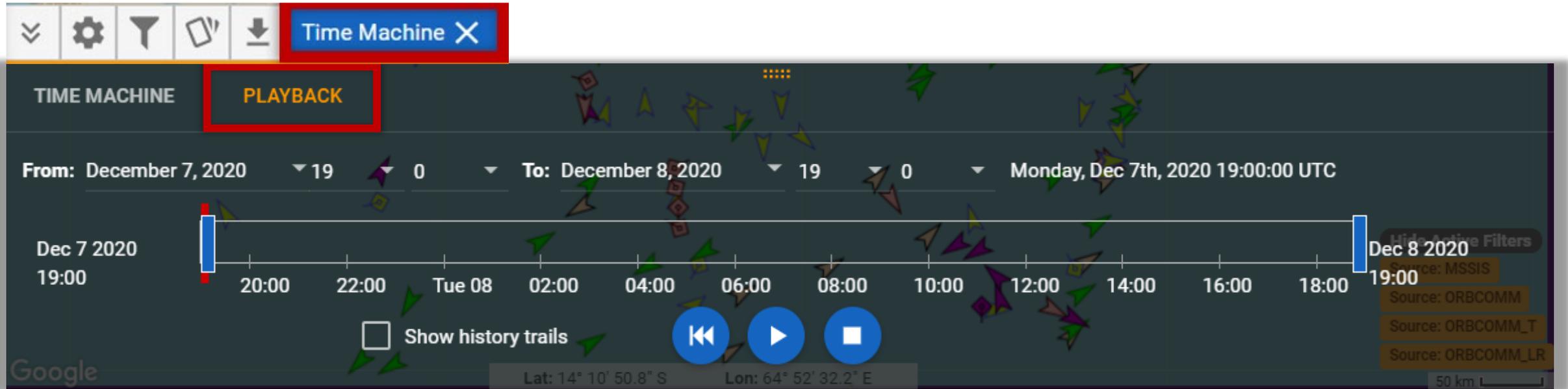
Configuring TIME MACHINE

- Use the date and time selection menus to take the snapshot of interest
 - Vessel Age is set to encompass the date selected
- Selecting a vessel will display a Vessel Data Card with historical AIS data highlighted in yellow



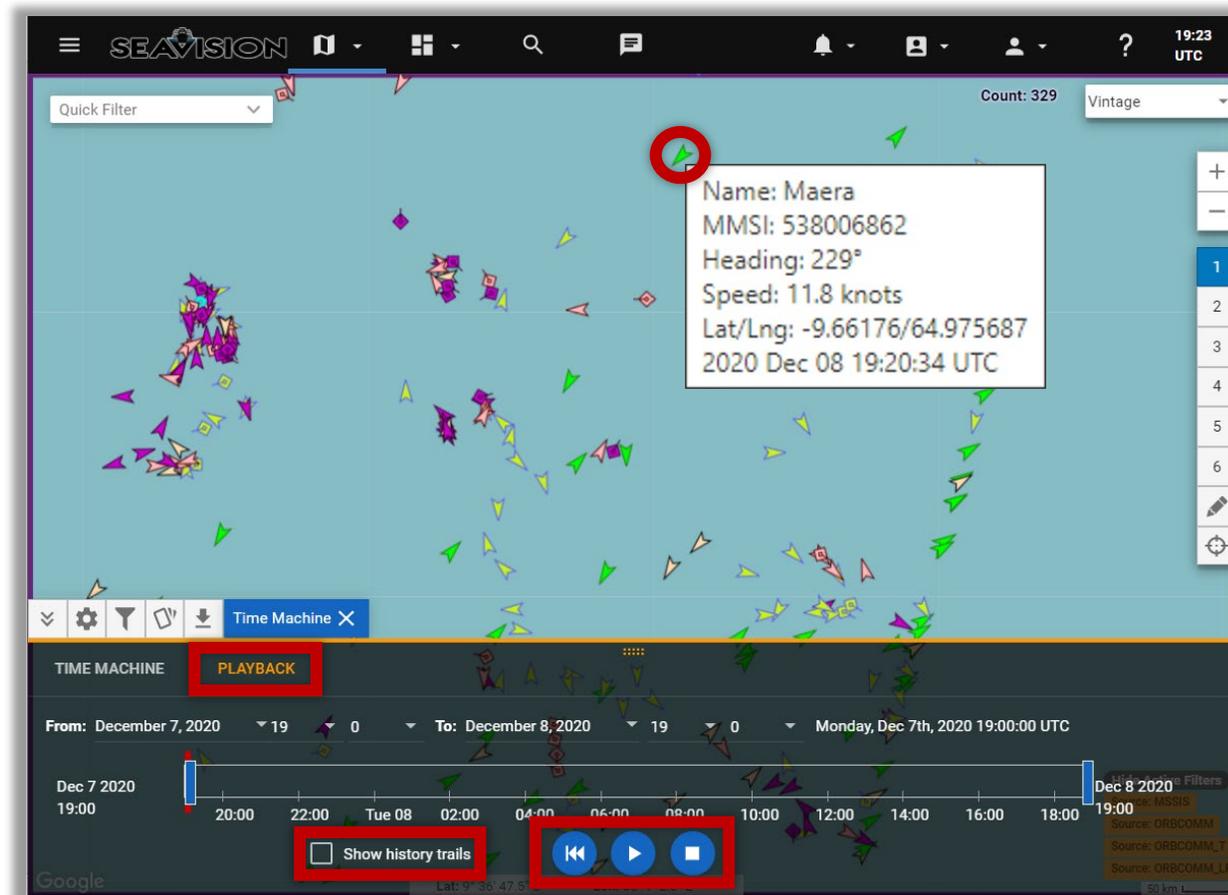
PLAYBACK Features

- Replays the history of vessels' AIS movements for specific date(s) and time up to 1 year prior and with a maximum of 30-day increments
- Can be used in conjunction with vessel filters, quick filters, and extended map filters



Configuring PLAYBACK

- Use the date and time selection menus to select the time frame of interest
- Users can begin, stop, and reset the playback
 - Refine the date and time constraints by dragging and dropping the blue scrubber bars
 - Scroll through the selected time periods by dragging the red status bar
- View vessel history trails
- Hover over vessels of interest for additional information



Summary

- In this lesson, we covered:
 - Accessing the Time Machine and Playback functions
 - The features of the Time Machine function
 - Configuring the Time Machine function
 - The features of the Playback function
 - Configuring the Playback function

Rules

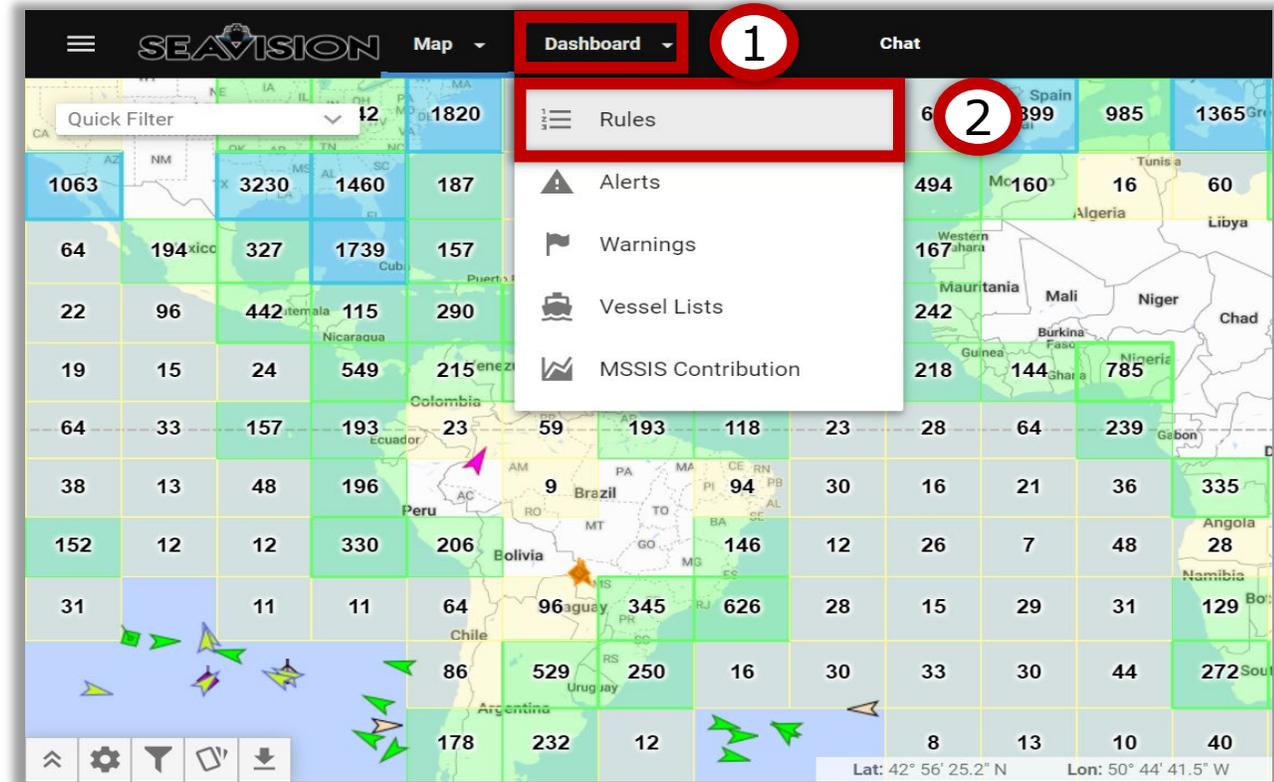
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Rules
- Explain the features of Rules
- Create a Rule
- Configure Rules Settings
- Manage Rule Options
- Explain Rules evaluated as “Vessel Must Meet All Conditions”
- Explain Rules evaluated as “Vessel Can Meet Any Condition”

Accessing Rules

1. Dashboard
2. Rules



Rules Features

- Rules are user-created vessel searches that run automatically until they expire every 30 days
- Rules are run against the same dataset as Search
- Rules can be shared to a Persona or a Community

The screenshot displays the 'Rules' interface, which is divided into three main sections: Active Rules, Rule Configuration, and Results.

Active Rules (2): This section shows a list of active rules. The first rule is 'Tankers Underway Flagged...' and the second is 'Cargo in the Polygon'. Both are marked as 'USER' created.

Disabled Rules (2): This section is currently empty, displaying 'No Data'.

Rule Configuration (Tankers Underway Flagged...):

- LAST UPDATED:** 2020-11-16 22:32:25 by SeaVision User
- CONDITIONS (2):**
 - 1 Vessel Type is 8X - Tanker
 - 2 Navigation Status is AIS-SART / MOB-AIS / EPIRB-AIS

Must match all conditions using vessel data no greater than 2 hours ago from time of search
- SCHEDULED:**
 - Runtime: Starting at 12:00 UTC daily
 - Interval: Every 2 Hours
- RUNTIME INFORMATION:**
 - Enabled: Yes
 - Expiry: Expires in 7d 0h 0m
 - Is Running: No
 - Last Scheduled Completion: 2020-12-09 16:00:04
 - Last Manual Completion: 2020-11-25 18:34:34 by

Results - Vessels Matching Rules (1):

This section shows the results of the rule. It includes a table with the following data:

MMSI	VESSEL NAME	VESSEL TYPE
325113100	Yuantong2	8-Tanker

Below the table, it indicates '1 RESULT' and provides navigation options for 'GO TO PAGE' (1) and 'ROWS' (25).

Creating a Rule

1. Plus (+)
2. Name Your Rule
3. Choose How To Evaluate Your Conditions
4. Set Up Your Conditions
5. Choose The Evaluation Time And Interval
6. SAVE YOUR RULE

The screenshot shows a mobile application interface for creating a rule. It is divided into two main sections. The left section, titled 'Active Rules (2)', shows a list of rules with a blue plus sign icon circled in red and labeled '1'. The right section is a form for creating a new rule, with steps 2 through 6 highlighted in red boxes and numbered circles. Step 2 is 'Name Your Rule', with the text 'Training' entered. Step 3 is 'Choose How To Evaluate Your Conditions', with the radio button for 'Vessels must meet all conditions' selected. Step 4 is 'Set Up Your Conditions', with a dropdown menu showing 'Vessel Type' and the text 'is'. Step 5 is 'Choose The Evaluation Time And Interval', with 'Time To Run' set to '12:00 UTC' and 'Interval' set to 'Every 12 Hours'. At the bottom, there is a blue checkmark icon labeled 'Done!' and a blue button labeled 'SAVE YOUR RULE' circled in red and labeled '6'.

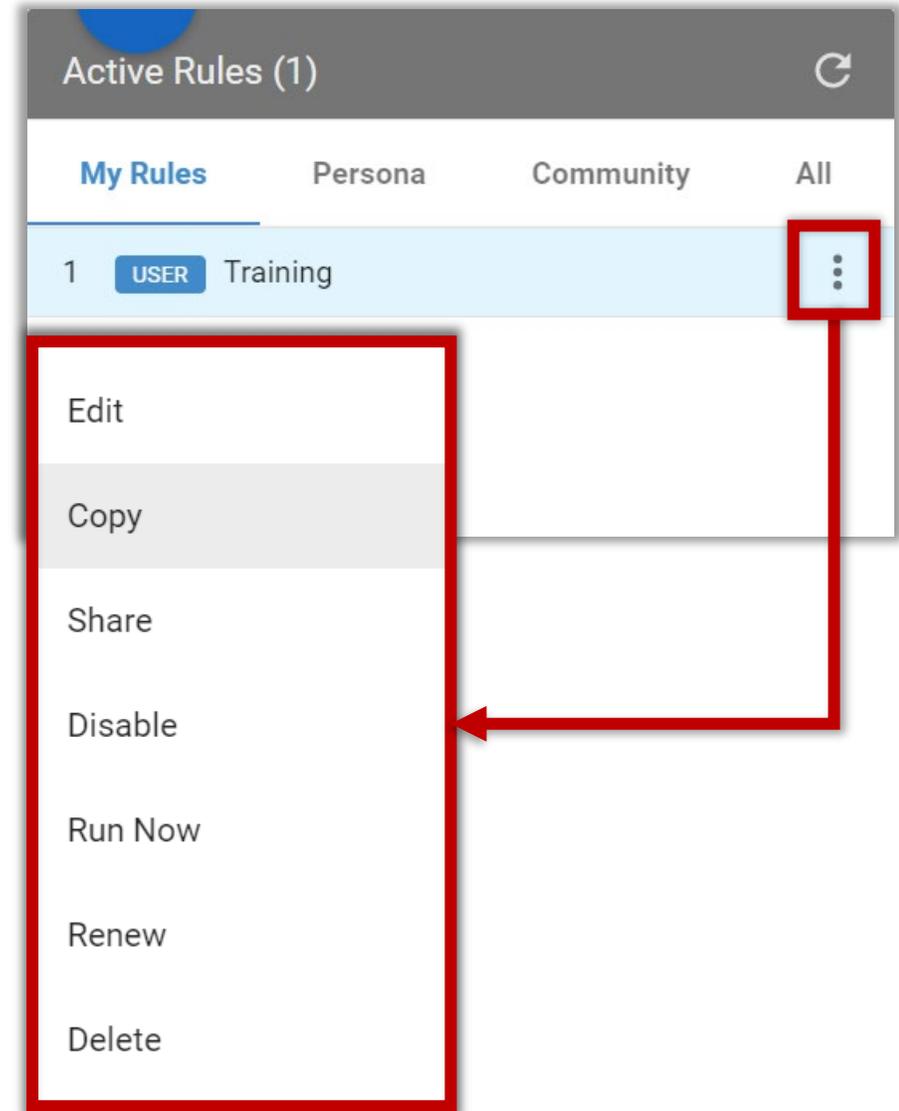
Configuring Rules Settings

- Users can configure Rules Settings before running the Rule to customize the information displayed in the Results Columns

The screenshot displays the 'Results - Vessels Matching Rules (545)' interface. At the top, there is a blue header with a refresh icon. Below the header, there are two tabs: 'Vessel Results' (active) and 'Vessel Analytics'. A row of action buttons is visible: 'EXPORT', 'SAVE AS LIST', 'MAP RESULTS', and 'SETTINGS' (highlighted with a red border). Below this, the 'Rules Settings' dialog box is open, also with a red border. The dialog has a title bar 'Rules Settings' and a section titled 'Columns' with the subtitle 'Configure columns to display in results table'. A 'Select All' checkbox is at the top of the list. The list contains the following items with their respective checkbox states: MMSI (checked), IMO (unchecked), Vessel Name (checked), Latitude (unchecked), Longitude (unchecked), Heading (unchecked), AO (unchecked), EEZ (unchecked), Rule Score (unchecked), Rule Rating (unchecked), Warning Scores (unchecked), Safety Rating (unchecked), Security Rating (unchecked), Date Time Group (unchecked), and Vessel Type (checked). At the bottom of the dialog, there are 'DEFAULT' and 'RESET' buttons on the left, and a 'SAVE' button on the right.

Managing Rule Options

- Users can select a saved Rule to:
 - Edit
 - Copy
 - Share
 - Disable
 - Run Now
 - Renew
 - Delete



Vessel Must Meet All Conditions

- Must meet all conditions
 - Vessels must match every condition selected

✓ **Choose How To Evaluate Your Conditions**

Vessel must meet all conditions

Vessels can meet any condition and will accumulate a score associated with the condition

✓ **Set Up Your Conditions**

Vessel Type is 7X - Cargo X

AND

Flag is United States of America X

AND

Propulsion type is Propellers X

Vessel Can Meet Any Condition

- Vessel can meet any condition and will accumulate a score associated with the condition
- Weights can be assigned to the conditions in order to sort results based on assigned priorities
 - Priority sorting will be based on the cumulative weights assigned to the conditions resulting in a "RULE SCORE" in the results table

Choose How To Evaluate Your Conditions

Vessels must meet all conditions

Vessel can meet any condition and will accumulate a score associated with the condition

Set Up Your Conditions

			Weight	
Vessel Type	is	7X - Cargo	1	X
OR				
Flag	is	United States ...	2	X

ADD CONDITION

Set Score Thresholds for the Low/Medium boundary: 1

Set Score Thresholds for the Medium/High boundary: 2

Summary

- In this lesson, we covered:
 - Accessing Rules
 - The features of Rules
 - Creating a Rule
 - Configuring Rules Settings
 - Managing Rule Options
 - Rules evaluated as “Vessel Must Meet All Conditions”
 - Rules evaluated as “Vessel Can Meet Any Condition”

Alerts

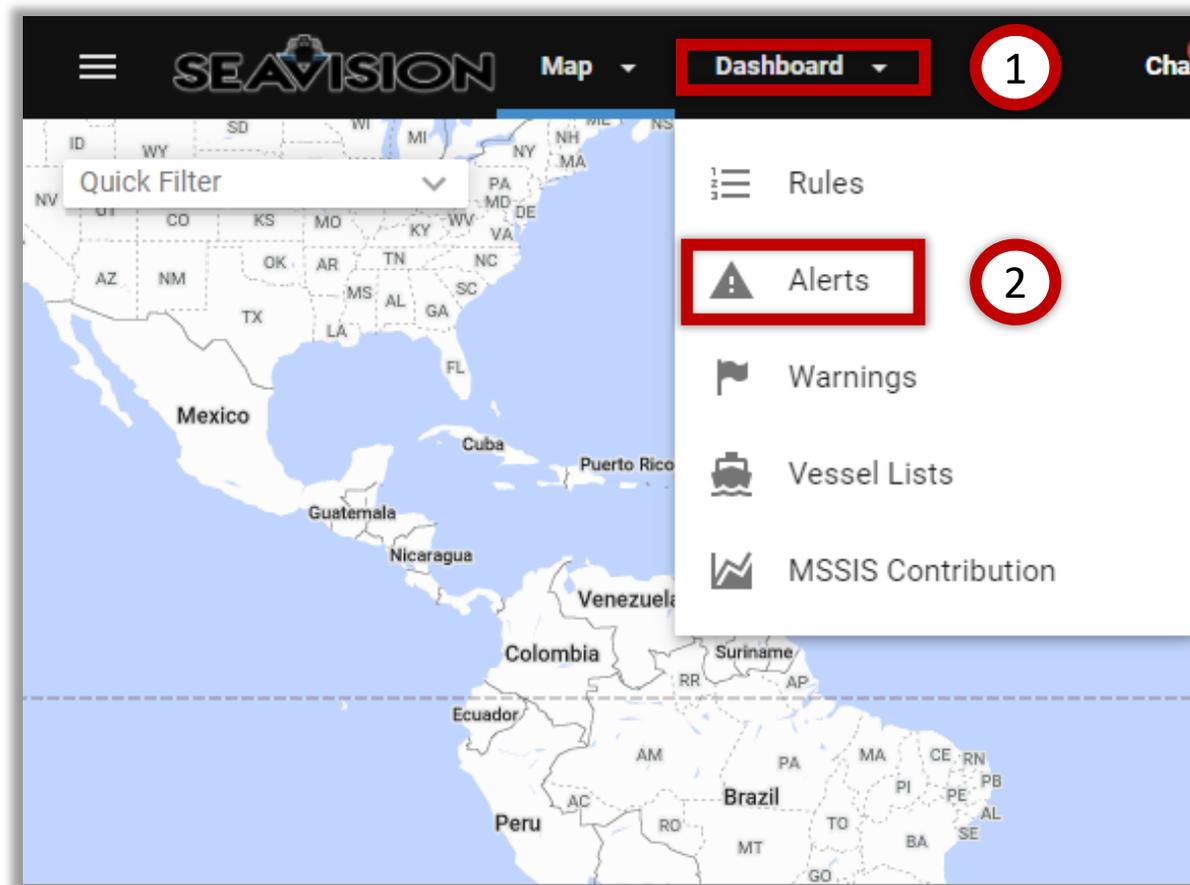
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Alerts
- Explain the features of Alerts
- Create an Alert
- Configure Alert Settings
- Manage Alert options
- Explain the additional uses of Alert Results

Accessing Alerts

1. Dashboard
2. Alerts



Alerts Features

- Alerts provides the ability to execute an ad-hoc query
- Alerts can be saved and shared to a user's Personas and Communities
- Alerts uses near real-time data

Results - Vessels Matching Alerts (15) ↻

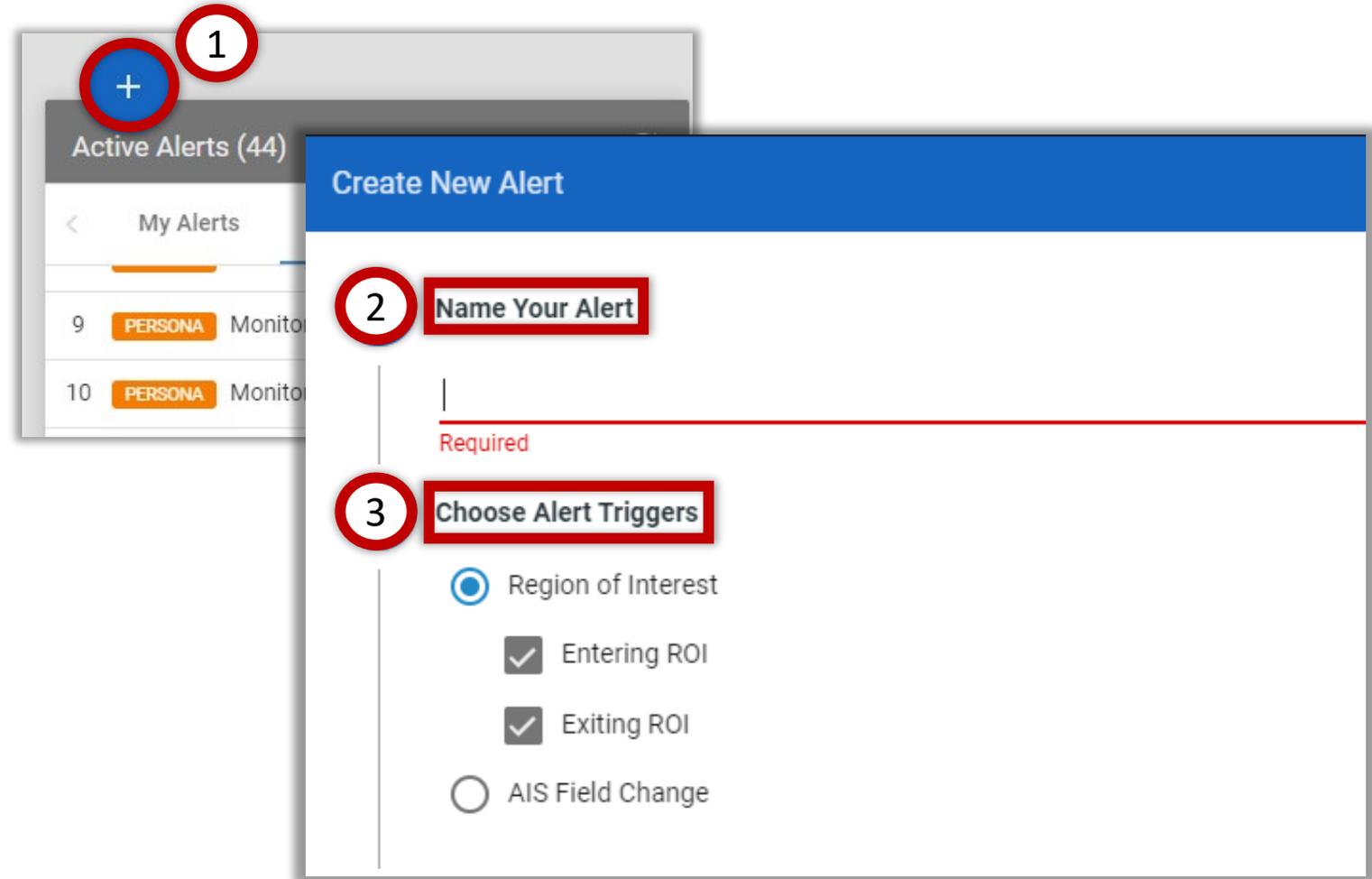
Vessel Results Vessel Analytics

EXPORT **SAVE AS LIST** **MAP RESULTS** **SETTINGS**

	TI...	AGE	IMO	M...	AL...	TRI...	VE...	SO...
1	20...	2d ...	94...	52...	KP...	Exi...	Km...	OR...
2	20...	2d ...	94...	52...	KP...	Ent...	Km...	OR...
3	20...	2d ...	93...	52...	KP...	Exi...	Km...	OR...
4	20...	2d ...	93...	52...	KP...	Ent...	Km...	OR...

Creating an Alert

1. Plus (+)
2. Name Your Alert
3. Choose Alert Triggers



Creating an Alert Cont.

4. Choose Your Region-Of-Interest (ROI)
5. Choose Type Of Vessels To Match
 - All vessels triggering Alert
 - Vessels triggering Alert with additional vessel filters

Create New Alert

4 Choose Your Region-Of-Interest (ROI)

	AO	EEZ	TW	SHAPE
1	<input type="checkbox"/>			
2	<input type="checkbox"/>			
3	<input type="checkbox"/>			
4	<input type="checkbox"/>			
5	<input type="checkbox"/>			
6	<input type="checkbox"/>			

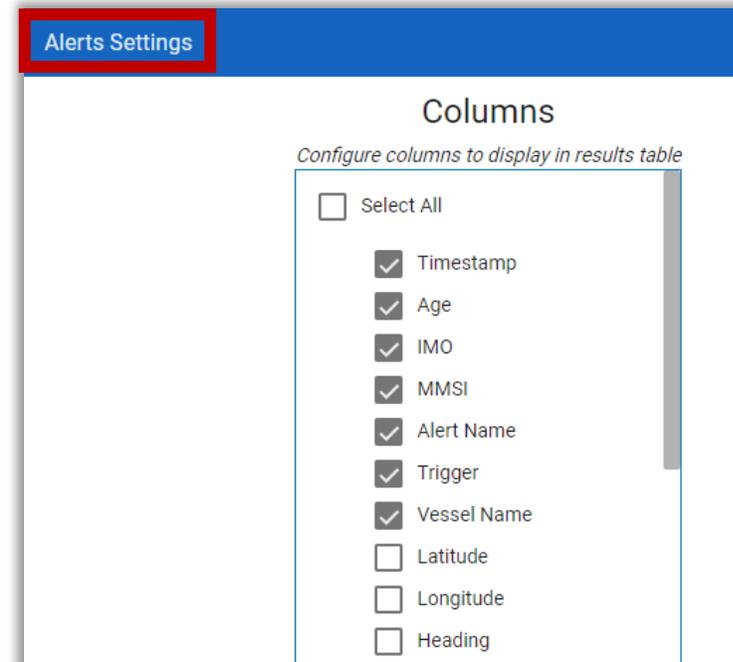
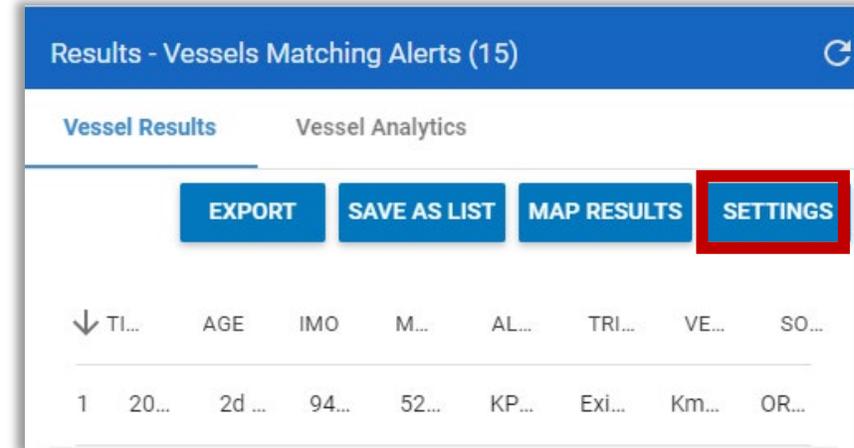
5 Choose Type Of Vessels to Match

All vessels triggering Alert

Vessels triggering Alert with additional vessel filters

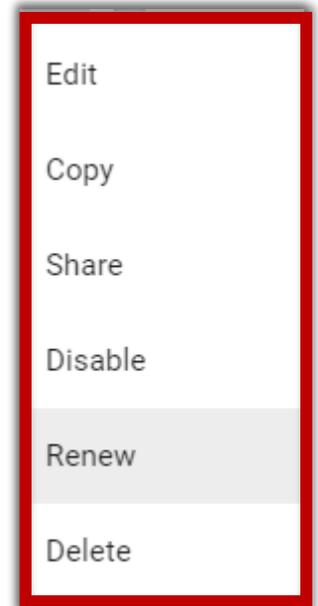
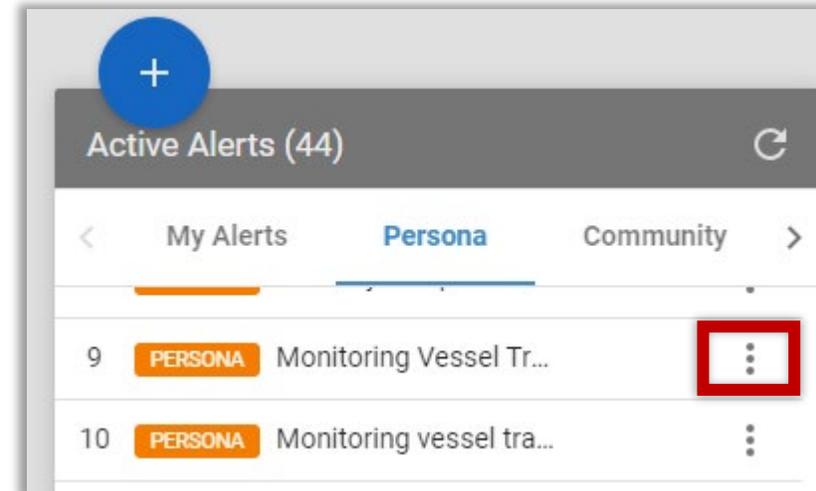
Configuring Alerts Settings

- Users can configure Alerts Settings before running the Alerts to customize the results columns and age of data



Managing Alert Options

- Select a saved Alert
 - Edit
 - Copy
 - Share
 - Disable
 - Renew
 - Delete



Additional Uses of Alert Results

- The following options are available for Alert Results:
 - EXPORT
 - JSON
 - CSV
 - XML
 - KML
 - SAVE AS LIST
 - MAP RESULTS

Results - Vessels Matching Alerts (15)

Vessel Results Vessel Analytics

EXPORT SAVE AS LIST MAP RESULTS SETTINGS

↓	TI...	AGE	IMO	M...	AL...	TRI...	VE...	SO...
1	20...	2d ...	94...	52...	KP...	Exi...	Km...	OR...
2	20...	2d ...	94...	52...	KP...	Ent...	Km...	OR...

Summary

- In this lesson, we covered:
 - Accessing Alerts
 - The features of Alerts
 - Creating an Alert
 - Configuring Alert Settings
 - Managing Alert options
 - The additional uses of Alert Results

Warnings

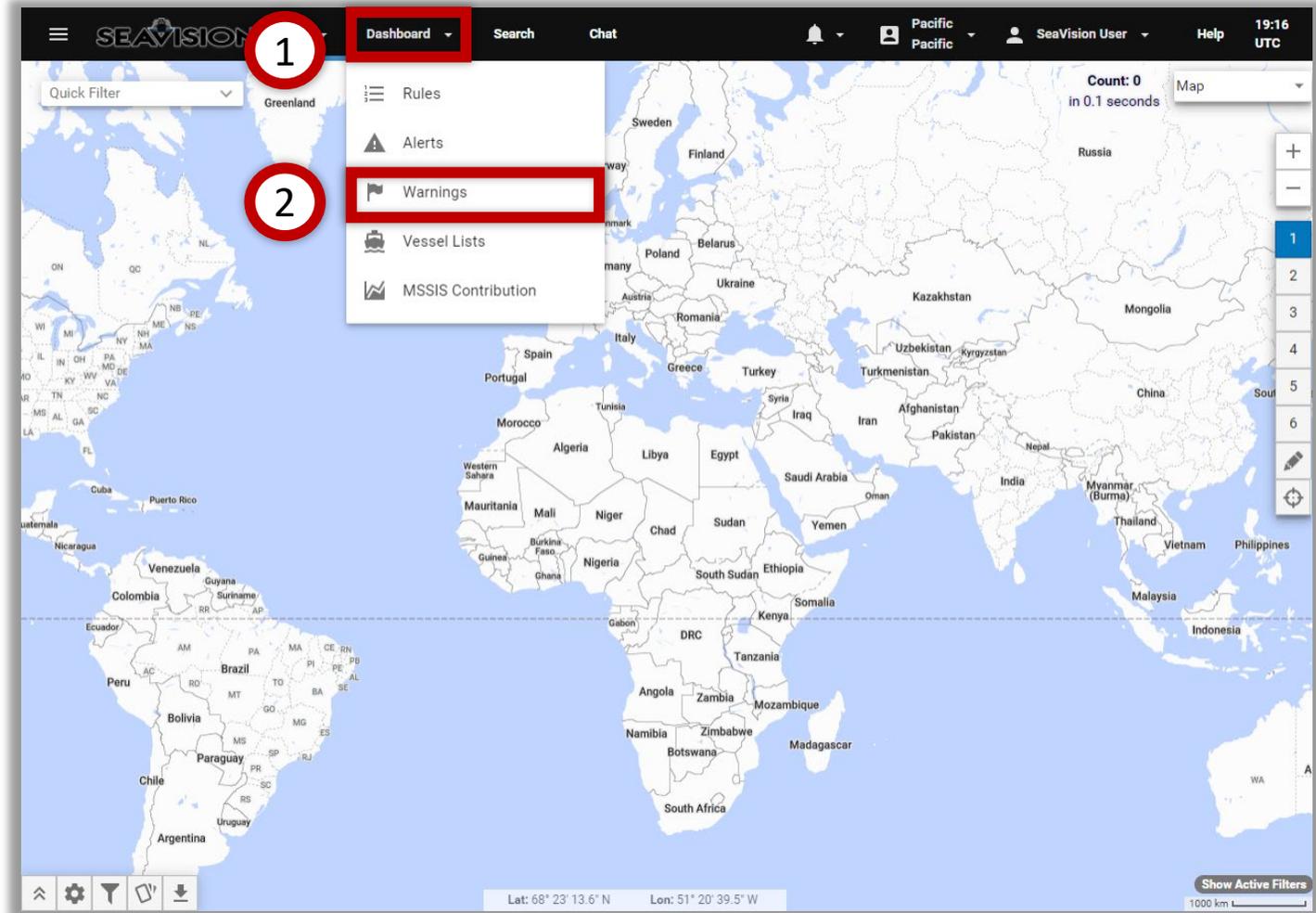
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access the Warnings Dashboard
- Understand the features of the Warnings Dashboard
- Identify the derived properties (Safety Score and Security Score) of the Warnings function
- Use the derived properties of the Warnings function
- Access Warnings details
- Inspect Warnings details

Accessing the Warnings Dashboard

1. Dashboard dropdown menu
2. Warnings



Warnings Dashboard Features

- Overview

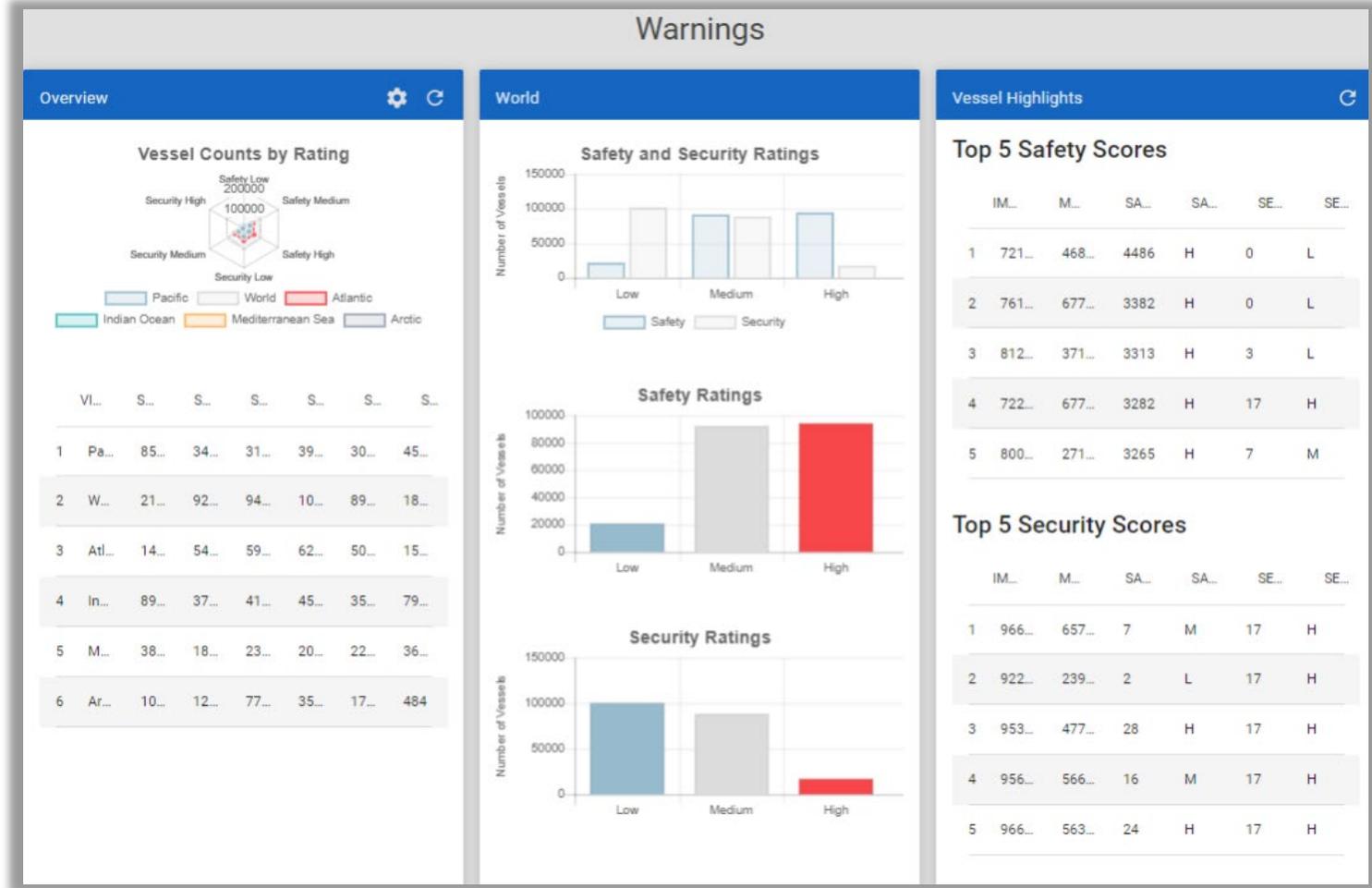
- Vessel Counts by Rating
- Custom map views populate automatically
- Warning Scores are refreshed every 24 hours

- Map View Summary

- Displays Safety and Security Ratings for the current map view, selected from the Overview column

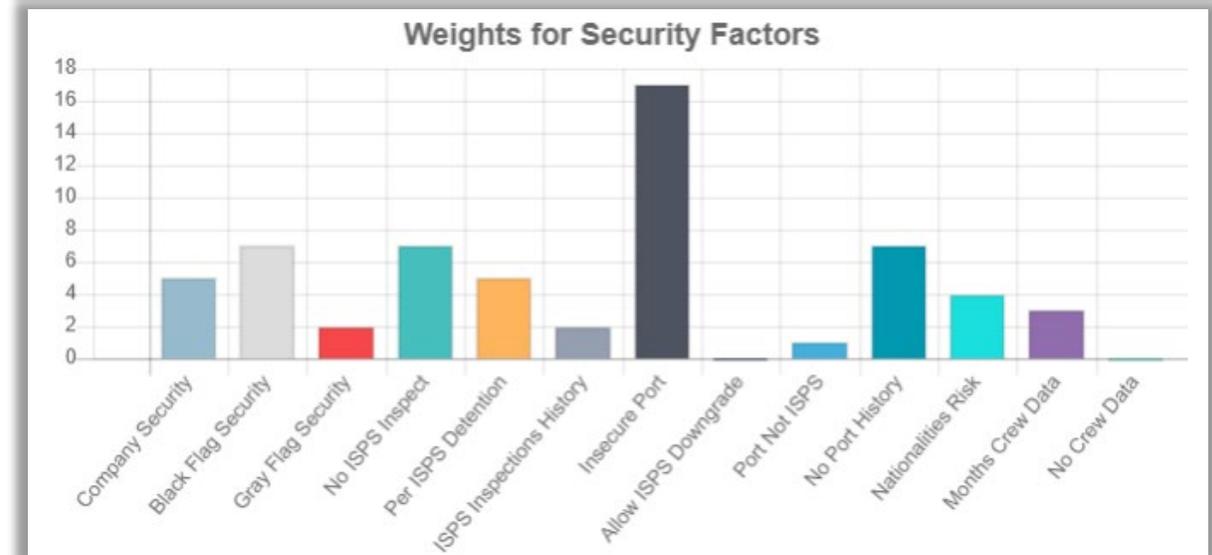
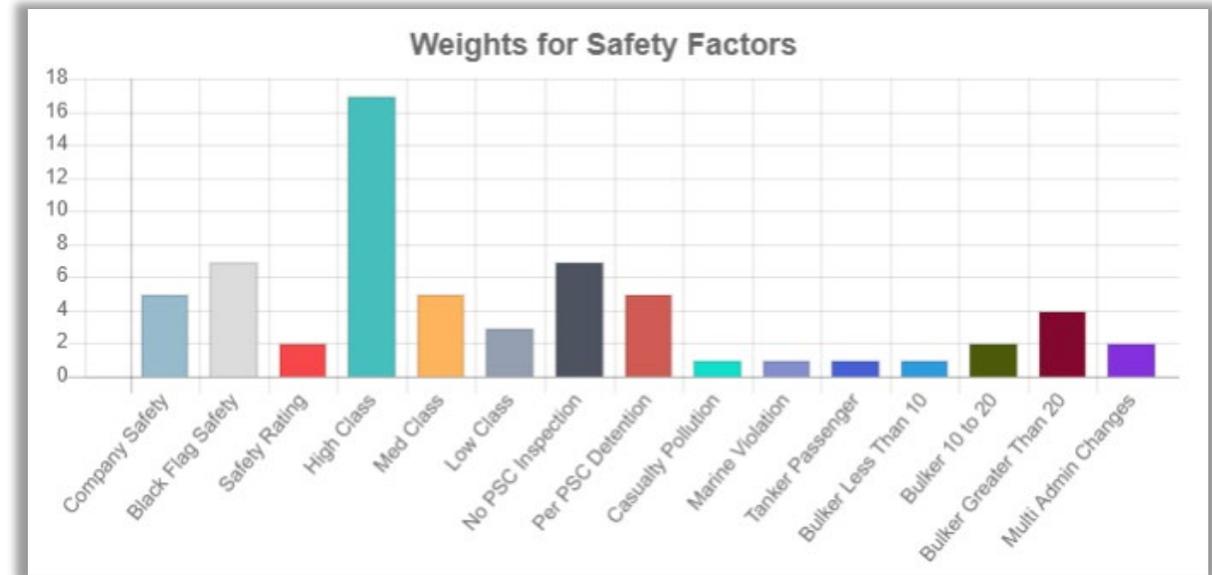
- Vessel Highlights

- Top 5 Safety Scores
- Top 5 Security Scores



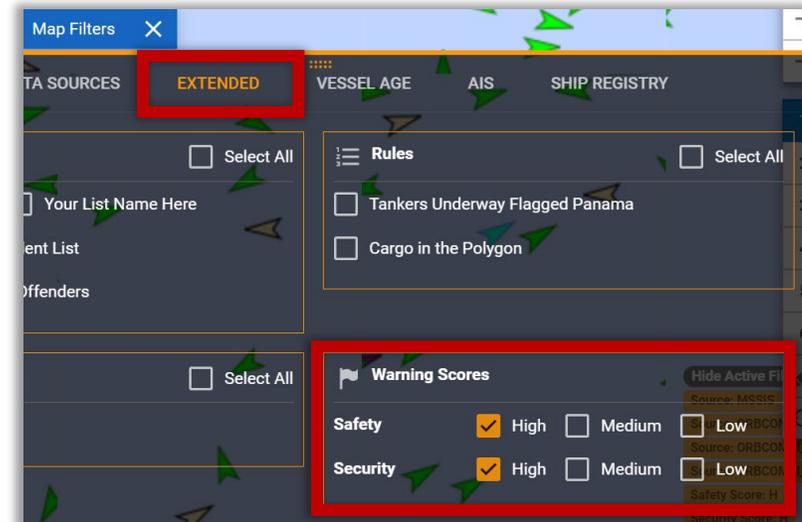
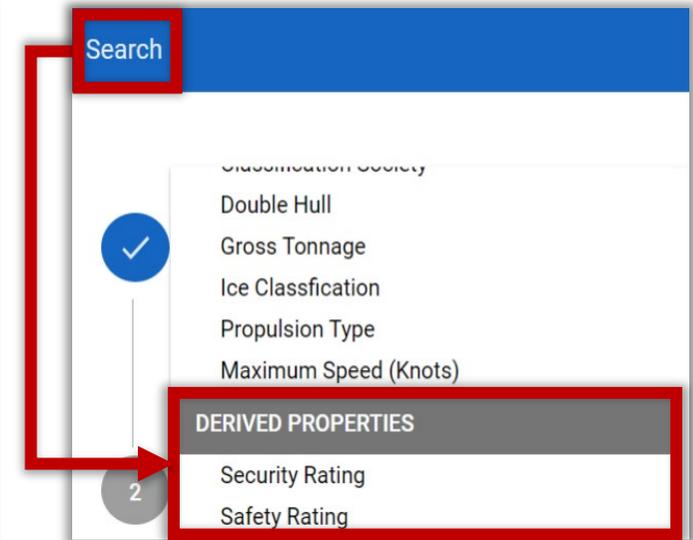
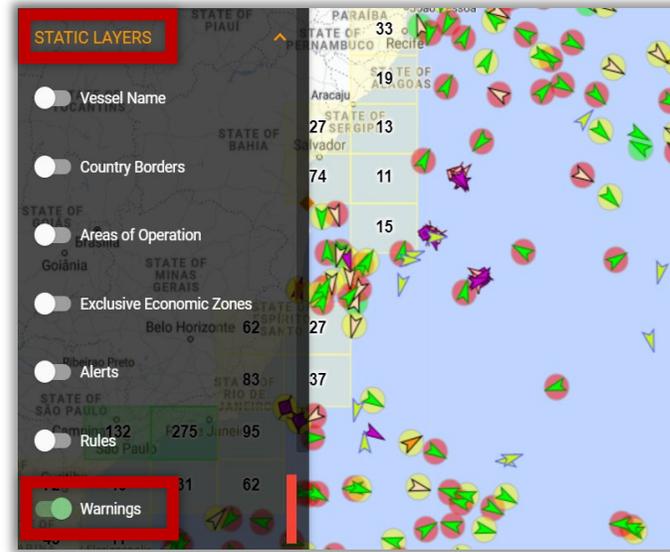
Identifying Derived Properties

- Derived properties are a vessel's Safety and Security Scores, which are calculated from multiple factors
- Factors are defined by details of Memorandums of Understanding (MOUs)
- Weights for specific factors are set by a Community Manager



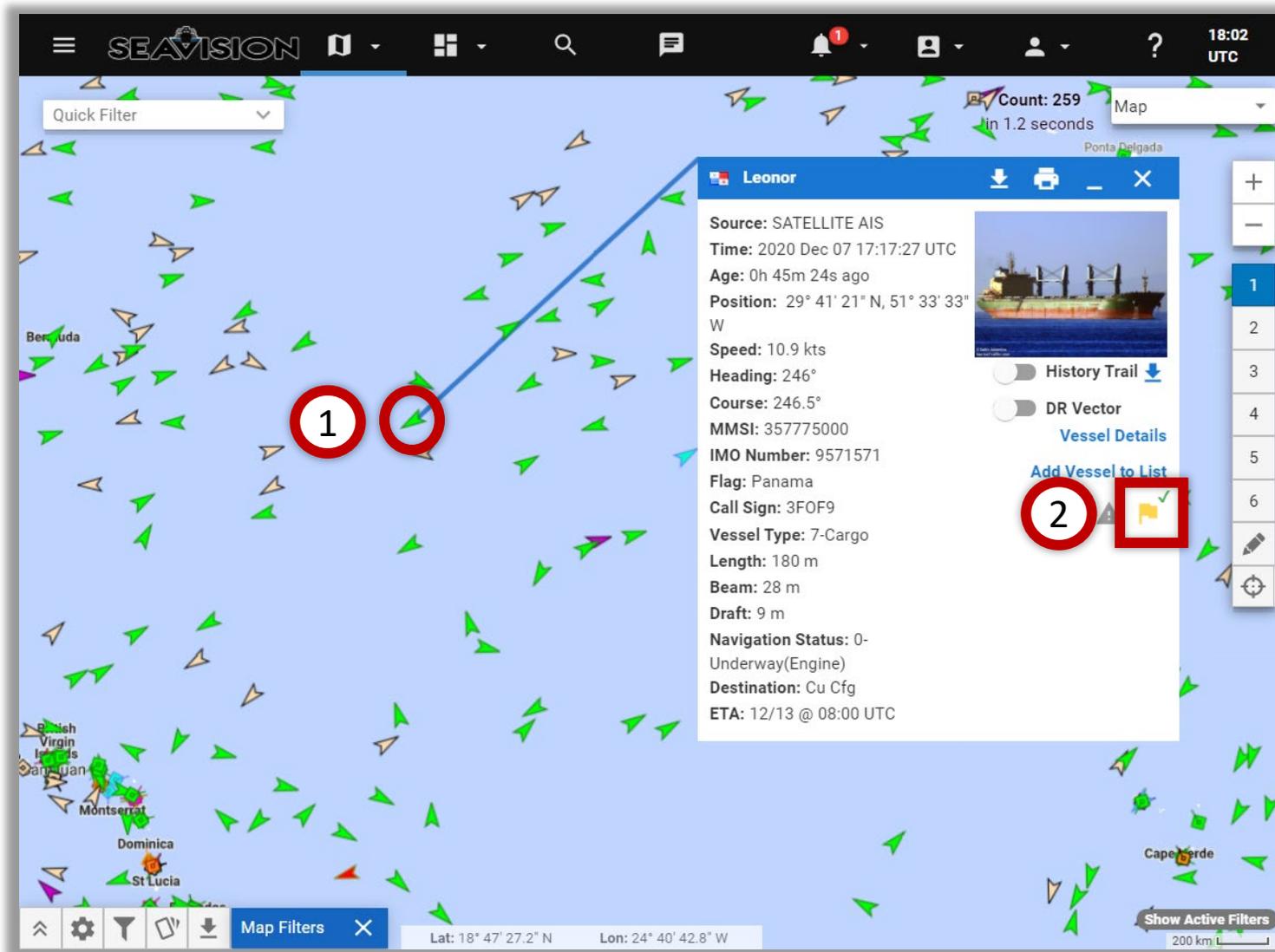
Using Derived Properties

- Safety and Security Ratings can:
 - Highlight vessels as a Static Layer
 - Be used as defining criteria for:
 - Searches
 - Rules
 - Be applied as an Extended Map Filter



Accessing Warnings Details

1. Vessel of interest
2. Yellow flag on the Vessel Data Card



Inspecting Warnings Details

- Safety and Security Ratings are grouped by category on the Vessel Data Card
- More details can be viewed by selecting the down arrow next to a specific Safety or Security category

MMSI	IMO Number
357775000	9571571

Summary Details EEZ History Port History Rules Alerts Warnings Lists Notes Recent

Age & Type of Vessel

Multiple Changes in Owner/Operator/Manager/Flag

Safety Score and Rating	51 (High)	
Flag State - Safety	0	▼
Ship Management	0	▼
Classification Society	0	▼
PSC Inspection History	0	▼
PSC Detention History	0	▼
Non-detainable inspection defects	47 (47 nondetainable inspection defects)	▼
Age & Type of Vessel	1 (Cargo vessel < 10 years old)	▼
Multiple Changes in Owner/Operator/Manager/Flag	0	▼

Summary

In this lesson, we covered:

- Accessing the Warnings Dashboard
- The features of the Warnings Dashboard
- Identifying the derived properties of the Warnings function
- Using the derived properties of the Warnings function
- Accessing Warnings details
- Inspecting Warnings details

Vessel Lists

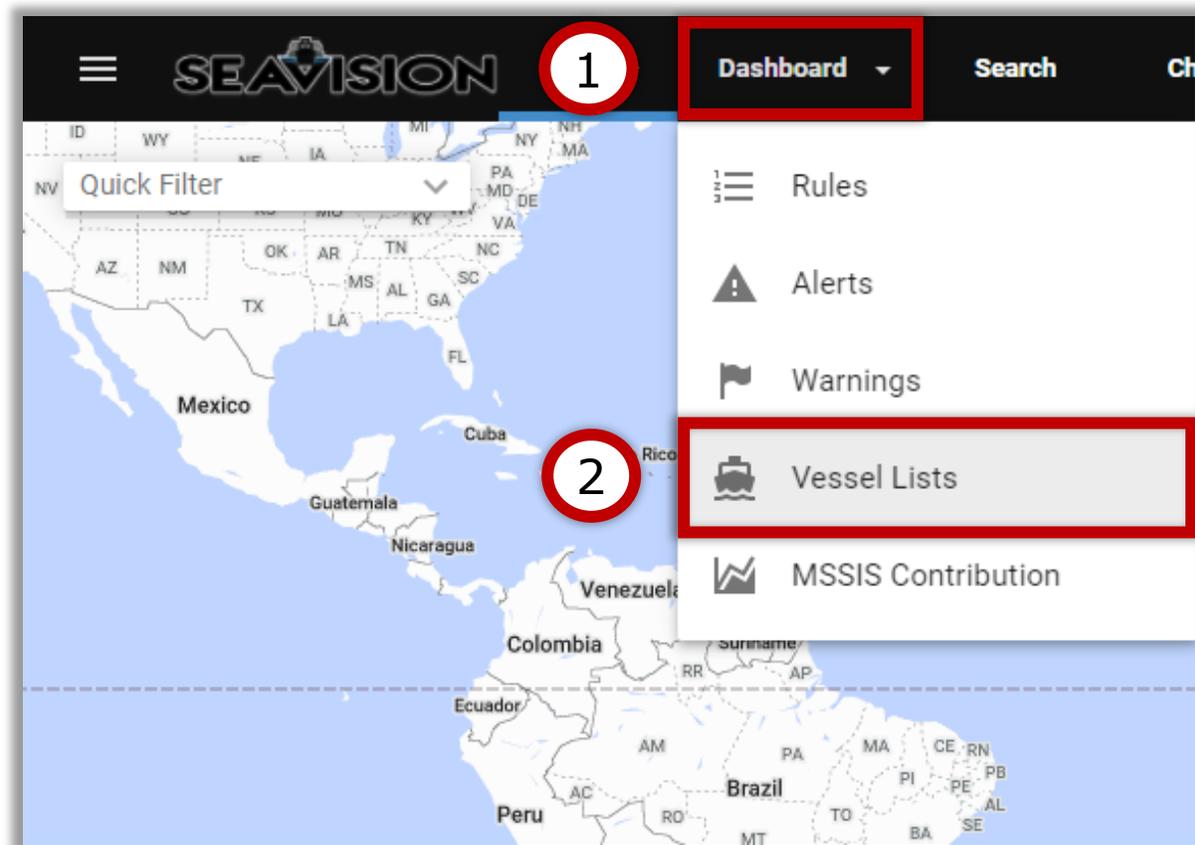
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Vessel Lists
- Explain the features of Vessel Lists
- Create a Vessel List
- Create a Vessel List from Results
- Add Vessels to an existing Vessel List

Accessing Vessel Lists

1. Dashboard
2. Vessel Lists



Vessel Lists Features

- User-defined lists to aid in keeping track of vessels of interest
- Save Search, Rules, and Alert results as new lists
- Use as additional filter criteria for Searches and Rules

The screenshot displays the 'Vessel Lists' application interface. On the left, a 'Custom Lists' panel shows a list of lists under the 'My Lists' tab. One list is visible: 'USER' with 6 vessels and the name 'Your Vessel List Name Here'. On the right, a detailed view of a vessel list is shown. The list has a title 'Your Vessel List Name Here' and contains four entries:

	IMO NUM...	MMSI	NAME	VESSEL T...			
1	9372004	209486000	Blue Ocean	7-Cargo	≡	⤴	✕
2	9723851	419001016	Jag Amar	7-Cargo	≡	⤴	✕
3	9242390	271000662	Olympos ...	7-Cargo	≡	⤴	✕
4	9807695	477168700	Ore Shen...	7-Cargo	≡	⤴	✕

Below the list is a map titled 'Your Vessel List Name Here On Map' showing a world map with green markers indicating the locations of the vessels in the Atlantic, Indian, and Pacific Oceans.

Creating a Vessel List

1. Plus (+)
2. Enter List Name
3. CREATE

The screenshot shows the 'Vessel Lists' interface. At the top, there is a 'Vessel Lists' title and a 'Custom Lists' section. Below this, there are tabs for 'My Lists', 'Persona', 'Community', and 'All'. A table with columns 'TYPE', 'VESSELS', and 'NAME' is visible. A row in the table shows 'USER', '6', and 'Your Vessel List Name Here'. A modal dialog box titled 'Enter List Name' is open, containing a text input field with 'Squid Boats' and a 'CREATE' button. Red annotations highlight the steps: 1. The plus sign button in the top left, 2. The text 'Squid Boats' in the input field, and 3. The 'CREATE' button.

Creating a Vessel List from Results

- A new Vessel List can be created from the Results of:
 - Searches
 - Rules
 - Alerts

Search Results (43 total vessels)

EXPORT ▾ SAVE AS LIST MAP RESULTS

Results- Vessels Matching Rules (43 total vessels)

Vessel Results Vessel Analytics

EXPORT SAVE AS LIST MAP RESULTS SETTINGS

Results- Vessels Matching Alerts (43 total vessels)

Vessel Results Vessel Analytics

EXPORT SAVE AS LIST MAP RESULTS SETTINGS

Adding Vessels to an Existing List

- Individual vessels may be added to an existing list:
 - From a Vessel Data Card
 - Manually, by entering the MMSI or IMO Numbers via the Add Vessel button on the Vessel List dashboard

Rosa Dei Venti

Source: TERRESTRIAL AIS
Time: 2020 Oct 28 18:55:27 UTC
Age: 0h 12m 0s ago
Position: 43° 23' 46" N, 9° 43' 22" E
Speed: 16.7 kts
Heading: 9°
Course: 11.9°
MMSI: 247388800
IMO Number: 9706592
Flag: Italy
Call Sign: IBTI
Vessel Type: 7-Cargo

History Trail
DR Vector

Vessel Details

Add Vessel to List

Student

	IMO NUMBER	MMSI	NAME	VESSEL TY...			
1	-	525011095	-	-	≡	~	X
2	0	412331167		7-Cargo	≡	~	X

Summary

In this lesson, we covered:

- Accessing Vessel Lists
- The features of Vessel Lists
- Creating a Vessel List
- Creating a Vessel List from Results
- Adding Vessels to an existing Vessel List

Search

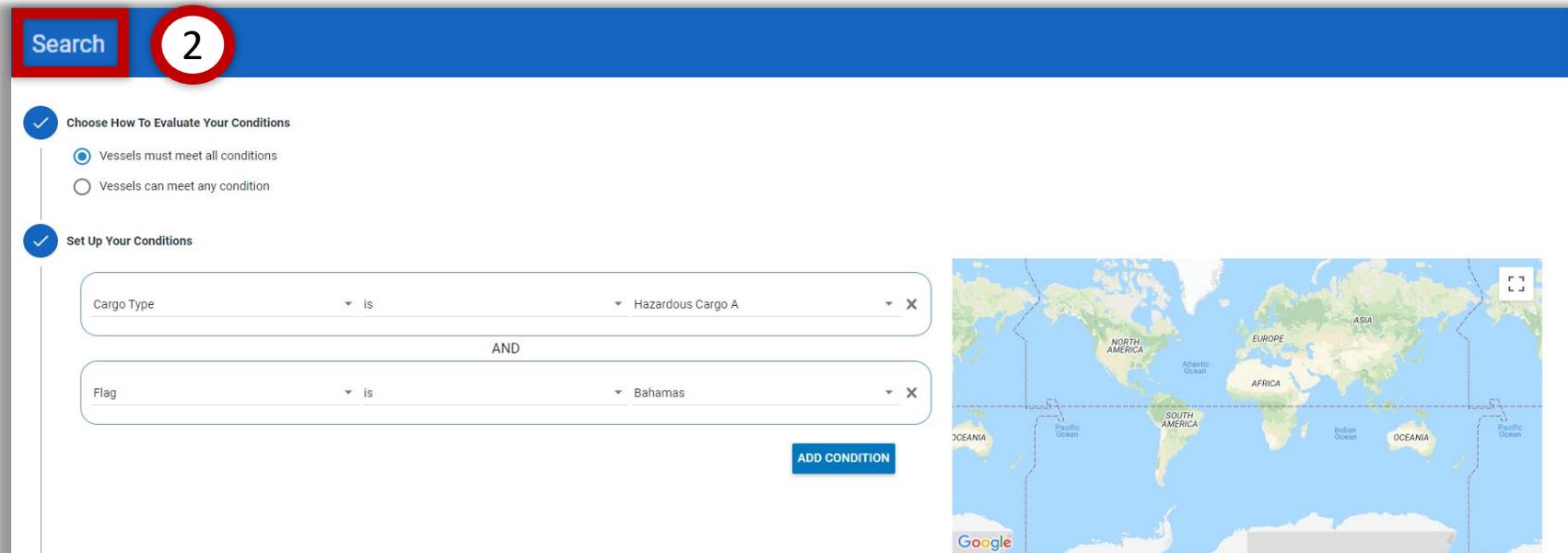
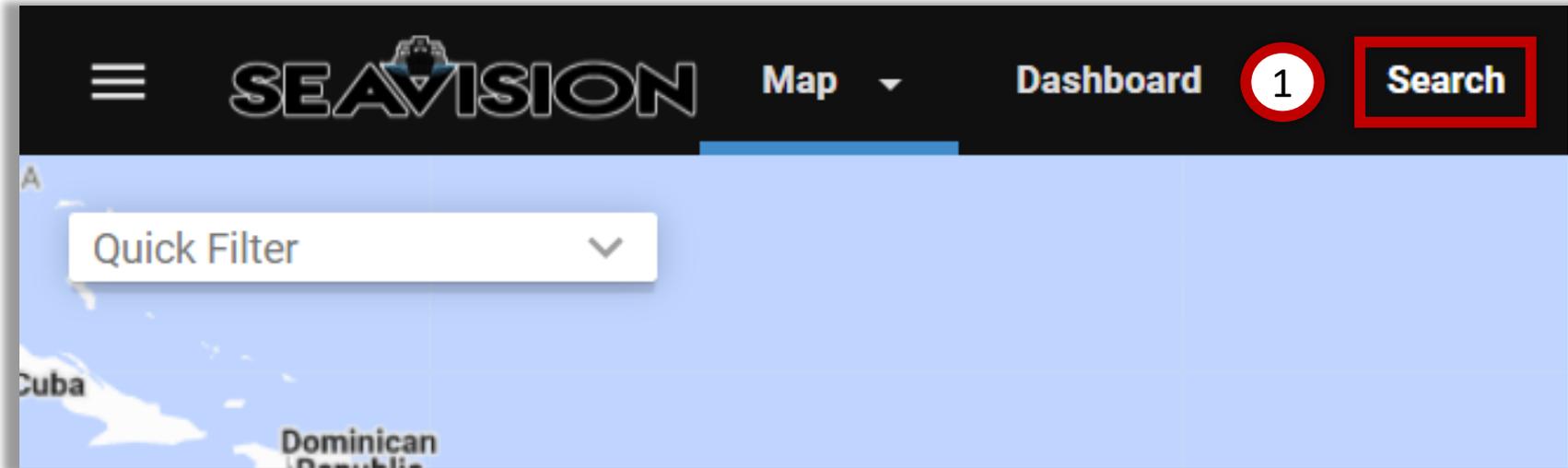
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Search
- Explain the features of Search
- Create a Search
- Configure Search Settings
- Manage Saved Searches
- Explain the additional uses of Search Results

Accessing Search

1. Search
2. Search window



Search Features

- Search provides the ability to execute an ad-hoc query
- Searches can be saved and shared to a user's Personas and Communities
- Search uses both near real-time data and historical data

Search Results (19 total vessels)

EXPORT ▾ SAVE AS LIST MAP RESULTS

	VESSEL NA... ↑	MMSI	IMO NUMBER	VESSEL TYPE	LATITUDE	LONGITUDE
1	Navios Am...	538002733	9324849	7-Cargo	14.555578	120.922312
2	Anna Smile	538002838	9280770	7-Cargo	12.282467	120.907642
3	Baltic Wolf	538003461	9492335	7-Cargo	11.978077	120.754958
4	Sfl Hudson	538004096	9525821	7-Cargo	11.071083	126.440217

Creating a Search

1. Choose How To Evaluate Your Condition
 - Vessels must meet all conditions
 - Vessels can meet any condition
2. Set Up Your Conditions
3. Choose The Time Period To Evaluate
 - Vessel Age (1 Hour–No Maximum)
4. Search

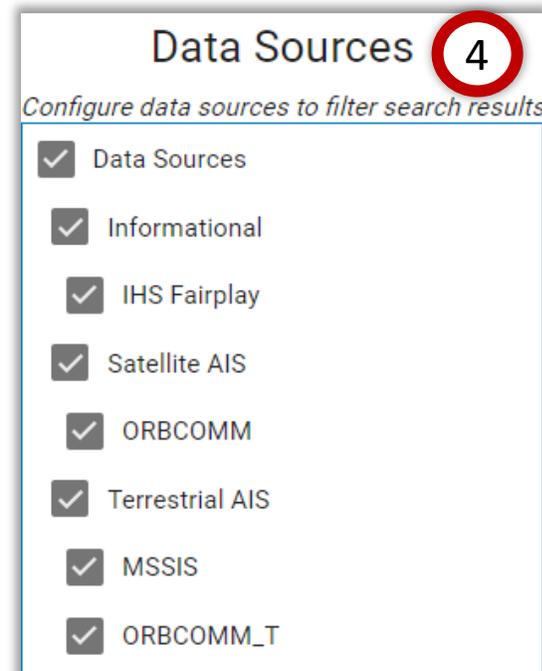
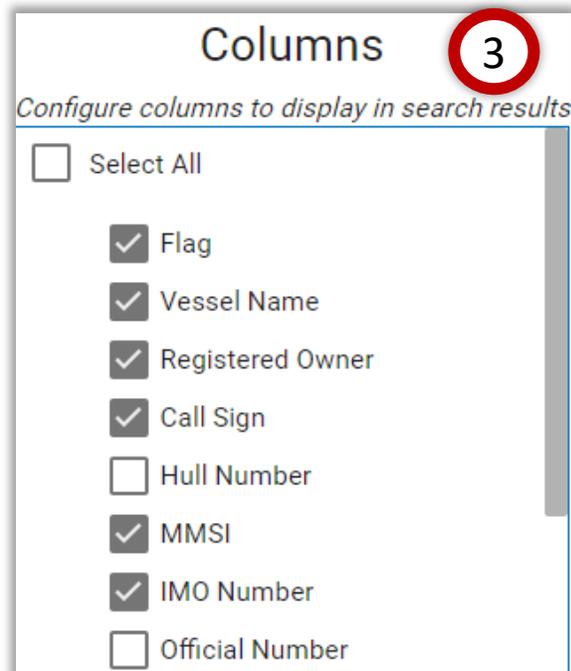
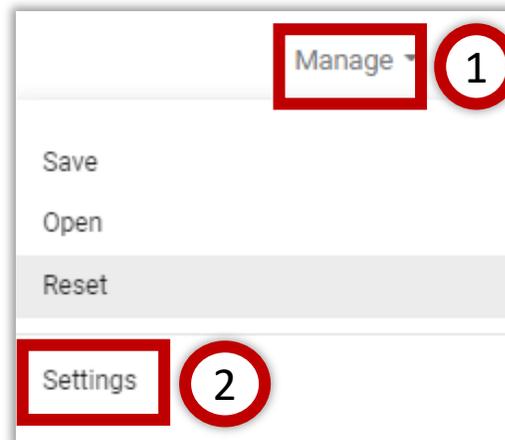
The screenshot shows a 'Search' window with a 'Manage' dropdown in the top right. A vertical progress indicator on the left marks four steps:

- Step 1: Choose How to Evaluate Your Condition**
 - Vessels must meet all conditions
 - Vessels can meet any condition
- Step 2: Set Up Your Conditions**
 - A search field with the placeholder text 'Pick a field *' and a clear 'X' button.
 - An 'ADD CONDITION' button.
- Step 3: Choose The Time Period To Evaluate**
 - Labels: 'Vessel Age', '1 hour', 'No Maximum'.
 - A horizontal slider with a blue dot positioned at the '1 hour' mark.
- Step 4: Done!**
 - A 'SEARCH' button with a magnifying glass icon.

Configuring Search Settings

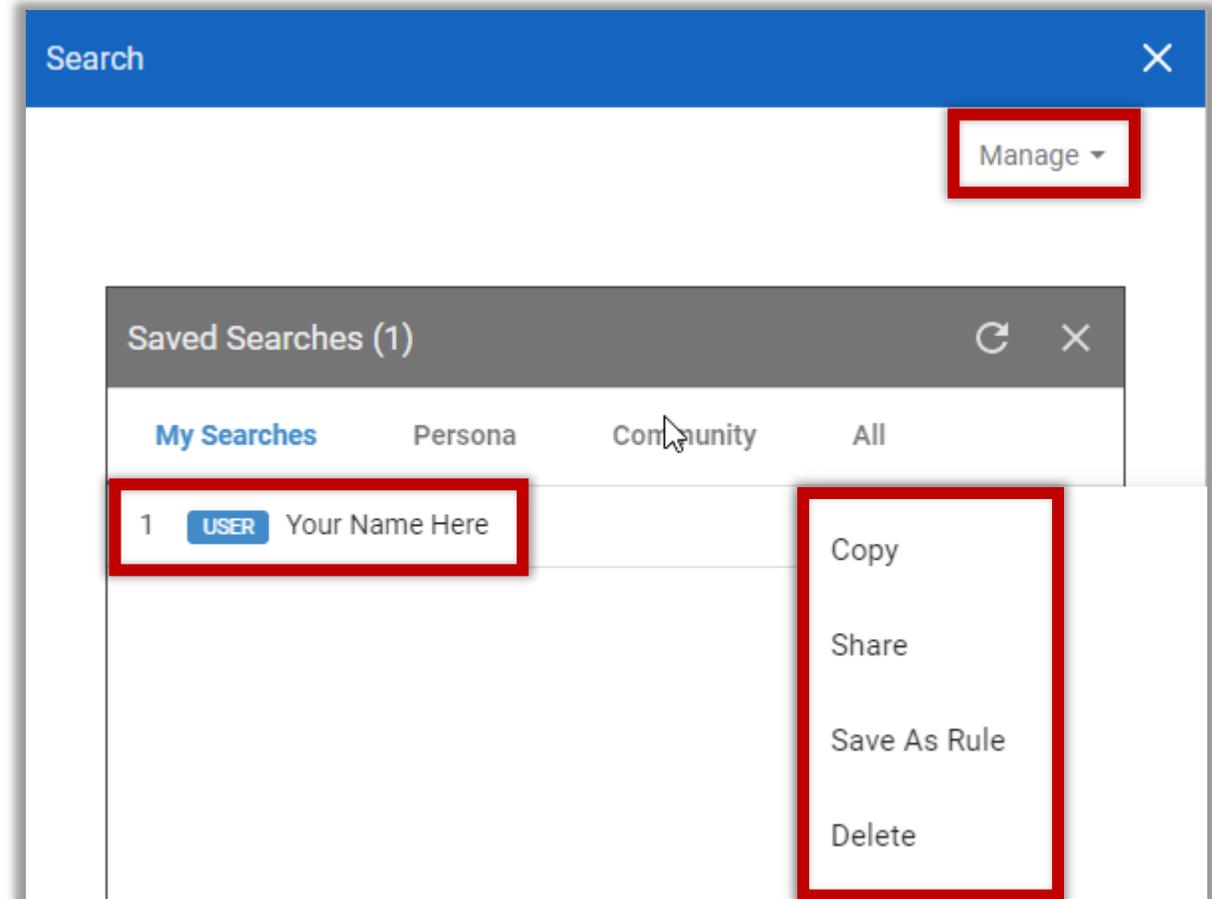
- Users can configure Search Settings before running the Search to customize the results columns and data sources used within the Search

1. Manage
2. Settings
3. Configure columns to display in search results
4. Configure data sources to filter search results



Managing a Saved Search

- Manage allows the user to:
 - Select a Saved Search
 - Copy
 - Share
 - Save As Rule
 - Delete



Additional Uses of Search Results

- The following options are available for Search Results:
 - EXPORT
 - JSON
 - CSV
 - XML
 - KML
 - SAVE AS LIST
 - MAP RESULTS

Search Results (19 total vessels)

EXPORT ▾ SAVE AS LIST MAP RESULTS

	VESSEL NA...	↑ MMSI	IMO NUMBER	VESSEL TYPE	LATITUDE	LONGITUDE
1	Navios Am...	538002733	9324849	7-Cargo	14.555578	120.922312
2	Anna Smile	538002838	9280770	7-Cargo	12.282467	120.907642
3	Baltic Wolf	538003461	9492335	7-Cargo	11.978077	120.754958
4	Sfl Hudson	538004096	9525821	7-Cargo	11.071083	126.440217

Summary

- In this lesson, we covered:
 - Accessing Search
 - The features of Search
 - Creating a Search
 - Configuring Search Settings
 - Managing a Saved Search
 - The additional uses of Search Results

Chat

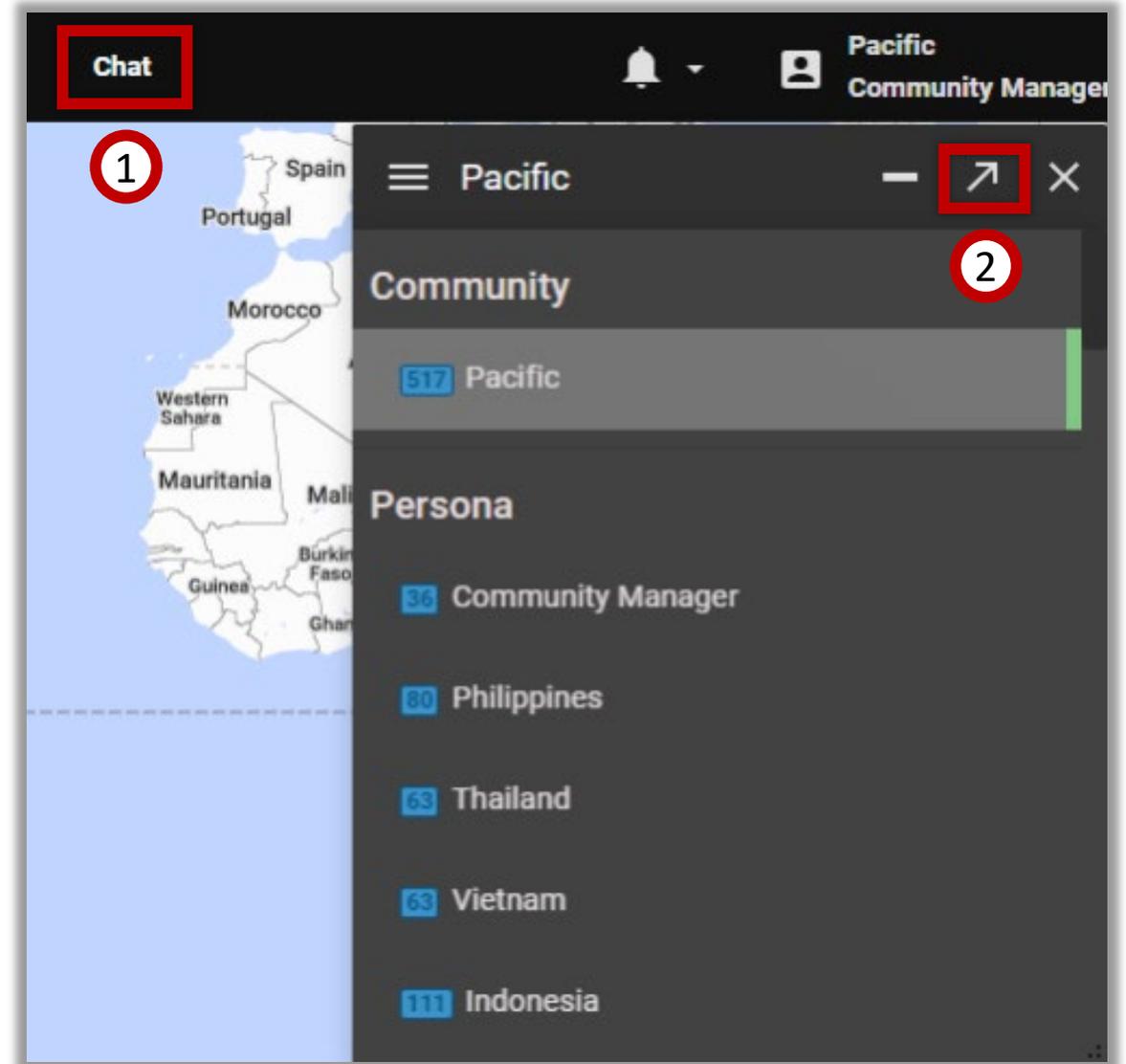
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Chat
- Understand the features of Chat
 - Sharing files, videos, and images
 - Community Channels
 - Persona Channels
 - Direct Message Channels

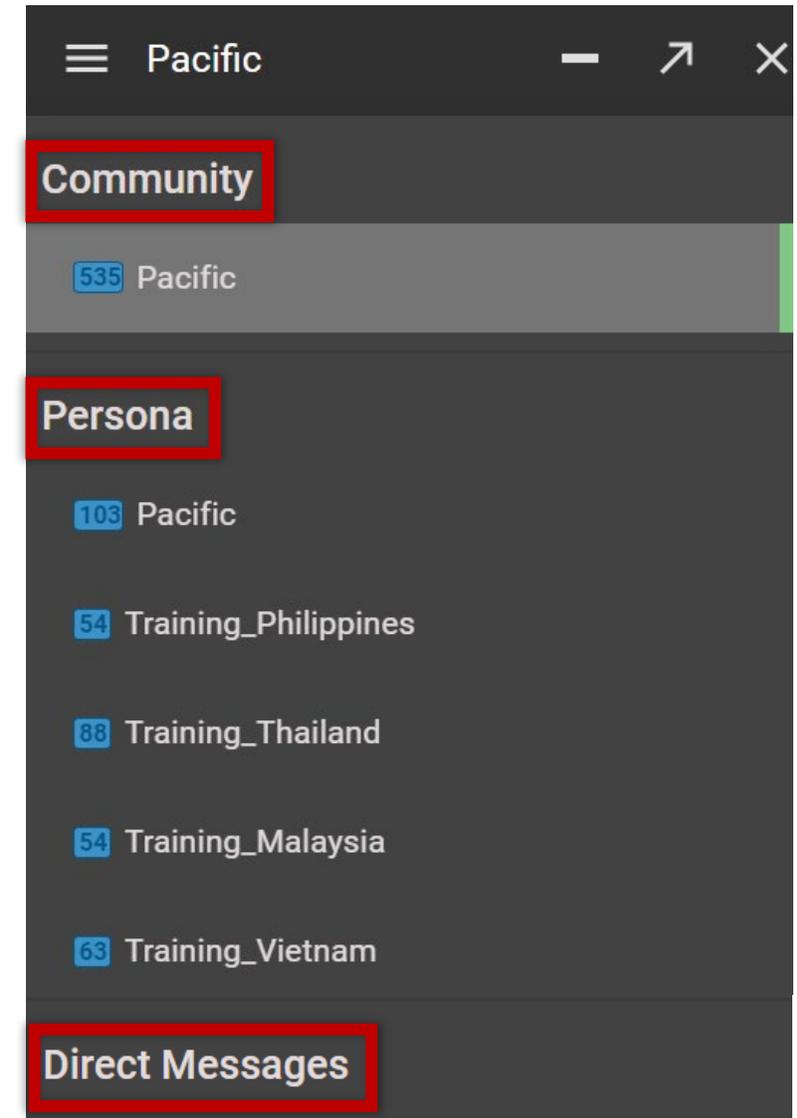
Accessing Chat

1. Chat
2. Up arrow to expand



Chat Features

- Collaborate with other SeaVision users in your Community and Persona(s)
 - Share files, videos, and images
 - Google Translate is built-in, removing potential language barriers between users
- Chat Channels
 - Community Channel is open to everyone in the Community
 - Persona Channel is only visible to users of that Persona
 - Direct Message Channel allows private conversations between two or more users



Summary

In this lesson, we covered:

- Accessing Chat
- Features of Chat
 - Sharing files, videos, and images
 - Community Channels
 - Persona Channels
 - Direct Message Channels

Map Settings

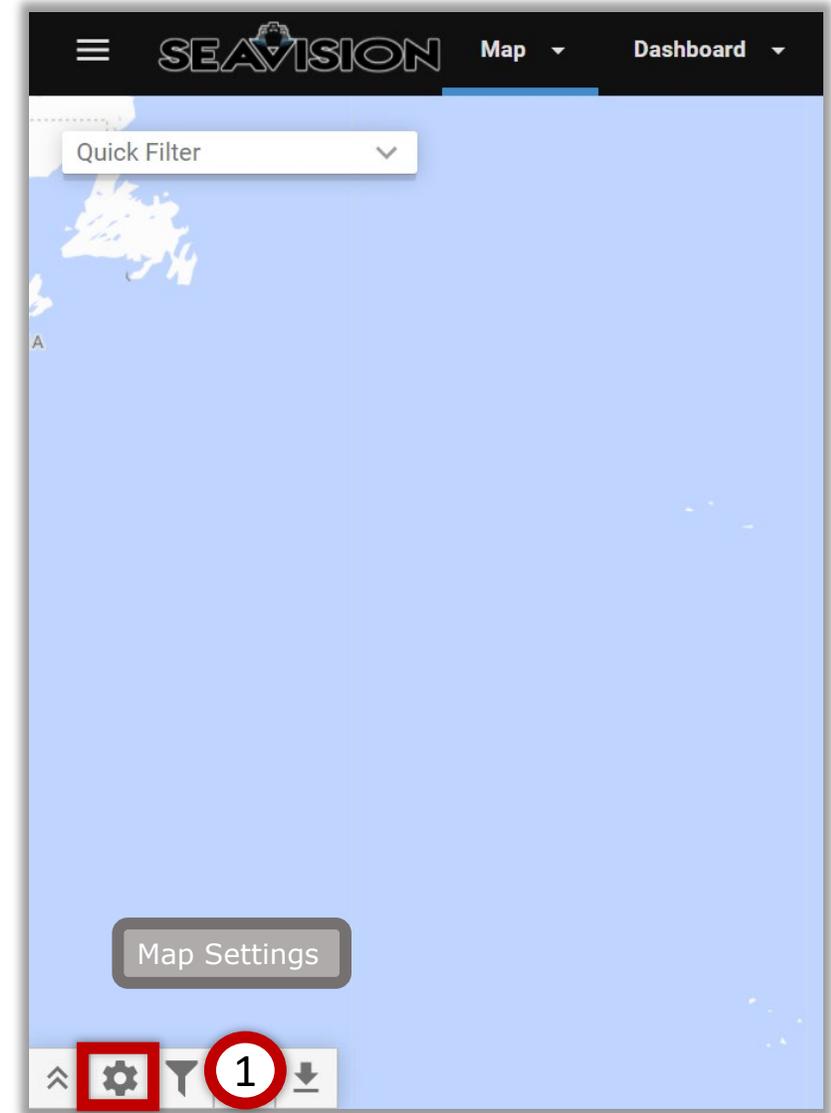
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Map Settings
- Describe the Map Refresh Setting
- Describe the Clustering Method Setting
- Describe the History Trail Setting
- Explain the Dead Reckoning Options

Accessing Map Settings

1. Map Settings



Map Refresh

- Delay

- Allows users to adjust the amount of time between Map movements before reloading the Map
- The delay rate can be set from 0 to 10 seconds

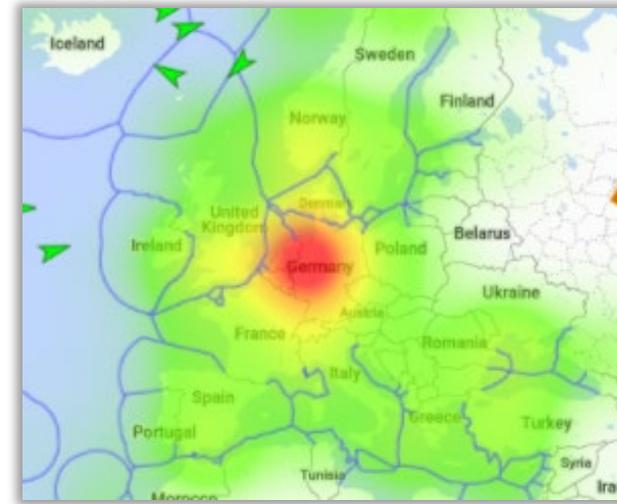
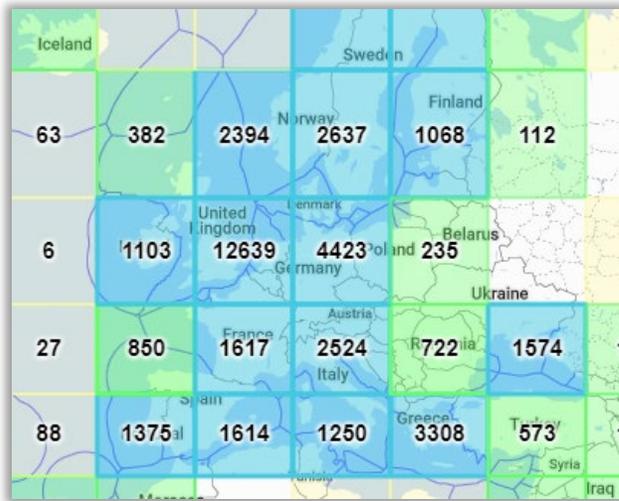
- Interval

- Allows users to update the current location of all vessels on the Map
- The rate can be set from 1 to 10 minutes



Clustering Method

- Heatmap
 - Displays clusters of vessels as color gradients instead of vessel density boxes



A screenshot of the map settings interface. The interface is dark-themed and shows various settings for the map. The 'Clustering Method' is highlighted with a red box, and 'Heatmap' is selected. Other settings include 'Map Refresh' (2 seconds), 'History Trail' (6 days), and 'Dead Reckoning Options' (Dead Reckoning markers and vectors, Vessel Age Labels). There are 'REFRESH NOW' and 'REMOVE ALL' buttons at the bottom.

History Trail

- History Trail
 - Display past vessel AIS position reports
 - The trail can be set from 1 to 90 days



Dead Reckoning Options

- Dead Reckoning markers and vectors
 - Projected vessel location using last known course and speed from latest AIS position report
- Vessel Age Labels
 - Displays time elapsed since last received AIS position report



Summary

In this lesson, we covered:

- Accessing Map Settings
- The Map Refresh Setting
- The Clustering Method Setting
- The History Trail Setting
- The Dead Reckoning Options

Map Filters

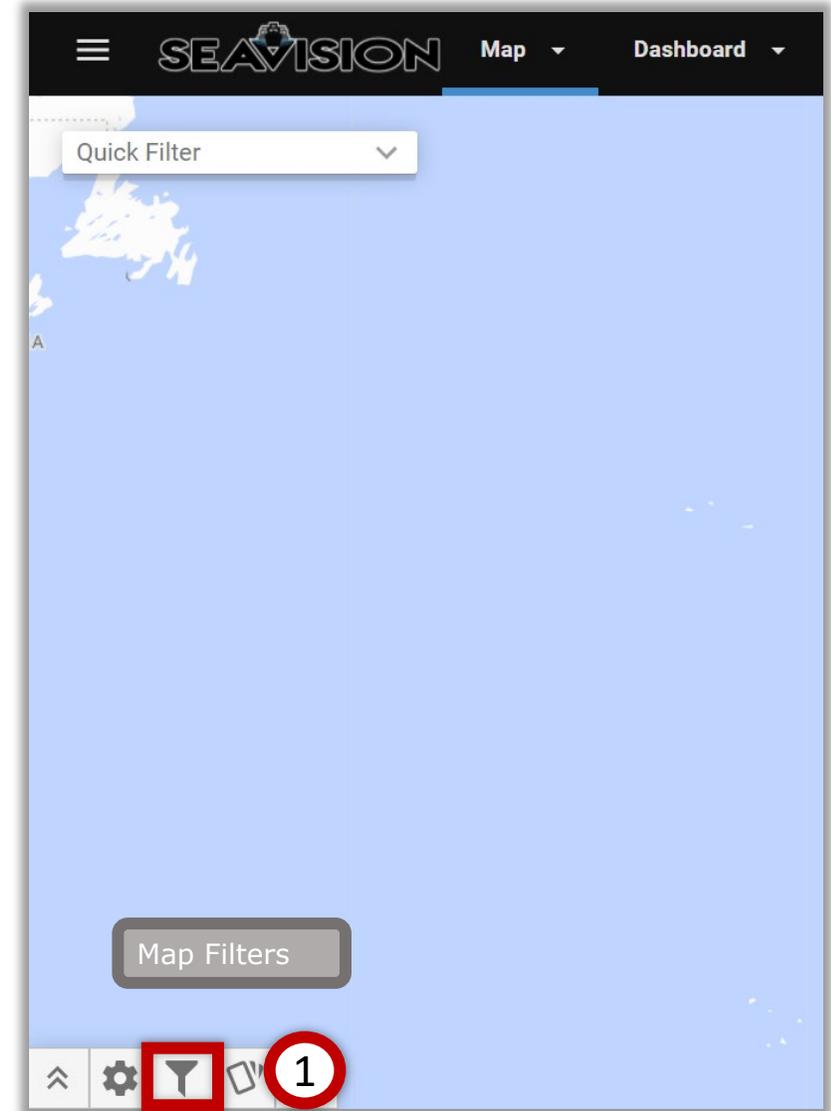
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access Map Filters
- Describe the VESSEL TYPE filter
- Describe the DATA SOURCES filter
- Describe the EXTENDED filter
 - Vessel Lists and Rules
 - Alerts and Warning Scores
 - Anomalies
- Describe the VESSEL AGE filter
- Describe the Automatic Identification System (AIS) filter
- Describe the SHIP REGISTRY filter

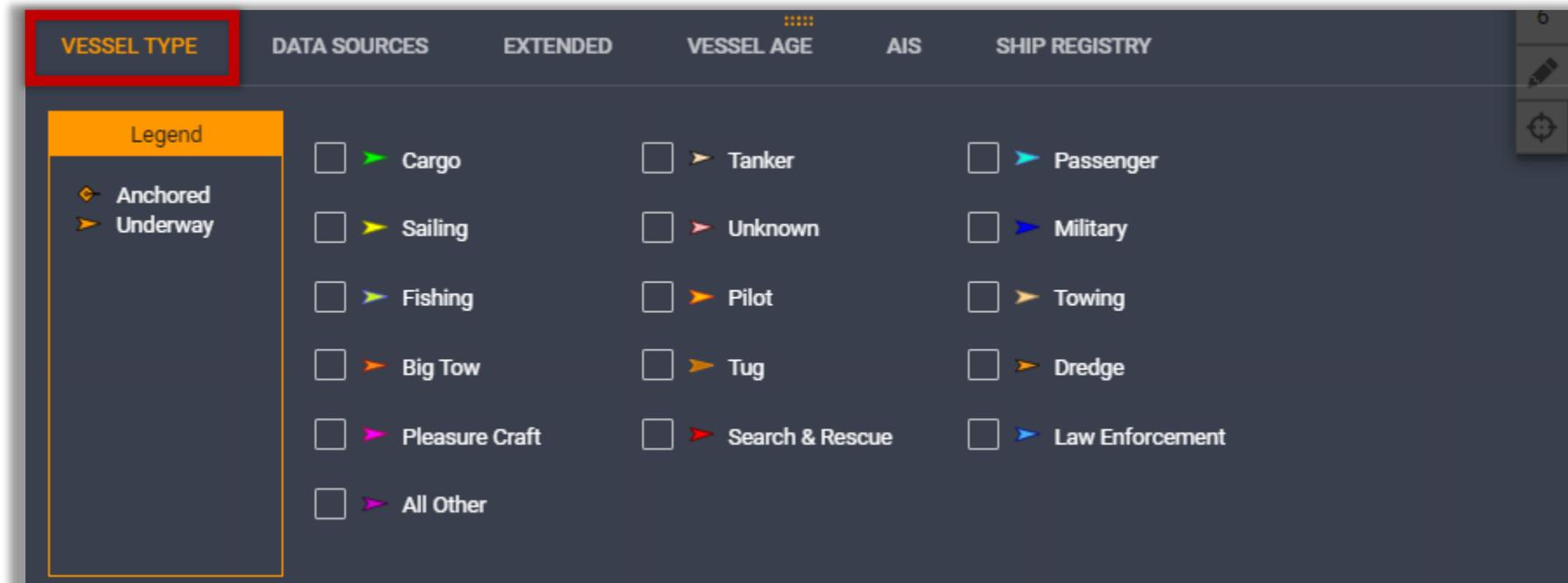
Accessing Map Filters

1. Map Filters



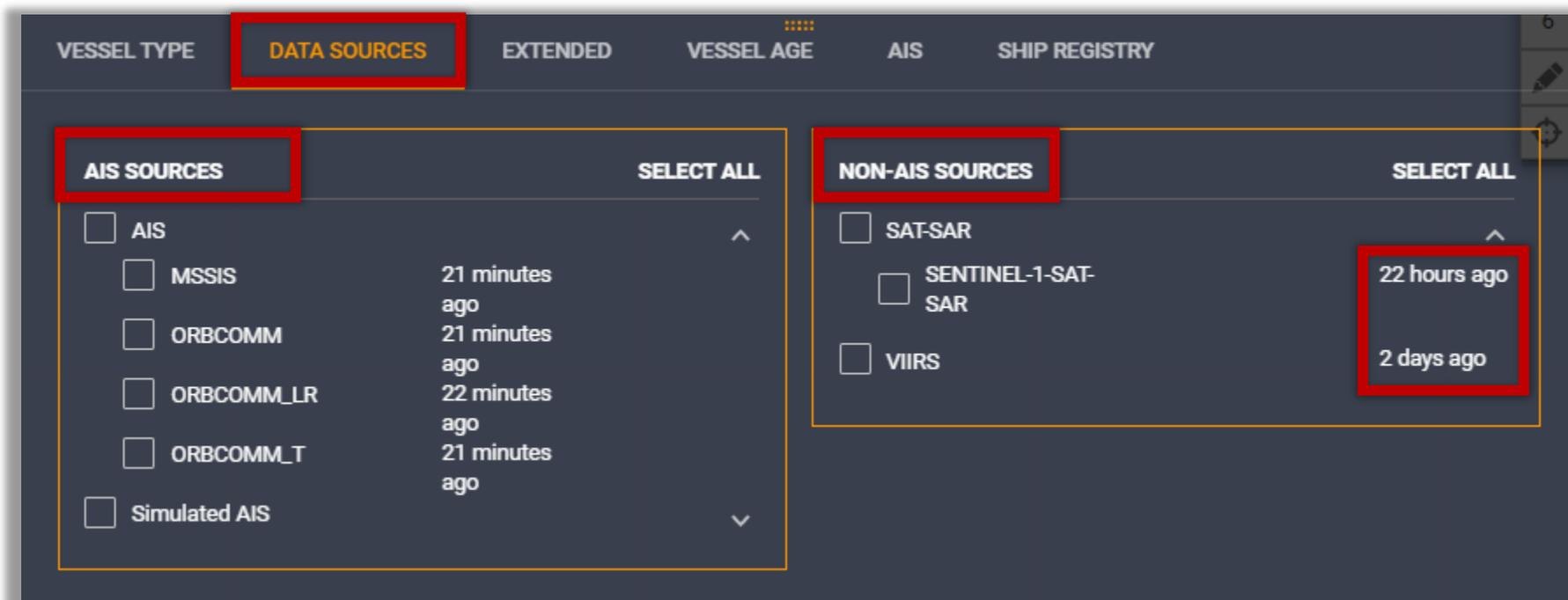
VESSEL TYPE

- Filters the map to display only the selected vessel types
 - Default is for all vessels to be displayed



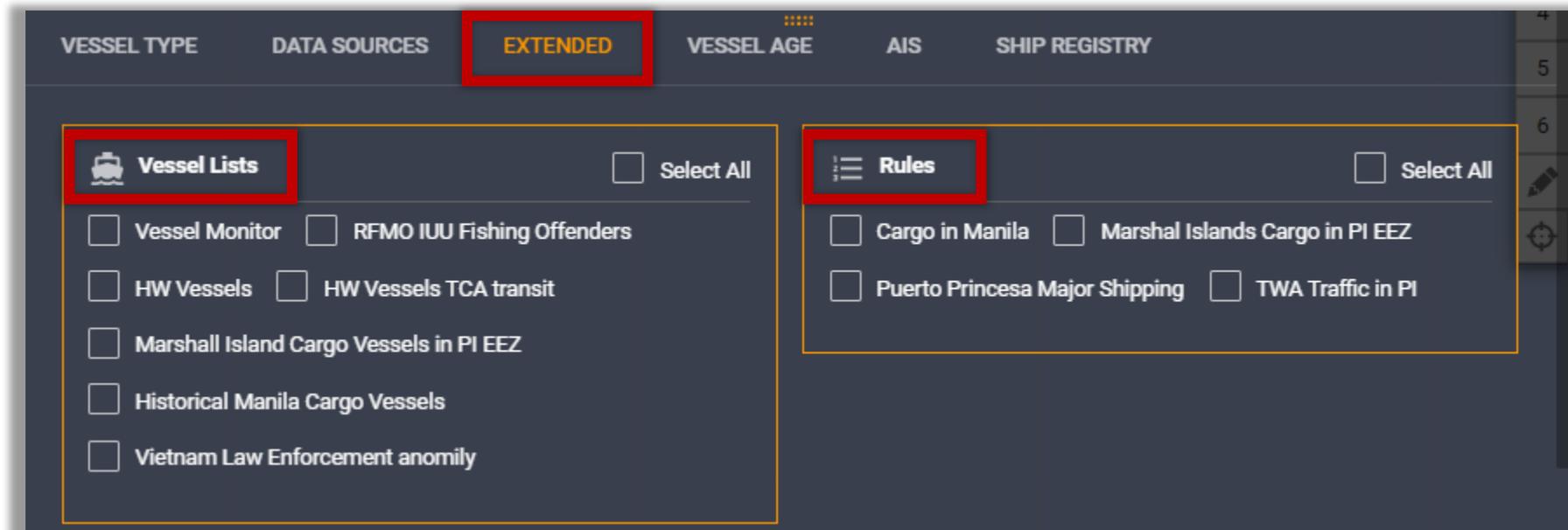
DATA SOURCES

- Filters the map to display only the vessel locations provided from the AIS or NON-AIS SOURCES selected
 - For NON-AIS SOURCES, the VESSEL AGE must be set to at least the last time the selected data source was updated in order to view vessels on the map



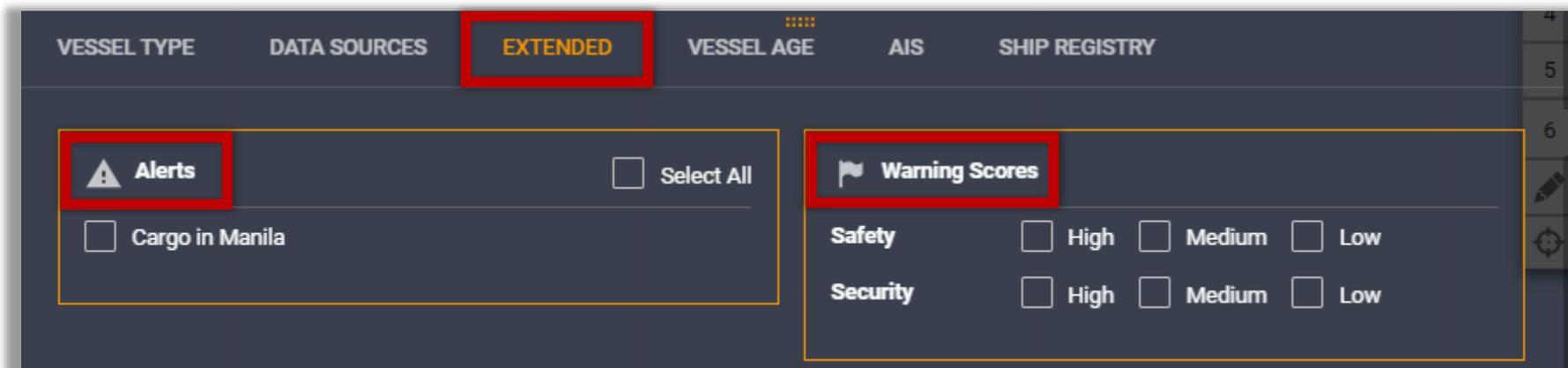
EXTENDED: Vessel Lists and Rules

- Filters the map to display only the vessels from the selected Vessel Lists or Rules
 - Vessel Lists and Rules that are shared to the Persona or Community will also appear as possible filters



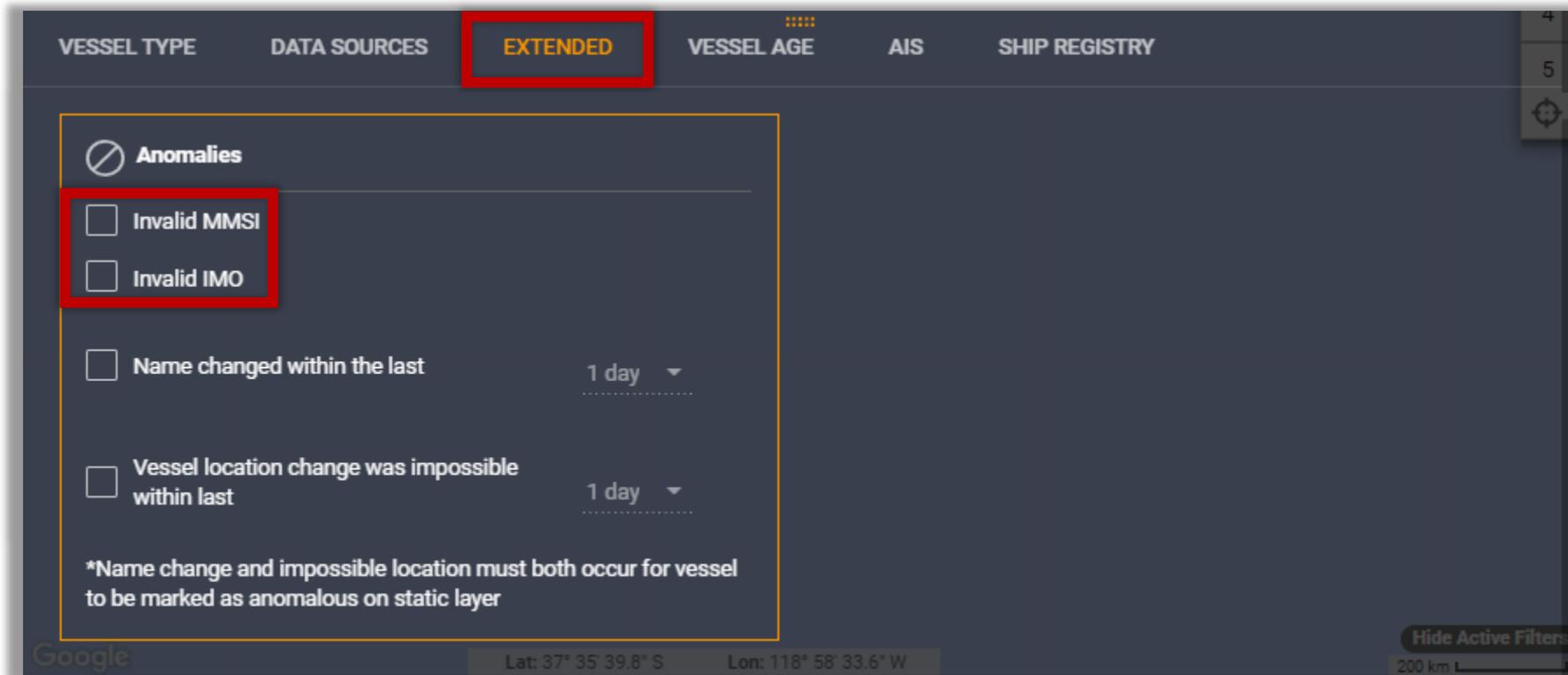
EXTENDED: Alerts and Warning Scores

- Filters the map to display only the vessels from the selected Alerts or Warning Scores
 - Alerts that are shared to the Persona or Community will also appear as possible filters
 - Warning Scores are divided into two major categories: Safety and Security
 - Safety and Security are divided into three additional categories of High, Medium, and Low



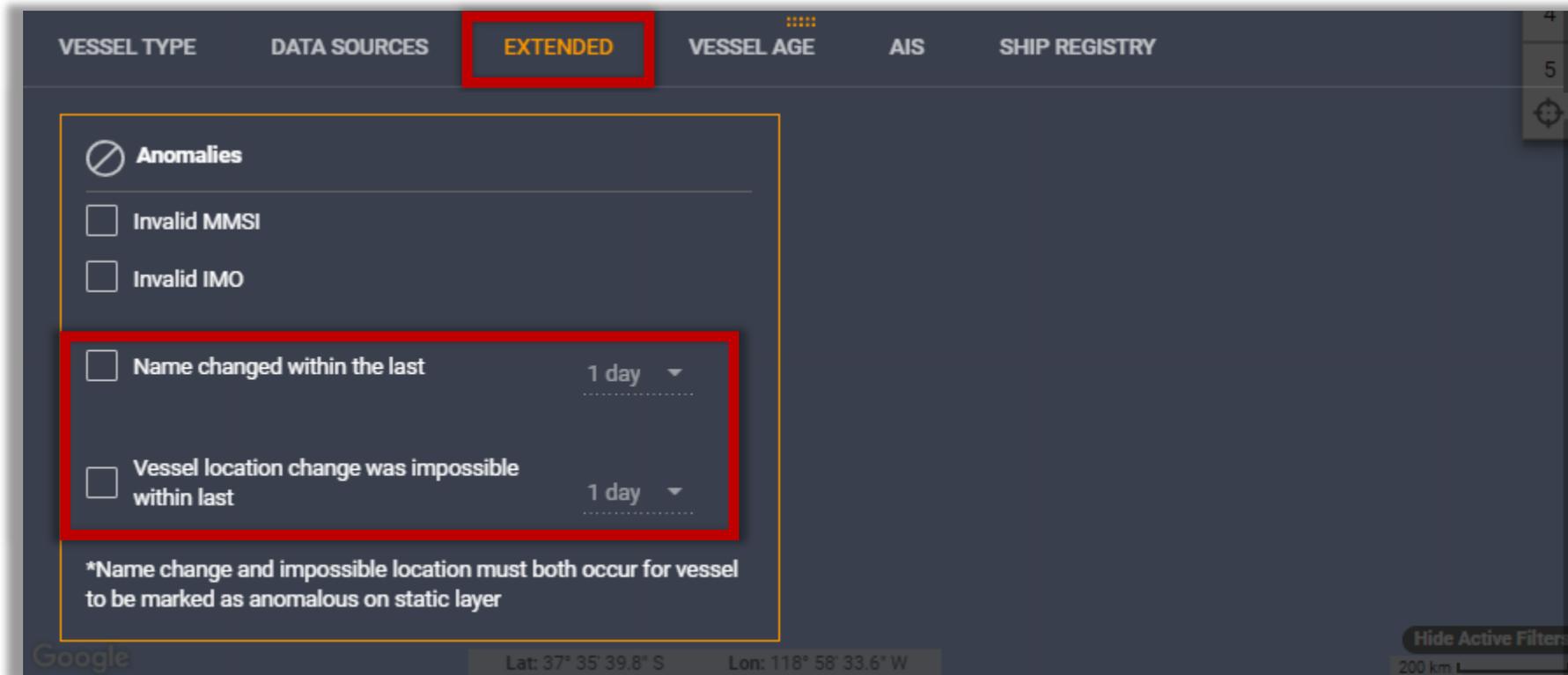
EXTENDED: Anomalies

- Filters the map to display vessels with anomalous data
 - Invalid Maritime Mobile Service Identity (MMSI) or International Maritime Organization (IMO) could be due to truncated identification number, invalid country code (MMSI only), or multiple vessels reporting the same identification number



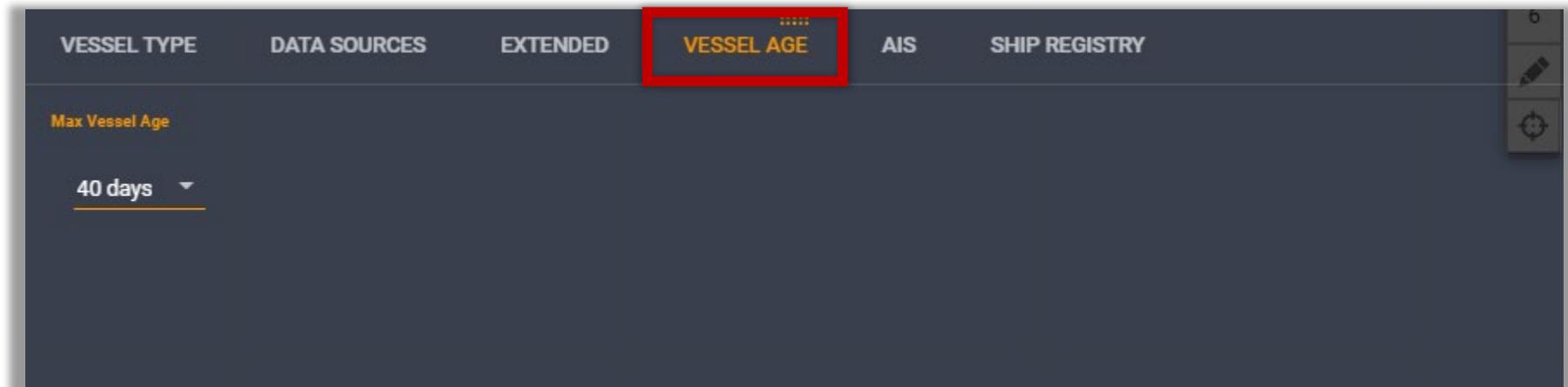
EXTENDED: Anomalies Cont.

- Name change within the last 1 to 7 days will register as anomalous
- Vessel location change was impossible within the last 1 to 7 days could be due to multiple vessels reporting the same MMSI or IMO number



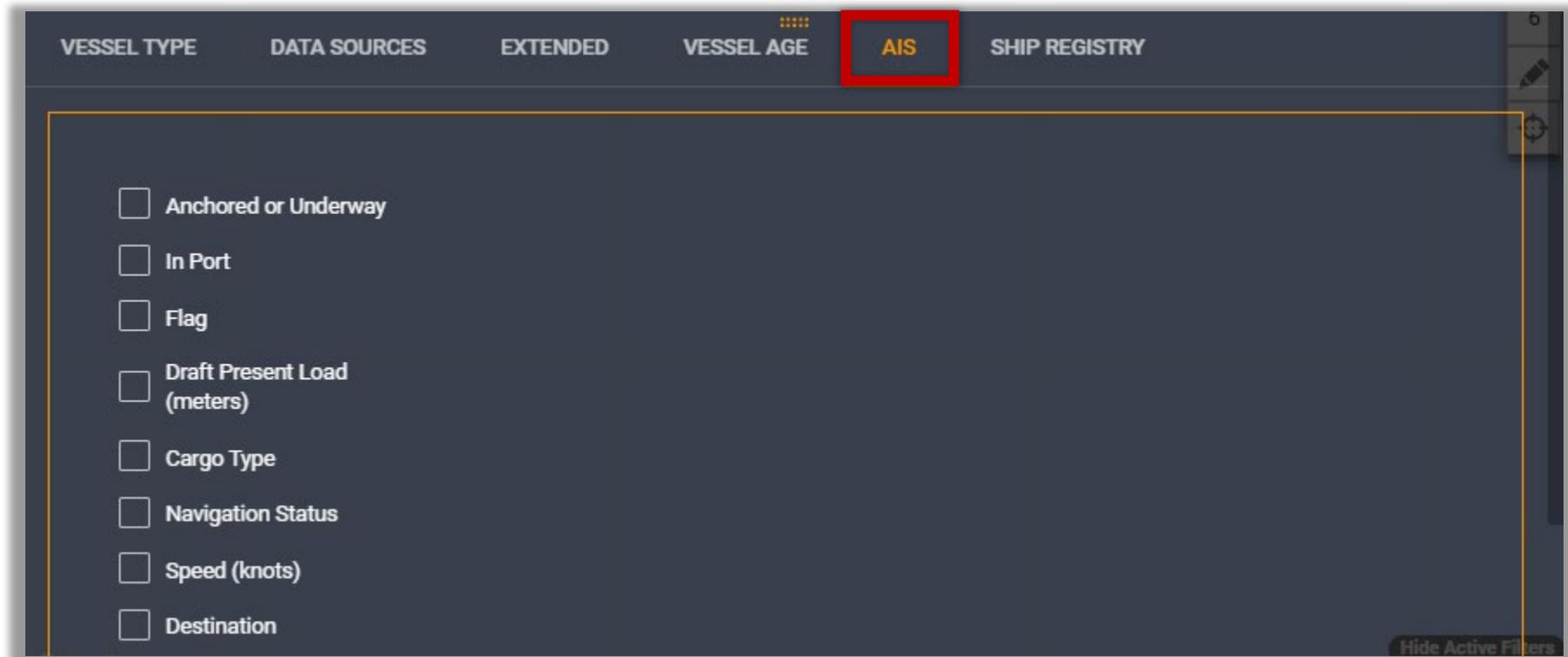
VESSEL AGE

- Filters the map to display only vessels whose AIS position report is no older than the Max Vessel Age selected
- Max Vessel Age range is from:
 - 1 hour–23 hours
 - 1 day–90 days



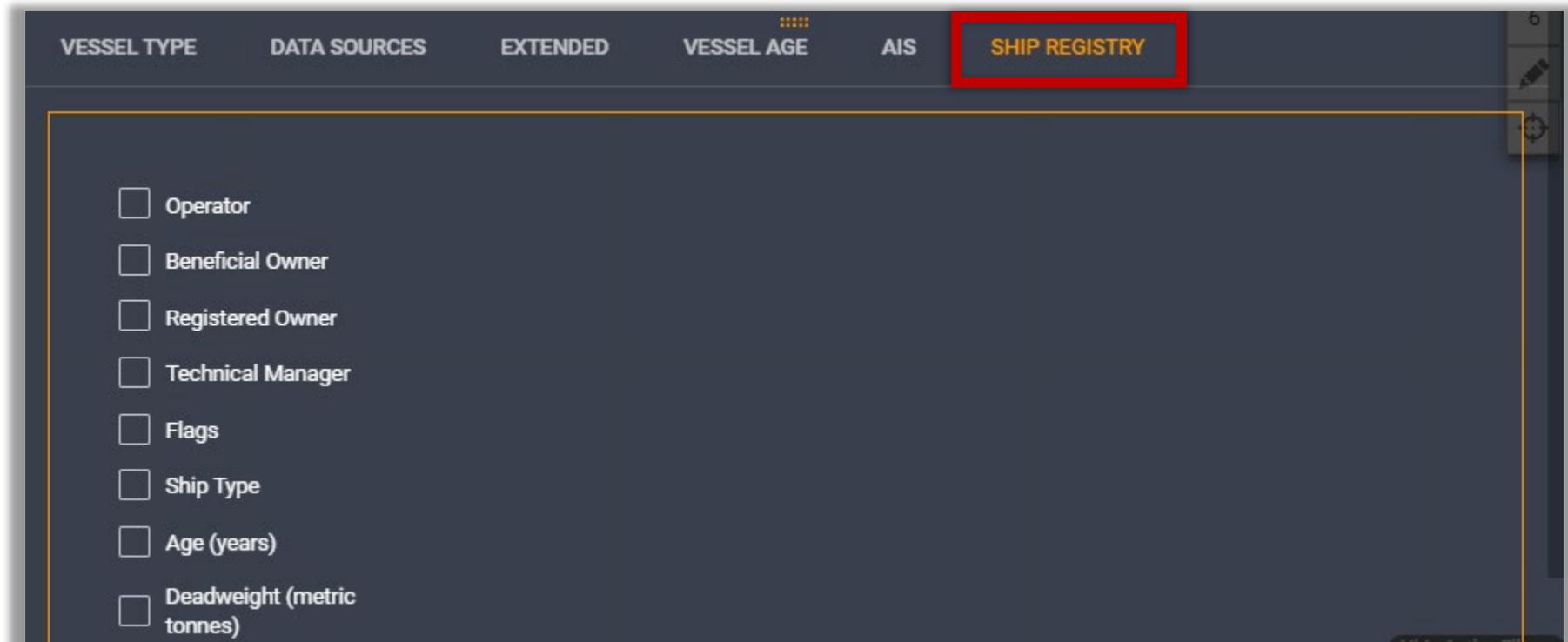
AIS

- Filters the map to display vessels based on specific information from AIS position reports



SHIP REGISTRY

- Filters the map to display vessels based on specific information from the IMO Registry
 - A vessel must be registered to the IMO for it to appear when this filter is applied



Summary

In this lesson, we covered:

- Accessing Map Filters
- VESSEL TYPE filters
- DATA SOURCES filters
- EXTENDED filters
 - Vessel Lists and Rules
 - Alerts and Warning Scores
 - Anomalies
- VESSEL AGE filters
- AIS filters
- SHIP REGISTRY filters

Vessel Data Card

Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Access a Vessel Data Card
- Explain the features of the Vessel Data Card
- Identify the vessel-specific information contained on the Vessel Data Card
 - Dynamic Vessel Data
 - Static Vessel Data
 - Interactive Fields
 - Vessel Details
- Customize Vessel Data Cards

Accessing a Vessel Data Card

1. Vessel of interest

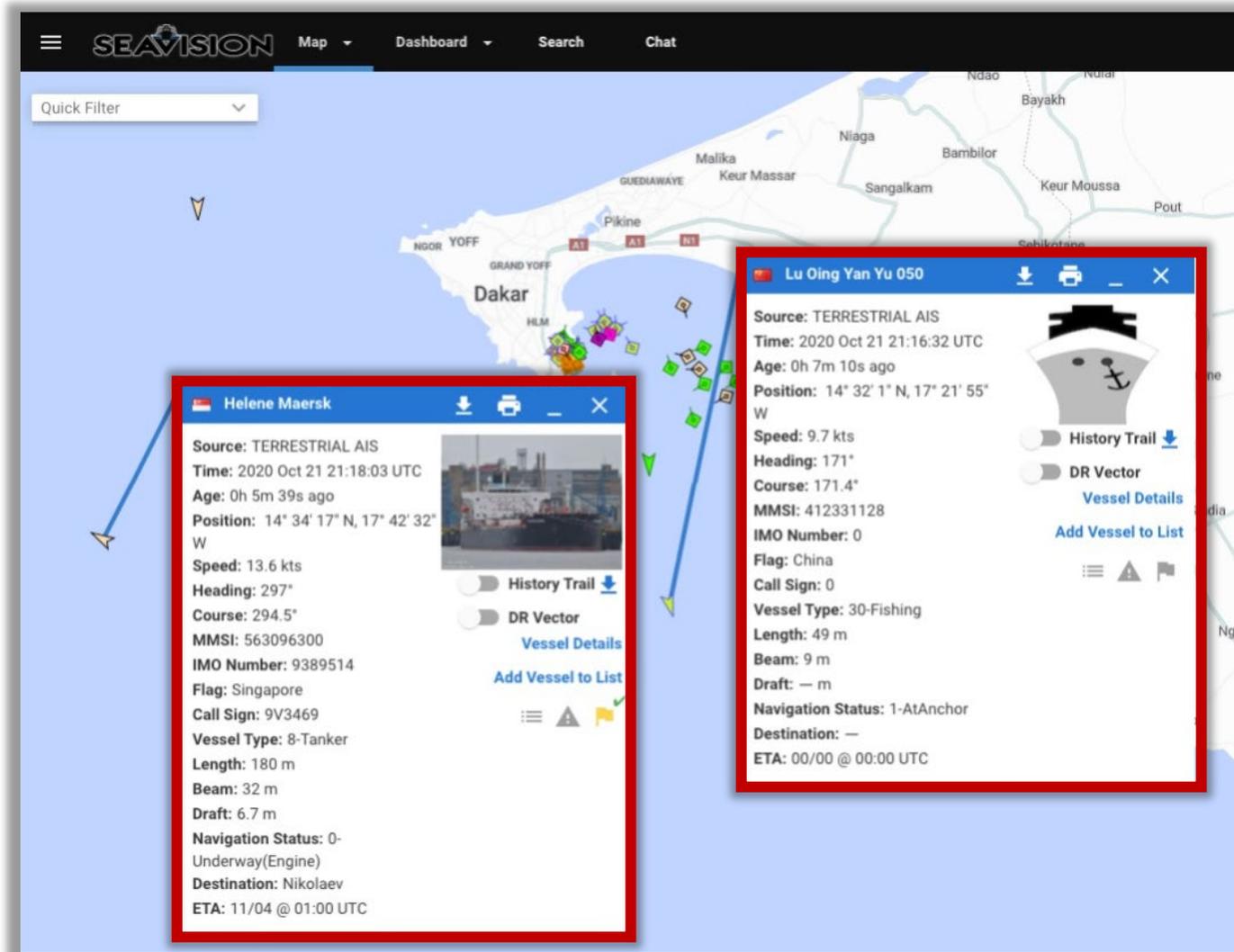
The screenshot shows a map interface with a vessel data card for 'Ac Kathryn'. The card is titled 'Ac Kathryn' and contains the following information:

- Source: SATELLITE AIS
- Time: 2020 Dec 08 03:15:57 UTC
- Age: 0h 23m 48s ago
- Position: 4° 58' 2" S, 95° 52' 56" E
- Speed: 13.1 kts
- Heading: 126°
- Course: 123°
- MMSI: 356928000
- IMO Number: 9310745
- Flag: Panama
- Call Sign: 3EGJ
- Vessel Type: 7-Cargo
- Length: 177 m
- Beam: 28 m
- Draft: 7.5 m
- Navigation Status: 0-Underway(Engine)
- Destination: Port Headland
- ETA: 12/14 @ 12:00 UTC

Additional features on the card include a photo of the vessel, a 'History Trail' toggle, a 'DR Vector' toggle, a 'Vessel Details' link, and an 'Add Vessel to List' button. The map shows the vessel's current position and movement path, with other vessels visible in the area.

Vessel Data Card Features

- Data received via AIS transmissions
- Vessel-specific information
 - Name
 - Data Source, Time, and Age
 - Position, Speed, Heading, and Course
 - MMSI and IMO Numbers
 - Flag
 - Call Sign
 - Vessel Type
 - Length, Beam, and Draft
 - Navigation Status
 - Destination and ETA



Dynamic Vessel Data

- Transmitted frequently
- Updated automatically by onboard AIS and GPS equipment
- Dynamic vessel data includes:
 - Position
 - Speed
 - Heading
 - Course
- Although not considered dynamic data, the MMSI number is transmitted with every AIS broadcast

The screenshot shows a vessel data card for 'Wilson Nantes'. The card has a blue header with the vessel name and a red flag icon. Below the header, there is a section for dynamic data: Source (SATELLITE AIS), Time (2020 Nov 16 11:06:50 UTC), Age (2h 27m 27s ago), Position (70° 8' 2" N, 3° 55' 52" W), Speed (11.7 kts), Heading (257°), and Course (258°). This dynamic data section is highlighted with a red border. To the right of the dynamic data is a photo of the vessel. Below the photo are two toggle switches: 'History Trail' (disabled) and 'DR Vector' (disabled). Further down are links for 'Vessel Details' and 'Add Vessel to List'. At the bottom, there are three icons: a list icon, a warning icon, and a checkmark icon. The bottom section of the card lists static data: MMSI (248674000), IMO Number (9430973), Flag (Malta), Call Sign (9HA2463), Vessel Type (7-Cargo), Length (123 m), Beam (16 m), Draft (7.4 m), Navigation Status (0-Underway(Engine)), Destination (Is Grt), and ETA (11/18 @ 23:00 UTC).

Wilson Nantes

Source: SATELLITE AIS
Time: 2020 Nov 16 11:06:50 UTC
Age: 2h 27m 27s ago
Position: 70° 8' 2" N, 3° 55' 52" W
Speed: 11.7 kts
Heading: 257°
Course: 258°

MMSI: 248674000
IMO Number: 9430973
Flag: Malta
Call Sign: 9HA2463
Vessel Type: 7-Cargo
Length: 123 m
Beam: 16 m
Draft: 7.4 m
Navigation Status: 0-Underway(Engine)
Destination: Is Grt
ETA: 11/18 @ 23:00 UTC

History Trail
DR Vector
Vessel Details
Add Vessel to List

Static Vessel Data

- Transmitted less frequently
- Updated manually by vessel crew
 - Possibly incomplete or inaccurate
- Static vessel data includes:
 - MMSI and IMO Numbers
 - Flag
 - Call Sign
 - Vessel Type
 - Length, Beam, and Draft
 - Navigation Status
 - Destination and ETA

Wilson Nantes

Source: SATELLITE AIS
Time: 2020 Nov 16 11:06:50 UTC
Age: 2h 27m 27s ago
Position: 70° 8' 2" N, 3° 55' 52" W
Speed: 11.7 kts
Heading: 257°
Course: 258°

MMSI: 248674000
IMO Number: 9430973
Flag: Malta
Call Sign: 9HA2463
Vessel Type: 7-Cargo
Length: 123 m
Beam: 16 m
Draft: 7.4 m
Navigation Status: 0-
Underway(Engine)
Destination: Is Grt
ETA: 11/18 @ 23:00 UTC



History Trail 
 DR Vector
[Vessel Details](#)
[Add Vessel to List](#)

Interactive Fields

- History Trail
- Export History Trail
- Dead Reckoning (DR) Vector
- Vessel Details
- Add Vessel to List
- Rule Match
- Alert Match
- Warning Details

Wilson Nantes    

Source: SATELLITE AIS
Time: 2020 Nov 16 11:06:50 UTC
Age: 2h 27m 27s ago
Position: 70° 8' 2" N, 3° 55' 52" W
Speed: 11.7 kts
Heading: 257°
Course: 258°
MMSI: 248674000
IMO Number: 9430973
Flag: Malta
Call Sign: 9HA2463
Vessel Type: 7-Cargo
Length: 123 m
Beam: 16 m
Draft: 7.4 m
Navigation Status: 0-
Underway(Engine)
Destination: Is Grt
ETA: 11/18 @ 23:00 UTC



History Trail 

DR Vector

[Vessel Details](#)

[Add Vessel to List](#)

Vessel Details

- Summary
- Details
- Exclusive Economic Zone (EEZ) History
- Port History
- Rules
- Alerts
- Warnings
- Lists
- Notes
- Recently Viewed
- Images

Wilson Nantes

MMSI: 248674000 | IMO Number: 9430973 | FIND

< Summary Details EEZ History Port History Rules >

History Trail | MAP VESSEL

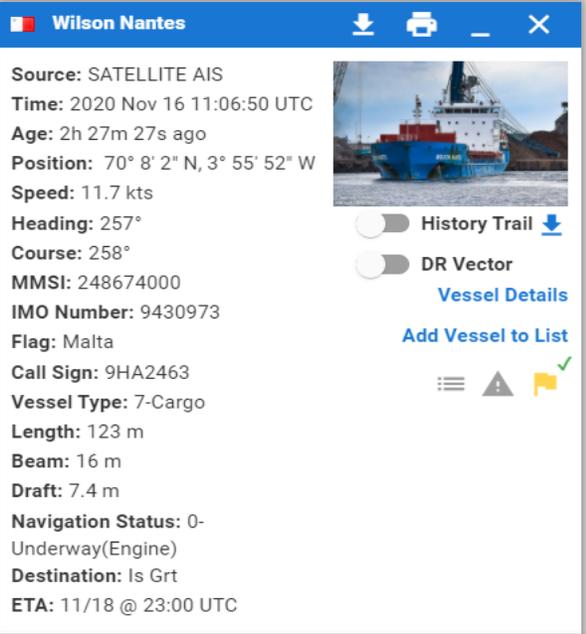
WILSON NANTES

patrick.westel@marine-traffic.com

VESSEL SUMMARY

Customizing the Vessel Data Card

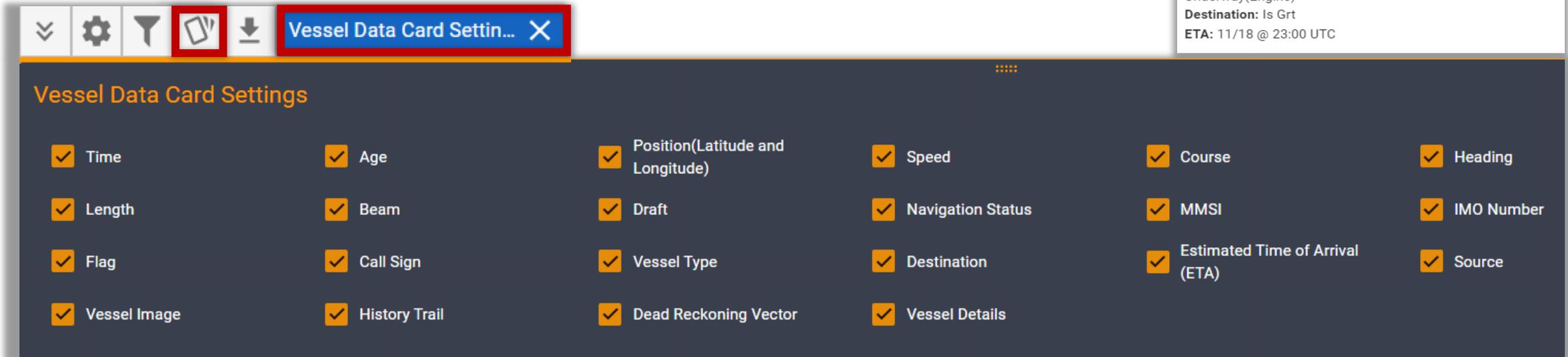
- Users can select the information to be displayed on the Vessel Data Card
- Customize using Vessel Data Card Settings 



Wilson Nantes

Source: SATELLITE AIS
 Time: 2020 Nov 16 11:06:50 UTC
 Age: 2h 27m 27s ago
 Position: 70° 8' 2" N, 3° 55' 52" W
 Speed: 11.7 kts
 Heading: 257°
 Course: 258°
 MMSI: 248674000
 IMO Number: 9430973
 Flag: Malta
 Call Sign: 9HA2463
 Vessel Type: 7-Cargo
 Length: 123 m
 Beam: 16 m
 Draft: 7.4 m
 Navigation Status: 0-Underway(Engine)
 Destination: Is Grt
 ETA: 11/18 @ 23:00 UTC

History Trail 
 DR Vector
[Vessel Details](#)
[Add Vessel to List](#)



Vessel Data Card Settings

<input checked="" type="checkbox"/> Time	<input checked="" type="checkbox"/> Age	<input checked="" type="checkbox"/> Position(Latitude and Longitude)	<input checked="" type="checkbox"/> Speed	<input checked="" type="checkbox"/> Course	<input checked="" type="checkbox"/> Heading
<input checked="" type="checkbox"/> Length	<input checked="" type="checkbox"/> Beam	<input checked="" type="checkbox"/> Draft	<input checked="" type="checkbox"/> Navigation Status	<input checked="" type="checkbox"/> MMSI	<input checked="" type="checkbox"/> IMO Number
<input checked="" type="checkbox"/> Flag	<input checked="" type="checkbox"/> Call Sign	<input checked="" type="checkbox"/> Vessel Type	<input checked="" type="checkbox"/> Destination	<input checked="" type="checkbox"/> Estimated Time of Arrival (ETA)	<input checked="" type="checkbox"/> Source
<input checked="" type="checkbox"/> Vessel Image	<input checked="" type="checkbox"/> History Trail	<input checked="" type="checkbox"/> Dead Reckoning Vector	<input checked="" type="checkbox"/> Vessel Details		

Summary

- In this lesson, we covered:
 - Accessing the Vessel Data Card
 - The features of the Vessel Data Card
 - Vessel-specific information contained on the Vessel Data Card
 - Dynamic Vessel Data
 - Static Vessel Data
 - Interactive Fields
 - Vessel Details
 - Customizing Vessel Data Cards

Exporting Vessel Data

Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Explain the features of exporting vessel data and detail reports in SeaVision
- Identify export vessel file format types
- Identify the map and menu locations from which vessel data can be exported
 - Map Display
 - Matching Alerts
 - Vessel List
 - Rules Results
 - Search Results
 - Vessel Data Card
- Download vessel detail reports

Exporting Vessel Data and Detail Reports

- Export Vessel Data
 - Share vessel data with non-SeaVision systems
 - Generate reports outside of SeaVision
 - Save vessel data for official data-keeping efforts
- Vessel Detail Reports
 - Finished reports for presentations
 - Common file formats used in desktop publishing

The screenshot displays the 'Vessel Lists' interface. At the top, there is a header 'Vessel Lists' and a sub-header 'Student Zap List'. A table lists vessel data with columns for IMO NUMBER, MMSI, and NAME. A red box highlights a download icon in the top right corner of the table. A dropdown menu is open, showing export options: JSON, CSV, XML, and KML. Below the table is a map titled 'Student Zap List On Map' showing the locations of the vessels on a world map.

	IMO NUMBER	MMSI	NAME
1	9372004	209486000	Blue Ocean
2	9723851	419001016	Jag Amar
3	9242390	271000662	Olympos
4	9807695	477168700	Ore Shen
5	0119624	211220400	Rebecca

Export File Formats

- Supported File Formats
 - JavaScript Object Notation (JSON)
 - An open standard file and data interchange format that uses human-readable text to store and transmit data objects
 - Comma Separated Values (CSV)
 - A delimited text file that uses commas to separate values
 - MS Excel compatible
 - Extensible Markup Language (XML)
 - A markup language that defines a set of rules for encoding documents
 - Keyhole Markup Language (KML)
 - Mapping application file
 - SeaVision and Google Earth

JSON

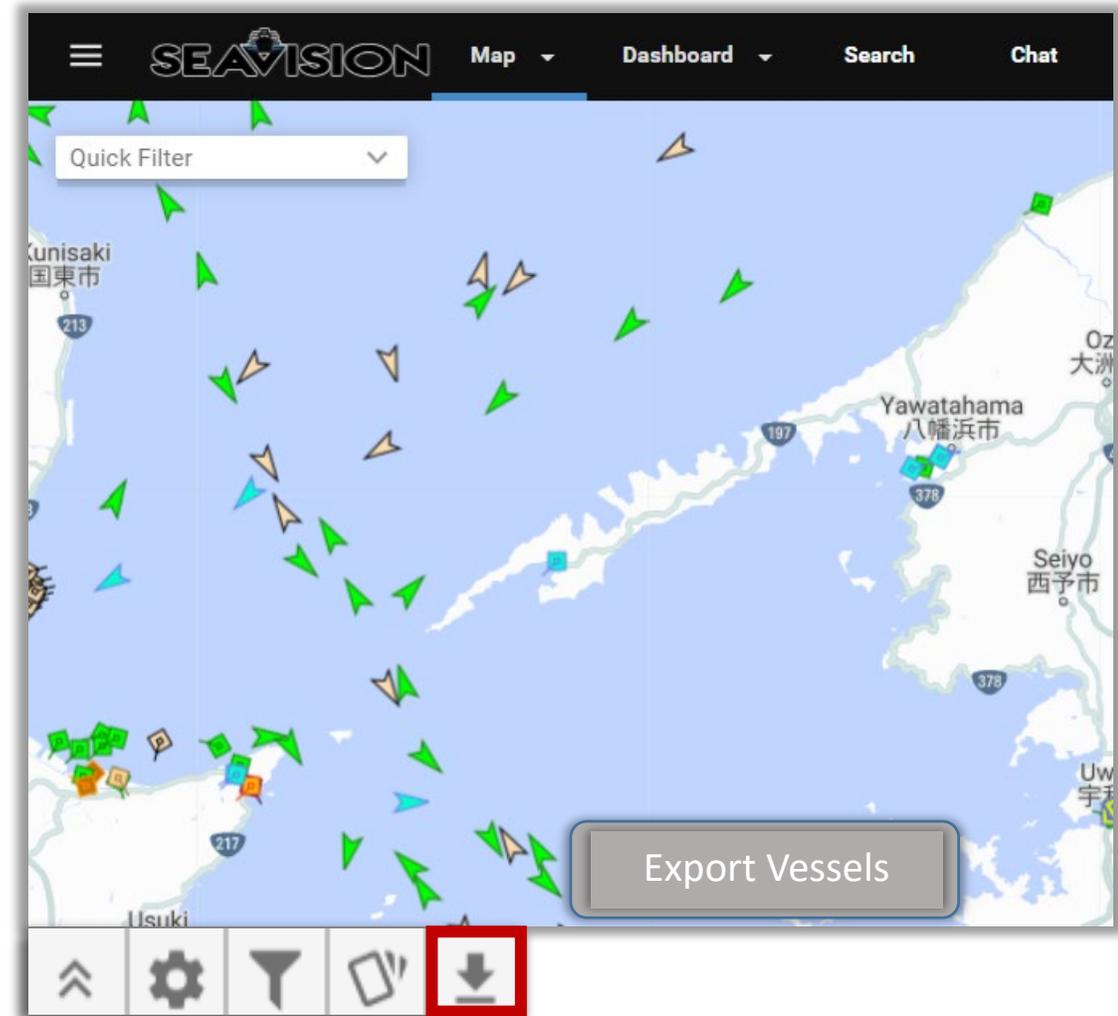
CSV

XML

KML

Map Display

- Download vessels displayed on map
 - Snapshot of current vessel view
 - KML format only



Matching Alerts

- Download vessel results from Matching Alerts
 - Save to file location

Results - Vessels Matching Alerts (48)

Vessel Results Vessel Analytics

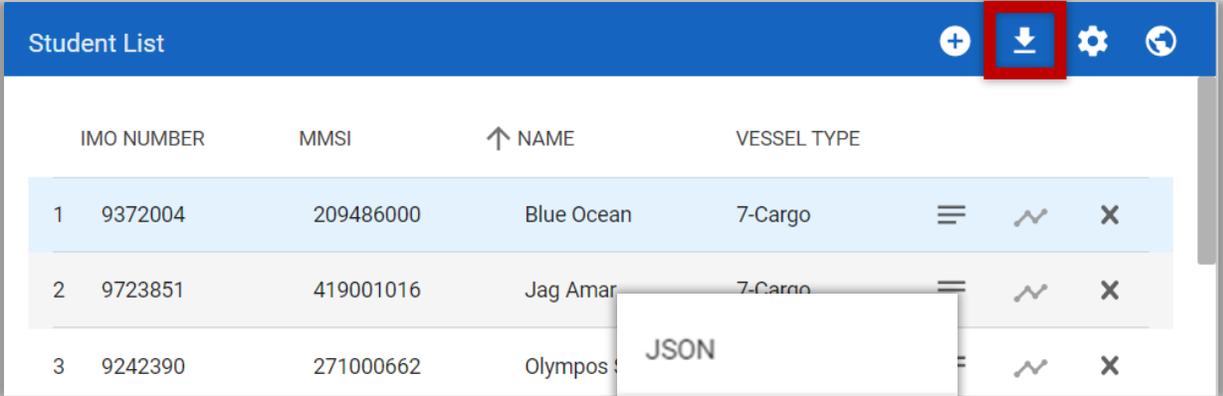
EXPORT SAVE AS LIST MAP RESULTS SETTINGS

	IMO	MMSI	VESSEL NAME	VESSEL TYPE
1	9684483			7-Cargo
2	9689938			7-Cargo
3	9684483			7-Cargo

JSON
CSV
XML
KML

Vessel Lists

- Download vessel results from Vessel Lists
 - Save to file location



The screenshot shows a web application interface with a blue header bar. The title 'Student List' is on the left, and on the right are icons for a plus sign, a download icon (highlighted with a red box), a settings gear, and a refresh icon. Below the header is a table with columns: IMO NUMBER, MMSI, NAME (with an upward arrow), and VESSEL TYPE. The table contains three rows of data. A context menu is open over the first row, listing 'JSON', 'CSV', 'XML', and 'KML' as options.

	IMO NUMBER	MMSI	NAME	VESSEL TYPE			
1	9372004	209486000	Blue Ocean	7-Cargo	≡	⤴	✕
2	9723851	419001016	Jag Amar	7-Cargo	≡	⤴	✕
3	9242390	271000662	Olympos		≡	⤴	✕

- JSON
- CSV
- XML
- KML

Rules Results

- Download vessel results from Rules Results
 - Save to file location

The screenshot shows a web interface titled "Results - Vessels Matching Rules (1)". It features two tabs: "Vessel Results" (active) and "Vessel Analytics". Below the tabs are four buttons: "EXPORT", "SAVE AS LIST", "MAP RESULTS", and "SETTINGS". The "EXPORT" button is highlighted with a red border, and a dropdown menu is open below it, listing four options: "JSON", "CSV", "XML", and "KML". The "CSV" option is currently selected and highlighted in grey. Below the buttons, a table is partially visible with columns for "MMSI", "VE", and "L TYPE". The first row of the table contains the value "1" under "MMSI" and "626025000" under "VE".

Search Results

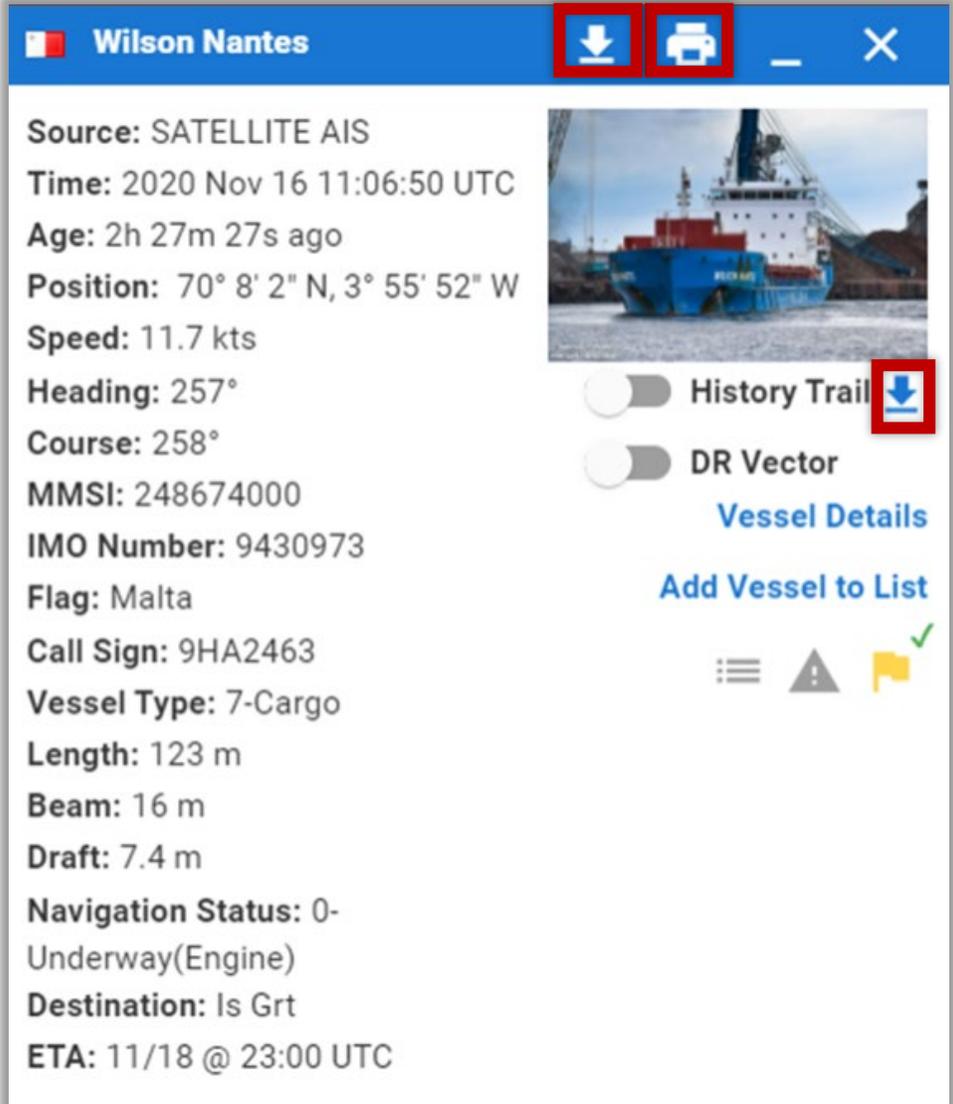
- Download vessel results from Search Results
 - Save to file location

The screenshot shows a web interface for search results. At the top, it says "Search Results (974 total vessels)". Below this are three buttons: "EXPORT" (highlighted in red), "SAVE AS LIST", and "MAP RESULTS". A table of vessel data is displayed with columns: FL..., VE..., RE..., CA..., M..., IM..., VE..., DE..., ETA, NA..., LA..., LO..., AGE, and TI... The table has two rows of data. An "EXPORT" dropdown menu is open, showing options for JSON, CSV, XML, and KML.

	FL...	VE...	RE...	CA...	M...	IM...	VE...	DE...	ETA	NA...	LA...	LO...	AGE	TI...
1	Pa...	Qu...	-	3E...	35...	91...	8-					34...	33...	20...
2	Pa...	Ga...	-	H3...	35...	91...	8-					55...	46...	20...

Vessel Data Card

- Download vessel details from Vessel Data Card
 - JSON, CSV, PDF, and HTML
- Print Vessel Data Card
 - Hard copy and PDF
- Export History Trail
 - HTML, CSV, PDF, and KML



The screenshot shows a web interface for a vessel data card. At the top, the vessel name "Wilson Nantes" is displayed in a blue header bar. To the right of the header are three icons: a download icon, a print icon, and a close icon, all highlighted with red boxes. Below the header, the vessel's details are listed in a vertical column: Source: SATELLITE AIS, Time: 2020 Nov 16 11:06:50 UTC, Age: 2h 27m 27s ago, Position: 70° 8' 2" N, 3° 55' 52" W, Speed: 11.7 kts, Heading: 257°, Course: 258°, MMSI: 248674000, IMO Number: 9430973, Flag: Malta, Call Sign: 9HA2463, Vessel Type: 7-Cargo, Length: 123 m, Beam: 16 m, Draft: 7.4 m, Navigation Status: 0-Underway(Engine), Destination: Is Grt, and ETA: 11/18 @ 23:00 UTC. To the right of the text is a photograph of the vessel. Below the photo are two toggle switches: "History Trail" (which is turned on and has a download icon next to it, highlighted with a red box) and "DR Vector" (which is turned off). Below the toggles are two blue links: "Vessel Details" and "Add Vessel to List". At the bottom right of the interface are three icons: a menu icon, a warning icon, and a checkmark icon.

Wilson Nantes

Source: SATELLITE AIS
Time: 2020 Nov 16 11:06:50 UTC
Age: 2h 27m 27s ago
Position: 70° 8' 2" N, 3° 55' 52" W
Speed: 11.7 kts
Heading: 257°
Course: 258°
MMSI: 248674000
IMO Number: 9430973
Flag: Malta
Call Sign: 9HA2463
Vessel Type: 7-Cargo
Length: 123 m
Beam: 16 m
Draft: 7.4 m
Navigation Status: 0-Underway(Engine)
Destination: Is Grt
ETA: 11/18 @ 23:00 UTC

History Trail 

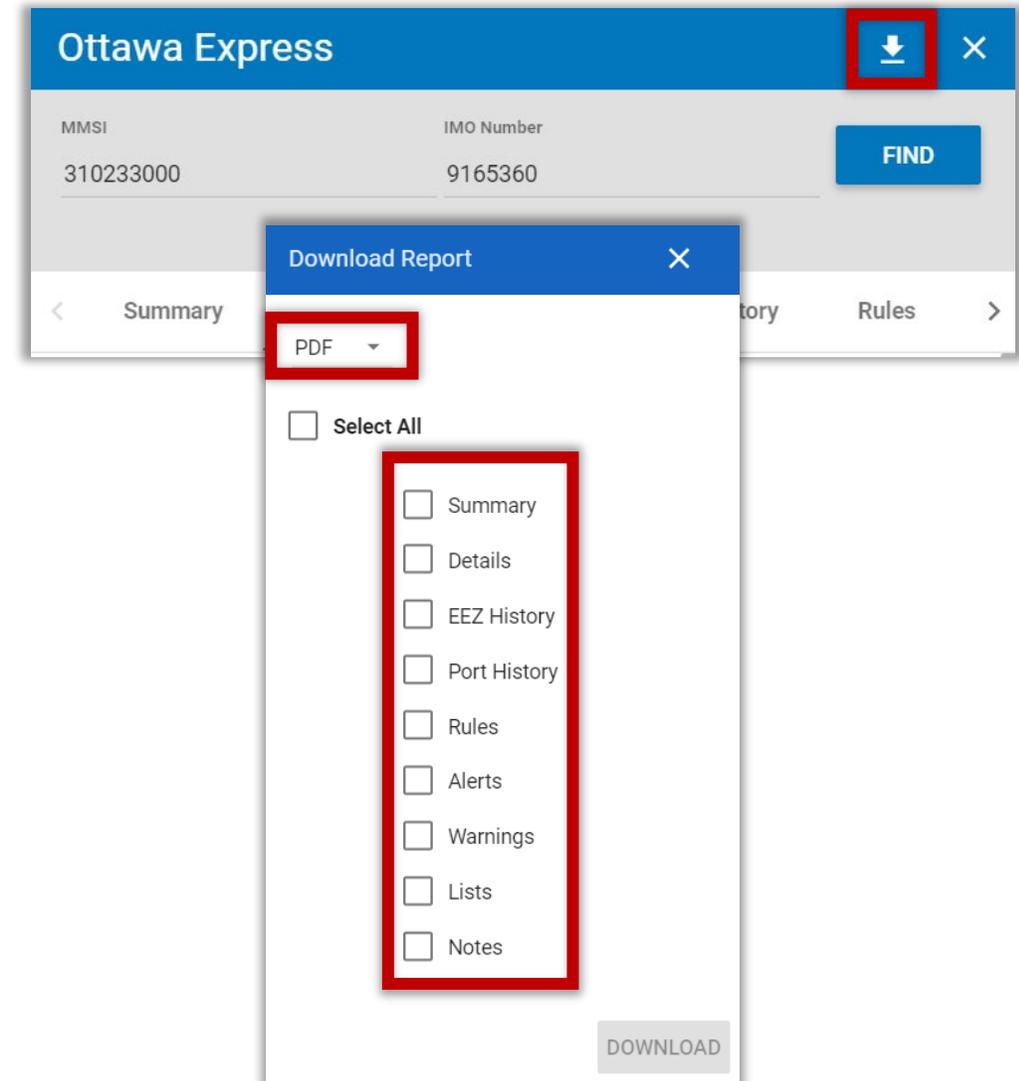
DR Vector

[Vessel Details](#)

[Add Vessel to List](#)

Downloading Vessel Detail Reports

- Custom data products generated from SeaVision
 - Vessel Details
 - Download from the Main Menu
 - PDF, PPT, and Doc file formats



Summary

- In this lesson, we covered:
 - The features of exporting vessel data and detail reports in SeaVision
 - Export vessel file format types
 - The map and menu locations from which vessel data can be exported
 - Map Display
 - Matching Alerts
 - Vessel List
 - Rules Results
 - Search Results
 - Vessel Data Card
 - Downloading vessel detail reports

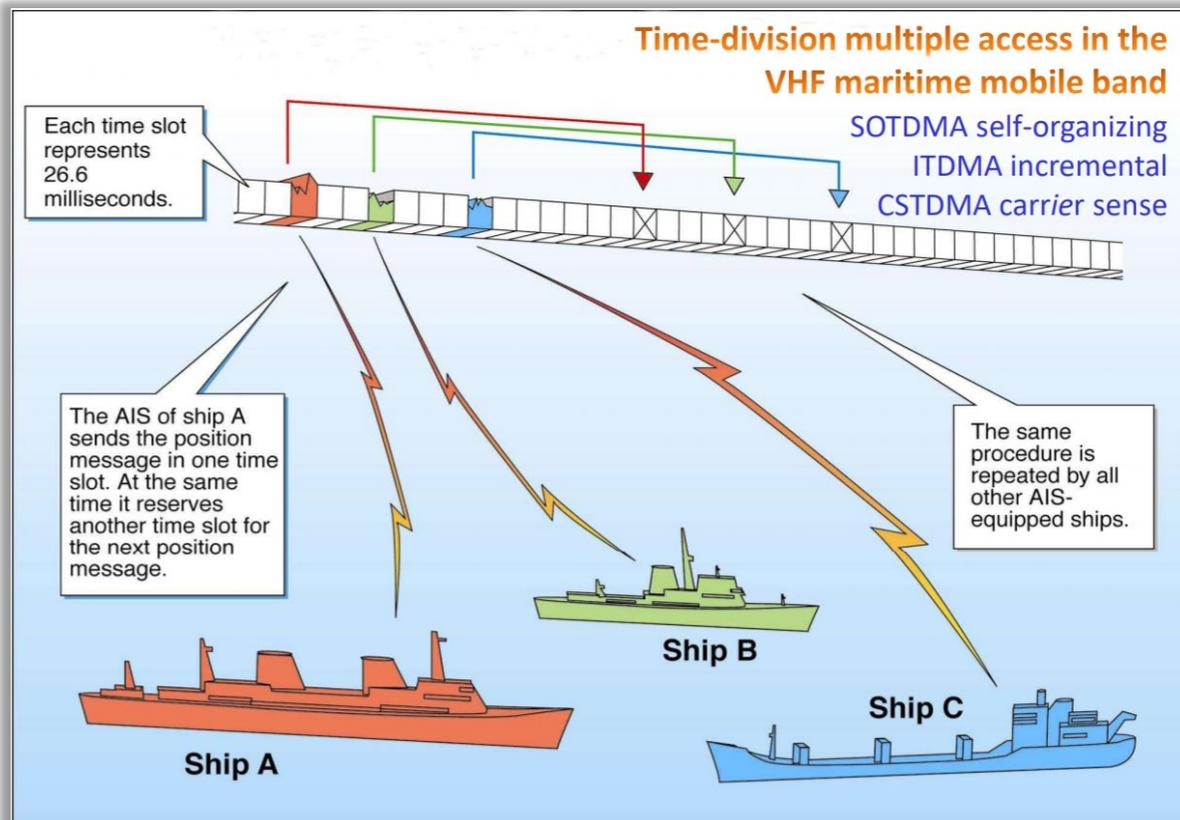
AIS Validation

Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Define SeaVision Static AIS information
- Define SeaVision Dynamic AIS information
- Identify vessel types based on Static and Dynamic AIS information
- Identify the differences between AIS/GPS anomalies, AIS Gaps, Spoofing, and Vessels Going Dark

Automatic Identification System (AIS)



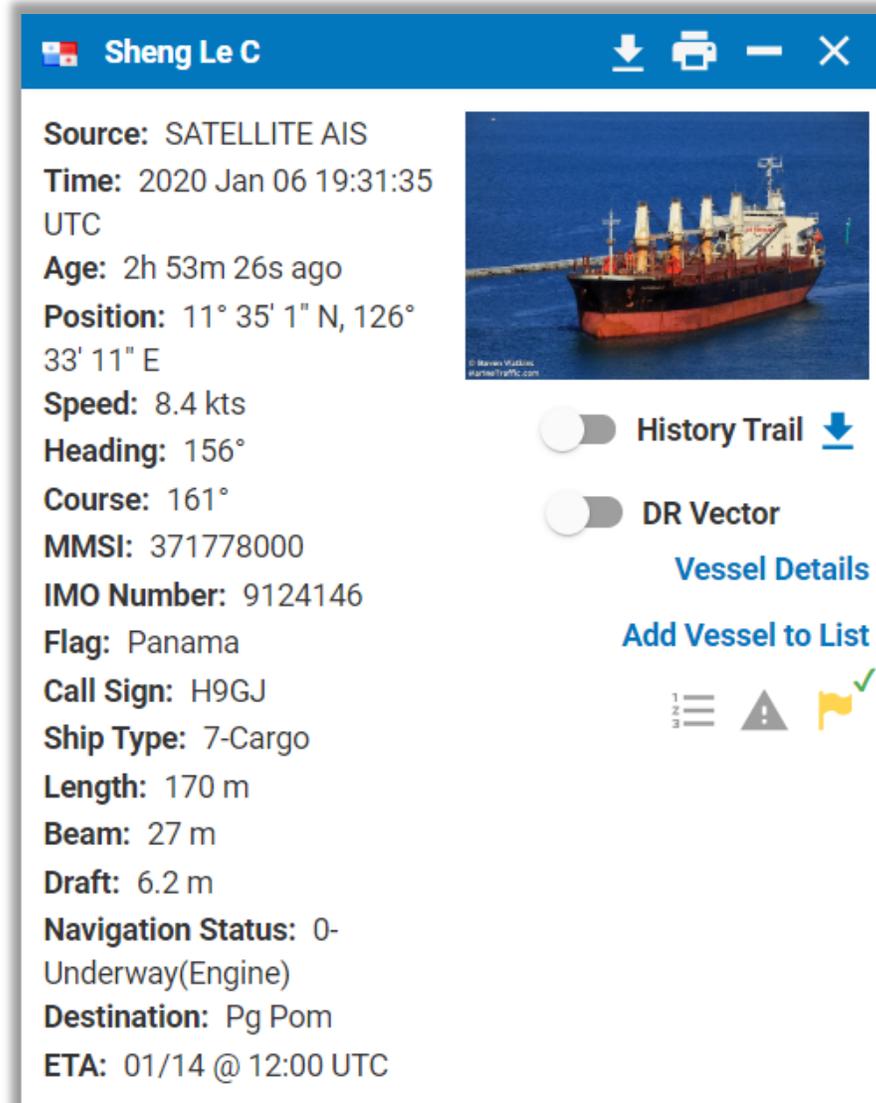
- AIS is a digital positional awareness system
- Very High Frequency (VHF)
- AIS uses time slots, so each vessel gets a chance to broadcast its update

Automatic Identification System (AIS)

- The purpose of AIS is to help identify ships
 - Assist in search and rescue
 - Simplify information exchange
 - Collision avoidance
 - Ship detection
 - Additional information for situational awareness
- AIS reduces mandatory verbal ship reporting and other radio traffic

AIS Static Data on Vessel Data Card

- All manually inputted information
- Static Data includes:
 - MMSI
 - Vessel name
 - IMO Number
 - Flag
 - Call Sign
 - Ship Type
 - Length
 - Beam
 - Draft
 - Navigation Status
 - Destination
 - Estimated Time of Arrival (ETA)



The screenshot shows a software interface for a vessel data card. At the top, the vessel name 'Sheng Le C' is displayed in a blue header bar with standard window controls (download, print, close). Below the header, the data is organized into two columns. The left column lists key attributes: Source (SATELLITE AIS), Time (2020 Jan 06 19:31:35 UTC), Age (2h 53m 26s ago), Position (11° 35' 1" N, 126° 33' 11" E), Speed (8.4 kts), Heading (156°), Course (161°), MMSI (371778000), IMO Number (9124146), Flag (Panama), Call Sign (H9GJ), Ship Type (7-Cargo), Length (170 m), Beam (27 m), Draft (6.2 m), Navigation Status (0-Underway(Engine)), and Destination (Pg Pom). The right column features a satellite image of the ship, a 'History Trail' toggle (currently off), a 'DR Vector' toggle (currently off), a 'Vessel Details' link, and an 'Add Vessel to List' link. At the bottom right, there are three small icons: a list icon, a warning triangle, and a checkmark.

Sheng Le C

Source: SATELLITE AIS
Time: 2020 Jan 06 19:31:35 UTC
Age: 2h 53m 26s ago
Position: 11° 35' 1" N, 126° 33' 11" E
Speed: 8.4 kts
Heading: 156°
Course: 161°
MMSI: 371778000
IMO Number: 9124146
Flag: Panama
Call Sign: H9GJ
Ship Type: 7-Cargo
Length: 170 m
Beam: 27 m
Draft: 6.2 m
Navigation Status: 0-Underway(Engine)
Destination: Pg Pom
ETA: 01/14 @ 12:00 UTC

History Trail

DR Vector

[Vessel Details](#)

[Add Vessel to List](#)

AIS Dynamic Data on Vessel Data Card

- AIS generated information
- Dynamic Data includes:
 - Time
 - Age
 - Position
 - Speed
 - Heading
 - Course

Sheng Le C

Source: SATELLITE AIS
Time: 2020 Jan 06 19:31:35 UTC
Age: 2h 53m 26s ago
Position: 11° 35' 1" N, 126° 33' 11" E
Speed: 8.4 kts
Heading: 156°
Course: 161°
MMSI: 371778000
IMO Number: 9124146
Flag: Panama
Call Sign: H9GJ
Ship Type: 7-Cargo
Length: 170 m
Beam: 27 m
Draft: 6.2 m
Navigation Status: 0-Underway(Engine)
Destination: Pg Pom
ETA: 01/14 @ 12:00 UTC



History Trail 

DR Vector

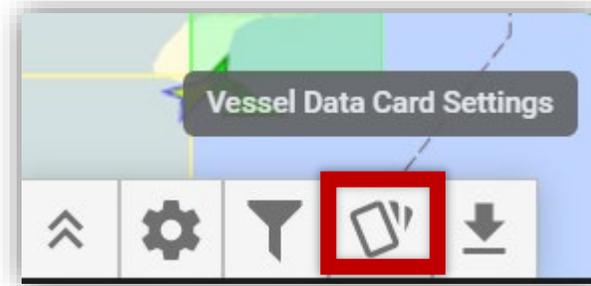
[Vessel Details](#)

[Add Vessel to List](#)

Vessel Data Card

- Settings
 - History Trail
 - Dead Reckoning (DR) Vector
 - Vessel Details (link)
 - Add Vessel to List
 - Warnings
 - Rules
- Options
 - Download
 - Print
 - Minimize



Sheng Le C [Download] [Print] [Minimize] [Close]

Source: SATELLITE AIS
Time: 2020 Jan 06 19:31:35 UTC
Age: 2h 53m 26s ago
Position: 11° 35' 1" N, 126° 33' 11" E
Speed: 8.4 kts
Heading: 156°
Course: 161°
MMSI: 371778000
IMO Number: 9124146
Flag: Panama
Call Sign: H9GJ
Ship Type: 7-Cargo
Length: 170 m
Beam: 27 m
Draft: 6.2 m
Navigation Status: 0-Underway(Engine)
Destination: Pg Pom
ETA: 01/14 @ 12:00 UTC



History Trail [Down Arrow]

DR Vector

[Vessel Details](#)

[Add Vessel to List](#)

[List Icon] [Warning Icon] [Checkmark Icon]

Maritime Mobile Service Identity (MMSI)

- AIS signals are identified by MMSI numbers
 - MMSI numbers are not regulated and are not unique
- Flag registries allocate MMSI numbers.
 - An MMSI number may be reallocated to another ship when it changes flags (countries)
- There are reports of vessels sharing MMSI numbers
 - This will show a vessel in two locations at the same time

AIS vs. Global Positioning System (GPS)

- AIS is not the same as GPS
 - GPS is a satellite-based navigation system that works in any weather condition and any position in the world
- AIS transmits on VHF radio waves
 - VHF radio waves travel in straight lines
 - Transmission distance is line-of-sight
 - 20-30 miles
- AIS is designed to operate in local areas
 - In large port congregations, signals may be lost due to interference

Transmission Gaps

- By regulation, AIS is mandatory
 - Voluntary in actual use
- Vessels must choose to transmit
 - One-way radio signal
 - It cannot be pinged
 - Inspect a signal remotely
- A transmission gap is when a vessel vanishes in SeaVision and reappears sometime later
 - Maybe an indication of covert illicit activity

Spoofing and GPS Spoofing

- Spoofing is the act of disguising an unknown source as a known and trusted source
 - GPS spoofing simply gives vessel operators false information
 - Does not let someone else take control
- Vessel operators make course changes based on the information that they are going in the wrong direction
 - GPS spoofers trick a navigation system by sending counterfeit signals
- GPS spoofing is not the same as GPS jamming
 - Both are a cause for concern

Vessels Going Dark

- A vessel that goes dark means one of two things:
 - A system malfunction
 - Deliberately stop transmitting
- Legitimate reasons to intentionally turn off AIS are:
 - Avoiding pirates
 - Avoiding rival countries
- AIS transmissions are for safety, created to avoid accidents at sea
- Vessels not transmitting may not be covered by insurance if in an accident
- Vessels deliberately going dark to hide illicit activity may include:
 - Ports of call in a country where vessels do not want to be seen
 - Sanctions or political reasons
 - Smuggling, transferring of illicit or sanctioned goods
 - Receiving/transferring goods, people, or money
 - Illegal fishing
 - Hiding from authorities
 - Avoiding arrest or fines

Summary

In this lesson, we covered:

- Static AIS information
 - All manually inputted AIS information
- Dynamic AIS information
 - AIS-generated information
- Vessel types based on Static and Dynamic information
 - Utilize the information shown on the Vessel Data Card
- Differences between AIS/GPS anomalies, AIS Gaps, Spoofing, and Vessels Going Dark
 - Some are unintentional, while others are intentional

Vessel Characteristics

Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Describe typical ship type characteristics, speed, track patterns, and operating range for the following vessel types:
 - Fishing
 - Cargo and Tankers
 - Passenger and Cruise Ships
 - Tug, Tow, and Pilot
 - Research
 - Other Vessel Types

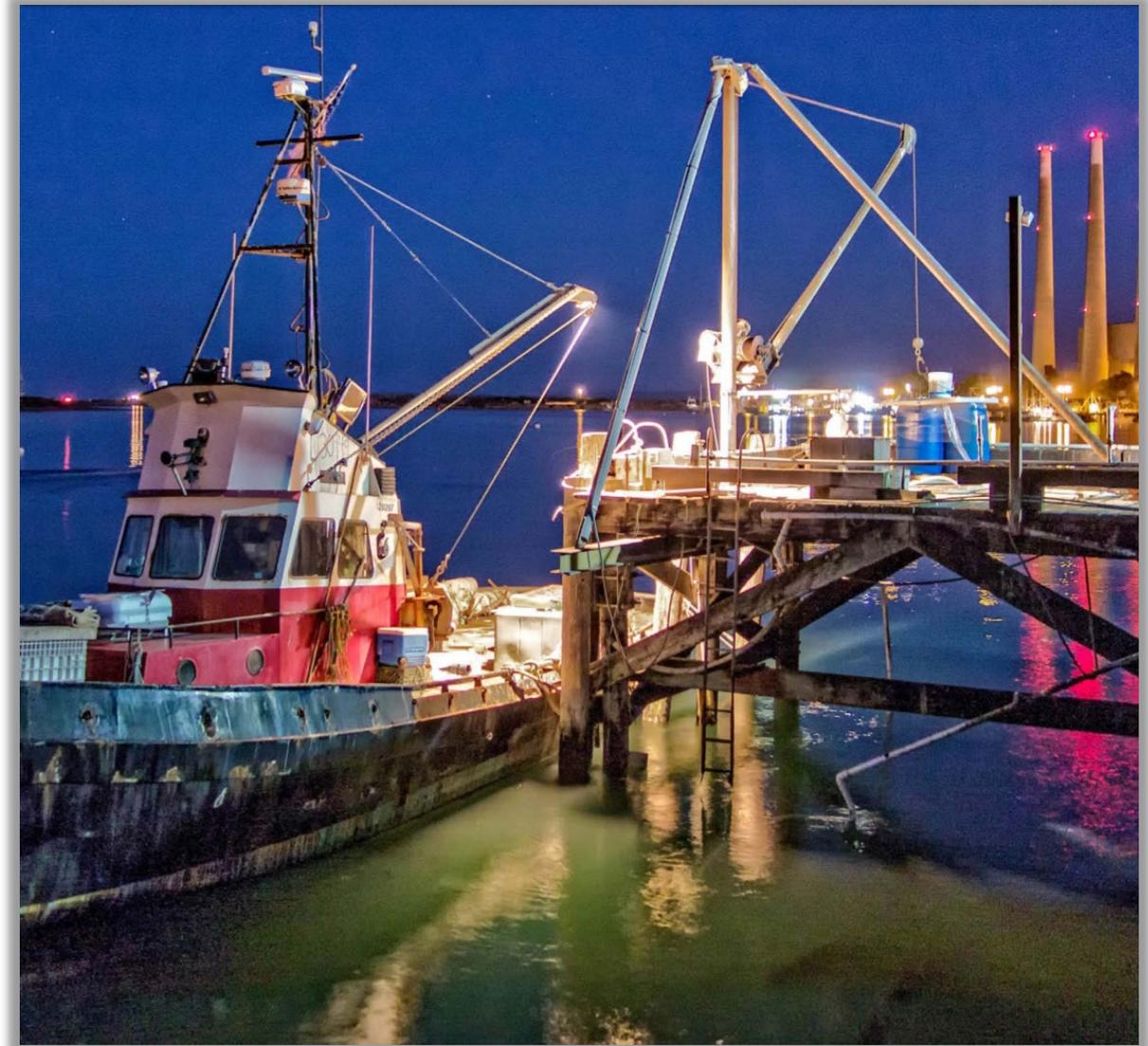
Vessel Types

- Large vessels (> 300GT) consist of:
 - Cargo
 - (Bulk, Container, and Hazardous)
 - Tankers
 - (Chemical, Oil, and Other)
 - Military, Passenger, and Cruise ships
- These vessel types will all have their own International Maritime Organization (IMO) number



Vessel Types (cont.)

- Medium-size vessels consist of:
 - Fishing
 - Trawlers, Longliners, and Motherships
 - Tuna Passenger ships
 - Patrol vessels



Vessel Types (cont.)

- Small vessels
 - Wooden canoes
 - Fiberglass boats
 - Speed boats
 - Sailboats
 - Paddle boats
 - Dhows
- Others
 - Oil rigs
 - Buoys
 - Research

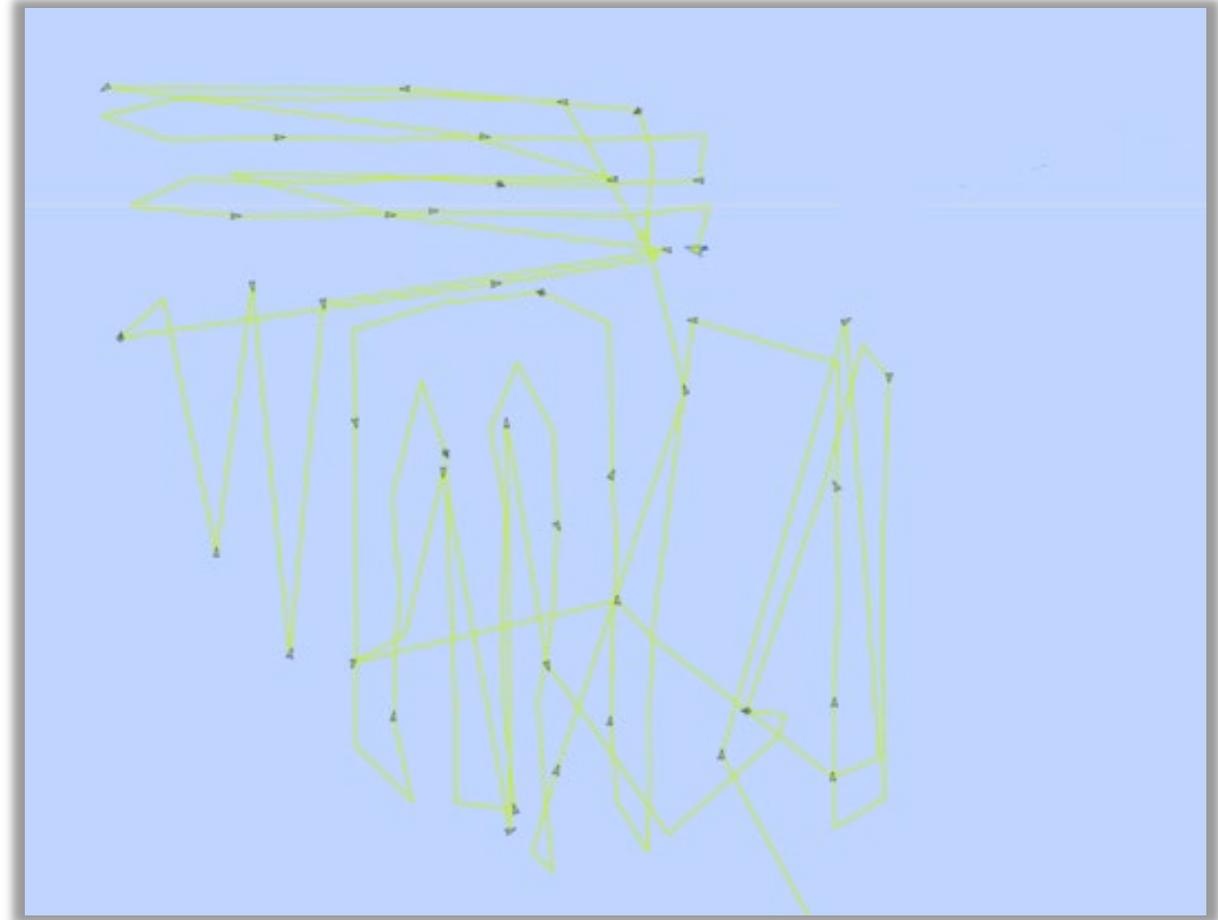


Details of Vessel Characteristics

- Owner (country flag, and registry)
- Crew (nationality and criminal records)
- Cargo (hazardous, illegal, weapons, and drugs)
- History (high-risk vessels, detained previously, and previous inspections)
- Current activity (fishing, transport, etc.)
- Current and historical position (vessel tracks and ports visited)
- Dynamic information (speed and heading)

Vessel Characteristic Considerations

- Different size ships behave differently
- Fishing vessels are always in search of fish, but they do it differently
- It may be hard to distinguish from one that is actually setting and hauling their fishing gear from other ship types



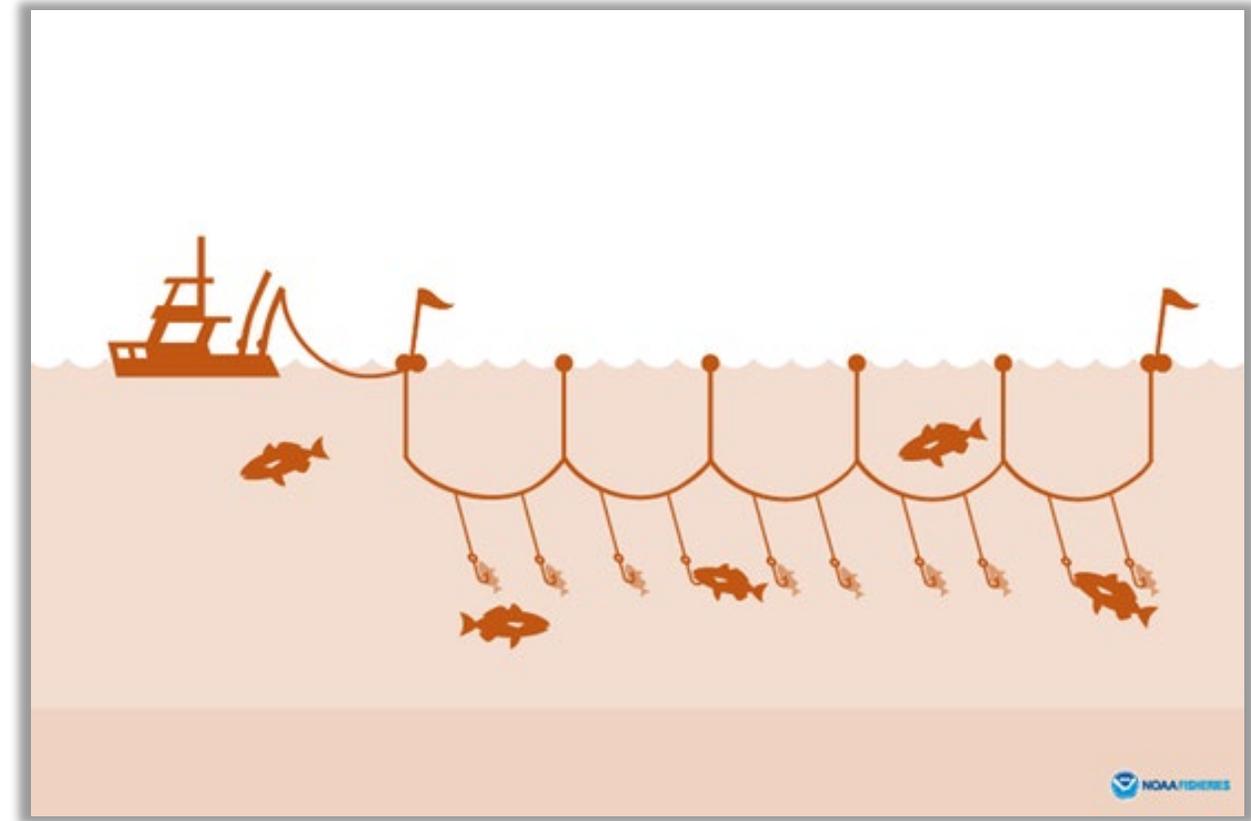
Fishing Vessels

- Large commercial fishing vessels (>300 GT) are required to carry an AIS beacon
- About 70,000 vessels report they are fishing, but the signals do not identify the kind of fishing they are doing
- Self-reporting isn't entirely reliable
- Whether intentionally or accidentally, vessel operators sometimes enter the wrong codes



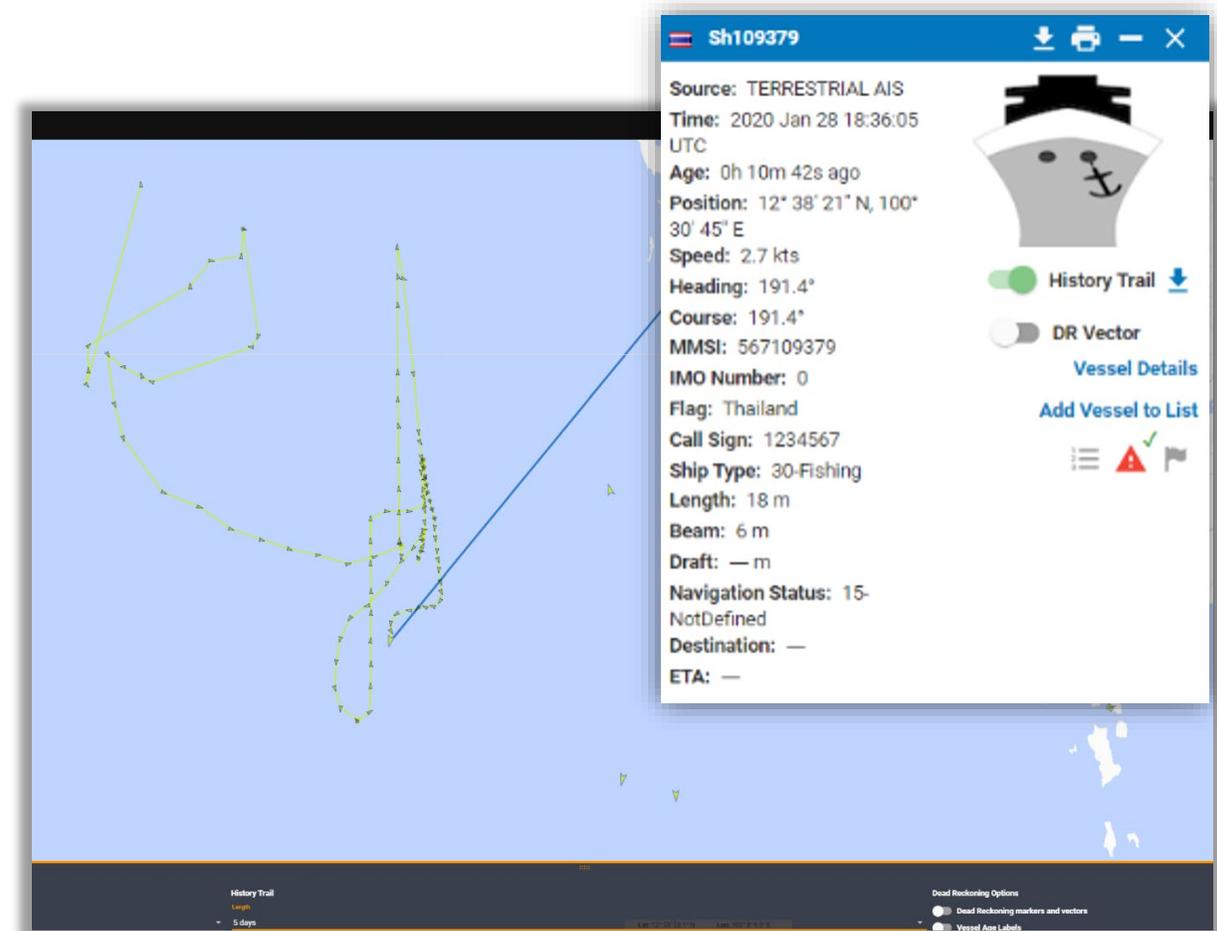
Types of Fishing Vessels - Longliner

- Longliner fishing or longlining, is a commercial fishing technique
- Lines can be up to 10 kilometers with 70,000 hooks



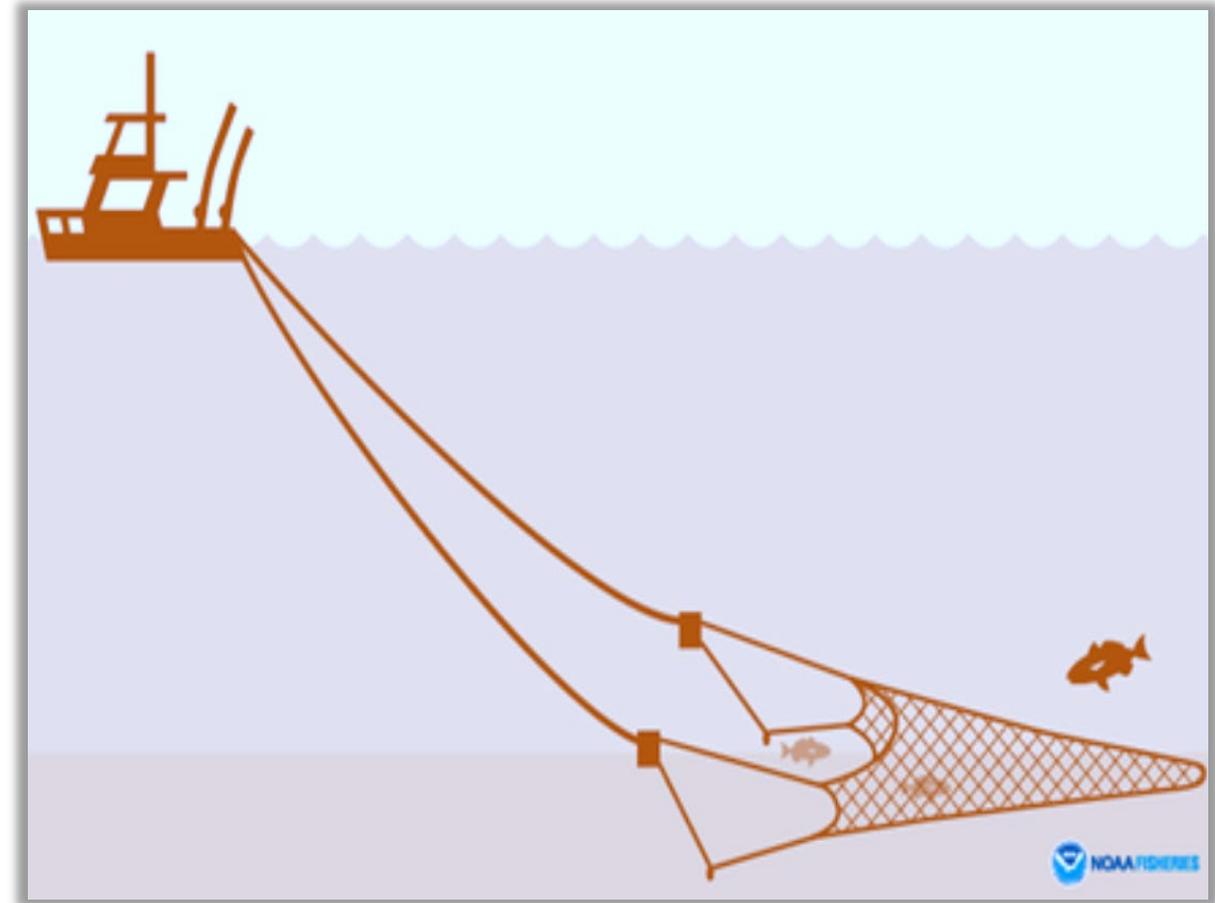
Types of Fishing Vessels - Longliner Tracks

- Longliners traverse an area back and forth as they alternately set their hooks and return to pull them in
- Tracks are spikey, tracing the same line again and again as they set their hooks and return to retrieve their catch



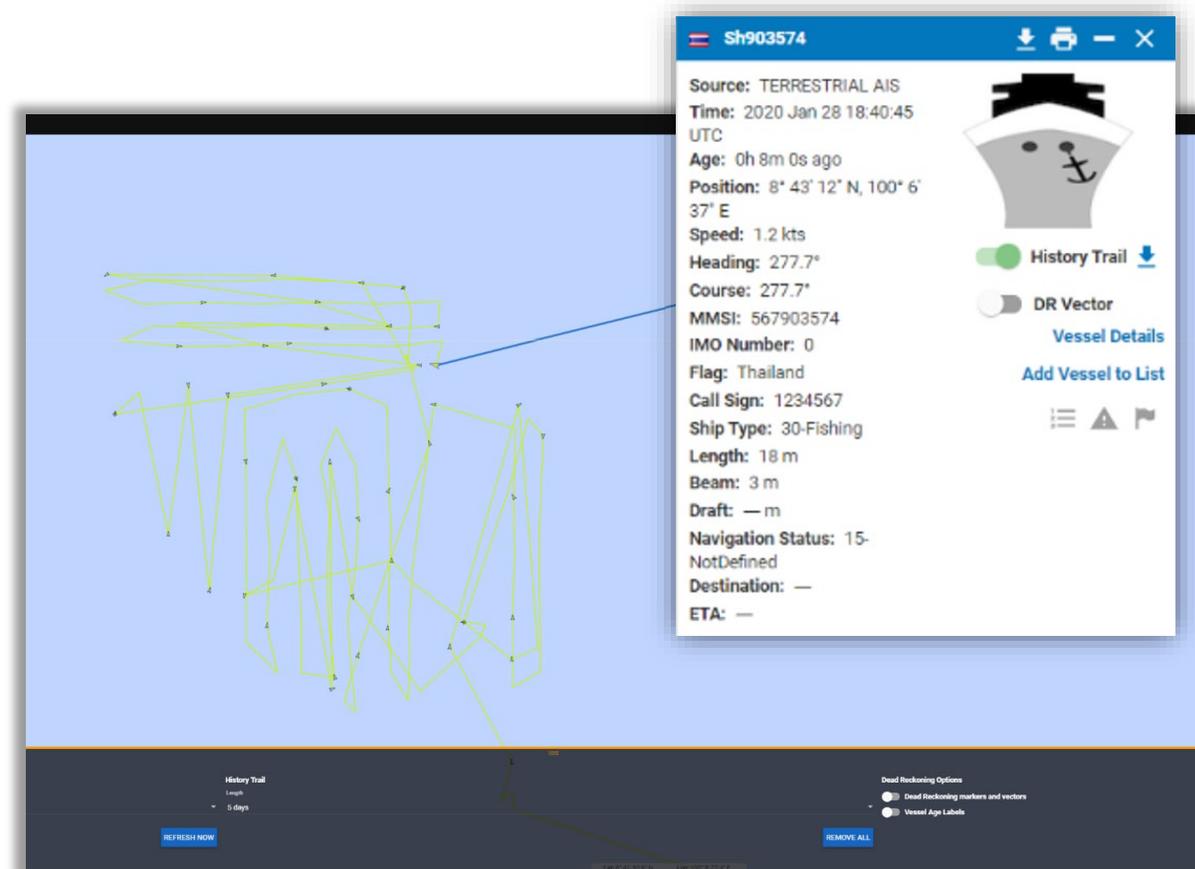
Types of Fishing Vessels - Trawlers

- Trawls are fishing nets
- Pulled either along the bottom of the sea or in midwater at a specified depth



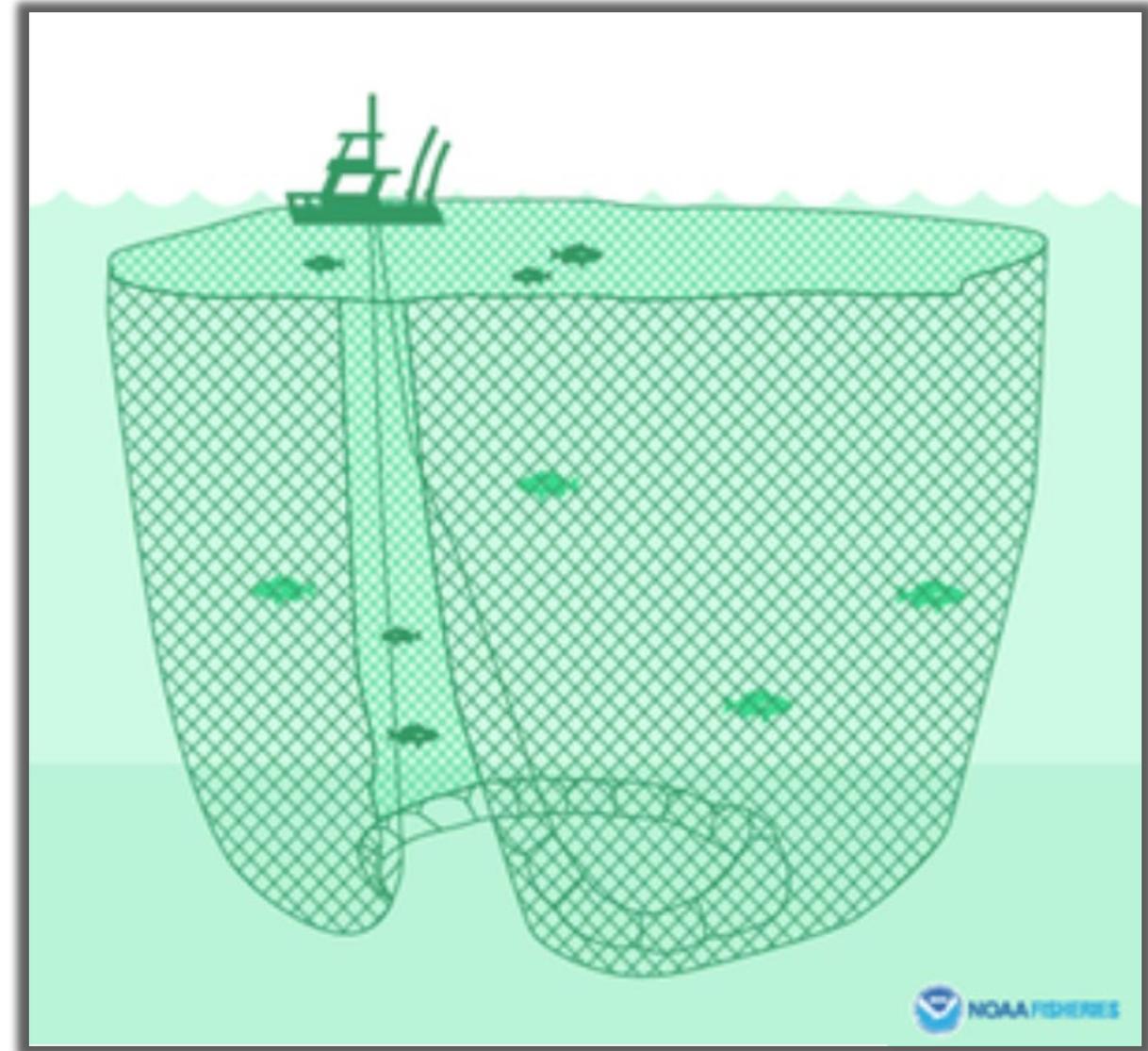
Types of Fishing Vessels - Trawler Tracks

- Trawling is a method of fishing that involves actively dragging or pulling a trawl through the water behind one or more trawlers
- Trawlers move at a constant speed dragging their gear behind them
- Their back and forth movement displays a zig-zag pattern



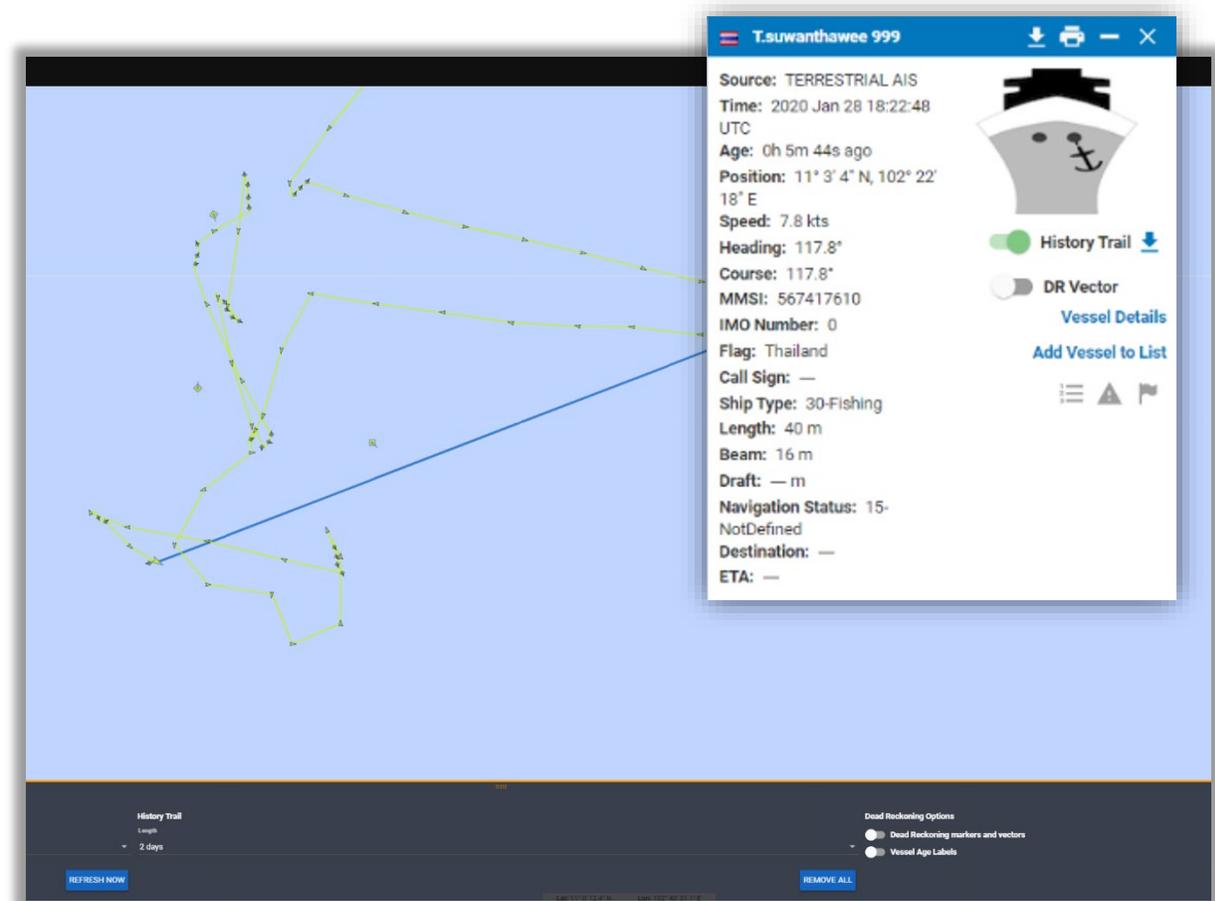
Types of Fishing Vessels - Purse Seines

- A purse seine is a large wall of netting deployed around an entire area or school of fish

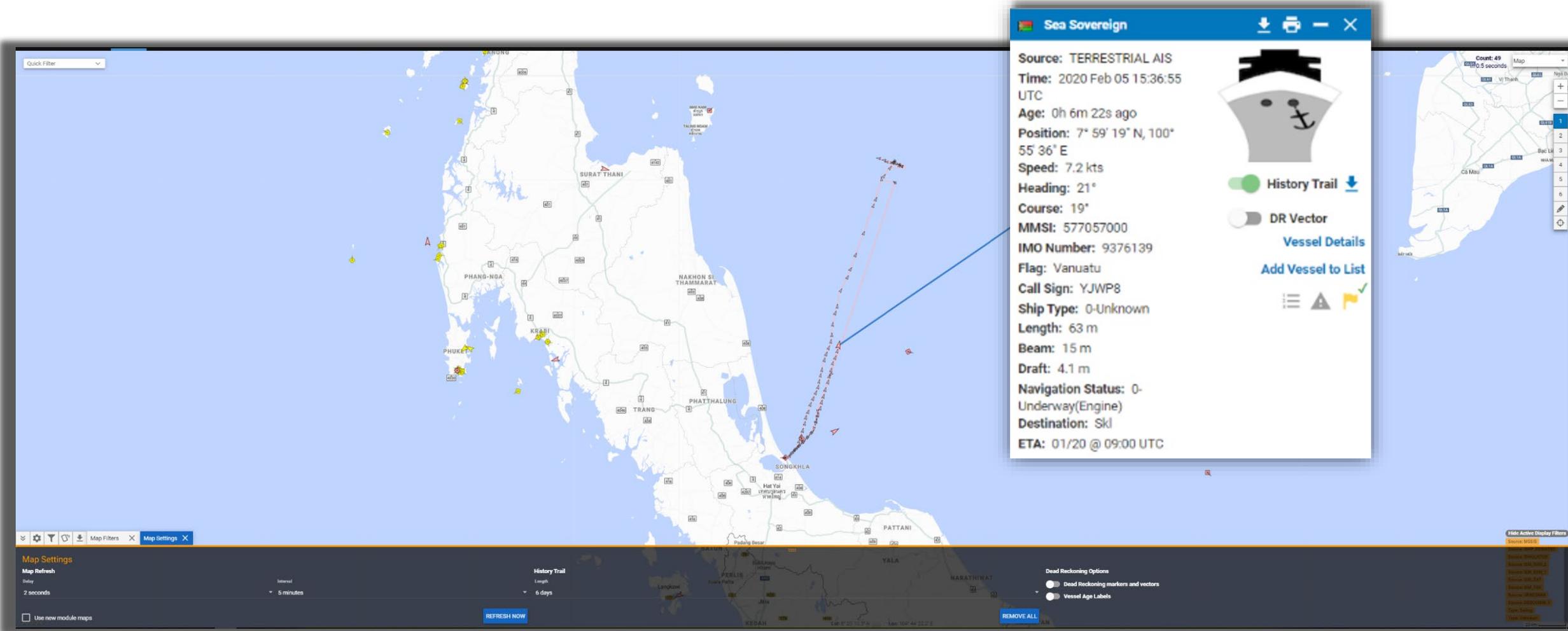


Types of Fishing Vessels - Purse Seines Tracks

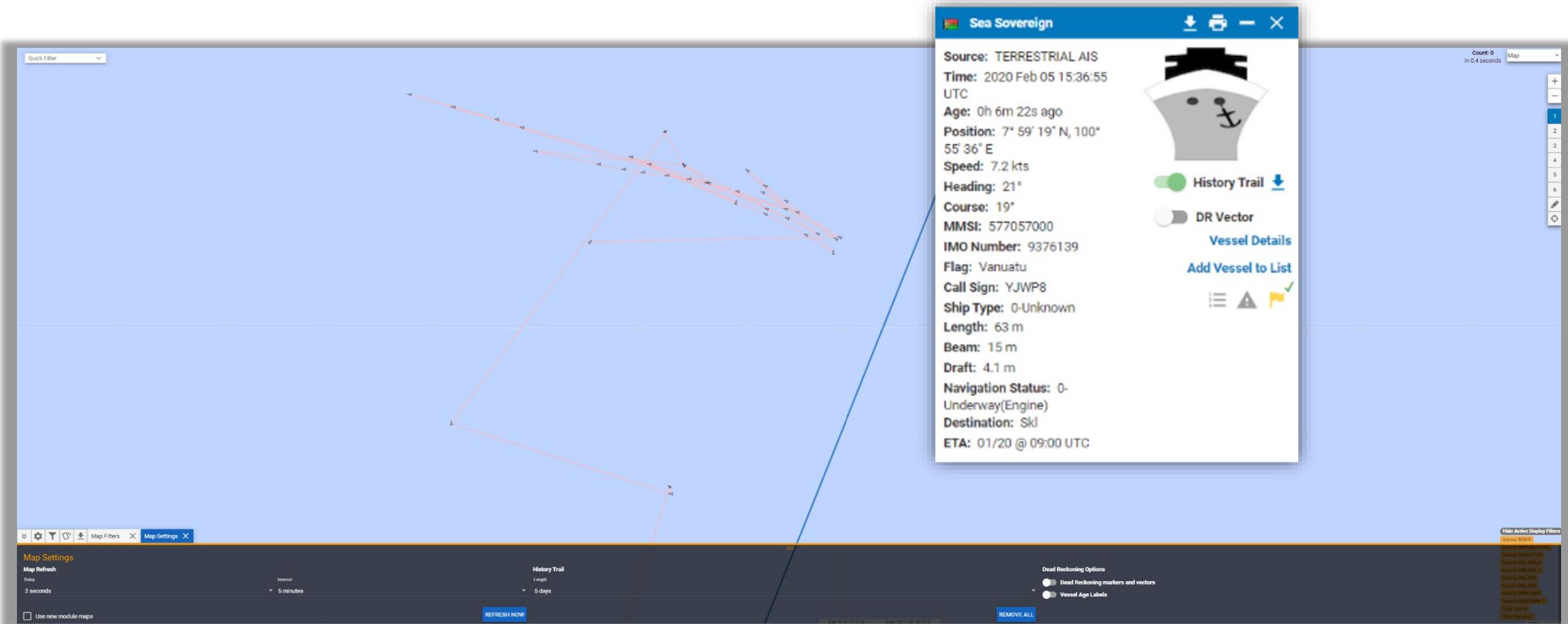
- Purse seine vessels stay more or less stationary except when closing nets
- Speed over ground is generally slow, ranging around 2.5 knots or less



Unknown Vessel Type Engaged in Fishing?



Zoomed in Track Reveals a Possible Longliner



Fishing Vessel Summary

Normal Operating Speeds

- 2.3-5.6 knots
- During transit to their fishing locations, vessels may go at speeds of 10-15 knots depending on the size of the vessel

Track Patterns

- Longliner
- Trawling
- Purse Seines

Normal Operating Range

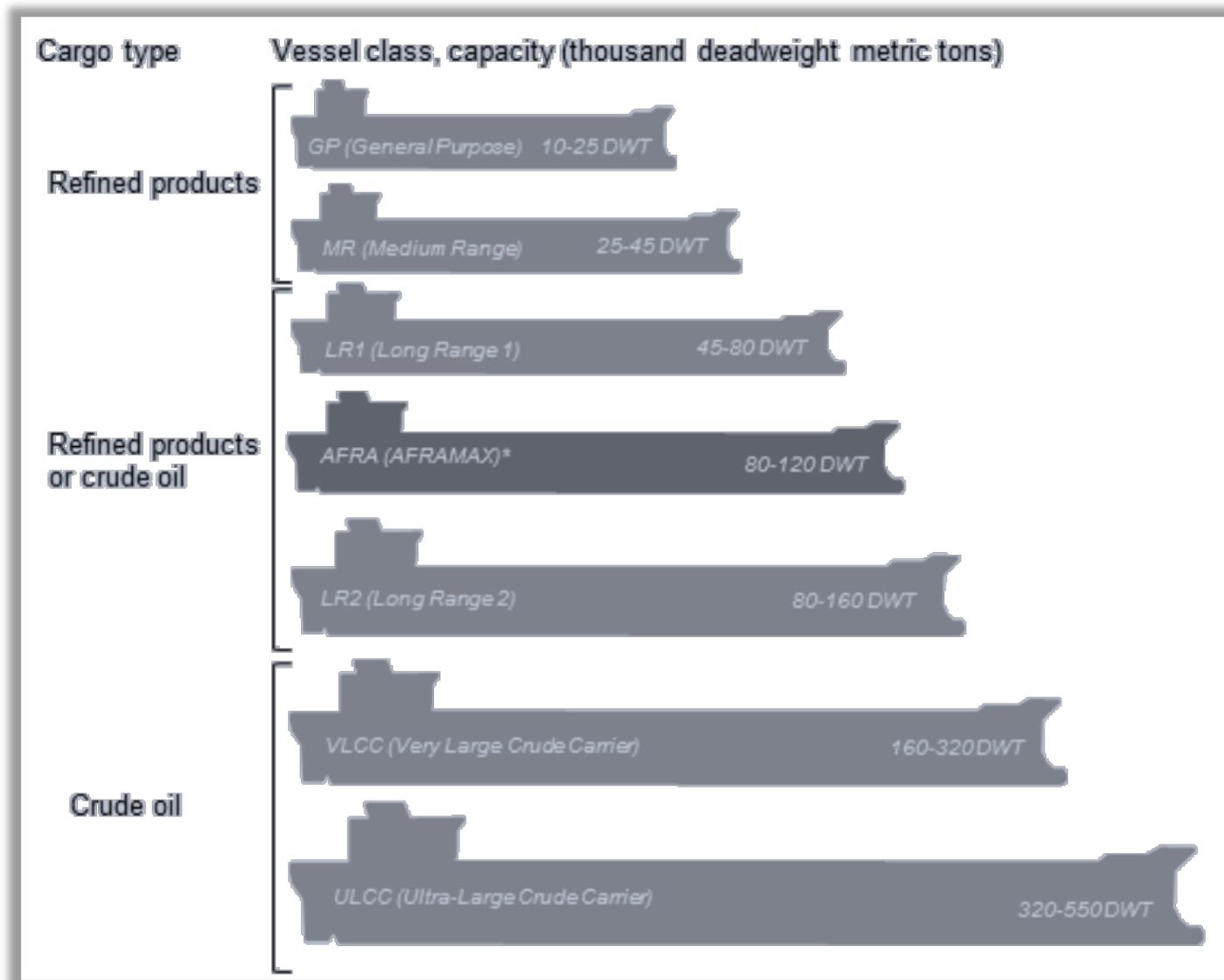
- Limited only by other countries' Exclusive Economic Zone (EEZs)

Cargo Ships and Tankers

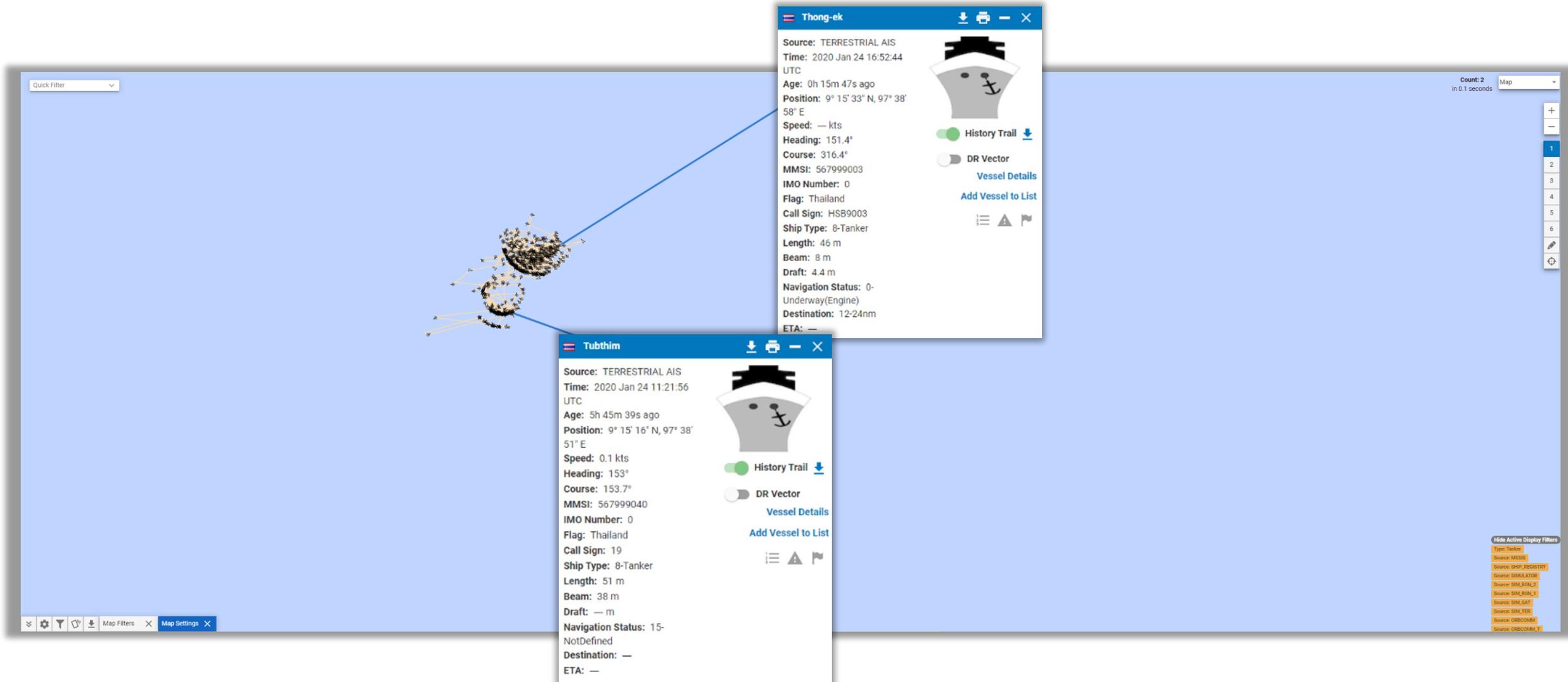
- Cargo ships and tankers are relatively easy to identify
 - Typically move from port to port in a fairly straight line and steady speed
- Non-characteristic movement
 - Erratic patterns



Comparison of Tanker Size



Tanker at Anchor



Cargo Ships and Tankers Summary

Normal Operating Speeds

- They prefer consuming the least amount of fuel by adopting lower speeds
- Normal ship speeds are:
 - 12-15 knots

Track Pattern

- Mostly point to point
- Cargo Ships and Tankers will want to operate cost-effectively and, if possible, go from point to point in a straight line

Normal Operating Range

- Can be worldwide, based upon their service area
 - Larger ships travel from continent to continent
 - Smaller vessels have set local routes

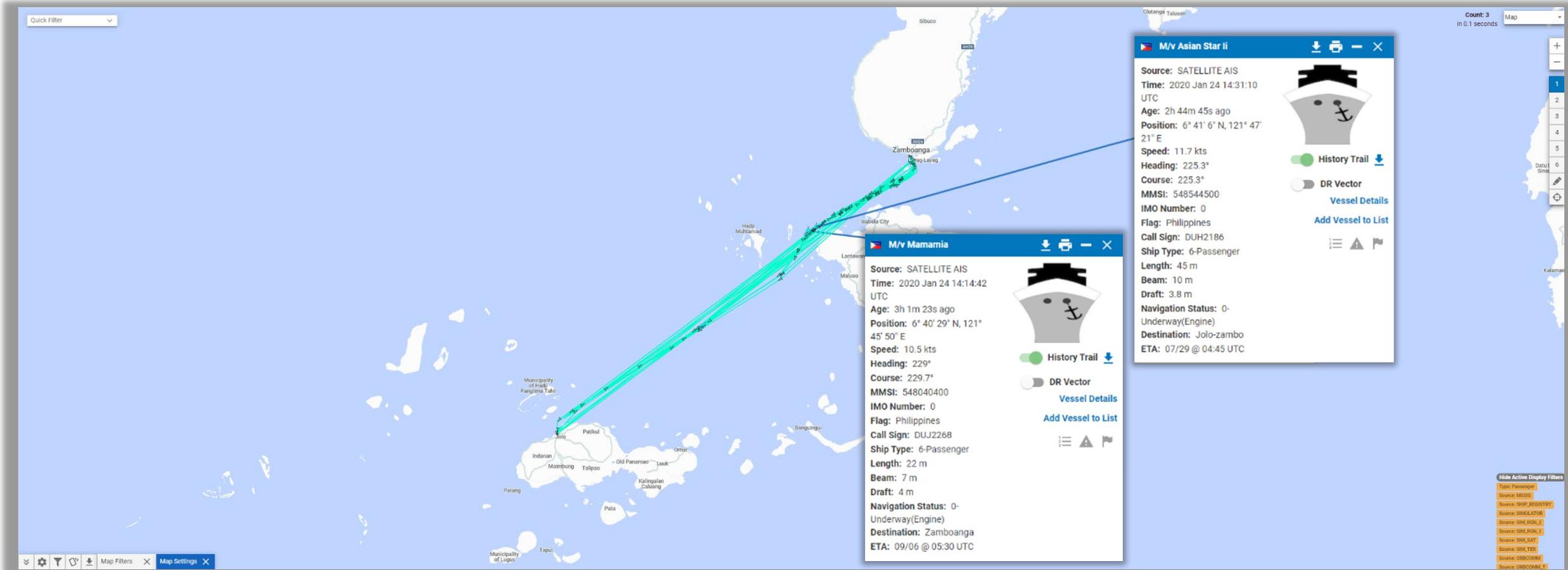
Average Cargo / Tanker Transiting Speeds

Standard Type	Count	Avg Main hrs.	Avg Aux kW	Avg Cruising Speed	Default Vessel Category
Bulk Carrier	3,177	8,990	1,935	14.3	3
Bulk Carrier, Laker	80	7,069	2,216	13.7	3
Buoy Tender	4	4,266		12.6	2
Container	1,218	39,284	7,851	23.2	3
Crude Oil Tanker	731	15,070	2,888	15.1	3
Drilling	7	15,806	12,840	11.7	2
Fishing	123	1,262	272	2.3	1
FPSO	2	18,123		11.5	3
General Cargo	1,020	6,130	1,619	14.6	3
Icebreaker	2	21,844		12.0	2
Jackup	4	1,643	270	3.5	1
LNG Tanker	44	29,607	8,129	19.2	3
LPG Tanker	151	8,557	3,021	15.8	3
Misc.	35	2,805	631	10.0	1
Passenger	168	45,760	4,477	20.4	3
Pipelaying	14	11,355	5,037	12.6	2
Reefer	182	8,930	3,328	18.9	3
Research	55	5,395	1,905	11.2	2
RORO	72	9,479	4,006	16.7	3
Supply	255	3,201	662	10.1	1
Support	73	6,590	2,305	9.7	2
Tanker	1,423	8,474	2,730	14.5	3
Tug	396	3,440	348	7.7	2
Vehicle Carrier	441	13,829	3,729	19.8	3
Well Stimulation	3	7,697	340	8.2	3

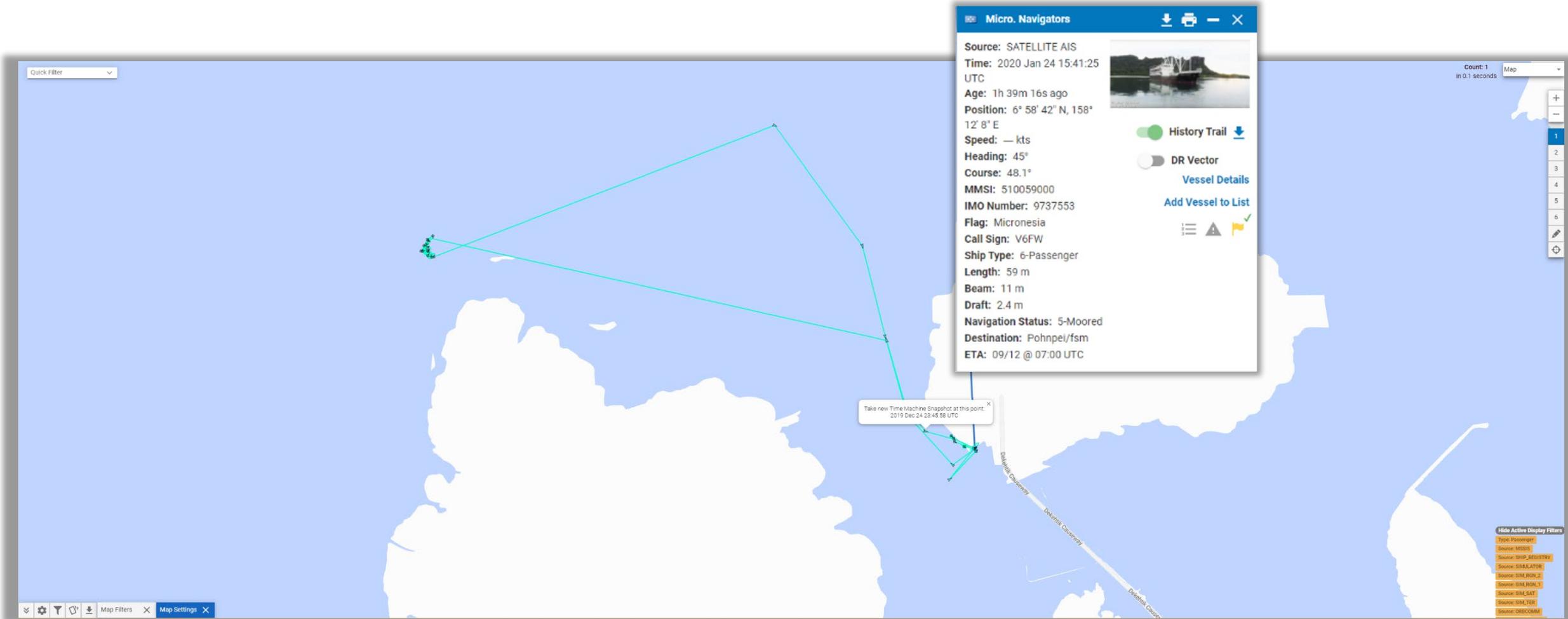
Passenger and Cruise Ships



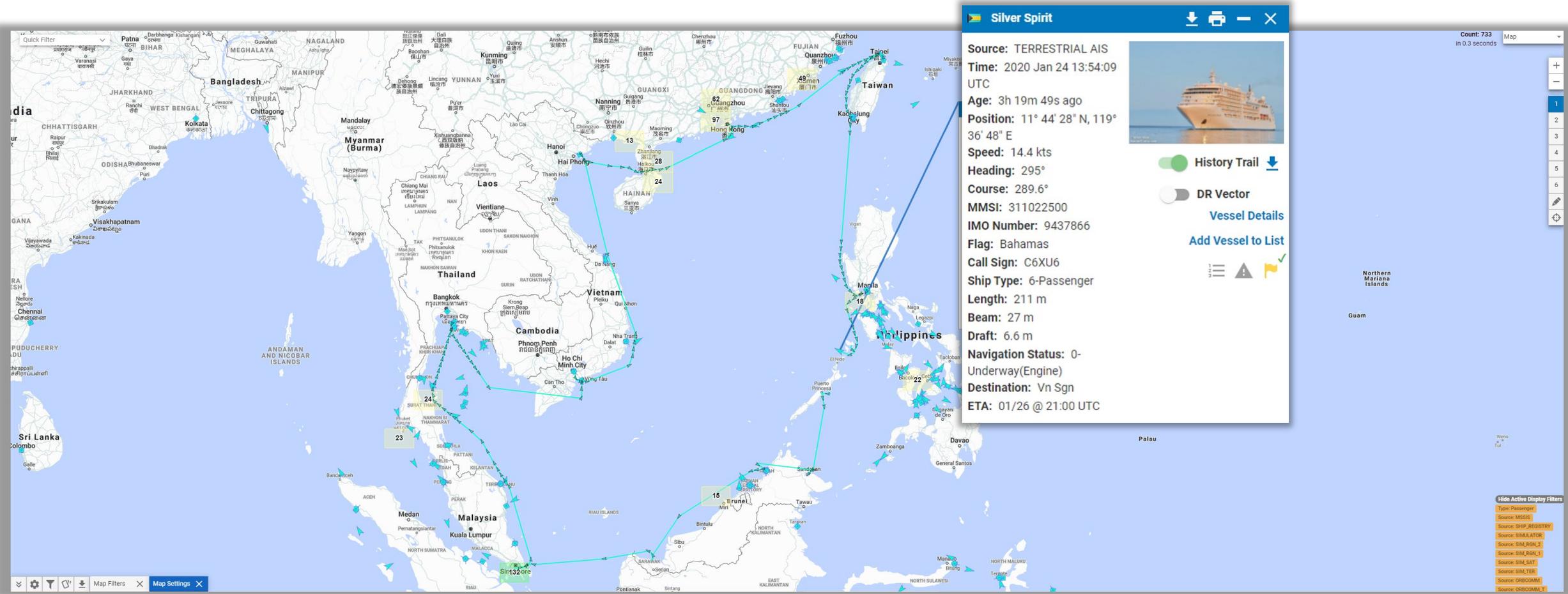
Passenger - Point-to-Point



Daily In-and-Out Pattern



Passenger Ships and Cruise Liners



Passenger and Cruise Ships Summary

Normal Operating Speeds

- 15–20 knots

Track Pattern(s)

- Passenger vessels will display a more consistent pattern like set schedule between distinct locations

Normal Operating Range

- Mostly point to point but displaying their History Trail will help to confirm their stops have been at relevant locations

Cargo or Passenger?

Ocean Venture II

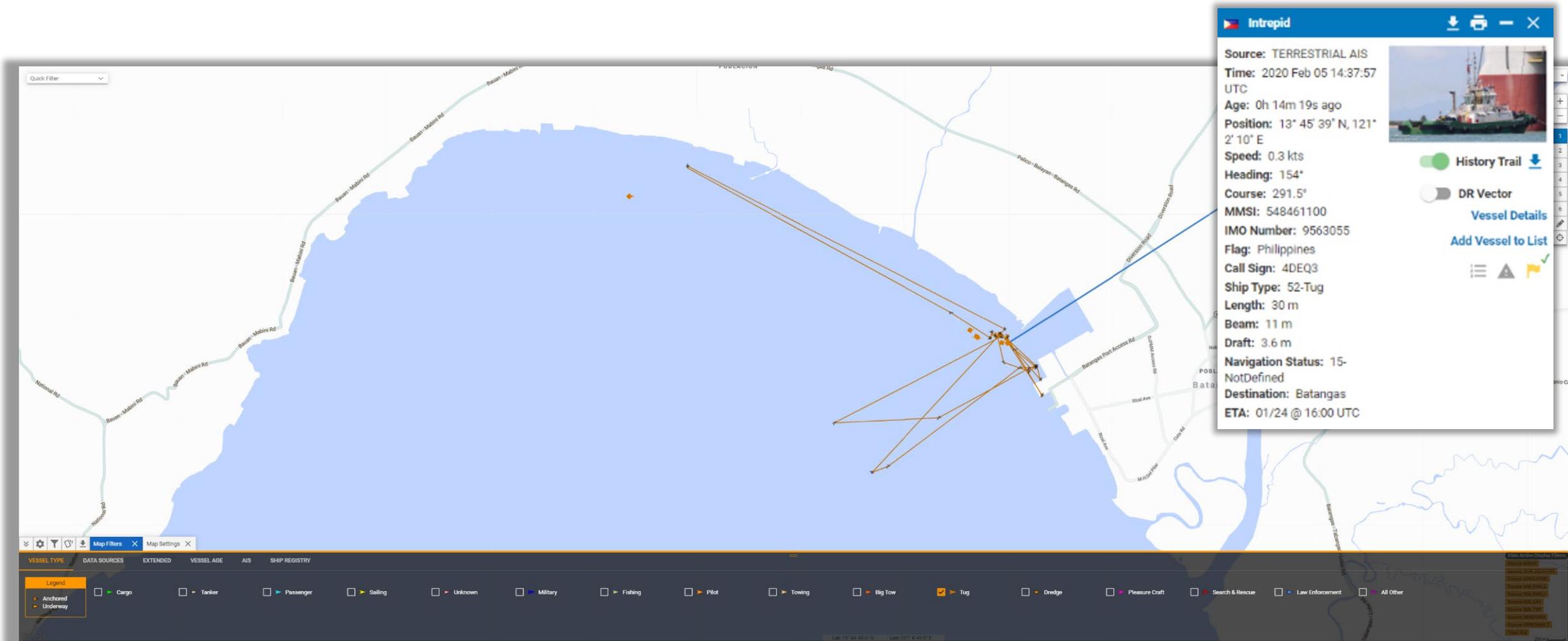
Source: SATELLITE AIS
 Time: 2020 Jan 24 16:53:32 UTC
 Age: 0h 25m 14s ago
 Position: 6° 20' 8" S, 79° 27' 28" E
 Speed: 13.2 kts
 Heading: 229°
 Course: 235.7°
 MMSI: 577079000
 IMO Number: 9688740
 Flag: Vanuatu
 Call Sign: YJRZ4
 Ship Type: 6-Passenger
 Length: 76 m
 Beam: 11 m
 Draft: — m
 Navigation Status: 15-NotDefined
 Destination: —
 ETA: 00/00 @ 24:60 UTC

History Trail
 DR Vector
 Vessel Details
 Add Vessel to List

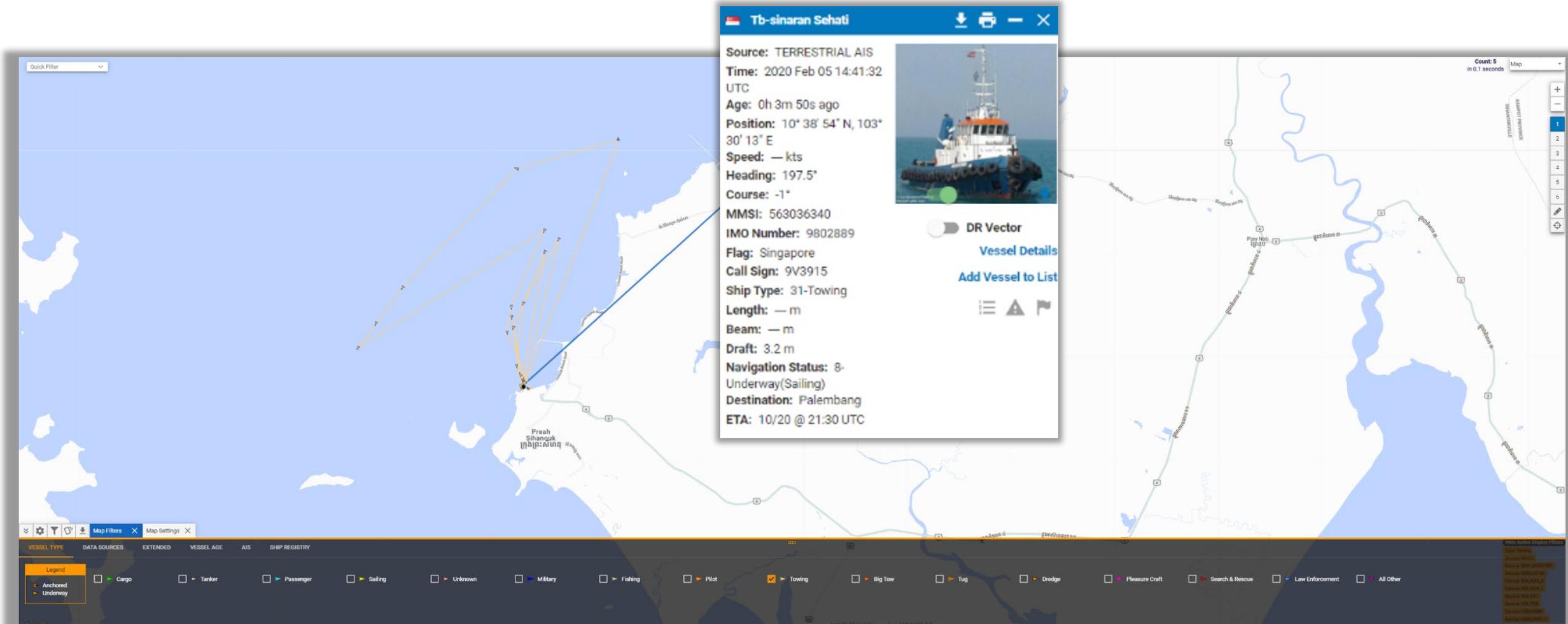
Tug, Tow, and Pilot Vessels



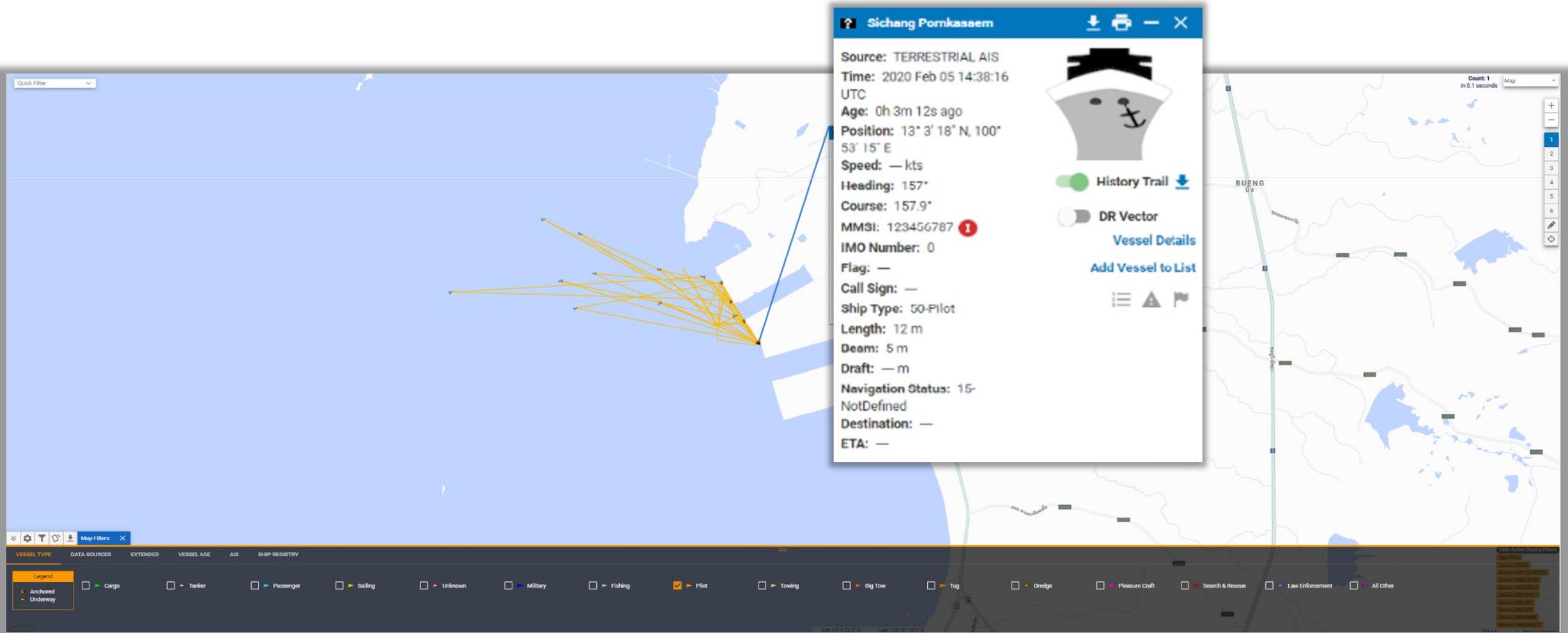
Tugs



Tow Vessels



Pilot Vessels



Tug, Tow, and Pilot Vessels Summary

Normal Operating Speeds

- 7-10 knots while in transit to location but mostly 3-5 knots

Track Pattern(s)

- Straight lines while in transit and when returning to ports

Normal Operating Range

- Mostly close to port and areas just outside of port

Research Vessels



What Are Research Vessels?

- Research vessels are usually mission-oriented shipboard platforms that support and conduct scientific research



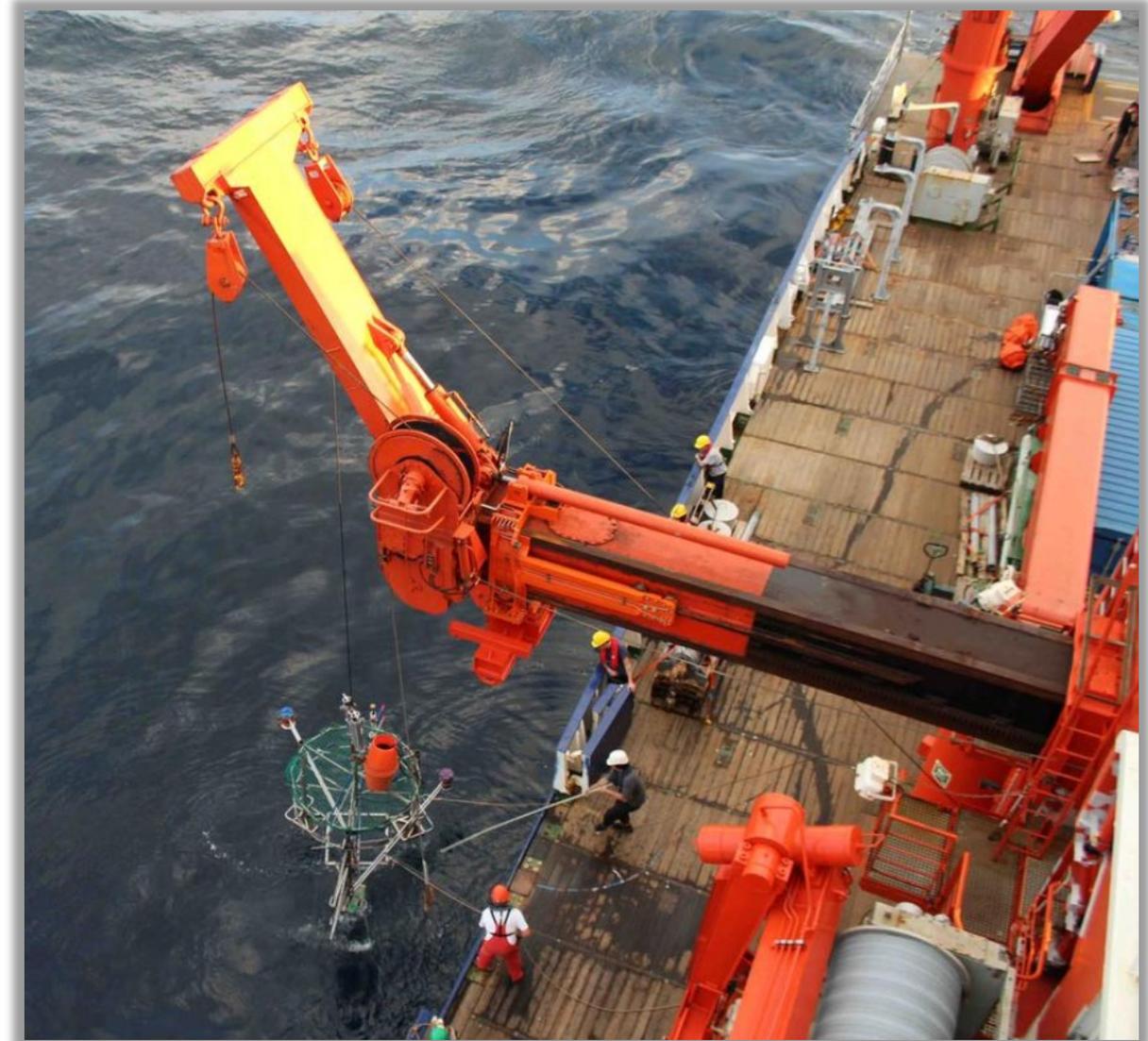
Types of Research Vessels

- Mapping and Charting
- Resources
- Marine Chemistry and Biology
- Fishery
- Ocean Acoustics
- Climate
- Archaeology
- Hazards



Research Vessel Types

- Fishery research vessels are capable of carrying out:
 - Trawling
 - Sampling
 - Conductivity, Temperature, Depth (CTD) Rosette operations
 - Seawater sampling
 - Towed body operations
 - Hydrographic operations
 - Hydroacoustic research work
 - Seismic operation
 - Other marine biology and testing



Autonomous Underwater Vehicle (AUV)

- Anchor moorings keep an AUV in one place
- Buoys float and bob on or below the surface, to keep their line stationary and out of the way of ships
- Some surface buoys may also hold meteorological instruments such as rain, sun, and wind gauges



Research Vessel Summary

Normal Operating Speeds

- Unfortunately, there are too many variations on these types of ships. Whether they are following a school of fish or other countries' navy vessels, they can be slow to fast.

Track Pattern(s)

- Once again, anything from circles to back and forth along with the same position or just a long ocean transit.

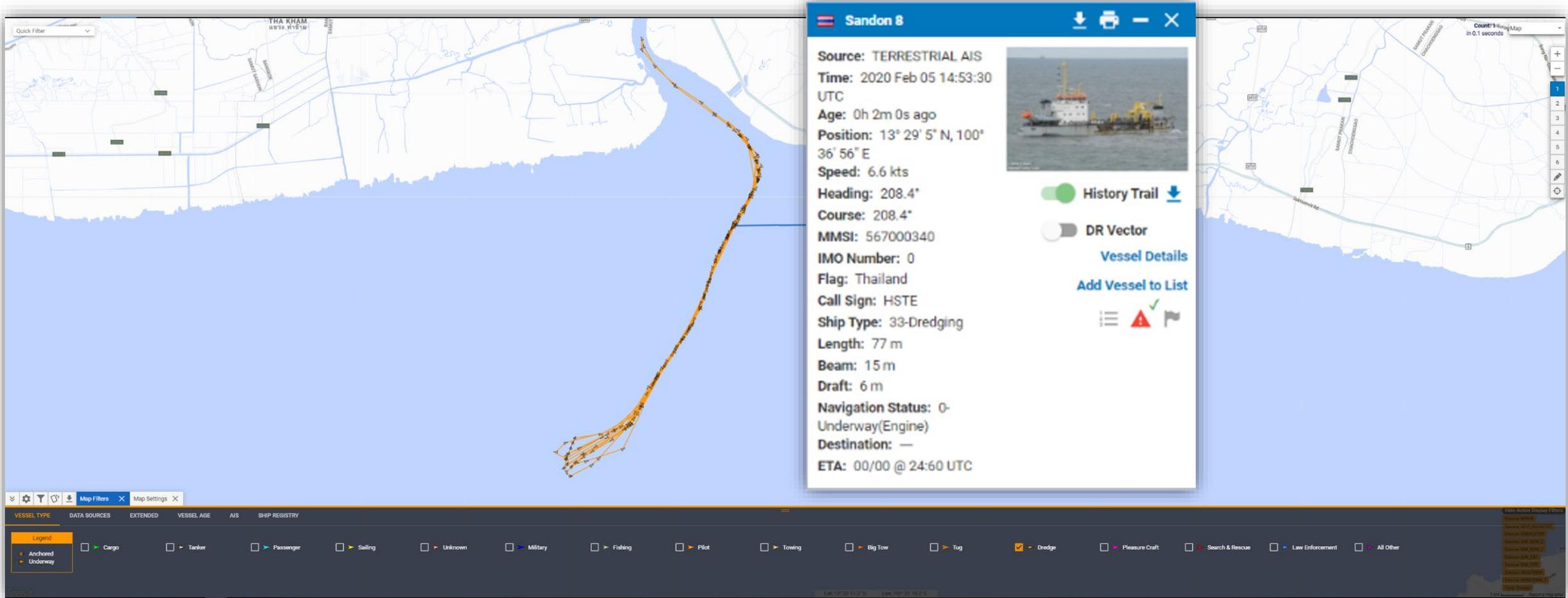
Normal Operating Range

- Worldwide from pole to pole

Other Vessel Types



Dredge



Search and Rescue

The screenshot displays a maritime tracking interface. A map shows a vessel's history trail in purple, starting from the coast of Thailand and heading towards the open sea. A detailed information panel for the vessel "Northern Sun" is overlaid on the right side of the map. The panel includes a photo of the vessel, its source (TERRESTRIAL AIS), and various tracking data points such as time, age, position, speed, heading, course, MMSI, IMO Number, flag, call sign, ship type, length, beam, draft, navigation status, and destination. Below the information panel, there are toggle switches for "History Trail" and "DR Vector", and buttons for "Vessel Details" and "Add Vessel to List". At the bottom of the interface, there are map settings, a "Map Refresh" section with a "REFRESH NOW" button, and "Dead Reckoning Options" with a "REMOVE ALL" button.

Northern Sun

Source: TERRESTRIAL AIS
Time: 2020 Feb 05 14:47:32 UTC
Age: 0h 11m 22s ago
Position: 9° 25' 22" N, 97° 53' 23" E
Speed: 0.2 kts
Heading: 311°
Course: 300.4°
MMSI: 518159000
IMO Number: 7527617
Flag: Cook Islands
Call Sign: E5U2110
Ship Type: 37-Pleasure
Length: 51 m
Beam: 9 m
Draft: 4.5 m
Navigation Status: 1-AtAnchor
Destination: Phuket
ETA: 02/10 @ 12:00 UTC

History Trail
DR Vector

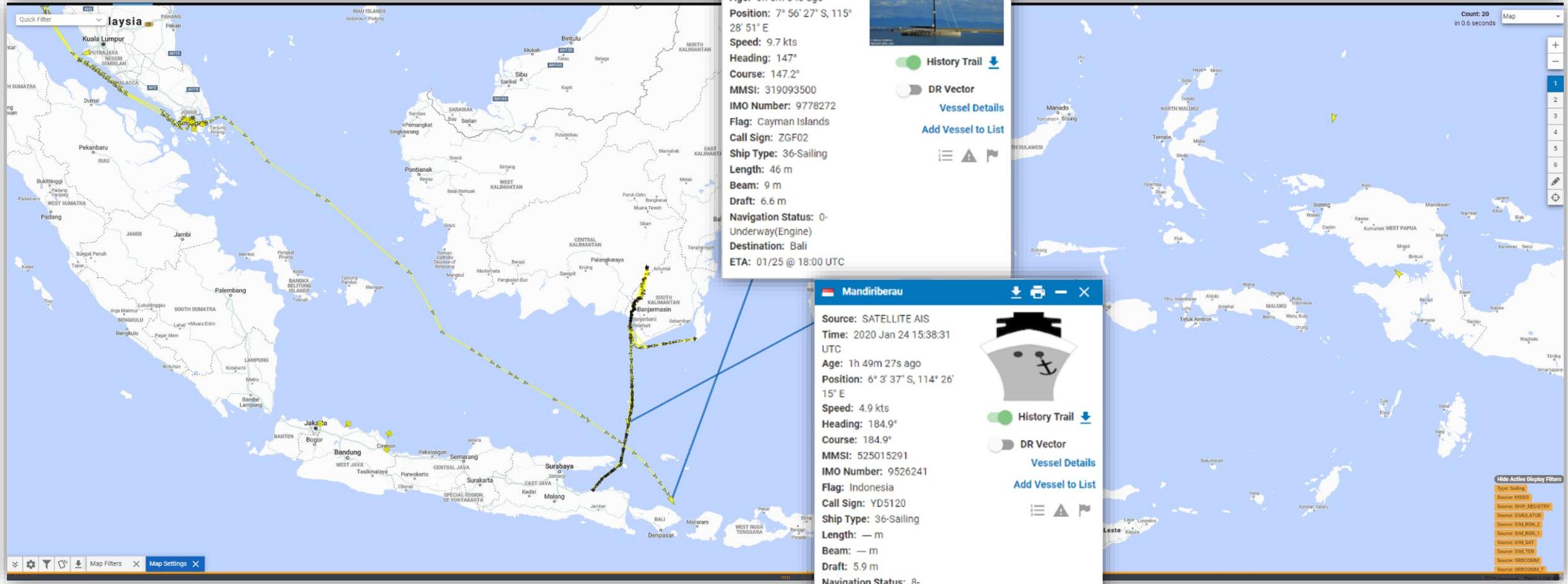
Vessel Details
Add Vessel to List

Map Settings
Map Refresh
2 seconds
Use new module maps

History Trail
Length: 6 days
REFRESH NOW

Dead Reckoning Options
Dead Reckoning markers and vectors
Vessel Age Labels
REMOVE ALL

Sailing



Other Vessel Summary

Normal Operating Speeds

- Whether it is the Search and Rescue Boat getting on-site as quickly as possible or the Sailboat going from 2-15 knots simply based on the wind, each vessel will be a case by case investigation.

Track Pattern(s)

- From the Sailboat going wherever the wind will blow it, to a Dredge slowly going back and forth over the same area, this is what analysis is all about.

Normal Operating Range

- From local to worldwide

2 Samples of Average Vessel Speeds

IHS Register of Ships (IHS 2014)

Standard Type	Count	Avg Main hrs.	Avg Aux kW	Avg Cruising Speed	Default Vessel Category
Bulk Carrier	3,177	8,990	1,935	14.3	3
Bulk Carrier, Laker	80	7,069	2,216	13.7	3
Buoy Tender	4	4,266		12.6	2
Container	1,218	39,284	7,851	23.2	3
Crude Oil Tanker	731	15,070	2,888	15.1	3
Drilling	7	15,806	12,840	11.7	2
Fishing	123	1,262	272	2.3	1
FPSO	2	18,123		11.5	3
General Cargo	1,020	6,130	1,619	14.6	3
Icebreaker	2	21,844		12.0	2
Jackup	4	1,643	270	3.5	1
LNG Tanker	44	29,607	8,129	19.2	3
LPG Tanker	151	8,557	3,021	15.8	3
Misc.	35	2,805	631	10.0	1
Passenger	168	45,760	4,477	20.4	3
Pipelaying	14	11,355	5,037	12.6	2
Reefer	182	8,930	3,328	18.9	3
Research	55	5,395	1,905	11.2	2
RORO	72	9,479	4,006	16.7	3
Supply	255	3,201	662	10.1	1
Support	73	6,590	2,305	9.7	2
Tanker	1,423	8,474	2,730	14.5	3
Tug	396	3,440	348	7.7	2
Vehicle Carrier	441	13,829	3,729	19.8	3
Well Stimulation	3	7,697	340	8.2	3

Army Corps of Engineers Waterborne Commerce Data (WCD)

Vessel Type	Vessel Count	Average Cruising Speed (knots)
Bulk Carrier	376.00	10.09
Bulk Carrier, Laker	27.00	13.74
Buoy Tender	197.00	6.90
Container	111.00	8.48
Crude Oil Tanker	44.00	6.97
Drilling	39.00	11.74
Fishing	13,652.00	5.67
Floating Production and Storage Offloading	10.00	4.90
General Cargo	7,179.00	8.09
Icebreaker	27.00	10.52
Jackup	173.00	4.25
LNG Tanker	3.00	9.33
LPG Tanker	183	10.83
Miscellaneous	2,014	6.83
Passenger	3,017	15.67
Pipelaying	280	6.39
Reefer	183	9.62
Research	951	9.79
RORO	1,997	11.28
Supply	3,409	12.98
Support	1,036	10.42
Tanker	2,880	8.28
Tug	15,660	8.54
Vehicle Carrier	20	14.42
Well Stimulation	30	8.63

Vessel Characteristic Application

The screenshot displays a map of Pattaya City, Thailand, with several roads labeled: Pattaya Sai 2 Rd, Beach Rd, Pattayasaisong Rd, and S Pattaya Rd. The city name 'Pattaya City เมืองพัทยา' is visible. Two red arrow-shaped vessel icons are shown on the map. Below the map is a control panel with the following sections:

- VESEL TYPE** (selected)
- DATA SOURCES**
- EXTENDED**
- VESSEL AGE**
- AIS**
- SHIP REGISTRY**

The **Legend** section is expanded, showing the following vessel types and their corresponding icons:

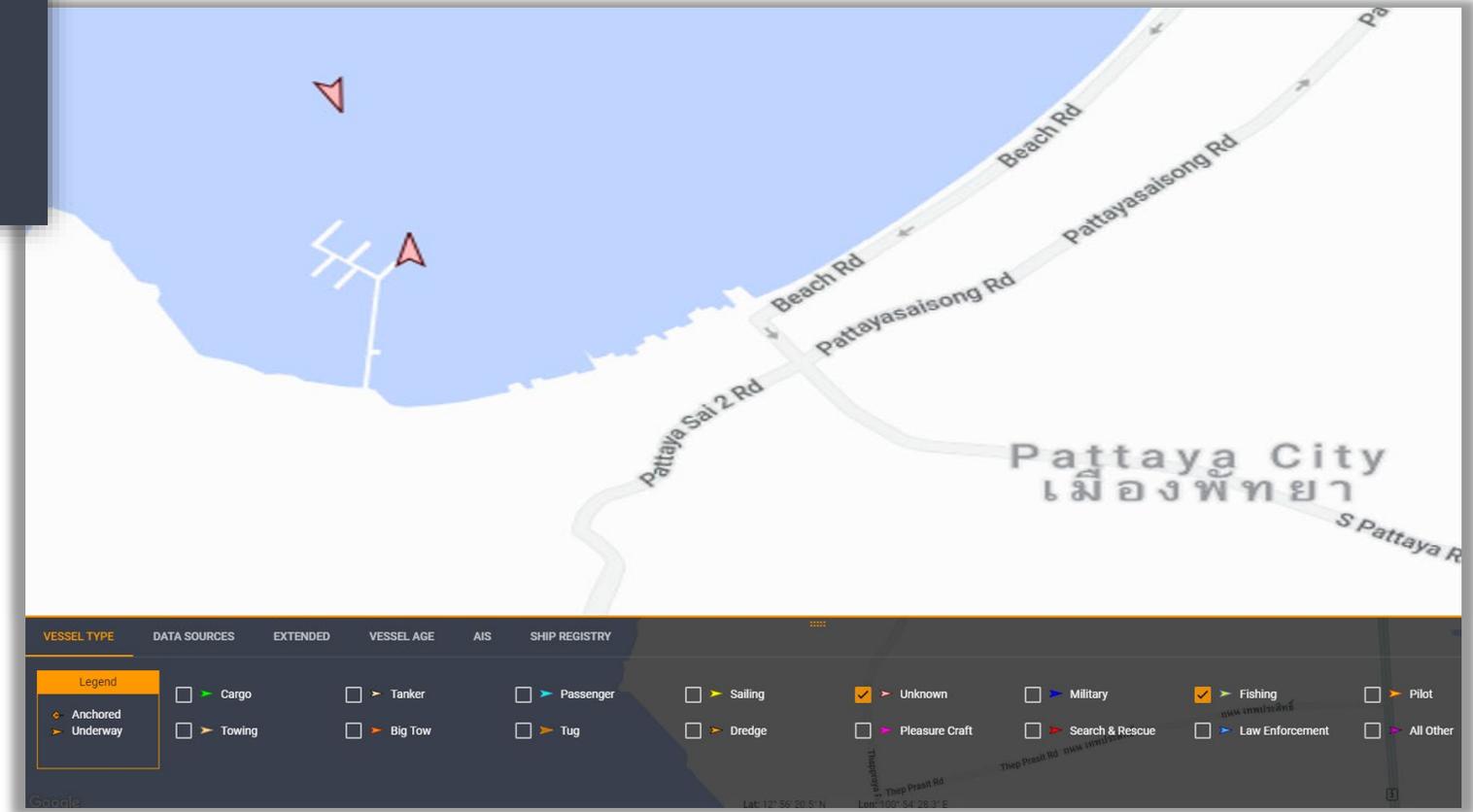
<input type="checkbox"/> Cargo	<input type="checkbox"/> Tanker	<input type="checkbox"/> Passenger	<input type="checkbox"/> Sailing	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Military	<input checked="" type="checkbox"/> Fishing	<input type="checkbox"/> Pilot
<input type="checkbox"/> Anchored	<input type="checkbox"/> Towing	<input type="checkbox"/> Big Tow	<input type="checkbox"/> Tug	<input type="checkbox"/> Dredge	<input type="checkbox"/> Pleasure Craft	<input type="checkbox"/> Search & Rescue	<input type="checkbox"/> Law Enforcement
<input type="checkbox"/> Underway							<input type="checkbox"/> All Other

At the bottom of the interface, the Google logo and coordinates are visible: Lat: 12° 56' 20.5" N, Lon: 100° 54' 28.3" E.

Identifying Vessels Listed as Unknown

- Missing AIS information, like Vessel Type Information, will be listed in Sea Vision as an Unknown

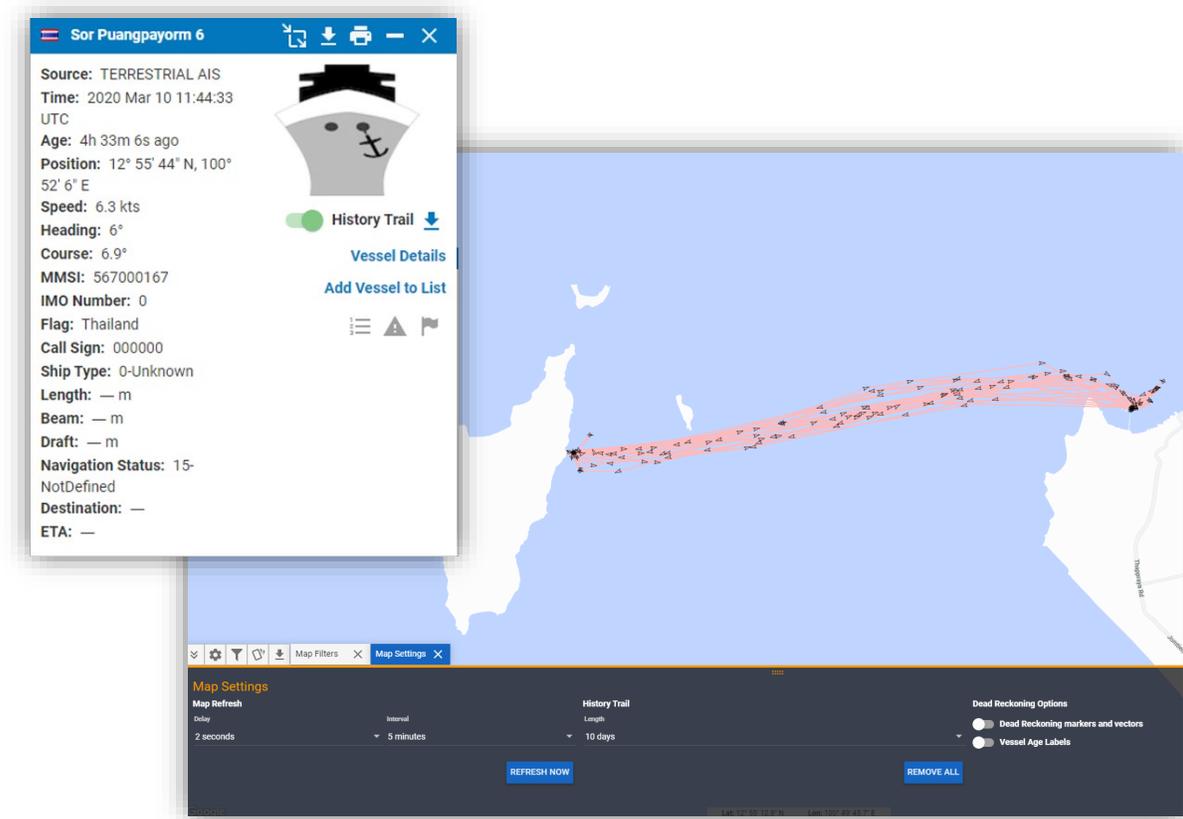
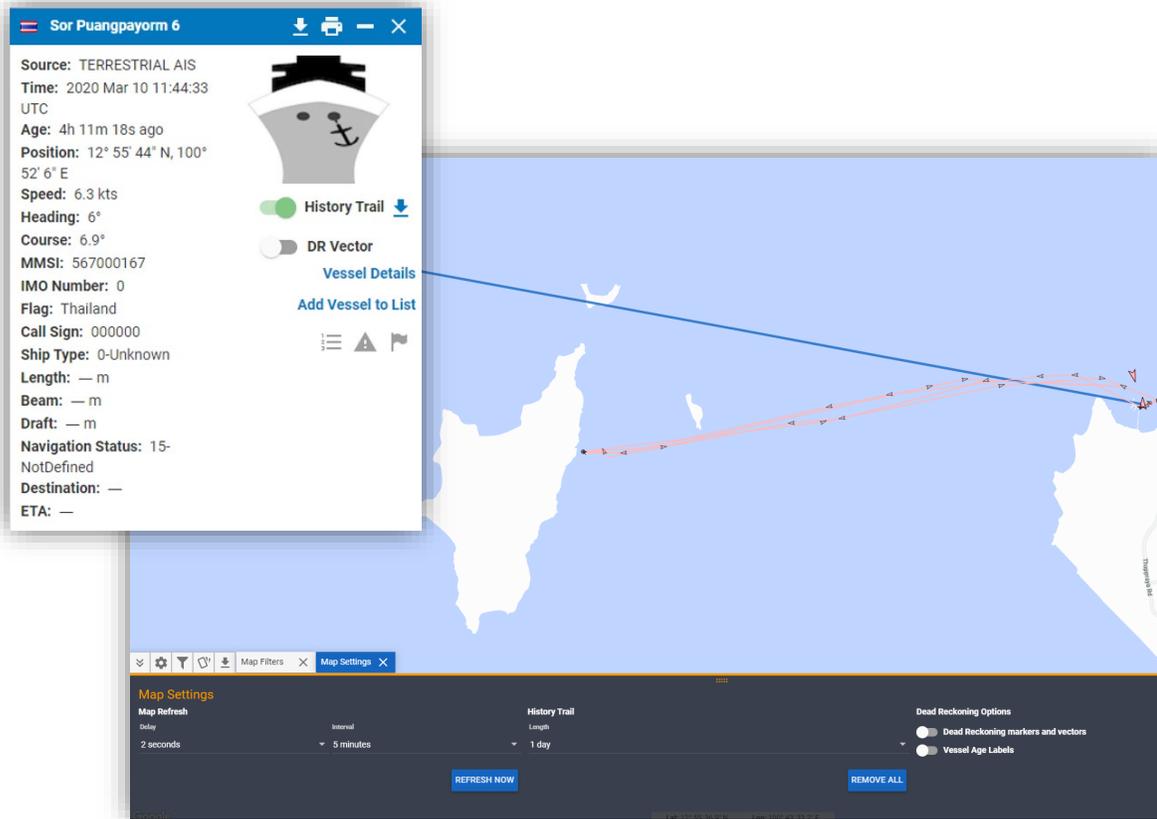
<input checked="" type="checkbox"/> ▶ Unknown	<input type="checkbox"/> ▶ Military
<input type="checkbox"/> ▶ Pleasure Craft	<input type="checkbox"/> ▶ Search & Rescue



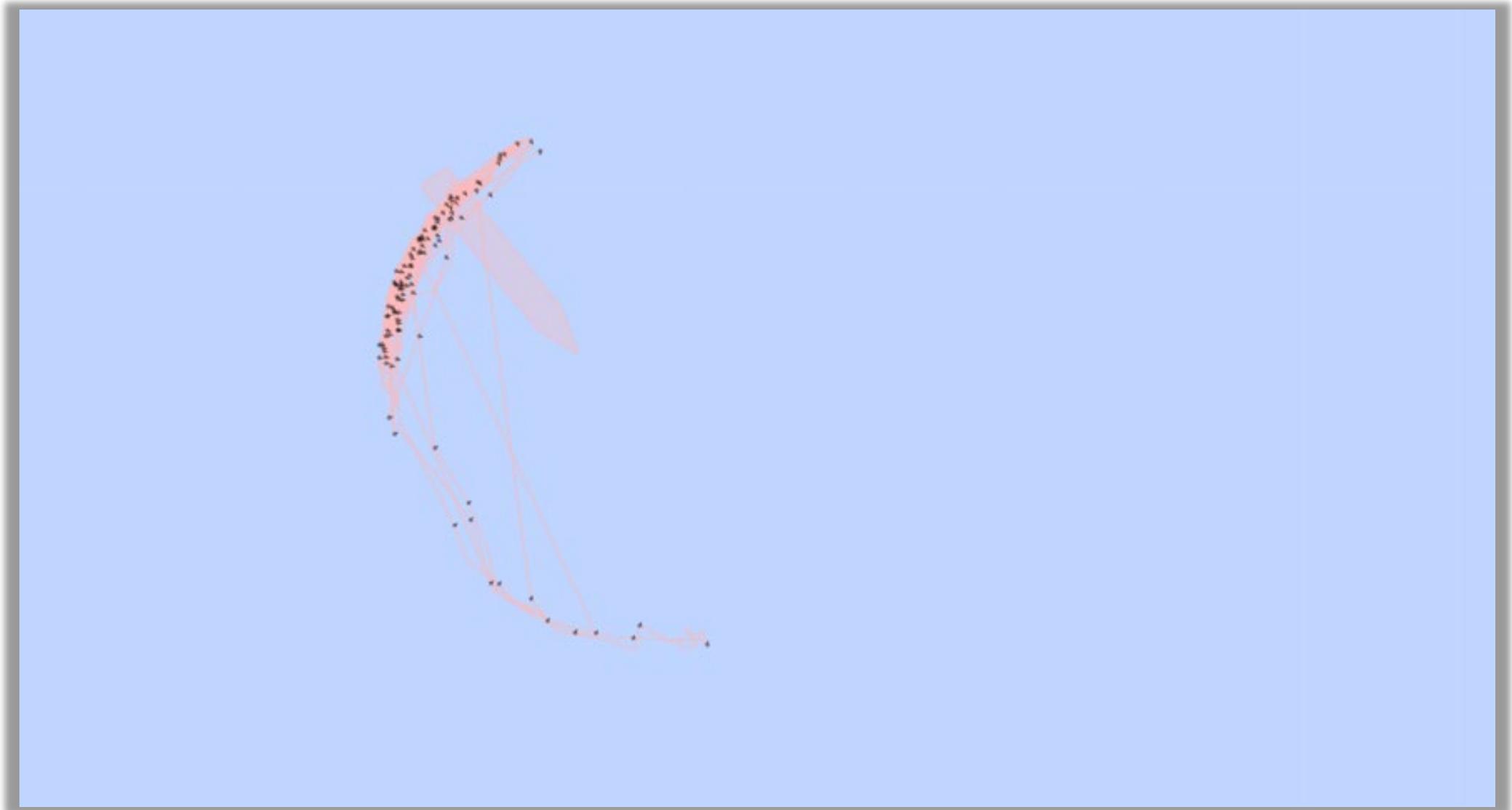
Analyzing Unknown Vessels and Tracks

History Trail: 1 Day
Trips: 2 Per Day
Speed (Avg.): 8 Knots

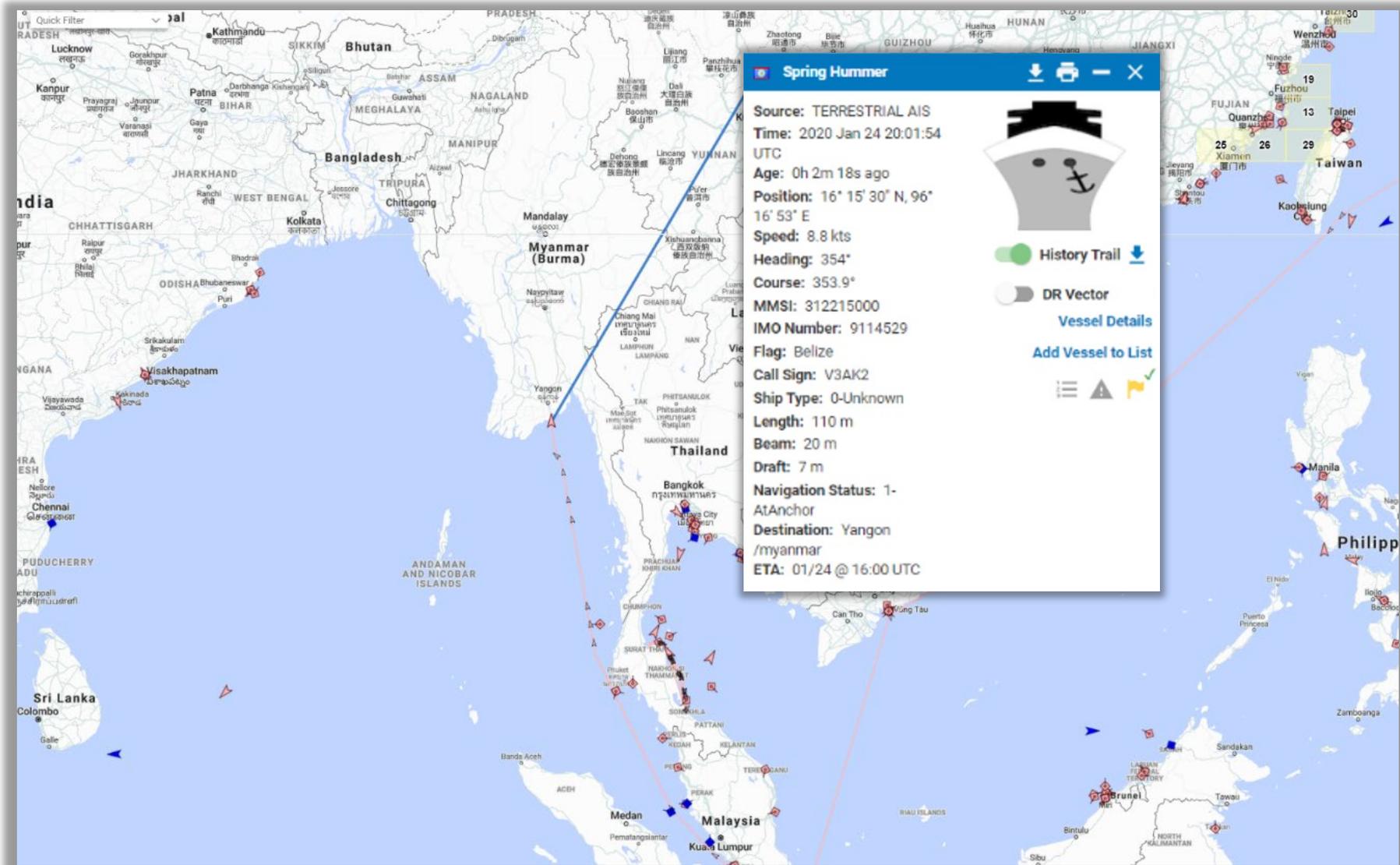
History Trail: 10 Days
Trips: 2 Per Day
Speed (Avg.): 8 Knots



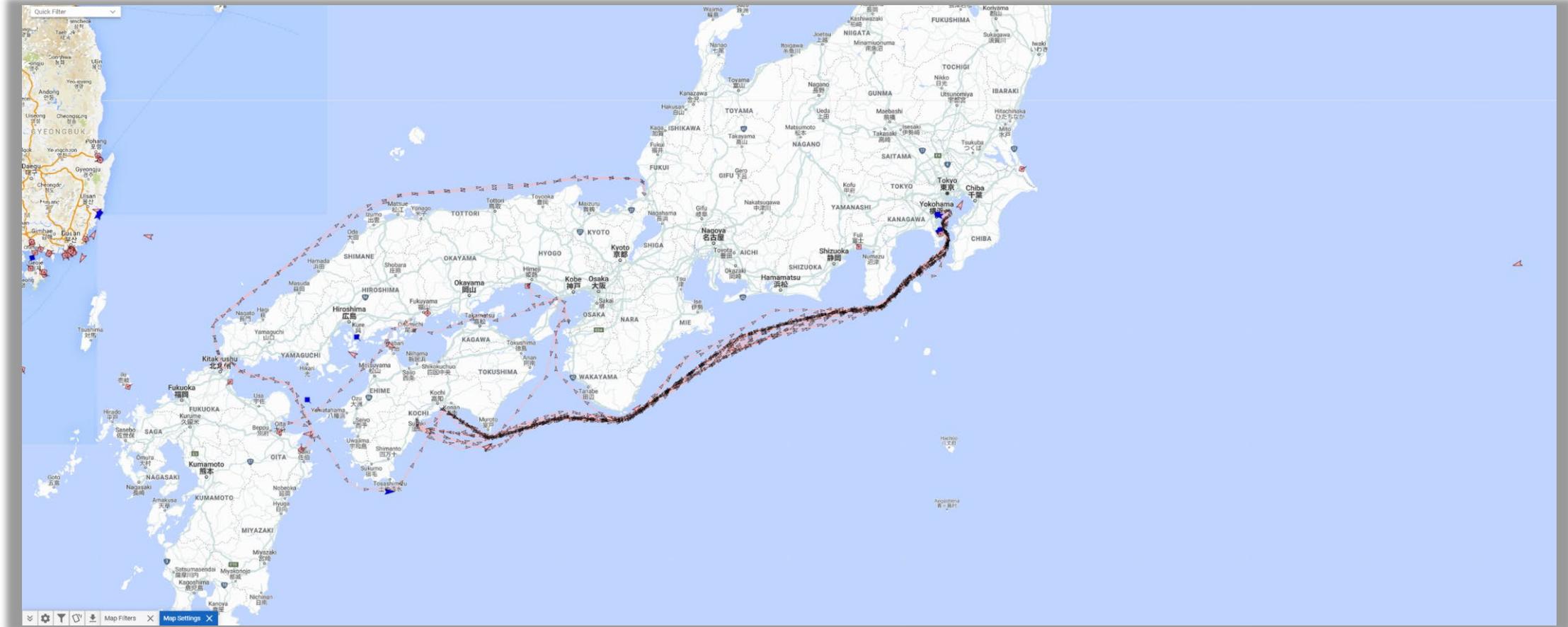
Unknown Vessel



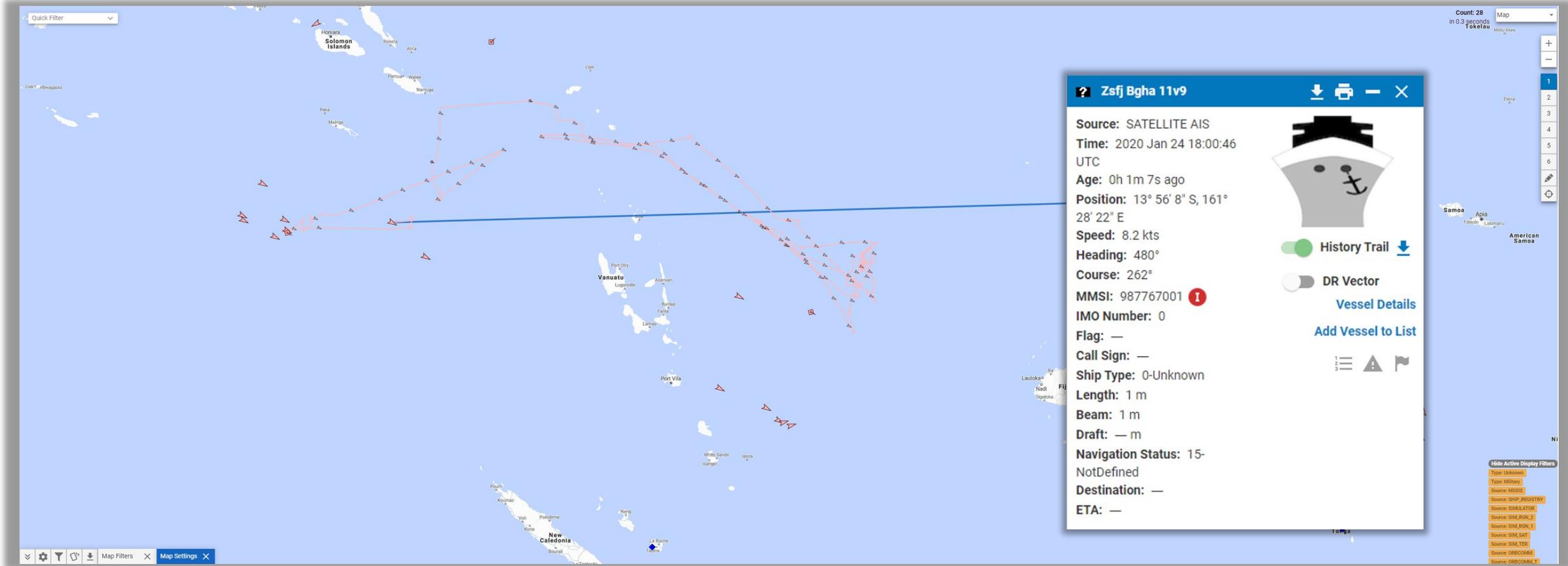
Unknown Vessel



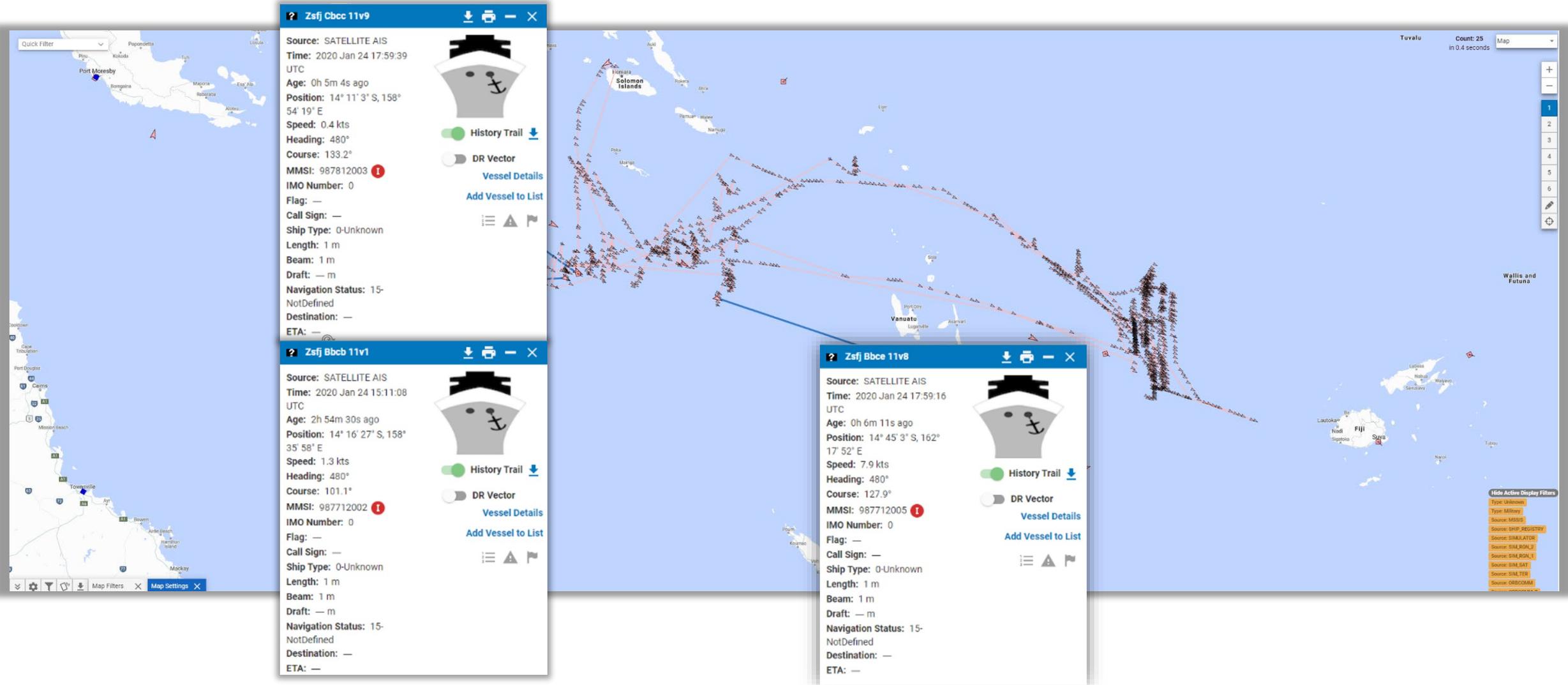
Unknown Vessel



Unknown Vessel Track



Unknown Vessel Track



Indication of FADs

The screenshot displays a maritime tracking application interface. On the left, a map shows a vessel's track (blue line) with several red square markers. The vessel's details are shown in a central panel:

- Source:** SATELLITE AIS
- Time:** 2020 May 06 14:49:59 UTC
- Age:** 5h 29m 4s ago
- Position:** 4° 26' 59" N, 68° 10' 1" E
- Speed:** 0.6 kts
- Heading:** 148°
- Course:** 148.1°
- MMSI:** 994068011
- IMO Number:** 0
- Flag:** —
- Call Sign:** —
- Ship Type:** 0-Unknown
- Length:** — m
- Beam:** — m
- Draft:** 1 m
- Navigation Status:** 15-NotDefined
- Destination:** —
- ETA:** 00/00 @ 00:00 UTC

Below the details panel, there are controls for 'History Trail' and 'DR Vector', and links for 'Vessel Details' and 'Add Vessel to List'. A small map at the bottom shows the vessel's current location near Thimarafushi and Gan, with coordinates: Lat: 0° 42' 4.3" N, Lon: 70° 41' 8.2" E.

On the right, a detailed view for vessel 994068011 7v is shown. It includes a search bar for MMSI (994068011) and IMO Number (0) with a 'FIND' button. Below this is a navigation menu with 'Port History' selected. The main content area displays a table with the following structure:

COUNTRY	MAIN PORT	INITIAL POSITION	FINAL POSITION	CALCULATED TIME IN PORT
No Port History Data				

A 'RETRY' button is located below the table.

Considerations for Unknown Vessel Tracks

- There are no outright prohibitions to use AIS as a marine marker
 - Nets, pots, traps, moorings, offshore platforms, rigs, or as race markers
- However, it is not permissible to use equipment that is intended for use on vessels as a marine marker
- AIS equipment:
 - Class A or B devices, lifesaving equipment
 - Search And Rescue Transponders (AIS-SART)
 - Man Overboard Beacon (AIS-MOB)
 - Emergency Position Indicating Radio Beacon (AIS-EPIRB)

Considerations for Unknown Vessel Tracks

- Fishing net tracking locators are sold on the internet for about \$100.00
- Waterproof to 10 meters
- Pre-programmed with an MMSI



Summary

In this lesson, we covered:

- Typical ship type characteristics, speed, track patterns, and operating range for the following vessel types:
 - Fishing
 - Cargo and Tankers
 - Passenger and Cruise Ships
 - Tug, Tow, and Pilot
 - Research
 - Other Vessel Types

Vessel Traffic Patterns

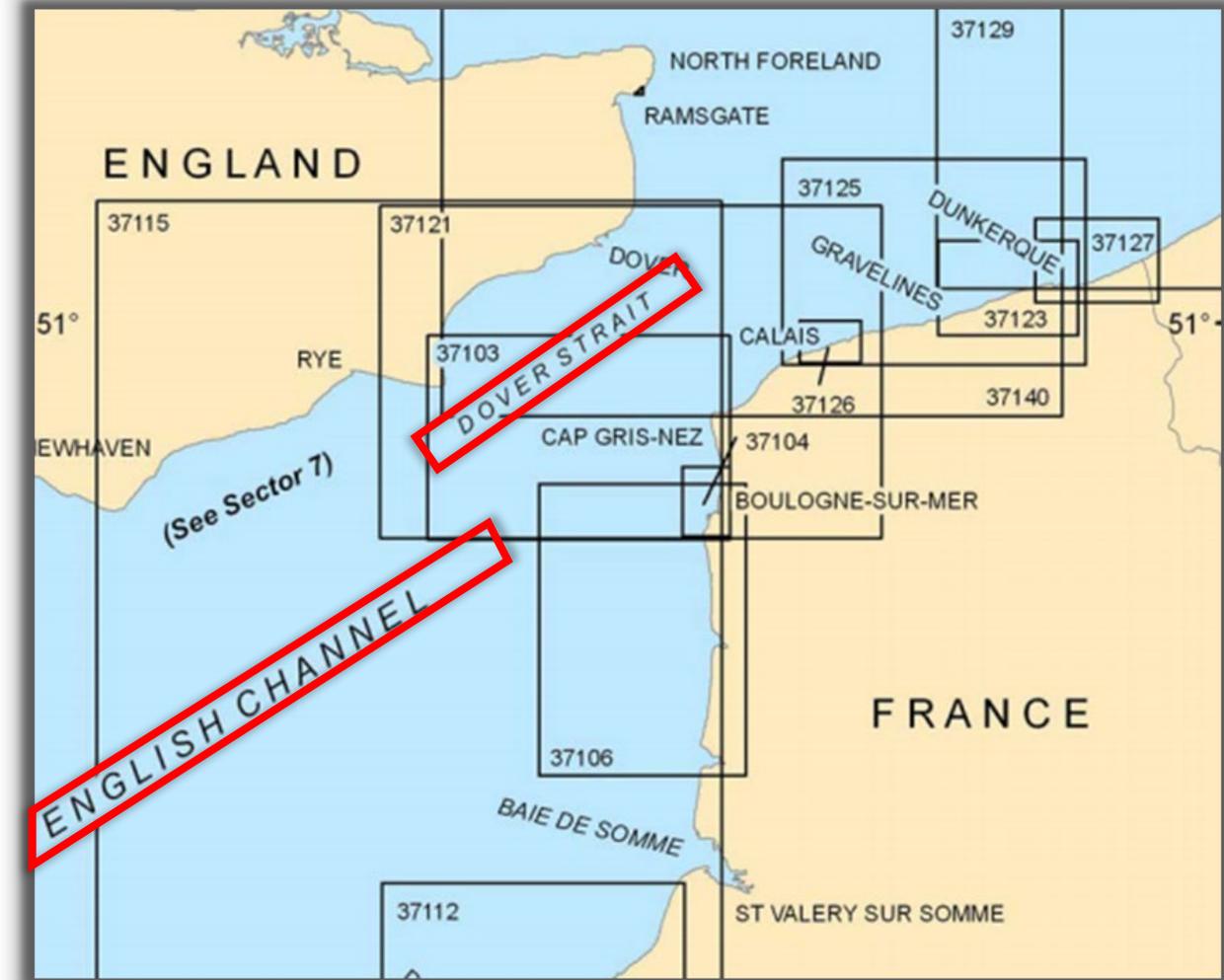
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Define a strait
- Define a Traffic Separation Scheme (TSS)
- Recognize normal/unusual vessel maneuvering during strait transits and verify vessels are following an approved TSS

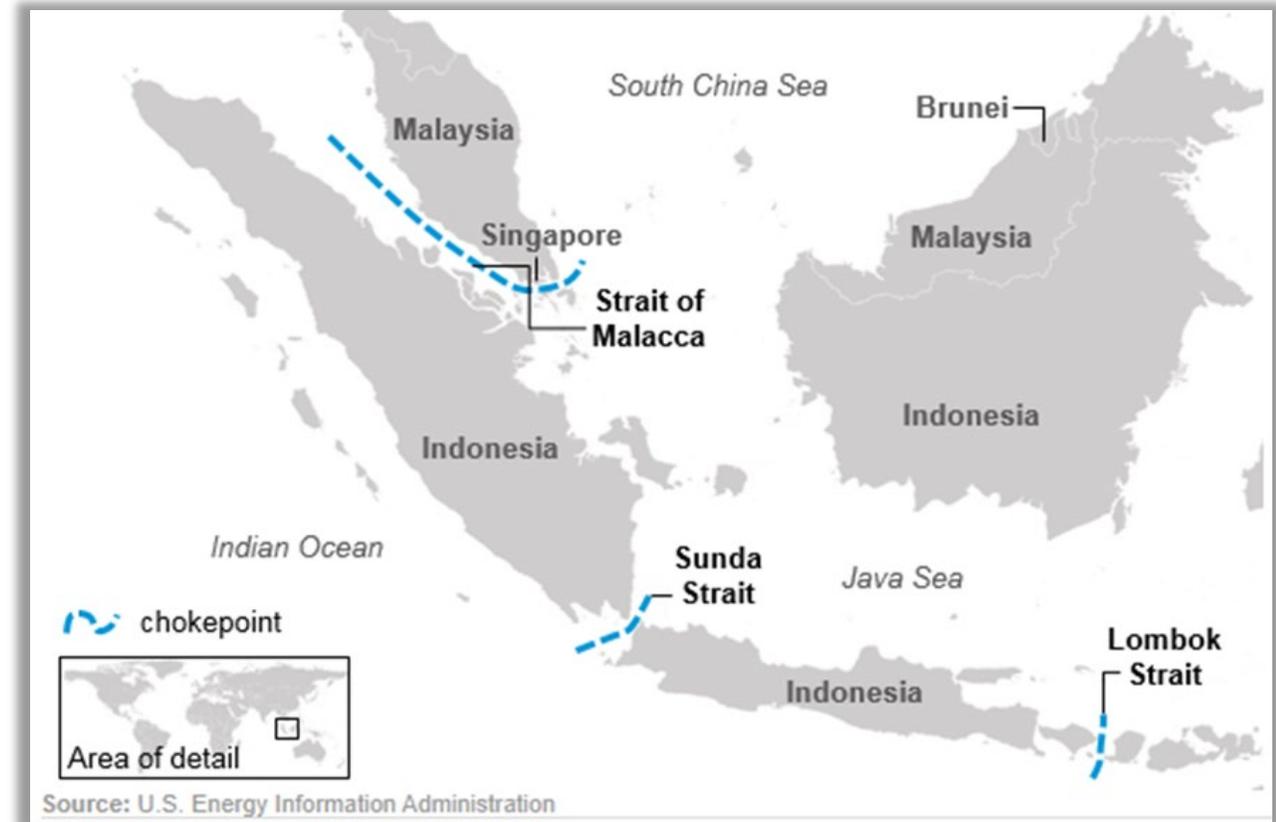
Straits vs. Channels

- Strait
 - Naturally formed
 - Narrow passage of water
 - Connects two seas or two large bodies of water
- Channel
 - Elongated body of water
 - Between two landmasses



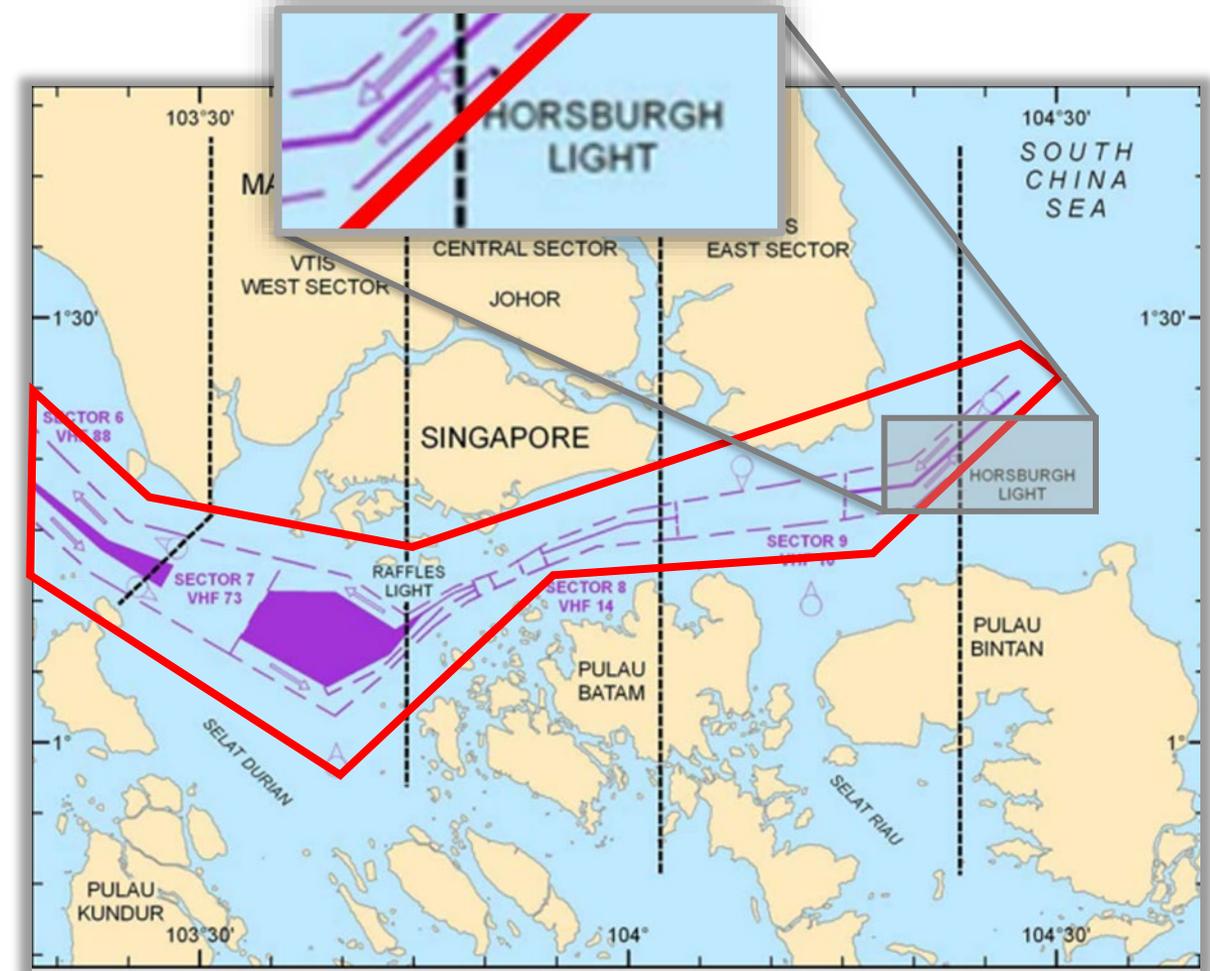
Major Straits

- Some Major Straits of the World
 - Strait of Malacca
 - Strait of Gibraltar
 - Sunda Strait
 - Strait of Hormuz
 - Bering Strait
 - Strait of Bab-el-Mandab
- Due to high-traffic or natural hazards, many straits have established traffic separation schemes (TSS)



Traffic Separation Scheme

- Traffic Separation Scheme (TSS):
 - Aimed at separating opposing streams of traffic
 - Accomplished the establishment of traffic lanes
- Rules for operation in TSS
 - Governed by the Convention on the International Regulations for Preventing Collisions at Sea (COLREGS)



COLREGS

- A vessel using a traffic separation scheme shall:
 - Proceed in the appropriate traffic lane in the general direction of traffic flow for that lane
 - So far as practicable, keep clear of a traffic separation line or separation zone
 - Join or leave a traffic lane at the termination of the lane
 - If joining or leaving from either side, shall do so at as small an angle to the general direction of traffic flow as practicable



COLREGS

- Additionally, COLREGS requires vessels to avoid doing the following:
 - Shall not normally enter a separation zone or cross a separation line except:
 - In cases of emergency to avoid immediate danger
 - To engage in fishing within a separation zone
 - To cross or join a TSS
 - Anchoring in a TSS
 - Or in areas near the termination of a TSS

COLREGS

- Additionally, COLREGS requires vessels to avoid doing the following (cont.):
 - Crossing
 - If a vessel must cross, do so at as close to a right angle to the flow of traffic as possible
 - A vessel engaged in fishing shall not impede the passage of any vessel following a traffic lane

So what does that mean?

- A TSS is like a road or, more specifically, a highway
 - Proceed in the correct lane for the direction you are going
 - Join at shallow angles
 - Do not park in the middle of the lane, the median, or in the area near the ends
 - Do not drive in or on the median unless it is an emergency
 - Avoid crossing. If you must cross, make it obvious by doing so at as close to a right angle to the flow of traffic as possible

How can an Analyst use this with SeaVision?

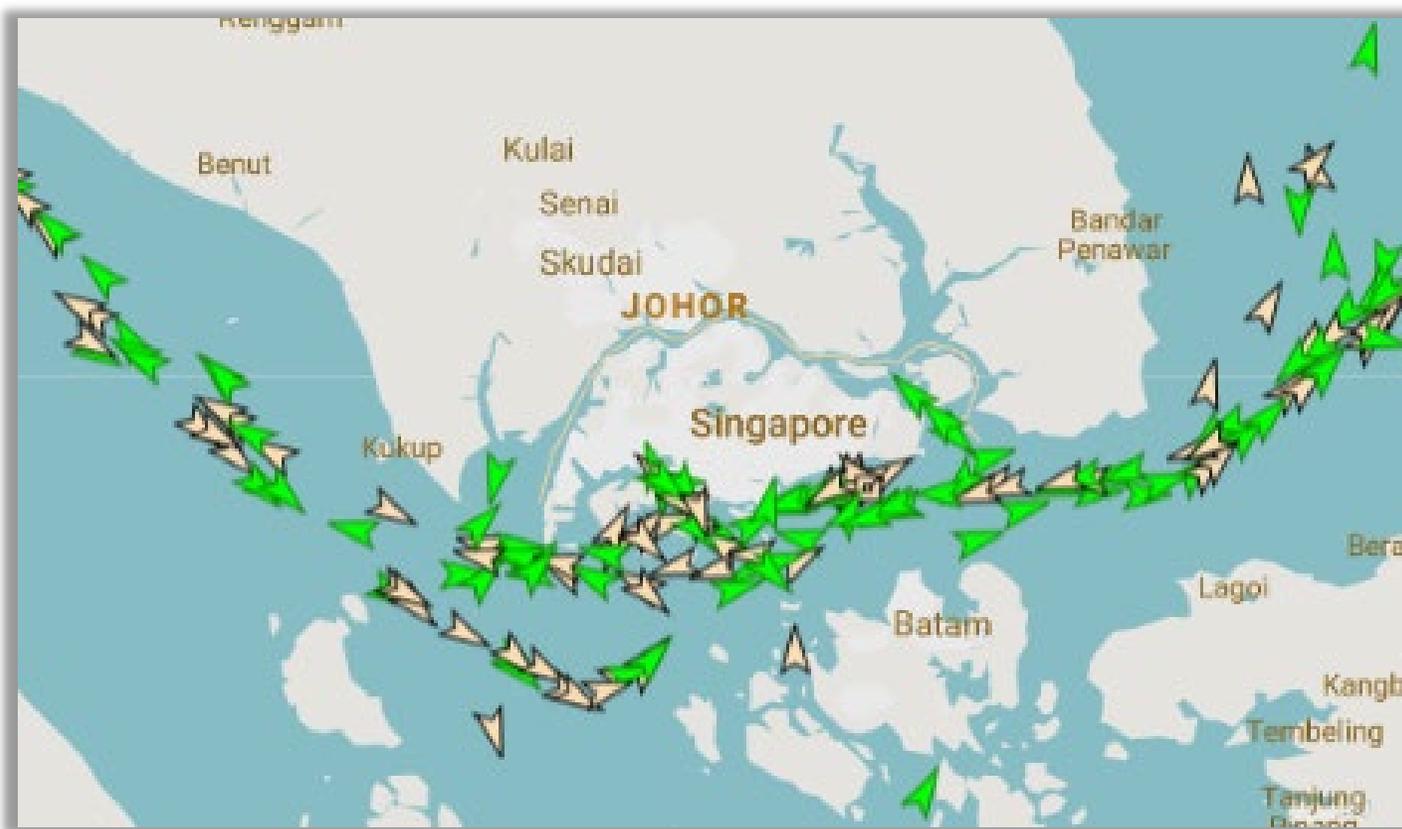
The screenshot displays the SeaVision software interface. At the top, there is a navigation bar with 'Map', 'Dashboard', 'Search', and 'Chat' options. The main area is a map showing several green tracks representing vessel movement. Three detailed data panels are overlaid on the map, each providing information for a specific vessel:

- Vessel 405000232:** Source: TERRESTRIAL AIS, Time: 2019 Dec 20 23:54:00 UTC, Age: 644h 35m 29s ago, Position: 1° 19' 20" N, 104° 3' 59" E, Speed: — kts, Heading: 64°, Course: °, MMSI: 405000232, IMO Number: —, Flag: Bangladesh, Call Sign: —, Ship Type: —, Length: — m, Beam: — m, Draft: — m, Navigation Status: —, Destination: —, ETA: —.
- Vessel 419555000:** Source: TERRESTRIAL AIS, Time: 2019 Dec 20 23:35:31 UTC, Age: 644h 54m 16s ago, Position: 1° 17' 34" N, 104° 4' 47" E, Speed: 0.1 kts, Heading: 77°, Course: °, MMSI: 419555000, IMO Number: —, Flag: India, Call Sign: —, Ship Type: —, Length: — m, Beam: — m, Draft: — m, Navigation Status: —, Destination: —, ETA: —.
- Vessel 374262000:** Source: TERRESTRIAL AIS, Time: 2019 Dec 20 23:51:42 UTC, Age: 644h 38m 14s ago, Position: 1° 18' 13" N, 104° 20' 39" E, Speed: 8.8 kts, Heading: 48°, Course: °, MMSI: 374262000, IMO Number: —, Flag: Panama, Call Sign: —, Ship Type: —, Length: — m, Beam: — m, Draft: — m, Navigation Status: —, Destination: —, ETA: —.

Each panel includes a 'History Trail' toggle, a 'DR Vector' toggle, and options for 'Vessel Details' and 'Add Vessel to List'. The bottom of the interface features a 'TIME MACHINE' playback control bar with a date and time selector (December 20, 2019, 23:59 UTC) and a 'TAKE NEW SNAPSHOT' button. The status bar indicates 'Last snapshot taken for 2019/12/20 23:59 UTC'.

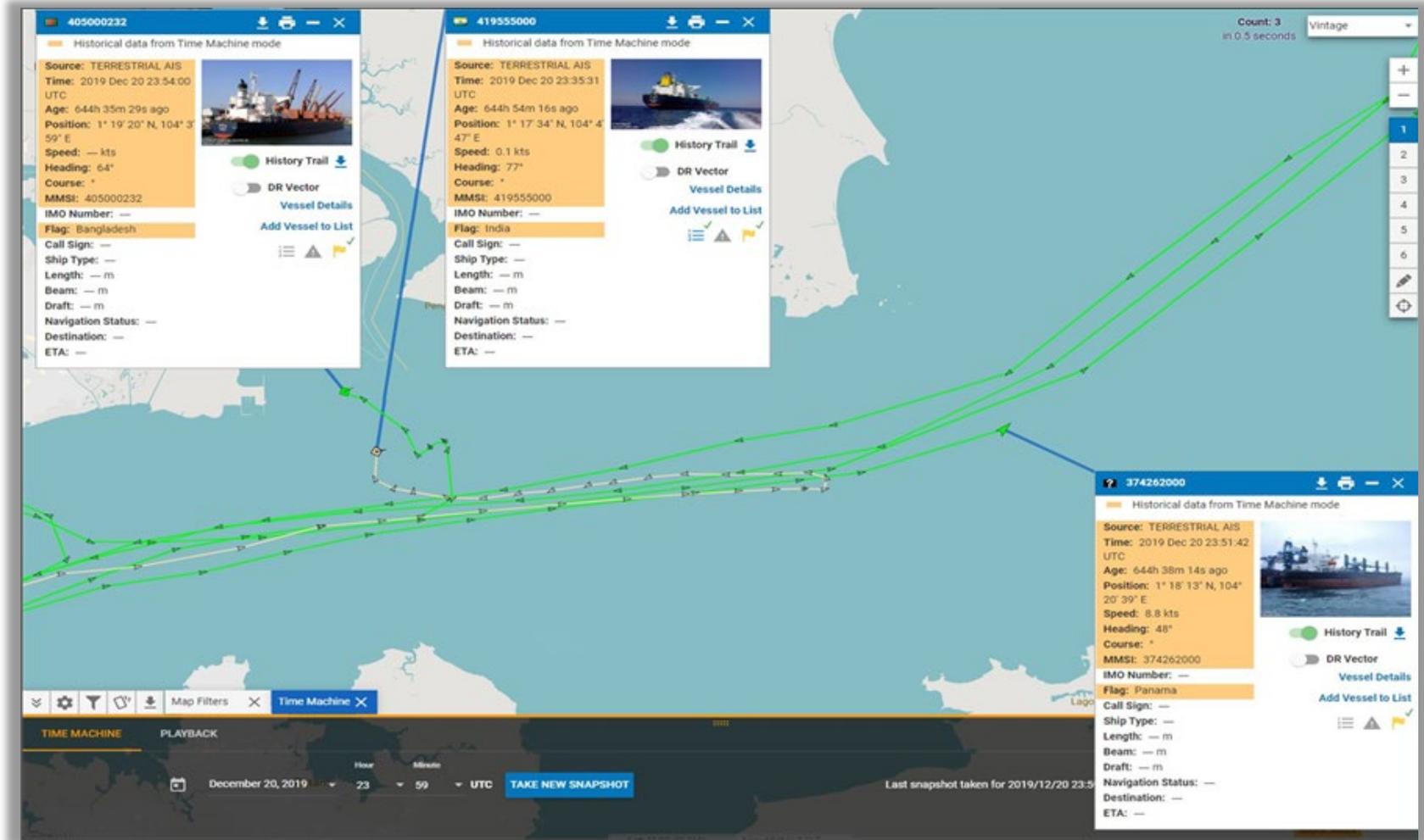
Piracy Incident Details

- Date: 20 December 2019
- Incident: Three vessels report piracy events in the vicinity of Singapore in the Strait of Malacca
- Method of Analysis: Time Machine feature of SeaVision



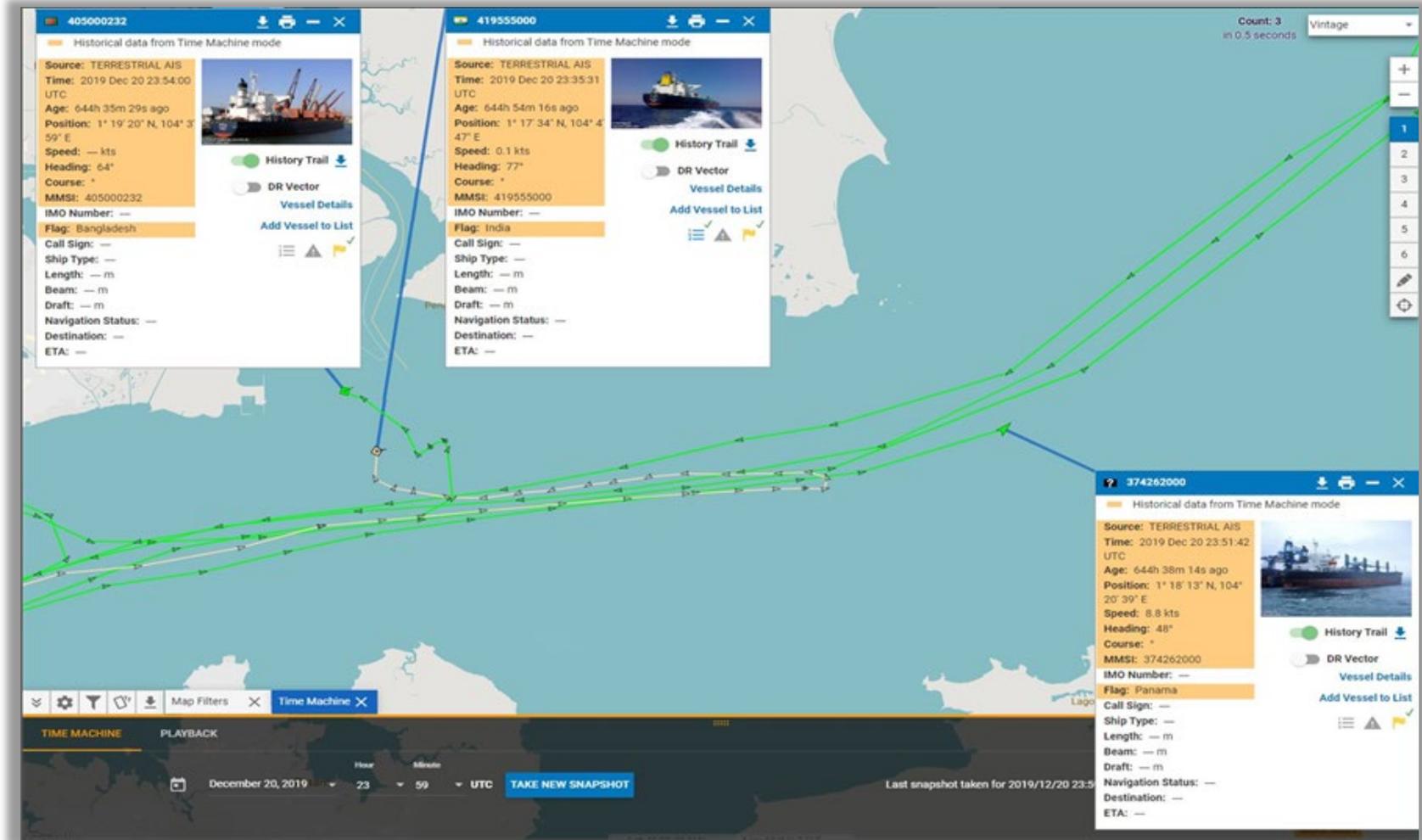
Analyzing Piracy Reports in SeaVision

- Question 1: Were the vessels transmitting AIS as required?
- Answer 1: Yes



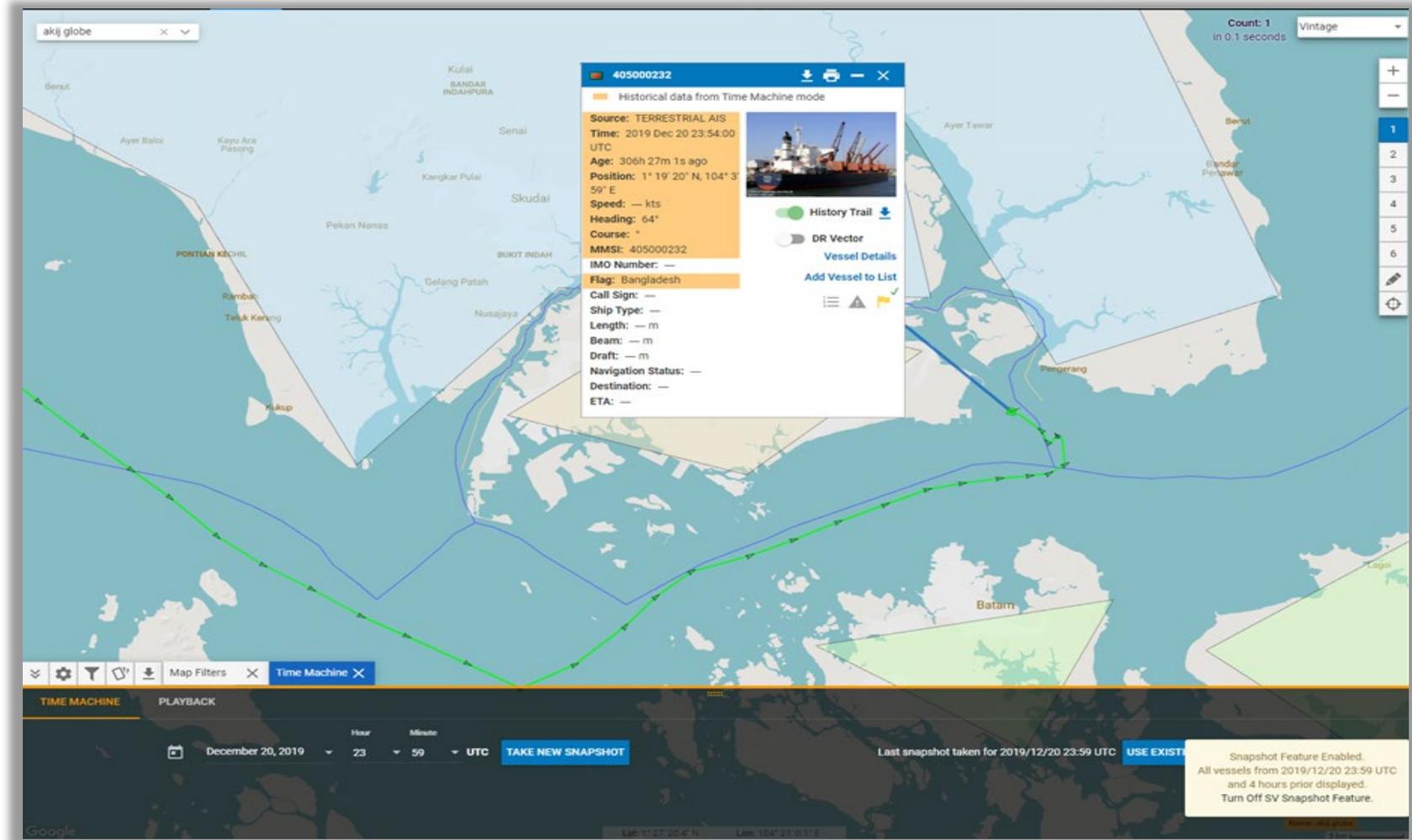
Analyzing Piracy Reports in SeaVision

- Question 2:
Are the vessels transiting as expected?
- Before answering, look at each vessel track individually



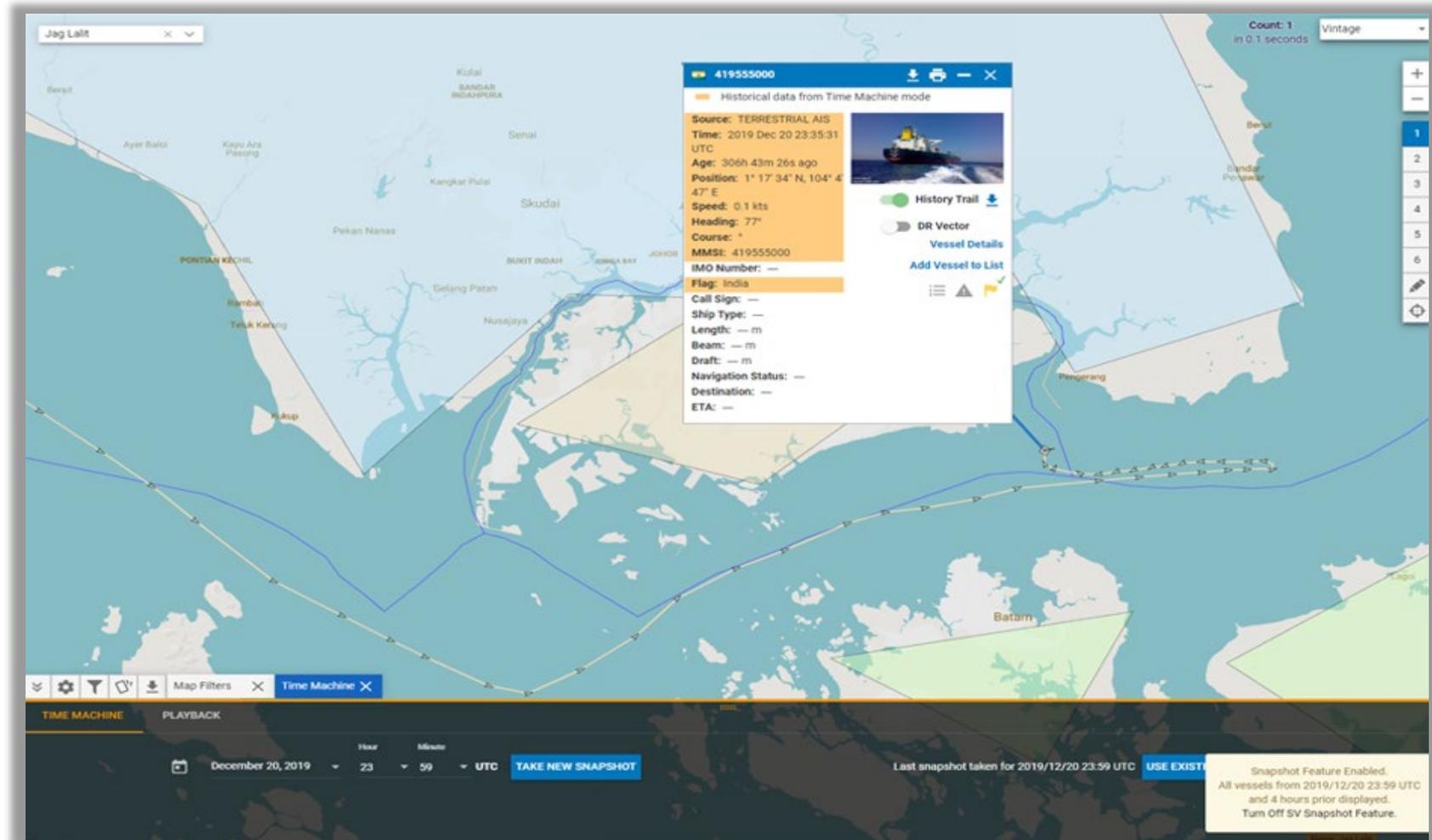
Analyzing Piracy Reports in SeaVision

- Question 2: Are the vessels transiting as expected?
- Vessel Name: Akij Globe
- MMSI: 405000232
- Answer 2: Yes, considering they reported a piracy incident



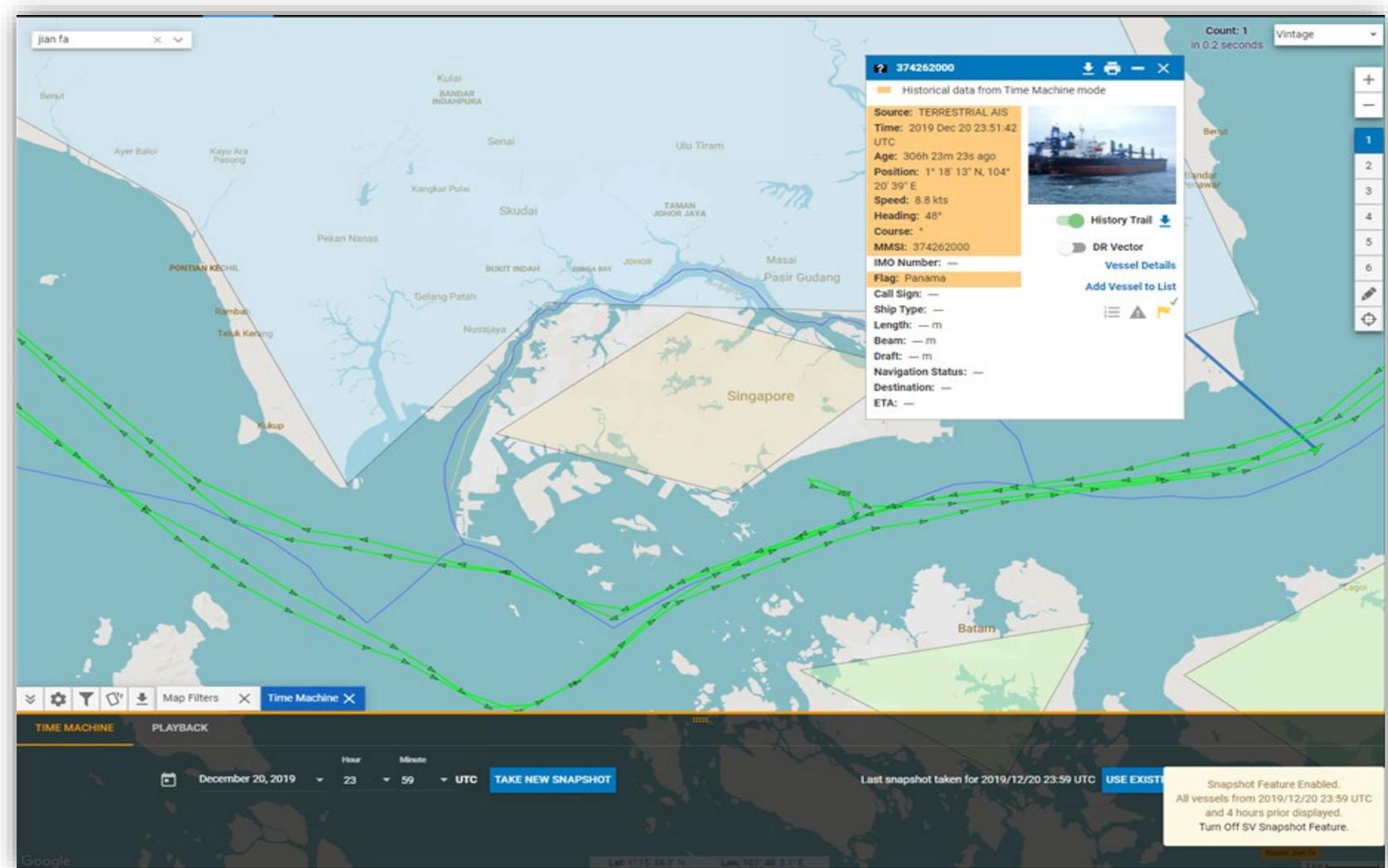
Analyzing Piracy Reports in SeaVision

- Question 2: Are the vessels transiting as expected?
- Vessel Name: Jag Lalit
- MMSI: 419555000
- Answer 2: Yes, considering they reported a piracy incident to Singapore VTIS and were re-directed to ensure safety of the crew



Analyzing Piracy Reports in SeaVision

- Question 2: Are the vessels transiting as expected?
- Vessel Name: Jian Fa
- MMSI: 419555000
- Answer 2: This track requires closer inspection.

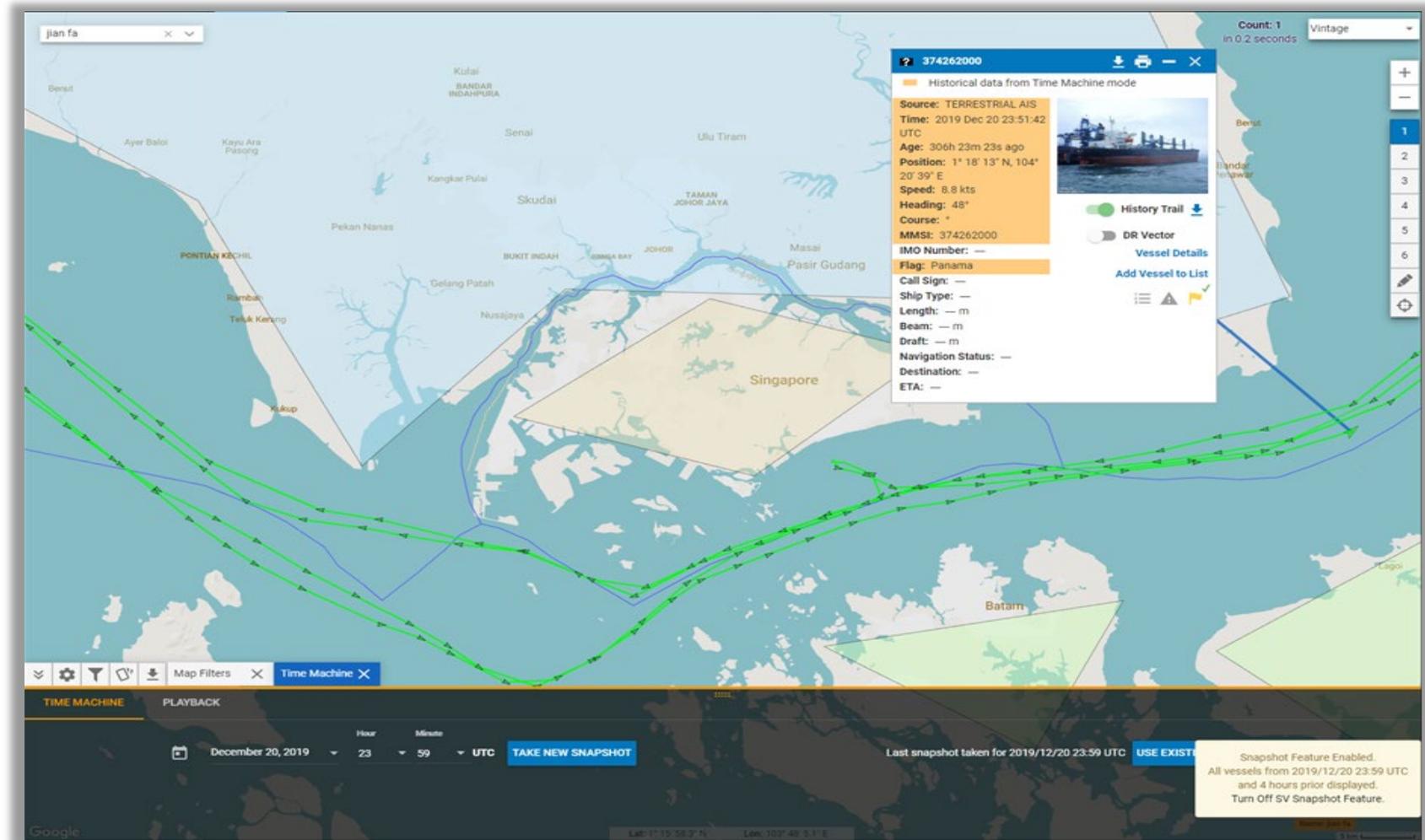


Analyzing Piracy Reports in SeaVision



Analyzing Piracy Reports in SeaVision

- Question 2: Are the vessels transiting as expected?
- Vessel Name: Jian Fa
- MMSI: 419555000
- Answer 2: No, the Jian Fa did not transit as expected, considering they reported a piracy incident



Analyzing Piracy Reports in SeaVision

- What can be decisively concluded from the reported incidents and what was displayed in SeaVision?
 - Akij Globe and Jag Lalit experienced an incident that required them to make abnormal maneuvers in a TSS within a strait
- Can a conclusion be made about Jain Fa?
 - Possibly, more investigations would need to be made, possibly outside of SeaVision

Summary

In this lesson, we covered:

- Definition of a strait
- Definition of a Traffic Separation Scheme (TSS)
- Recognizing normal/unusual vessel maneuvering during strait transits and verifying vessels are following an approved TSS

Regional Maritime Picture

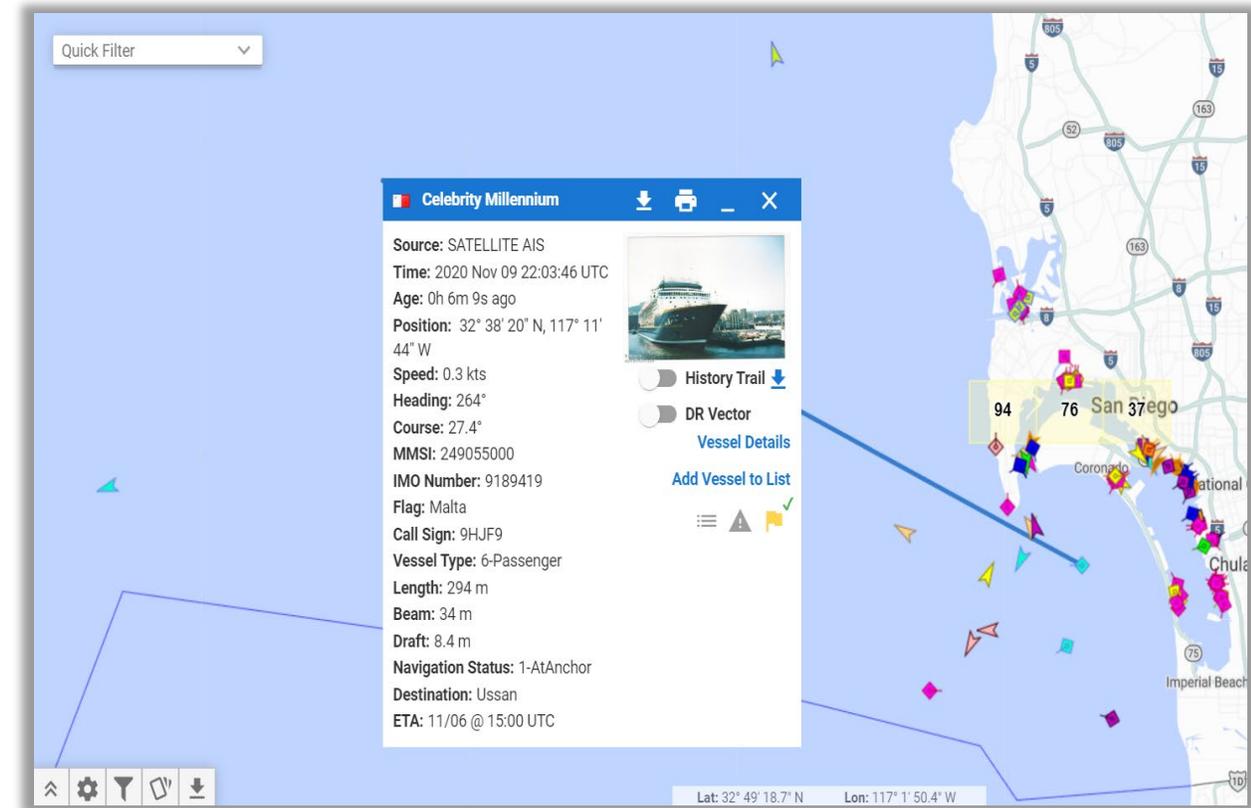
Learning Objectives

Upon successful completion of this lesson, the student will be able to:

- Define Regional Maritime Picture (RMP)
- Explain safety and security concerns within an RMP
- Develop an RMP
- Explain RMP development using SeaVision Data Sources
- Explain RMP development using SeaVision tools
- Identify RMP products that can be created using SeaVision

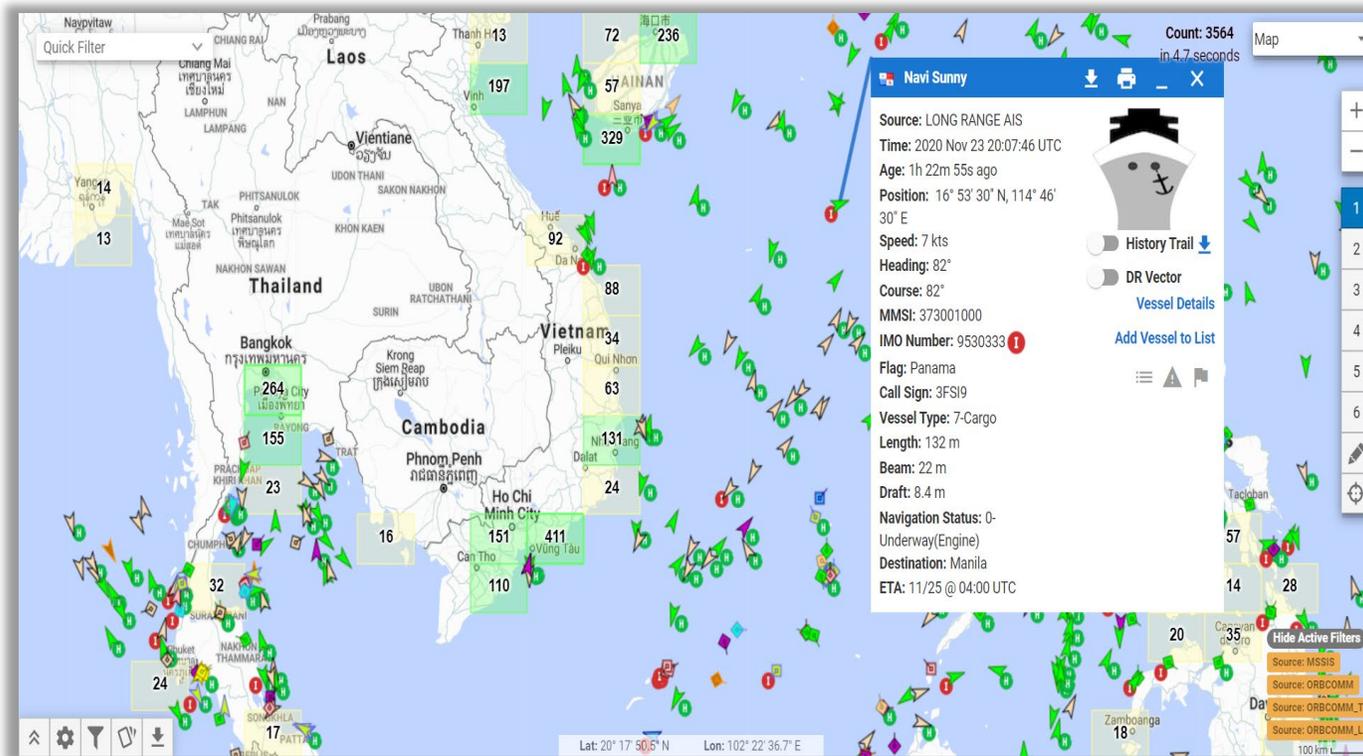
Regional Maritime Picture (RMP)

- A picture built from compiling information on vessel activity in a maritime area of interest
- The information gained from an RMP can be used to:
 - Maintain safety and security
 - Monitor and conserve the ecosystem
 - Monitor the economic system



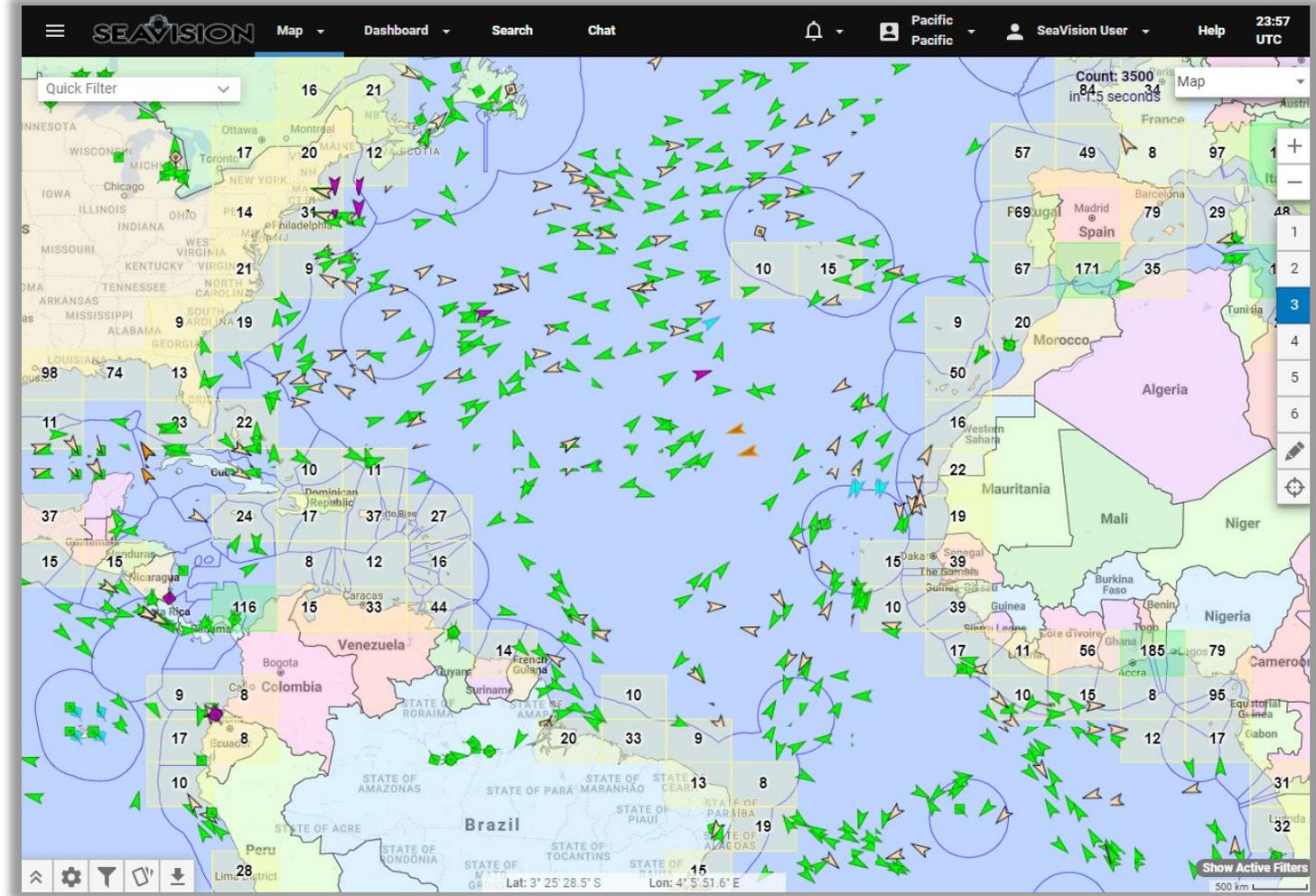
Safety and Security Concerns within an RMP

- Some of the most common safety and security concerns of an RMP are listed below:
 - Illegal, Unreported, and Unregulated (IUU) Fishing
 - Illegal Dumping
 - Smuggling
 - Drugs, human trafficking, consumable goods, oil, etc.
 - Piracy
 - Exclusive Economic Zone (EEZ) Disputes



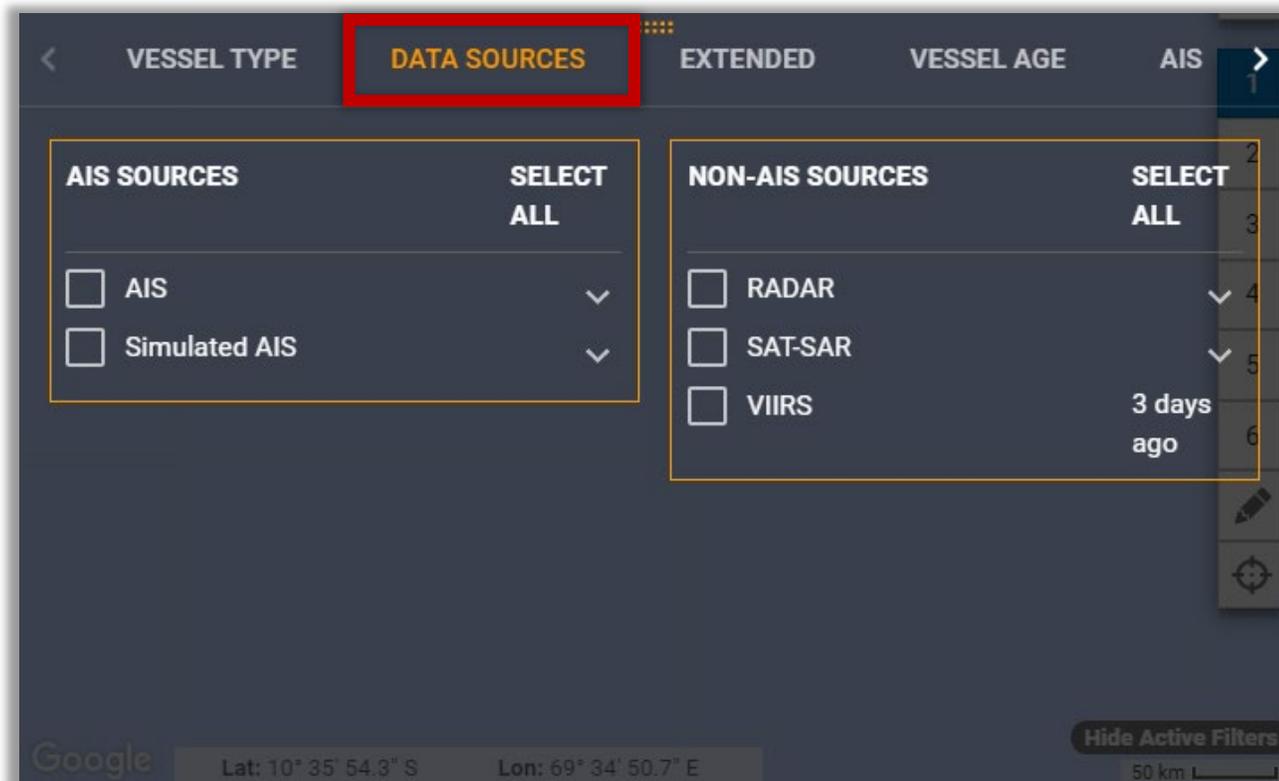
Developing an RMP

- An RMP consists of:
 - Locating vessels of interest
 - Identifying those vessels
 - Observing vessel behavior
 - Creating reports if follow-on action is required



RMP Development Using SeaVision Data Sources

- SeaVision integrates multiple government and commercial data sources to aid in developing an RMP
 - Automatic Identification System (AIS)
 - Fairplay by IHS Markit
 - Visible Infrared Imaging Radiometer Suite (VIIRS)
 - Satellite Synthetic Aperture Radar (SAT-SAR)
 - Coastal Radar



RMP Development Using SeaVision Tools

- SeaVision provides multiple tools for developing an RMP
 - Vessel Lists
 - Vessel Notes
 - Shapes
 - Rules
 - Alerts
 - Searches
 - Quick Filter
 - Vessel Data Card Settings
 - MY LAYERS
 - STATIC LAYERS
 - MAP TOOLS
 - Warnings
 - Map Settings
 - Map Filters

The collage displays six key SeaVision tool interfaces:

- Vessel Lists:** A screenshot of a 'Vessel Card' showing a table with columns for TYPE, LIST NAME, and LAST MODIFIED. It lists a 'Blacksteak Fishing Vessel'.
- Vessel Notes:** A screenshot of a 'Vessel Card' showing a 'NOTE' section with text: 'Vessel is suspected of conducting AIS fishing. Keep on watch for this vessel operating near eastern EEZ.'
- Shapes:** A map view showing a large purple circular shape overlaid on a geographical map.
- Rules:** A screenshot of a 'My Rules' list with two entries: 'Tankers Underway Flagged Panama' and 'Cargo in the Polygon'.
- Alerts:** A screenshot of a 'My Alerts' list with one entry: 'New Alert'.
- Searches:** A screenshot of a 'My Searches' list with five entries, including 'Red Ensign Group 4 SEPT 2019 (Started By Day Watch)', 'IMSC', 'IMSC (1)', 'IMSC Vessels', and 'IMSC Vessels Snapshot'.

RMP Products from SeaVision

- Products that can be created and exported from SeaVision:
 - Vessel Lists
 - Finished Reports
 - Vessel History Trail details
 - Vessel Data Cards
 - Vessel Details

Wilson Nantes    

Source: SATELLITE AIS
Time: 2020 Nov 16 11:06:50 UTC
Age: 2h 27m 27s ago
Position: 70° 8' 2" N, 3° 55' 52" W
Speed: 11.7 kts
Heading: 257°
Course: 258°
MMSI: 248674000
IMO Number: 9430973
Flag: Malta
Call Sign: 9HA2463
Vessel Type: 7-Cargo
Length: 123 m
Beam: 16 m
Draft: 7.4 m
Navigation Status: 0-Underway(Engine)
Destination: Is Grt
ETA: 11/18 @ 23:00 UTC



History Trail 

DR Vector

[Vessel Details](#)

[Add Vessel to List](#)

Summary

- In this lesson, we covered:
 - The Regional Maritime Picture (RMP)
 - Safety and security concerns within an RMP
 - Developing an RMP
 - RMP development using SeaVision Data Sources
 - RMP development using SeaVision tools
 - RMP products that can be created using SeaVision