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SEAVISION

UNITED STATES DEPARTMENT OF TRANSPORTATION

SeaVision was developed specifically for use by the U.S. Navy and government agencies of international partner nations.

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Maritime Domain Awareness (MDA)

Maritime Domain Awareness (MDA) is the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment.

MDA is inherently an interagency function.

With an EEZ of 5.8M km², no single agency can maintain surveillance of the entire area. Each agency has an interest in different areas – together they can monitor more of the EEZ.

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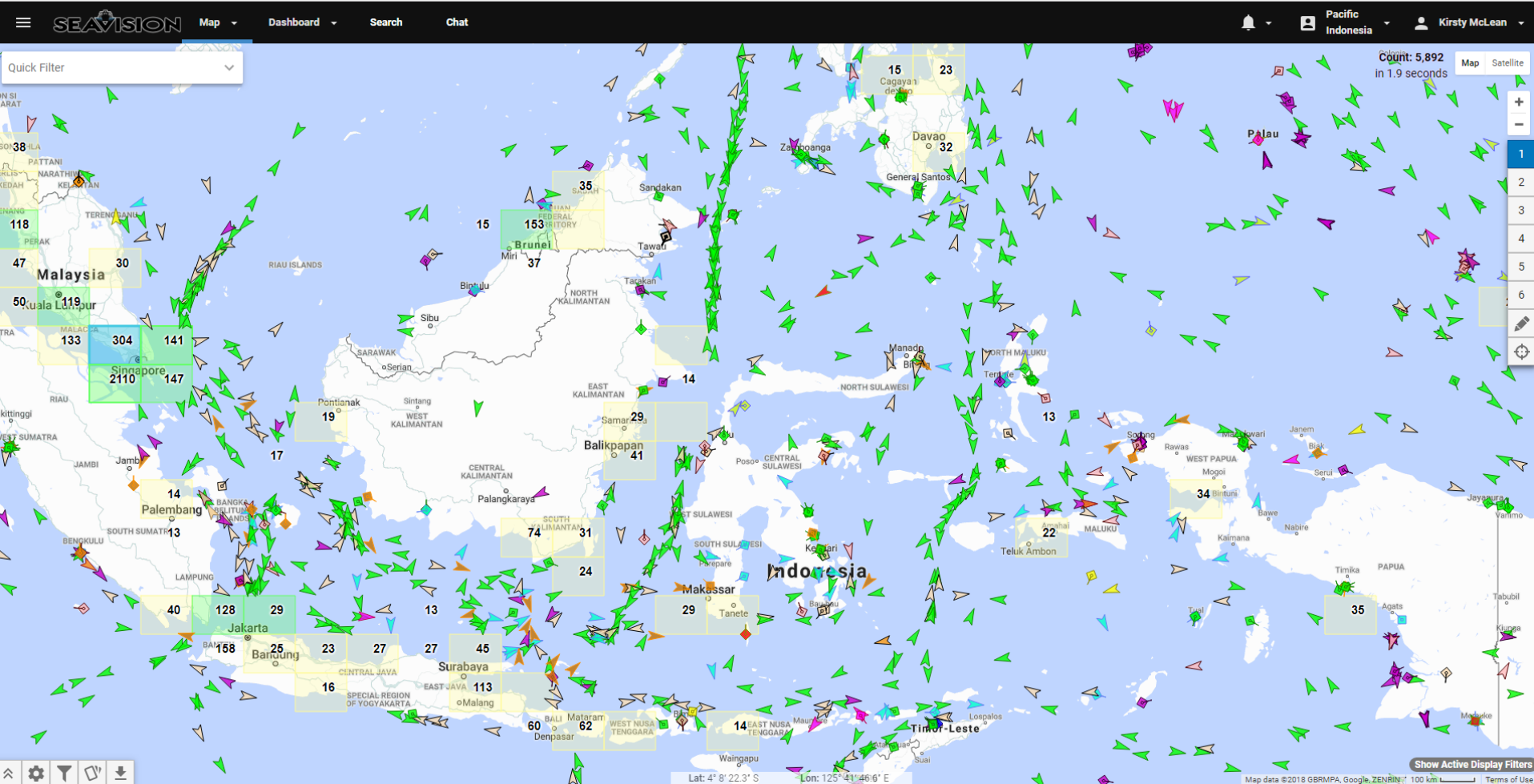


Demo: Top 7 features of SeaVision

1. **User friendly google maps based interface**
 - Supports fast communication of information
 - Avoids fear of technology - difficult to 'break'
 - Regional and operational level tool – tactical systems used for interdiction
2. **Data streams**
 - Satellite AIS and RADAR, terrestrial AIS and RADAR, VIIRs, VMS
3. **Baseball cards**
 - Provide data about vessels at a glance
4. **Filters and Search**
 - Quickly find vessels of interest
5. **Analysis Tools**
 - Lloyds of London database,
 - Rules and Alerts
 - USCG warning system
6. **Time Machine**
 - Which vessels were in the area at the time of an incident
7. **Communication and sharing**
 - Vessels of interest
 - Chat function



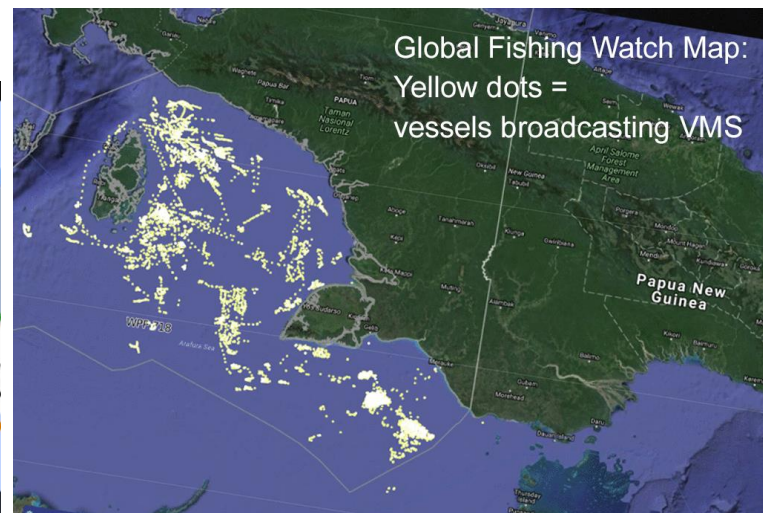
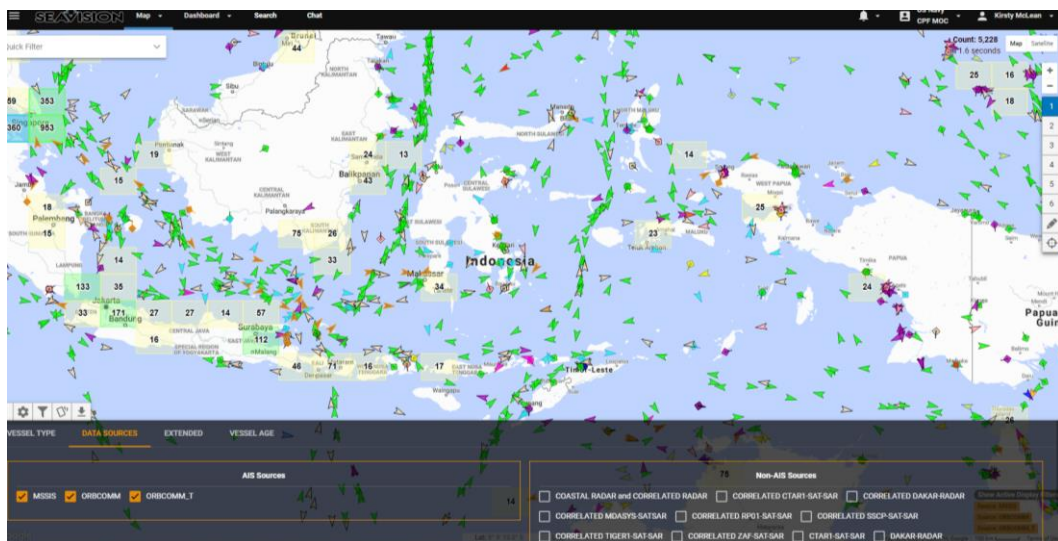
Feature 1: Google map interface



- Interface designed to be accessible and encourage exploration
- Analyst tools are one layer deeper
- Ability to share 'the big picture' of regional maritime security



Feature 2: Data Streams and Data Bases



Global Fishing Watch Map:
Yellow dots =
vessels broadcasting VMS

74 ACTIVE PARTICIPATING NATIONS (as of February 2017)

ALBANIA	FRANCE	LIBERIA	PHILIPPINES
ARGENTINA	GABON	LITHUANIA	ROMANIA
AUSTRALIA	GAMBIA	MALTA	SAO TOME & PRINCIPE
BAHRAIN	GEORGIA	MAURITANIA	SENEGAL
BELGIUM	GERMANY	MAURITIUS	SEYCHELLES
BENIN	GHANA	MEXICO	SINGAPORE
BRAZIL	GREECE	MONTENEGRO	SIERRA LEONE
BULGARIA	GUINEA	MOROCCO	SOUTH AFRICA
CAMEROON	ICELAND	MOZAMBIQUE	SPAIN
CANADA	IRAQ	NETHERLANDS	SWEDEN
CAPE VERDE	INDIA	NEW ZEALAND	TOGO
CHILE	IRELAND	NIGERIA	TANZANIA
COLOMBIA	ISRAEL	NORWAY	THAILAND
CROATIA	ITALY	OMAN	TUNISIA
DENMARK	JAMAICA	PAKISTAN	TURKEY
DJIBOUTI	JAPAN	PERU	UKRAINE
DOMINICAN REPUBLIC	JORDAN	POLAND	UNITED KINGDOM
ESTONIA	KENYA	PORTUGAL	UNITED STATES
FINLAND			URUGUAY

- Includes Terrestrial, Satellite AIS
- VIIRs
- Satellite Radar
- Terrestrial radar (if connected)
- MSSIS
- Lloyds of London
- US Coast Guard Risk Analysis



Feature 2 (cont): SATSAR – ‘what you don’t know’

RADARSAT-2 Monitoring 15 March 2018

4 x RADARSAT-2 Ship Detection Scenes

2018-03-15 21:16 UTC

Philippines

2018-03-15 21:20 UTC

81 RADARSAT-2 & AIS Vessels

Philippines

928 RADARSAT-2 Only

92% “Dark Targets”

Philippines

Ship Detects from Satellite Synthetic Aperture RADAR (SAR)



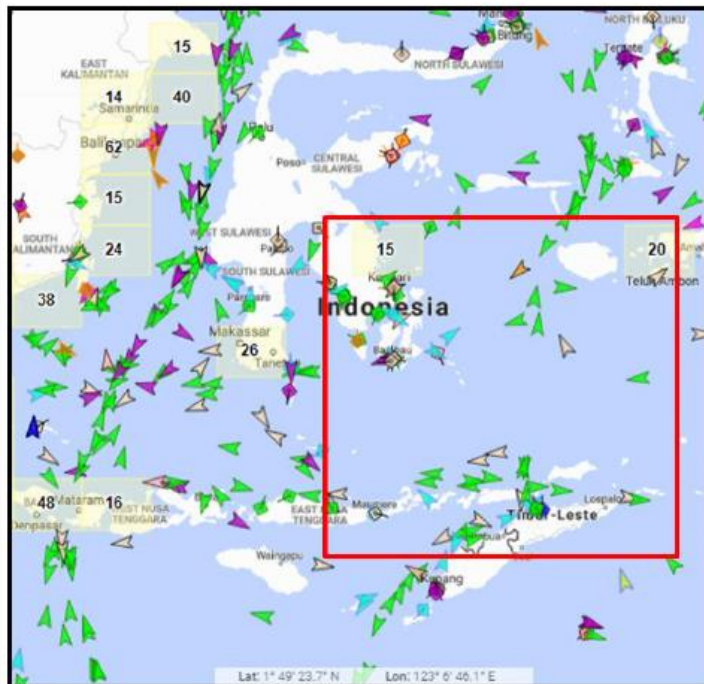
▼ Benefits

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

▼ Limitations

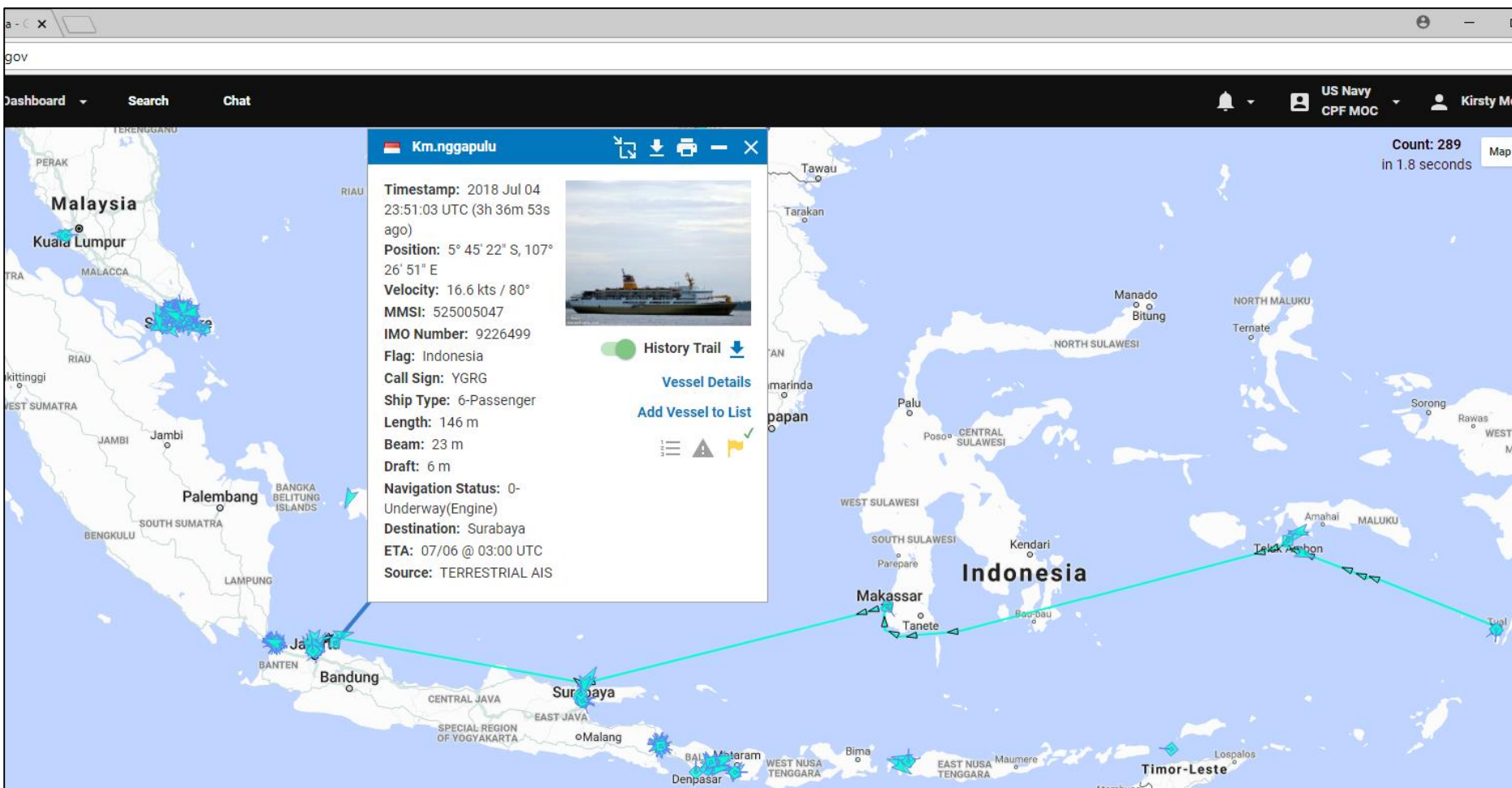
- Lower resolution than EO
- Doesn't look like a picture
- Ships need to have reflective surface
- Latencies and sparsity in SAR reports

SPAWAR_PAC_PPT_template8_interior-FINAL





Feature 3: Information 'Baseball' Cards



- Shows information on the vessel, the data and the history trail of the vessel (customizable)
- Easily create vessel of interest list, view details, warnings



Feature 4: Filter and Search

SEAVISION

Map

Dashboard

Search

Chat

US Navy

CPF MOC

Kirsty McLean

+

Active Rules (1)

My Rules

Persona

Community

All

1

USER

China Flag

Disabled Rules (3)

My Rules

Persona

Community

All

No Data

Rules

China Flag

LAST UPDATED

2018-07-05 03:42:41 by Kirsty McLean

CONDITIONS (3)

condition

1 Flag is China

2 Location by AO is inside USPACOM

3 Location by EEZ is inside Indonesia

Must match all conditions using vessel data no greater than 12 hours ago from time of search

SCHEDULED

Runtime Starting at 12:00 UTC daily

Interval Every 12 hours

RUNTIME INFORMATION

Enabled Yes

Expiry Expires in 29d 0h 1m

Vessels Matching Rule (28)

EXPORT

SAVE AS LIST

MAP RESULTS

SETTINGS

	MMSI	IMO	VESSEL	RULE S...	RULE R...	WARNI...	DATE TI...	VESSEL...
1	412068...	9364746	De Ming...	—	—	18	050319...	7-Cargo
2	412121...	9192662	Le Yi	—	—	7	042340...	7-Cargo
3	412274...	9580481	Ya Tai 3	—	—	14	050008...	7-Cargo
4	412377...	—	Lulaoyt...	—	—	—	050337...	30-Fishi...
5	412466...	—	Bintang ...	—	—	—	050333...	8-Tanker
6	412477...	8755429	Nan Hai...	—	—	15	050319...	9-Other
7	413157...	9473389	Xin An Y...	—	—	2	050326...	8-Tanker
8	413296...	—	Haiyang...	—	—	—	050319...	9-Other
9	413301...	8770302	Hai Yan...	—	—	14	050235...	9-Other
10	413362...	—	Tb.amet...	—	—	—	050141...	0-Unkno...

28 RESULTS

1

2

>

>|

GO TO PAGE

ROWS

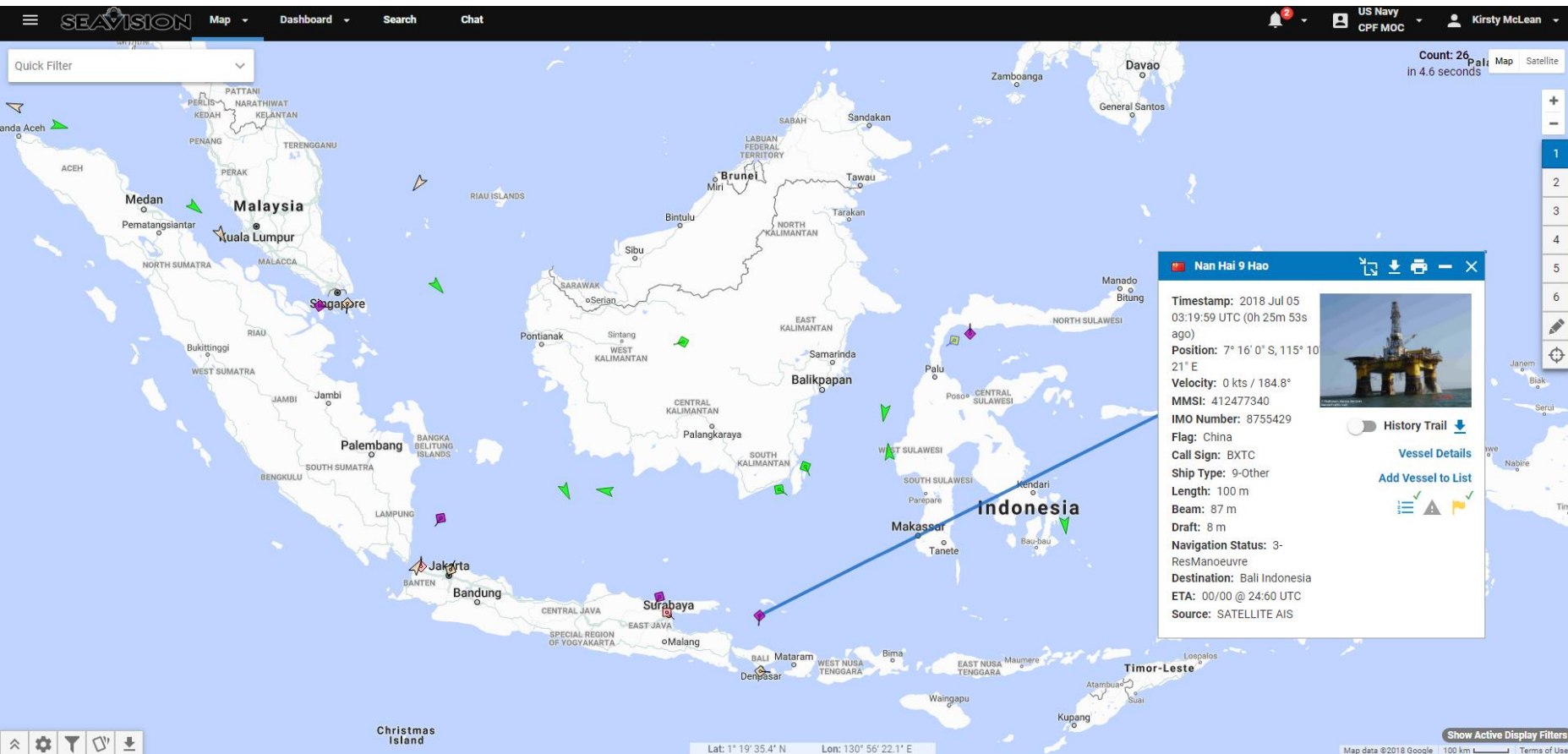
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25

- Search on many different aspects of a vessel
- Establish a standing rule to run every day
- Set an Area of Interest and know when ships go in and out of that area by email



Feature 4: Filter (cont) Map View of the Rule



- Shows all of the vessels of interest on a map
- This search is on all Chinese Flag vessels in ID EEZ
- Can run the report every x hrs and email it to the user (hint: the oil rig should be there on every report 😊)



Feature 5: Analysis Tools

SEAVISION Map Dashboard Search Chat

Quick Filter

Shandong Haisheng

Timestamp: 2018 Jul 05 02:10:31 UTC (1h 36m 21s ago)
Position: 3° 57' 32" S, 111° 3' 47" E
Velocity: 10.8 kts / 278°
MMSI: 414057000
IMO Number: 9626546
Flag: China
Call Sign: BBUA
Ship Type: 7-Cargo
Length: 190 m
Beam: 32 m
Draft: 13.2 m
Navigation Status: 0- Underway(Engine)
Destination: Th Sri
ETA: 07/09 @ 12:00 UTC
Source: SATELLITE AIS

History Trail

Vessel Details

Add Vessel to List

Shandong Haisheng

MMSI: 414057000
IMO Number: 9626546
FIND

Summary Details EEZ History Port History Rules

EXPORT AS

SHIP	
Fairplay Sid	225688
Name	Shandong Hai Sheng
Imo Number	9626546
Call Sign	BBUA
Mmsi	414057000
Flag	China
Operator	Shandong Shipping Co Ltd
Subtype	Bulk Carrier
Gross Tonnage	32960
Deadweight	56531
Year Due Or Delivered	2011
Sub Status	In Service/commission
Builder	Yangzhou Guoyu Shipbuilding Co

- Research Insurance history of the vessel
- Understand crew make up, flag changes, inspection history
- Keep notes on the vessel to share with other users



Safety and Security Filters

SEAVISION Map Dashboard Search Chat

MY LAYERS STATIC LAYERS

- ☐ Vessel Name
- ☐ Country Borders
- ☐ Areas of Operation
- ☐ Exclusive Economic Zones
- ☐ Alerts
- ☐ Rules
- ☒ Warnings

MAP TOOLS

Shandong Haisheng

Timestamp: 2018 Jul 05 02:10:31 UTC (1h 40m 42s ago)
Position: 3° 57' 32" S, 111° 34' 47" E
Velocity: 10.8 kts / 278°
MMSI: 414057000
IMO Number: 9626546
Flag: China
Call Sign: BBUA
Ship Type: 7-Cargo
Length: 190 m
Beam: 32 m
Draft: 13.2 m
Navigation Status: 0- Underway(Engine)
Destination: Th Sri
ETA: 07/09 @ 12:00 UTC
Source: SATELLITE AIS

History Trail Vessel Details Add Vessel to List

Shandong Haisheng

MMSI: 414057000 IMO Number: 9626546

History Port History Rules Alerts Warnings Lists

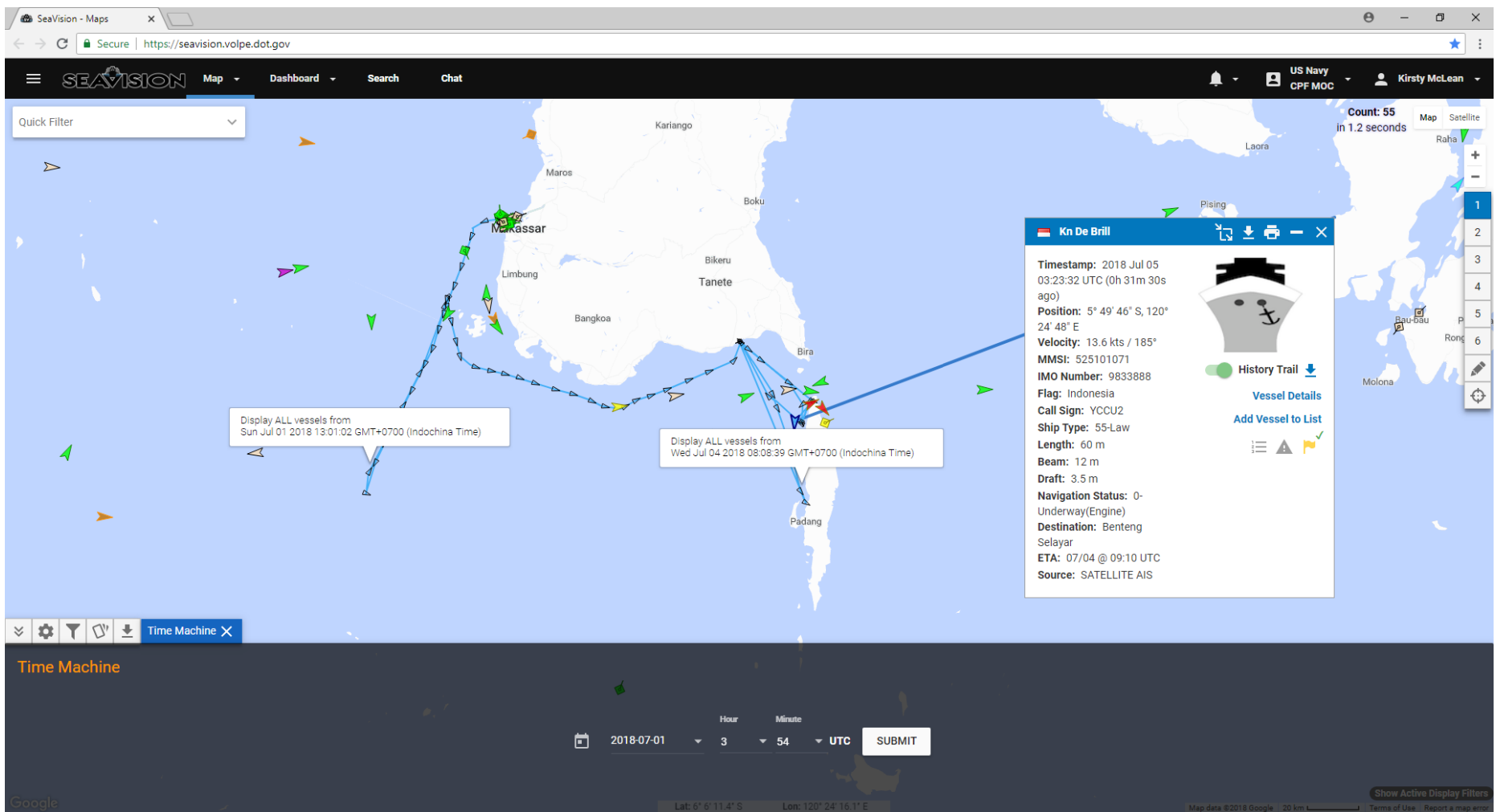
SECURITY

Security Compliance	0
Ship Management	0
ISPS Inspection History	0
ISPS Detention History	0
Non-detainable Security Defects	2 (1 non-detainable security defects)
Ports Not Compliant With ISPS	2 (2 ISPS noncompliant ports visited)
Ports Viewed As Insecure By ISPS	0
Port Call History	0
Targeted Crew Nationalities	0 (No crew data available)

- Red, yellow or green 'halos' show level of safety or security risk
- USCG rules – can be customized to user defined fields



Feature 6: Time Machine



- Scenario – which other vessels were near Kn De Brill on 1 Jul 18 when ferry sunk?



Feature 6: Time Machine (cont)

SeaVision - Maps

Secure | <https://seavision.volpe.dot.gov>

SEAVISION Map Dashboard Search Chat

Quick Filter

Count: 58 in 1.6 seconds

Map Satellite

525020420

Historical data from Time Machine mode

Timestamp: 2018 Jul 01 06:00:41 UTC (93h 59m 30s ago)

Position: 6° 5' 5" S, 117° 40' 59" E

Velocity: 9.6 kts / 103°

MMSI: 525020420

IMO Number: —

Flag: Indonesia

Call Sign: —

Ship Type: —

Length: — m

Beam: — m

Draft: — m

Navigation Status: —

Destination: —

ETA: —

Source: SATELLITE AIS

History Trail

Vessel Details

Add Vessel to List

525015749

Historical data from Time Machine mode

Timestamp: 2018 Jul 01 06:01:01 UTC (93h 59m 35s ago)

Position: 5° 28' 27" S, 118° 9' 33" E

Velocity: 14 kts / 230°

MMSI: 525015749

IMO Number: —

Flag: Indonesia

Call Sign: —

Ship Type: —

Length: — m

Beam: — m

Draft: — m

Navigation Status: —

Destination: —

ETA: —

Source: SATELLITE AIS

History Trail

Vessel Details

Add Vessel to List

Display ALL vessels from Sun Jul 01 2018 12:26:47 GMT+0700 (Indochina Time)

Time Machine

2018-07-01 6:01 UTC

SUBMIT

SV TimeMachine Feature Enabled. All vessels from 2018/07/1 06:01 UTC and 2 hours prior displayed. Turn Off SV TimeMachine Feature.

Lat: 6° 29' 29.5" S Lon: 121° 9' 37.7" E

Map data ©2018 Google 20 km

Terms of Use Report a map error

11:01 AM 7/5/2018

- Scenario – which other vessels were near the search area on 1 Jul 18 when ferry sunk?



Feature 6: Communication – VOIs and chat

SEAVISION

Map

Dashboard

Search

Chat

US Navy

CPF MOC

Kirsty McLean

DASHBOARD

Rules

Alerts

Warnings

Vessel Lists

All

My Lists

Persona

Community

TYPE	VESSELS	NAME	
COMMUNITY	113	17 APR 1800 MII	
COMMUNITY	21	akademic series	
COMMUNITY	1	EMBARCACIONES EN SEGUIMIENTO	
COMMUNITY	89	MSC	
COMMUNITY	8	U.N. Sanctioned Vessels	
COMMUNITY	34	U.S. Sanctioned Vessels	
PERSONA	16	VOI's	
COMMUNITY	760	VOO	

User List Name ADD LIST

Vessel Lists

U.S. Sanctioned Vessels

	MMSI	VESSEL NAME	HISTORY TRAIL
1	325823000	Yuk Tung	OFF
2	341985000	Hao Fan 6	OFF
3	341988000	Hao Fan 2	OFF
4	353715000	Hua Fu	OFF
5	445018000	Ansan1	OFF

1 2 > >|

Yuk Tung



MMSI

IMO NUMBER

CALL SIGN

TYPE

CARGO

DIMENSIONS

325823000

9030591

J7DN3

8-Tanker

0-AllShips

179 x 28 x 6.5m

1 Notes for 325823000

1. COMMUNITY

According to open source, Japan reporting, STS with UN Sanctioned RYE SON GANG 1 on 20 Jan18
Last modified by Carlisle Wilson on 2018-02-23 12:59:49

User Message ADD NOTE

- Communicate online with other watch stations
- Share Vessels of Interest Lists
 - UN and US sanctioned vessels



Summary – Key Messages

- **MDA is an interagency effort**
 - **No single agency can monitor all of Indonesia's EEZ**
 - **“see something, say something”**
 - **Fusion or maritime info centers help interagency cooperation**
 - **US Embassy agencies are cooperating to support MDA in Indonesia.**
- **Regional maritime security is important**
 - **Indonesia is a regional leader**
- **Understanding the ‘patterns of life’ is important in order to identify unusual activities in Indonesian waters**
- **This tool provides information – not intelligence. Analysts combine info to generate intelligence. There is no “silver bullet”.**
- **SeaVision has made huge improvements in the last 10 years. We are keen to work with your experts to make it even better.**



Questions

