



# Configure the SeaVision Interface

## Lesson 2.2

07/01/2020

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## Lesson 2.2 Learning Objectives

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

- Identify and configure the user interface to meet operational requirements
  - Searches
  - Chat/Messages
  - Map Menu (MY LAYERS - SHAPES, STATIC LAYERS, and MAP TOOLS)
  - Map Options (Map type, Custom views, Map Settings, Map Filters, Baseball Card Settings, and Exporting Vessels)
  - Dashboard (Rules, Alerts, Warnings, and Vessel Lists)



## Search

- Searches provide the ability to execute a custom vessel query
- Searches can be saved and shared
- Results can be viewed on the map, exported, or saved to a vessel list

The screenshot shows the 'Search' interface with two main sections: 'Choose How To Evaluate Your Conditions' and 'Set Up Your Conditions'. The first section has two radio buttons: 'Vessels must meet all conditions' (selected) and 'Vessels can meet any condition'. The second section has a dropdown menu for 'Location by User Defined Shape' set to 'is inside', a 'test box' input field, and a 'RUN QUERY' button. To the right is a map view. Below these sections is a table of search results for 25 total vessels.

FLAG	VESSEL NAME	REGISTERS	CALL SIGN	↑ MMSI	IMO NUMBER	VESSEL TYPE	DESTINATI...	ETA	NAVIGATIO...	
1	Italy	Grande Mir...	--	IBQY	247405800	9762687	7-Cargo	Sa Jed	10110300	0-Underway...
2	Liberia	--	--	--	636092874	--	--	--	--	--
3	Malta	Jebel Ali	Valeria SNC	9HA2984	229007000	9529396	7-Cargo	Sgin	10061600	0-Underway...
4	Malta	Milaha Ras ...	Milaha Ras ...	9HA3093	229130000	925854	8-Tanker	Qa Rf+ Tw ...	10102200	0-Underway...
5	Malta	Al Qibla	Al Qibla Ltd	9HA3938	256576000	9529324	7-Cargo	Sgin	10061300	0-Underway...
6	Malta	Seriana	Seriana Tra...	9HA3964	256627000	9732228	8-Tanker	You South ...	10140800	0-Underway...

Export options: JSON, CSV, XML, KML. An 'EXPORT' button is also visible.

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- Users are able to configure Search settings (Columns, Data Sources) before running a search
- Users can select which data sets the Search will be run against



Naval Information Warfare Center  
PACIFIC

## Search Cont.

Search × Manage +

☒ Choose How To Evaluate Your Conditions

- ☒ Vessels must meet all conditions
- ☐ Vessels can meet any condition

☒ Set Up Your Conditions

Vessel Type  4X - High Speed Craft (HSC) ×


**ADD CONDITION**

☒ Choose The Time Period To Evaluate

Vessel Age  No Maximum

☒ Done!

**SEARCH**




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- A search in SeaVision may be specific enough to return one vessel or general enough to result in multiple matches
- Configure Searches:
  - Choose How to Evaluate Your Condition
    - Vessels must meet all conditions
    - Vessel can meet any condition
  - Set Up Your Conditions
  - Choose The Time Period to Evaluate
    - 1-24 hours
    - 1-30 days
    - No Maximum





## Configure Chat Channels

- Community Channel
- Persona Channels
- Direct Message (DM) Channels

- Chat Window Indicators
  - Online Status Indicator
  - User Count Indicator
  - Unread Messages Indicator

Pacific

Tue Jun 16 2020

SeaVision User

9:53AM

SeaVision User joined the channel.

Write a message...

Pacific

SeaVision User

online

Translation Settings

Language: English

Disclaimer

Community

5/7 Pacific

Persona

Pacific


+

5

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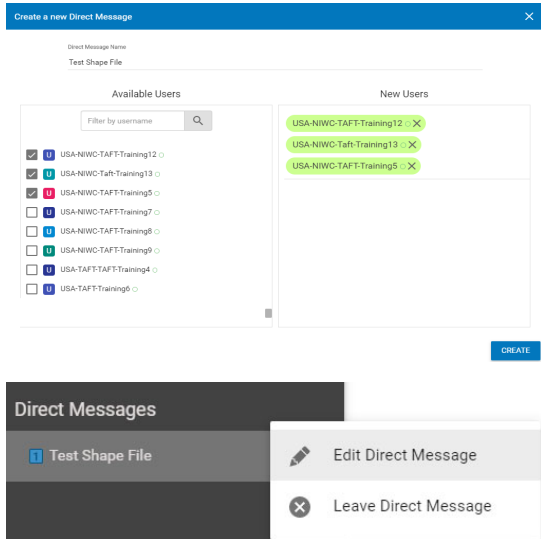
- Chat provides the ability to collaborate with other SeaVision users in a community and a persona. Channels are used to organize conversations across the community. Each community contains three types of channels:
  - Community Channels: Open to everyone in a community. When users are added to a community, they are automatically added to the Community Channel. When messages are posted in the Community Channel, they are visible to everyone in that community.
  - Persona Channels: For topics relevant to a persona and only visible to members of that persona. When users are added to a persona, they are automatically added to the corresponding Persona Channel.
  - Direct Message (DM) Channels: Private conversations among two or more people and only visible to members of the Direct Message. Any member of a Direct Message can add additional members. Members can choose to leave a Direct Message group at any time, but only SeaVision Admins can remove other members.





## Messages

- Create a new Direct Message
  - Direct Message Name
  - Available Users
  - Create
- Direct Messages
  - Edit Direct Message
  - Leave Direct Message



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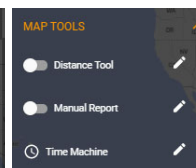
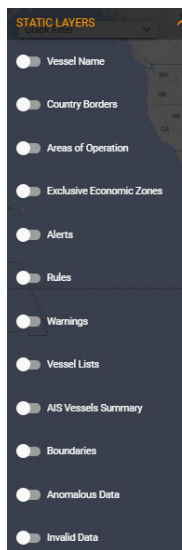
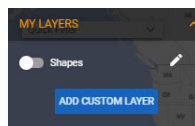
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- Sending messages and replying to messages are important ways to keep conversations active within Chat



## Map Menu (MY LAYERS, STATIC LAYERS, MAP TOOLS)

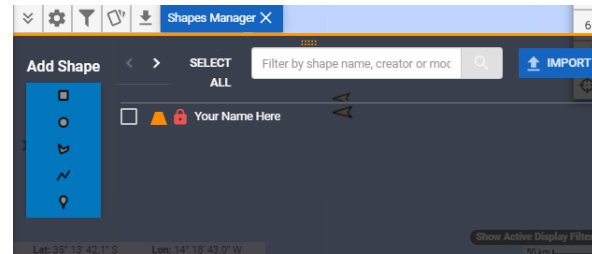
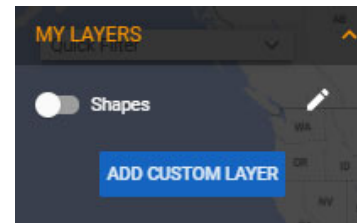
- MY LAYERS
  - Shapes
- STATIC LAYERS
  - Display various overlays on a map for quick visual reference
- MAP TOOLS
  - Distance Tool
  - Manual Report
  - Time Machine





## User-Defined Shapes

- Shapes enable you 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, polygon, polyline, and marker



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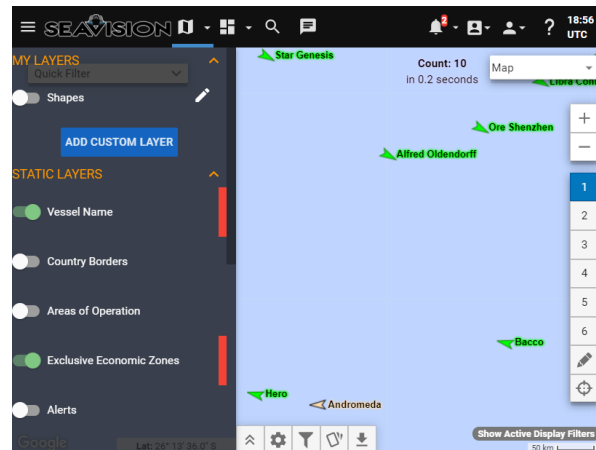
- User-defined Shapes can be shared to a Persona or Community
  - SeaVision supports exporting and importing shapes in KML, JSON, and CSV formats
- Additionally, users can add Shape notes, which may also be shared to a Persona or Community





## STATIC LAYERS

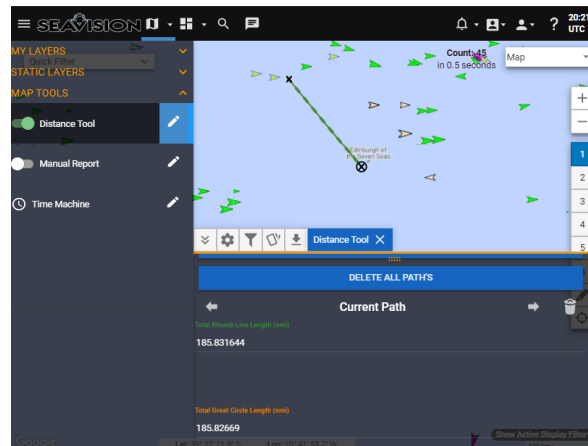
- Customizable Map View
- Display Map Overlays - Toggle On/Off





## MAP TOOLS

- Distance Tool
  - Users can create a Rhumb Line (RL) or Great Circle (GC) to measure the distance between two or more points



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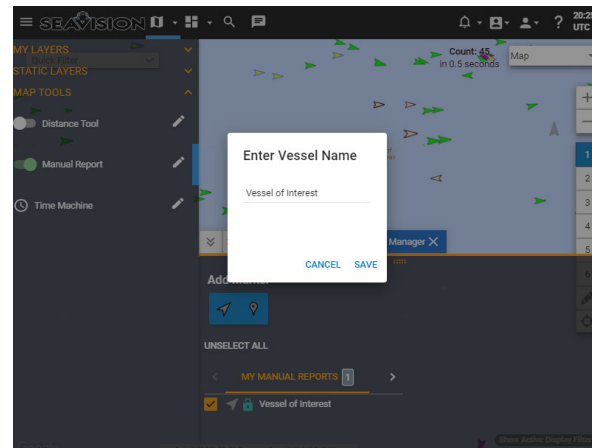
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- Perform time and distance calculations
- Create single or multi-segment lines
- Attach line segments to any vessel icon on the SeaVision map
- Edit individual line segments



## MAP TOOLS

- Manual Report
  - Report the location of a vessel or incident to display on the map



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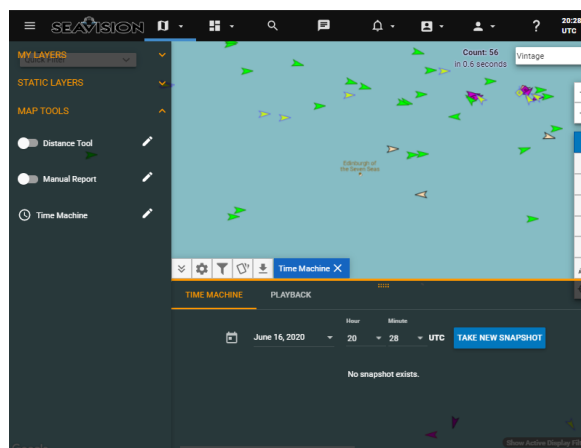
DISTRIBUTION STATEMENT A. Approved for public release: distribution unlimited.

- For both vessels and incidents, users must specify the date/time and position for the marker to be displayed on the map
- Specify heading, course, speed, and enable the marker to update based on dead reckoning
- Share to a Persona or Community
- Add notes to the manual report which may also be shared to a Persona or Community



## MAP TOOLS

- TIME MACHINE
  - Snapshot of all AIS traffic for a specific date and time



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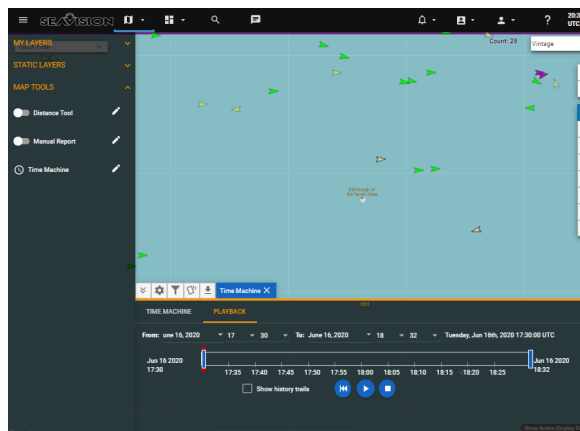
DISTRIBUTION STATEMENT A. Approved for public release: distribution unlimited.

- A snapshot of all AIS traffic for specific date and time in UTC
- Data is available for up to one year prior to the current date and includes the previous 4 hours from the time selected



## MAP TOOLS

- **PLAYBACK**
  - Animated playback of vessel's historical positions and movements over time



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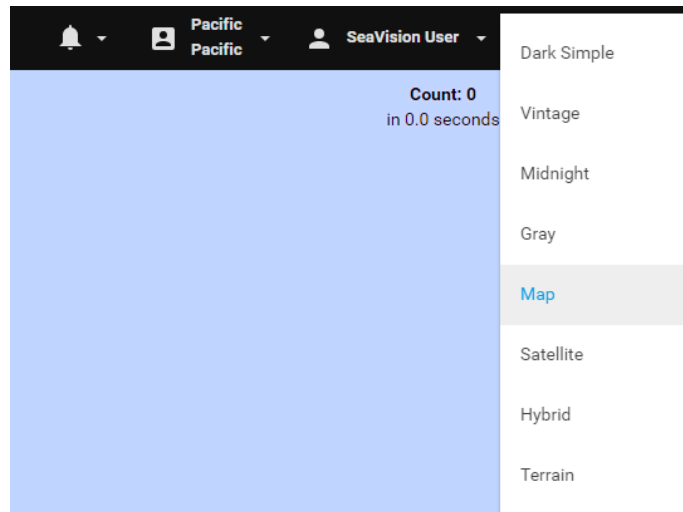
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- SeaVision **PLAYBACK** gives users the ability to view an animated playback of historical vessel positions over a period between 1 hour and 30 days
- Users are given the ability to scroll through selected time periods to view and analyze vessel data of the selected geographic area
- SeaVision **PLAYBACK** data is available for up to one year prior to the current date and can be used in conjunction with vessel filters, quick filters, and extended map filters



## Map Types

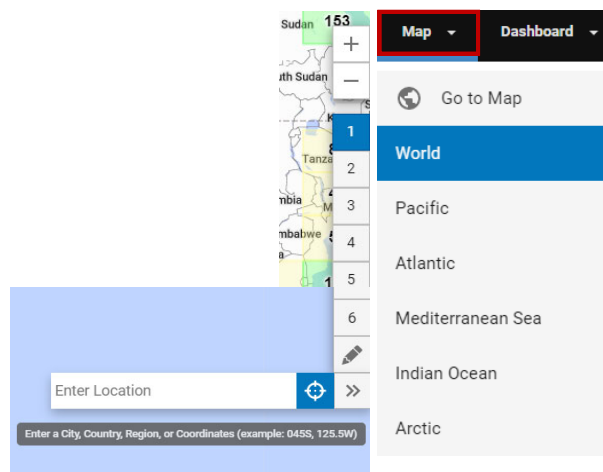
- Map Types
  - Dark Simple
  - Vintage
  - Midnight
  - Gray
  - Map (Default)
  - Satellite
  - Hybrid
  - Terrain





## Custom Views and Jump to Location

- Custom Views
  - Six custom views may be set
  - Filters/zoom level saved
  - Quick access using Go To Map
- Jump to Location
  - Cities/Ports
  - Countries
  - Regions
  - Coordinates





## Map Options

- Map Settings
  - Map Refresh
  - History Trail
  - Dead Reckoning
- Map Filters
- Baseball Card Settings
- Export Vessels

### Map Settings

**Map Refresh**

Delay: 2 seconds | Interval: 5 minutes | Clustering Method: Heatmap | History Trail Length: 6 days

**Dead Reckoning Options**

☐ Dead Reckoning markers and vectors  
☐ Vessel Age Labels

**Buttons:** REFRESH NOW, REMOVE ALL

### Vessel Type Legend

DATA SOURCES	EXTENDED	VESSEL AGE	AIS	SHIP REGISTRY
<input type="checkbox"/> Anchored	<input type="checkbox"/> Cargo	<input type="checkbox"/> Tanker	<input type="checkbox"/> Passenger	
<input type="checkbox"/> Underway	<input type="checkbox"/> Sailing	<input type="checkbox"/> Unknown	<input type="checkbox"/> Military	
	<input type="checkbox"/> Fishing	<input type="checkbox"/> Pilot	<input type="checkbox"/> Towing	
	<input type="checkbox"/> Big Tow	<input type="checkbox"/> Tug	<input type="checkbox"/> Dredge	

### Baseball 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

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- Map Settings
  - Map Refresh
    - Delay: adjust the time between pan movements before reloading the page from 0 to 10 seconds
    - Interval: update the current locations of all vessels on the Map display. The rate can be set from 1 to 10 minutes
  - History Trail Length
    - Change the amount of time (1 to 90 days) of viewable historical vessel track data that is displayed on the Map
  - Dead Reckoning
    - A vessel's estimated position based on last AIS position, course, and speed





## Map Filters

- VESSEL TYPE
- DATA SOURCES
- EXTENDED

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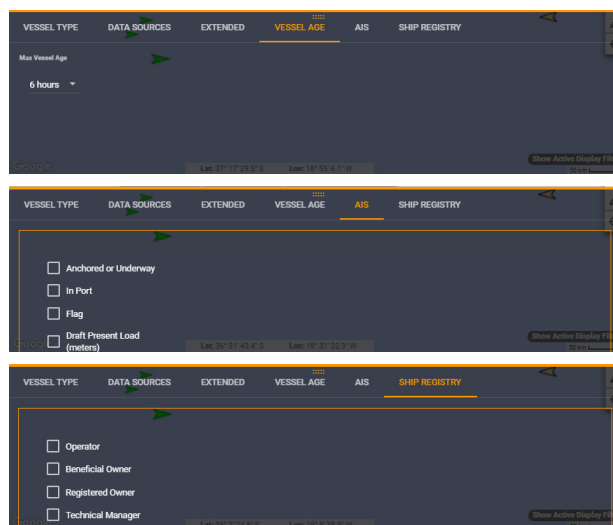
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- Map Filters
  - The Vessel Filters tab lists a variety of vessel-related filters within SeaVision, as well as several overlays that can be displayed on the Map. Users can run multiple filters simultaneously and can show vessels that match select criterion, user-defined rules and/or alerts, and saved "custom" vessels. This tab includes:
    - Filter by Vessel Type: an icon key that lets users select the types of vessels that they wish to see on the Map, as it defaults to showing all types
    - Data Sources: toggle on/off Data Sources
    - Extended: allows filters to be set by Vessel List, Rules, Alerts, Warning Scores, and Anomalies



## Map Filters Cont.

- VESSEL AGE
- AIS
- SHIP REGISTRY



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- Vessel Age: changing this affects the age of vessel reports displayed. The most recent report will be shown for each vessel from vessel age selected to current time
- AIS: this setting allows users to filter vessels based off AIS fields
- Ship Registry: this field allows users to filter vessels based off ship registry information



## Baseball Card Settings

- Select/Deselect Items
- History Trail
- DR Vector
- DR Vector
- Vessel Details
- Add Vessel to Lists
- Download or Print Information

The screenshot displays the 'Baseball Card Settings' window, which allows users to configure the information shown on a vessel's data card. The settings are organized into three columns, each with a list of items and checkboxes. The first column includes Time, Speed, Length, Navigation Status, and Flag. The second column includes Age, Course, Beam, MMSI, and Call Sign. The third column includes Position (Latitude and Longitude), Heading, Draft, IMO Number, and Vessel Type. All items are currently selected, indicated by checked checkboxes. Below the settings window, a 'lolos Vision' window shows a vessel's data card. The data card includes a header with the vessel's name and a small image of the vessel. The main body of the card lists various attributes: Source: SATELLITE AIS, Time: 2020 Jun 16 22:06:56 UTC, Age: 0h 5m 18s ago, Position: 36° 28' 10" S, 21° 59' 46" W, Speed: 11.6 kts, Heading: 86°, Course: 86°, MMSI: 249947000, IMO Number: 9425148, Flag: Malta, Call Sign: 9HA2091, Ship Type: 7-Cargo, Length: 229 m, Beam: 36 m, Draft: 13.6 m, Navigation Status: 0-Underway(Engine), Destination: Singapore, and ETA: 07/10 @ 12:00 UTC. On the right side of the data card, there is a vertical menu with options: History Trail (with a download icon), DR Vector, Vessel Details, and Add Vessel to List (with a checkmark icon). A red box highlights this menu.


Baseball 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

**lolos Vision**

Source: SATELLITE AIS  
Time: 2020 Jun 16 22:06:56 UTC  
Age: 0h 5m 18s ago  
Position: 36° 28' 10" S, 21° 59' 46" W  
Speed: 11.6 kts  
Heading: 86°  
Course: 86°  
MMSI: 249947000  
IMO Number: 9425148  
Flag: Malta  
Call Sign: 9HA2091  
Ship Type: 7-Cargo  
Length: 229 m  
Beam: 36 m  
Draft: 13.6 m  
Navigation Status: 0-Underway(Engine)  
Destination: Singapore  
ETA: 07/10 @ 12:00 UTC

History Trail   
DR Vector  
Vessel Details  
Add Vessel to List






## Export Vessels

- Export the vessels in the screen view as a KML formatted file

Opening lists-export-vessel-list-2019-09-17\_09-18.kml

You have chosen to open:  
 **lists-export-vessel-list-2019-09-17\_09-18.kml**  
which is: XML Document (650 bytes)  
from: blob:

**What should Firefox do with this file?**  
☒ Open with Office XML Handler (default) ▾  
☐ Save File  
☐ Do this automatically for files like this from now on.

OK Cancel

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- A KML file stores geographic modeling information in XML format. It includes points, lines, polygons, and images. KML files are used to identify and label locations, create different camera angles, overlay textures, and add HTML content
- Google earth is a common application that uses KML files



## Rules Dashboard

- Rules are user-created vessel searches, configured to run on a schedule
- The analytics tab provides a graph displaying the number of vessels matching user's Rule over time

The screenshot displays the 'Rules' dashboard. On the left, under 'Active Rules (1)', a rule named 'Your Descriptive Name Here' is listed. A red circle highlights this rule, and a red arrow points from it to the 'Share' button in the actions menu. Below this, 'Disabled Rules (3)' are shown as 'No Data'. The central panel shows the configuration for the selected rule, including its name, last updated time, conditions (e.g., 'Vessel Type is not 00 - Unknown'), schedule (e.g., 'Starting at 12:00 UTC daily'), and runtime information (e.g., 'Enabled: Yes', 'Expires in 29d 0h 1m'). The right panel shows the 'Results - Vessels Matching Rule (131165)' with a table of vessel data.

MMSI	VESSEL NAME	DATE TIME GROUP
1 100000000	Y806 Navy Tug	241840ZJUN20
2 100000001	Tara Lee	241716ZJUN20
3 100000012	9v	241732ZJUN20
4 100003661	M/tug Iligan Bay	241843ZJUN20
5 100021665	Tanua122	241839ZJUN20
6 100021674	Tanua121	241839ZJUN20
7 100021685	Tanua119	241837ZJUN20
8 100021709	Tanua117	241843ZJUN20
9 100021969	Tanua118	241847ZJUN20
10 1002	Ancon	241844ZJUN20
11 100896954	Changlong5	241659ZJUN20
12 100900000	Hosm Ais Test Ship	241730ZJUN20
13 100920027	Jgim Ais Test Ship	241838ZJUN20

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- Rules query the same data set as the map's detailed Search; however, Rules are run in the background and a user can assign scores (weight) to them
- Rules dashboard allows you to add new rules, run rules, export results from the rules, map the results of your rules, manage rules, as well as view a table of all vessels matching your rules
- Can edit, disable, enable, renew (before or after the 30-day expiration), and delete rules



## Creating a New Rule

- Conditions can be evaluated so that the results meet:
  - All conditions
  - Any condition
    - In this option, conditions can be weighted individually to reflect emphasis on some over others
- Users can choose for Rules to be evaluated:
  - Daily
  - Every 12 hours
  - Every 6 hours
  - Every 3 hours
  - Every 2 hours

Create a New Rule

✓ Name Your Rule  
Your Descriptive Name Here

✓ Choose How To Evaluate Your Conditions  
☐ Vessels 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 not 00 - Unknown weight 3 X  
OR  
Flag is United States of America weight 5 X

ADD CONDITION

Set Score Thresholds for the Low/Medium boundary: 3

Set Score Thresholds for the Medium/High boundary: 7

✓ Choose The Evaluation Time And Interval  
Time of the Day to Run 12:00 UTC Interval Every 2 hours

✓ Done!

SAVE YOUR RULE




## Alerts Dashboard

- Alerts track and analyze vessel activities in real time
- Alerts are run against terrestrial and satellite AIS data feeds

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- The analytics tab provides a graph displaying the number of vessels matching user's Alerts over time



## Creating a New Alert

- Alert triggers can be based off a Region of Interest or an AIS Field Change
- Alerts can be configured to include additional vessel filters in the results
- Alerts can be sent to alert subscribers, just the user, or not at all

### Create a New Alert

- ☒ Name Your Alert  
Your Alert Name Here
- ☒ Choose Alert Triggers
  - ☒ Region of Interest
    - ☒ Entering ROI
    - ☒ Exiting ROI
  - ☐ AIS Field Change
- ☒ Choose Your Region-Of-Interest (ROI)

AO

EEZ

TW

SHAPE

1

☐ Afghanistan

2

☐ Albania

3

☐ Algeria

4

☐ American Samoa

5

☐ Andorra

6

☐ Angola

- ☒ Choose Type Of Vessels To Match
- ☒ All vessels triggering Alert
- ☐ Vessels triggering Alert with additional vessel filters
- ☒ Create List Of Email Subscribers

ADD MY EMAIL

ADD EMAIL

### Edit Alert

- ☒ Name Your Alert  
Your Alert Name Here
- ☒ Choose Alert Triggers
  - ☐ Region of Interest
  - ☒ AIS Field Change
    - \* Only vessels within a selected Region of Interest will have their AIS Field Change alerted
    - ☐ Name
    - ☐ IMO Number
    - ☐ Vessel Type
    - ☐ Call Sign
    - ☐ Length
    - ☐ Beam
- ☒ Choose Your Region-Of-Interest (ROI)

AO

EEZ

TW

SHAPE

1

☐ Afghanistan

2

☐ Albania

3

☐ Algeria

4

☐ American Samoa

5

☐ Andorra

6

☐ Angola

- ☒ Choose Type Of Vessels To Match
- ☒ All vessels triggering Alert
- ☐ Vessels triggering Alert with additional vessel filters
- ☒ Create List Of Email Subscribers

ADD MY EMAIL

ADD EMAIL

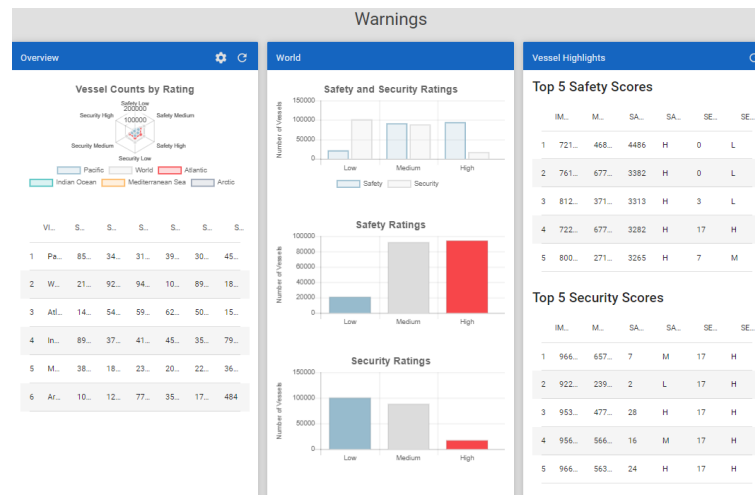
- Alerts can be triggered by:
  - a vessel only entering, only exiting, or entering and exiting a region of Interest
    - Regions of Interest can be defined by Area of Operations (AO), Economic Exclusion Zones (EEZ), Territorial Waters (TW), or user-defined Shapes
  - An AIS Field Change in:
    - Name
    - IMO Number
    - Vessel Type
    - Call Sign
    - Length
    - Beam
- Users can receive emails with matching alerts to an email address or email distribution list






## Warnings Dashboard

- Overview
  - Vessel Counts by Rating
  - Custom map views populate automatically
  - Warnings Scores are refreshed every 24 hours
- Safety and Security Ratings
  - Low, Medium, or High
- Vessel Highlights
  - Top 5 Safety Scores
  - Top 5 Security Scores







## Vessel Lists Dashboard

- Create custom lists by Maritime Mobile Service Identity (MMSI) or International Maritime Organization (IMO) numbers
- Vessel Lists can be used as additional filters for:
  - Rules
  - Searches

Custom Lists

My Lists

Persons

Community

All

TYPE

VESSELS

NAME

USER

1

Your Vessel List Name Here

Vessel Lists

Your Vessel List Name Here

IMO NUMBER

MMSI

NAME

1

9425148

248947000

lolcos vision

1 RESULT

1

GO TO PAGE

1

ROWS

25

Your Vessel List Name Here on Map

26

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- Users can use Vessel Lists to save ships they are interested in tracking or reviewing
- Users can create multiple lists and add vessels to a list by MMSI or IMO number
- Vessel Lists can also be used as an additional filter criteria for user-defined Searches or Rules



## Creating Vessel Lists

- Results of a Search, Rule, or Alert can be saved as a new vessel list
- May be added to a list from the vessel Baseball Card
- May be added by manually entering the MMSI number or IMO number via the add vessel button on the Vessel List Dashboard

Search Results (15492 total vessels)

EXPORT - SAVE AS LIST MAP RESULTS

	FLA...	VE...	RE...	CA...	↑ MM...	IM...	VE...	DE...	ETA	NA...	LAT...	LO...	AGE	TIM...
1	Pan...	Dai...	Oce...	3FD...	200...	881...	-	-	-	-	99	199	1h1...	202...
2	Pan...	Yu...	Cyg...	3EF...	200...	881...	-	-	-	-	99	199	1h1...	202...

Your Vessel List Name Here

	IMO NUMBER	MMSI	↑ NAME			
1	9425148	249947000	lolcos Vision			

GO TO PAGE ROWS  
1 25

1 RESULT

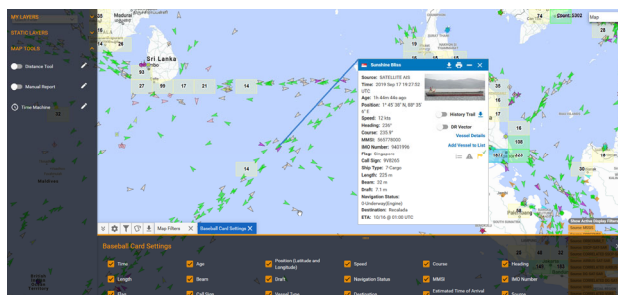
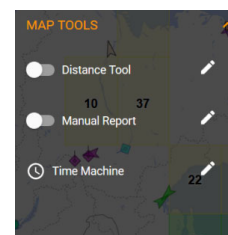
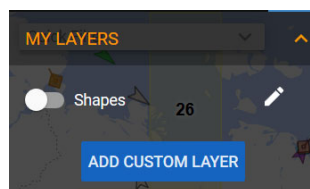
Source: SATELLITE AIS  
Time: 2020 May 13 01:29:32 UTC  
Age: 0h 15m 24s ago  
Position: 0° 49' 9" N, 3° 56' 5" W  
Speed: 10.7 kts  
Heading: 70°  
Course: 80°  
MMSI: 371233000  
IMO Number: 9166211  
Flag: Panama  
Call Sign: 3FLD  
Ship Type: 7-Cargo  
Length: 177 m  
Beam: 29 m  
Draft: 8 m  
Navigation Status: 0-Underway(Engine)  
Destination: Cm Dia  
ETA: 05/16 @ 16:00 UTC

History Trail  
DR Vector  
Vessel Details  
Add Vessel to List



## User Interface Configuration Summary

- Searches
- Chat/Messages
- Map Menu (MY LAYERS, STATIC LAYERS, and MAP TOOLS)
- Map Options (Map Settings, Map Filters, Baseball Card Settings, Exporting Vessels)
- Dashboard (Rules, Alerts, Warnings, and Vessel Lists)



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DISTRIBUTION STATEMENT A. Approved for public release: distribution unlimited.



Questions?

