



**MARITIME CHALLENGES IN INDIAN  
OCEAN AND MDA CAPABILITIES -  
SRI LANKA PERSPECTIVE**

The background of the slide is a dark blue, textured image. On the left side, there is a circular compass rose with various directional markers. In the upper right quadrant, the word "TERRAIN" is written in a serif font, following the curve of a line. The overall appearance is that of an old map or a nautical chart.

**MDA**



**INTELLIGENCE + SITUATIONAL AWARENESS**



# MDA

OBSERVATION



COLLECTION



FUSION



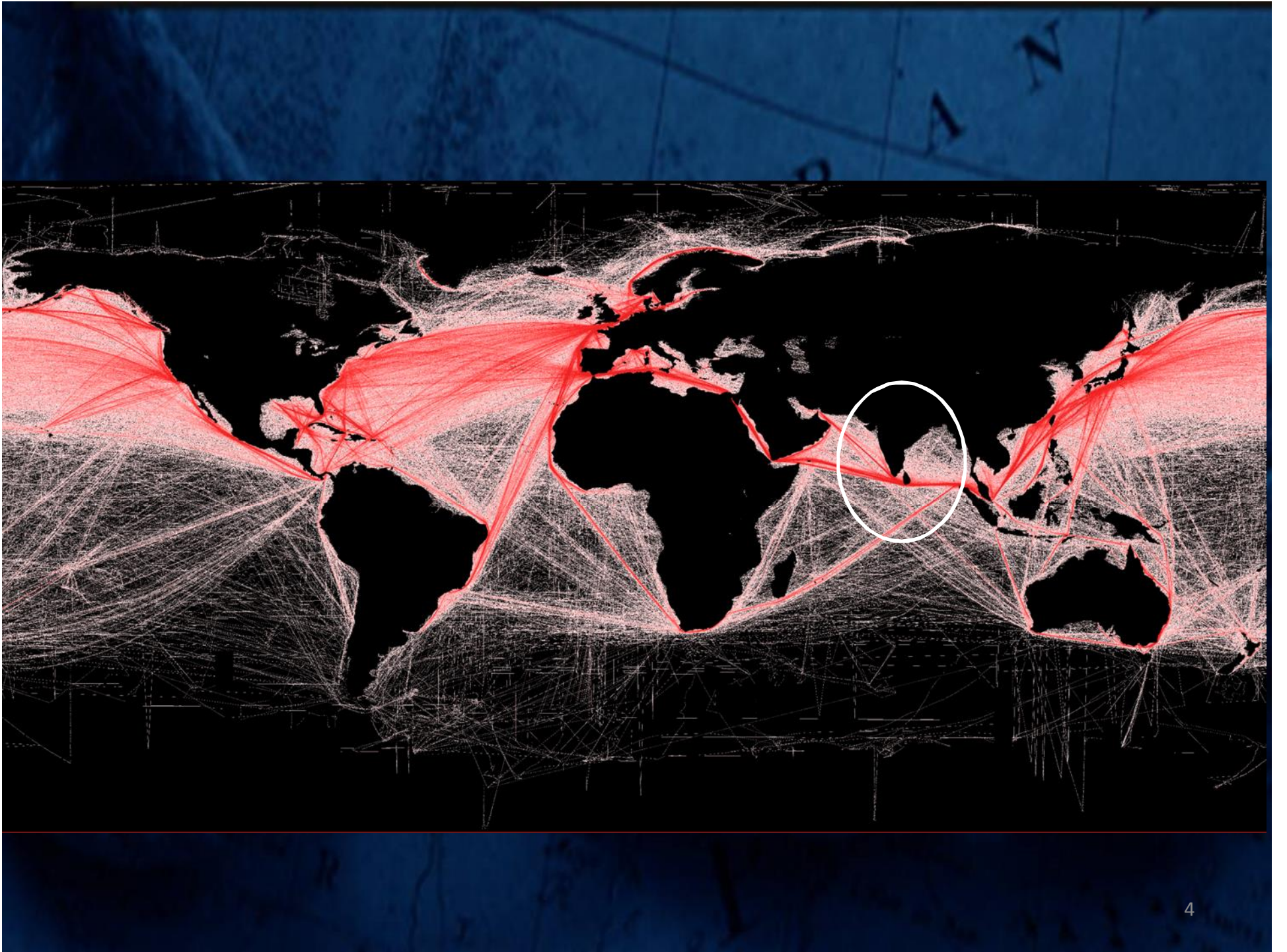
ANALYZE



DISSEMINATE



ACT

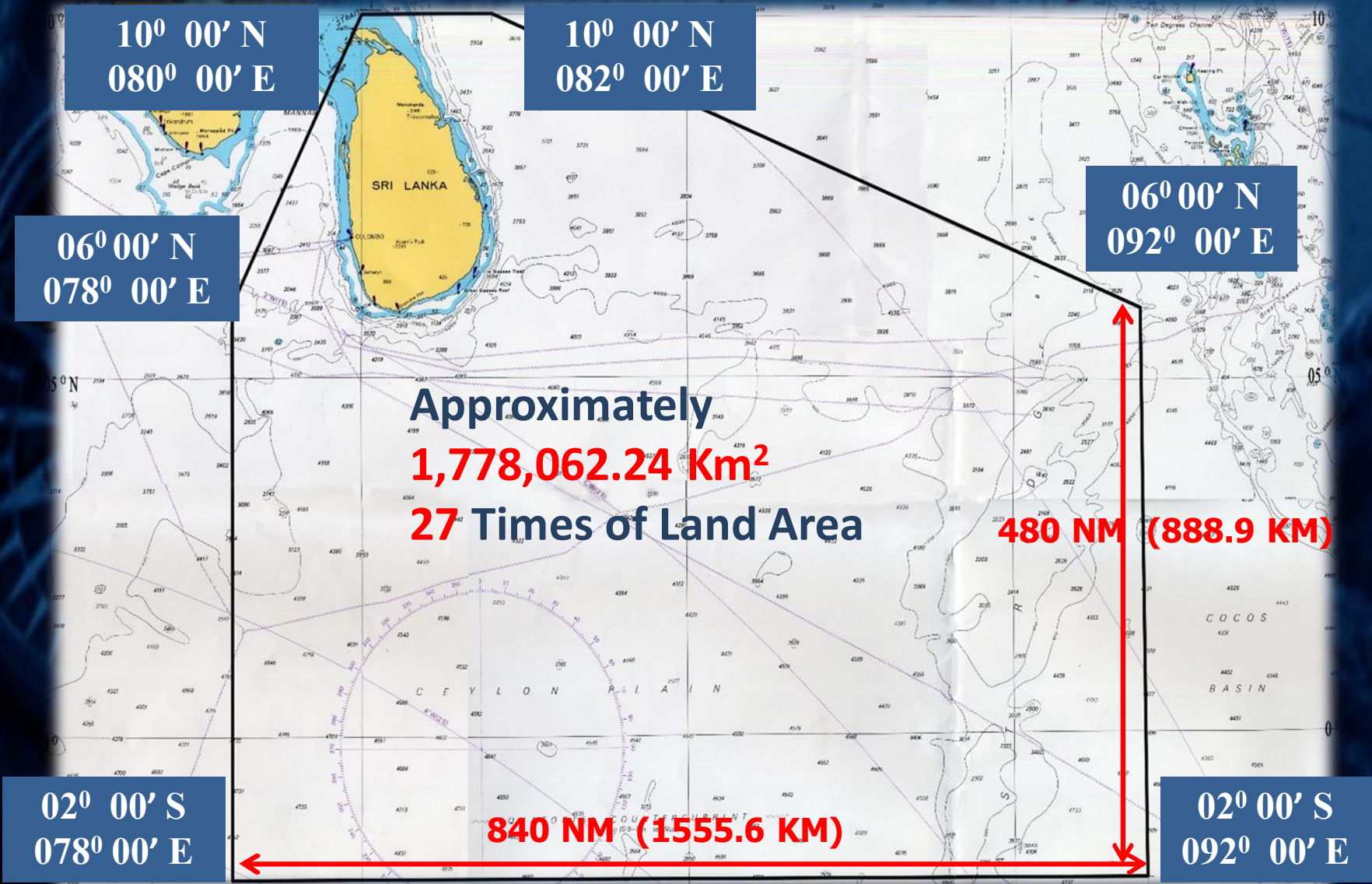




# INTERNATIONAL OBLIGATION-SRR



# AREA OF RESPONSIBILITY





# MRCC - COLOMBO



# MRCC - COLOMBO

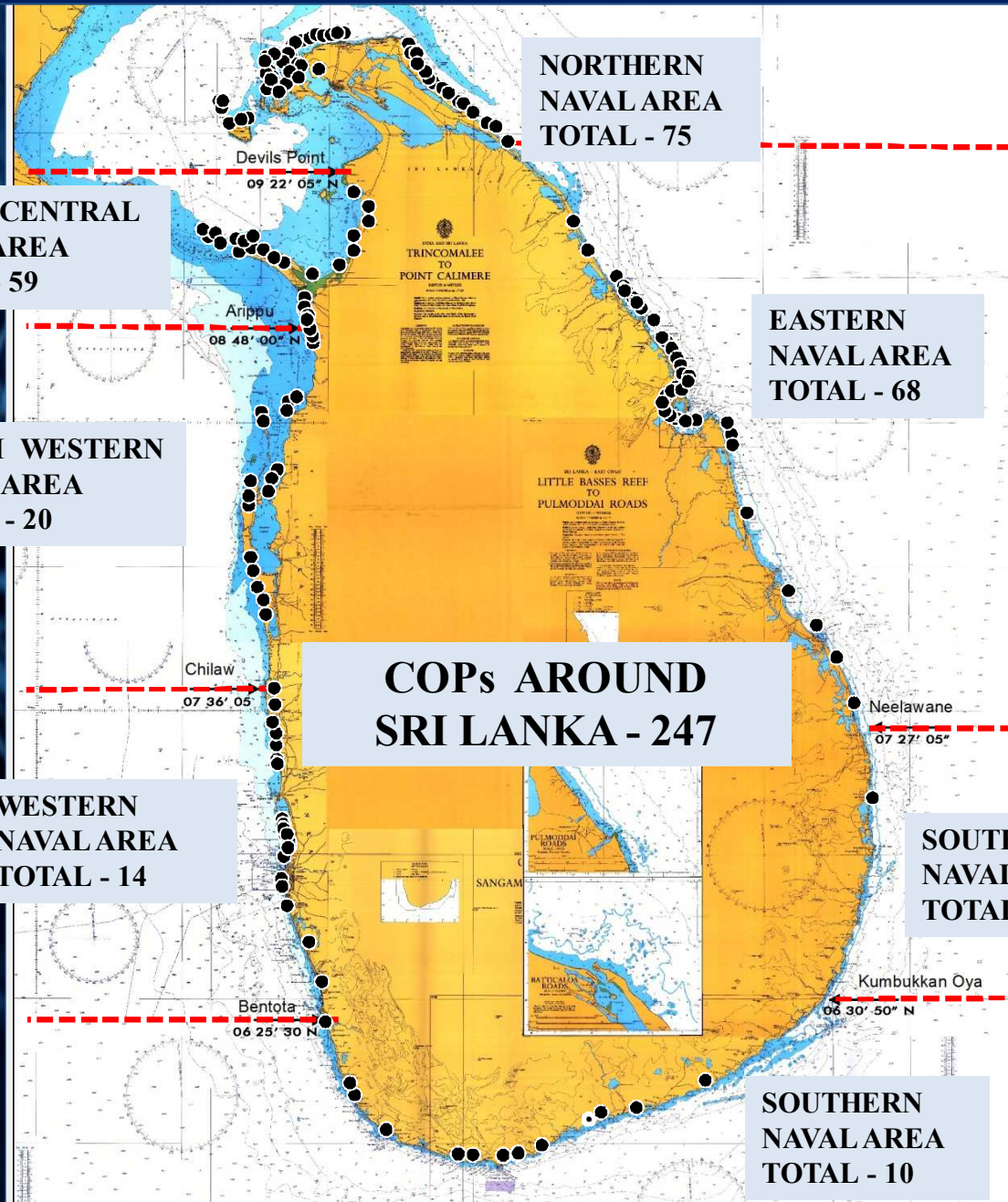
- ❑ **Sri Lanka Navy is responsible for conducting SAR Operations.**
- ❑ **MRCC Colombo is located in Naval Headquarters Colombo and being manned 24 X 7 by an Officer and trained crew.**
- ❑ **MRCC Colombo is equipped with IDD telephone facility, shore based surveillance radars and AIS equipment installed around Island also linked to MRCC Colombo for SAR purposes.**



# SYSTEMS AVAILABLE AT MRCC COLOMBO

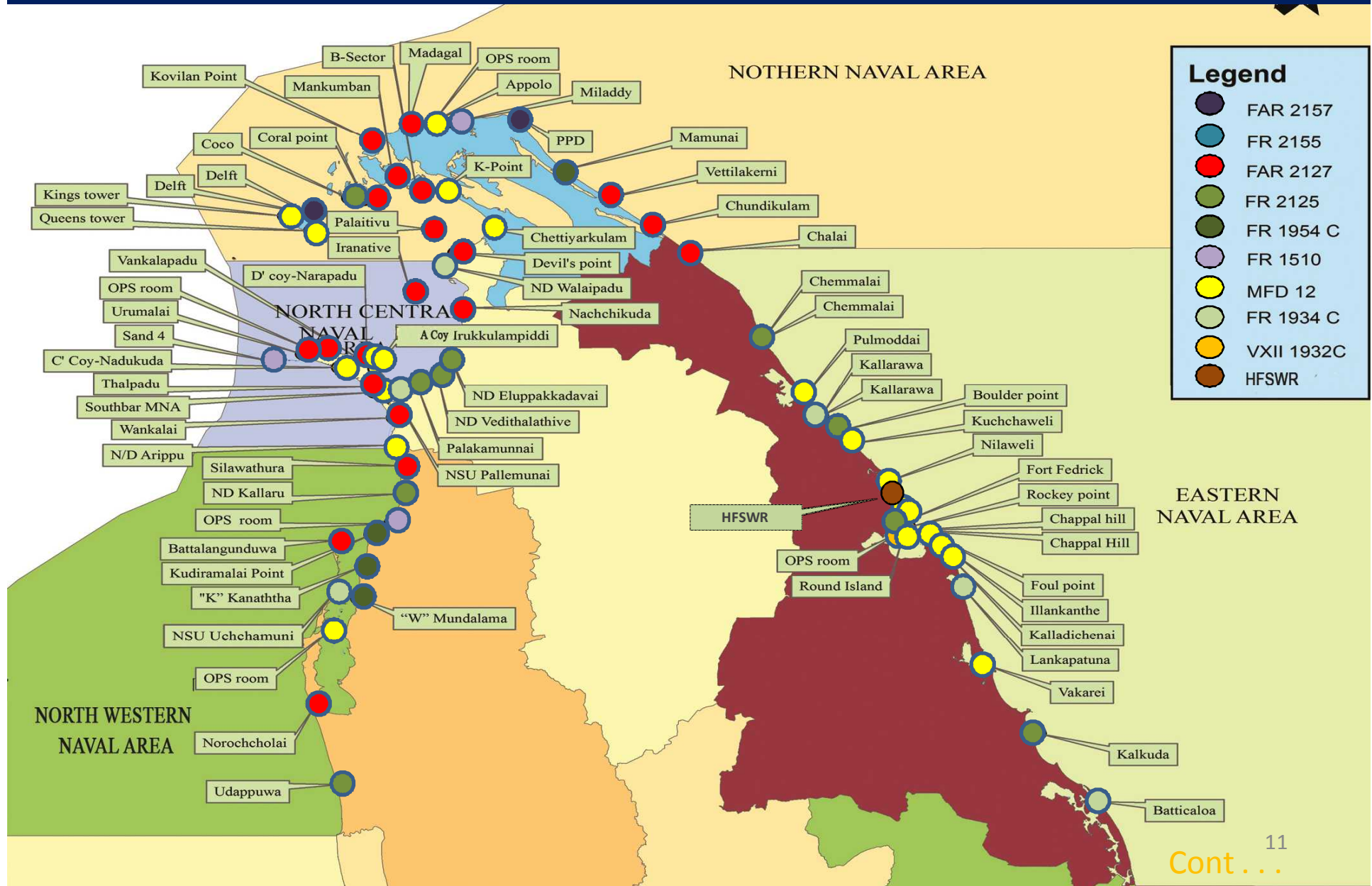
- Automatic Vessel Locating System (AVLS)
- Intergraded Maritime Surveillance System (IMSS)
- E-Broadcast system
- Drift Modeling System
- Merchant Ship Information System (MSIS)
- Vessel Monitoring System (VMS)

# COASTAL OBSERVATION POINTS (COPs)

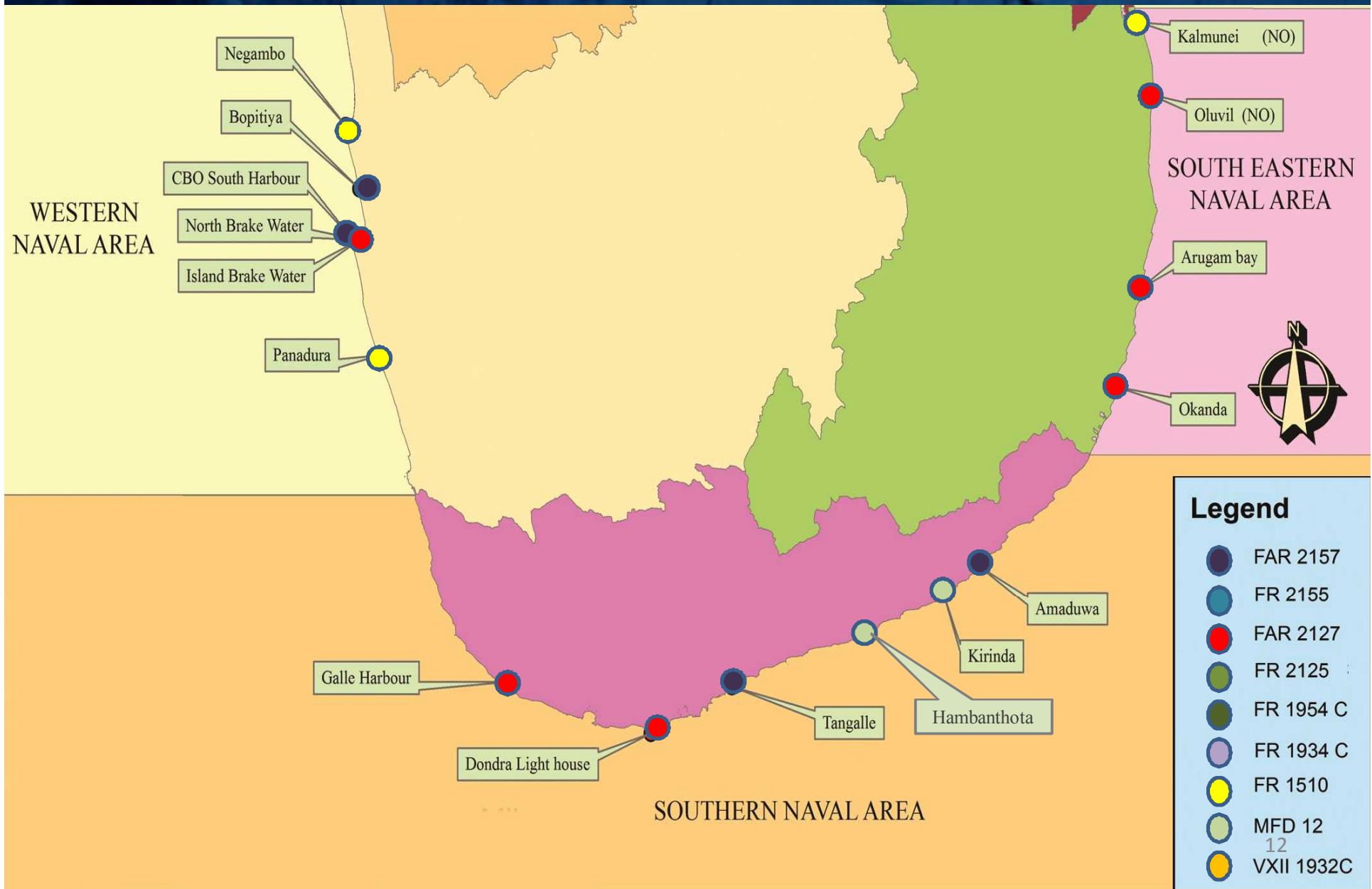




# COASTAL RADAR STATIONS IN SL NAVY



# COASTAL RADAR STATIONS IN SL NAVY



**Legend**

- FAR 2157
- FR 2155
- FAR 2127
- FR 2125
- FR 1954 C
- FR 1934 C
- FR 1510
- MFD 12
- VXII 1932C





Track 030216 AUG 27 06:44:09 Z

Track Quality	284
Range (nm)	138.12
Azimuth (deg T)	84.0
Doppler (knots)	8.36
Lat (D:M:S)	08 57 53.2 N
Long (D:M:S)	03 30 19.5 E
Speed (kts)	12.7
Heading (deg T)	212
Dead Reckoning	no
Bear Maj (deg T)	0
Maj Semi (nm)	0.0
Min Semi (nm)	0.0

Trace Track History



Show Track Alias



Designated Alias

030216

Alias Validated



# HFSWR DISPLAY

200 nm

MAP DISPLAY OPTIONS

- Filter on Quality
- Filter on Time
- Show Radar 1 Data
- Show Radar 2 Data
- Show Radar 3 Data
- Restrict Track Length
- Show Dead Reckoning
- Show Bathymetry
- Show Range Lines
- Show Sweep Zone

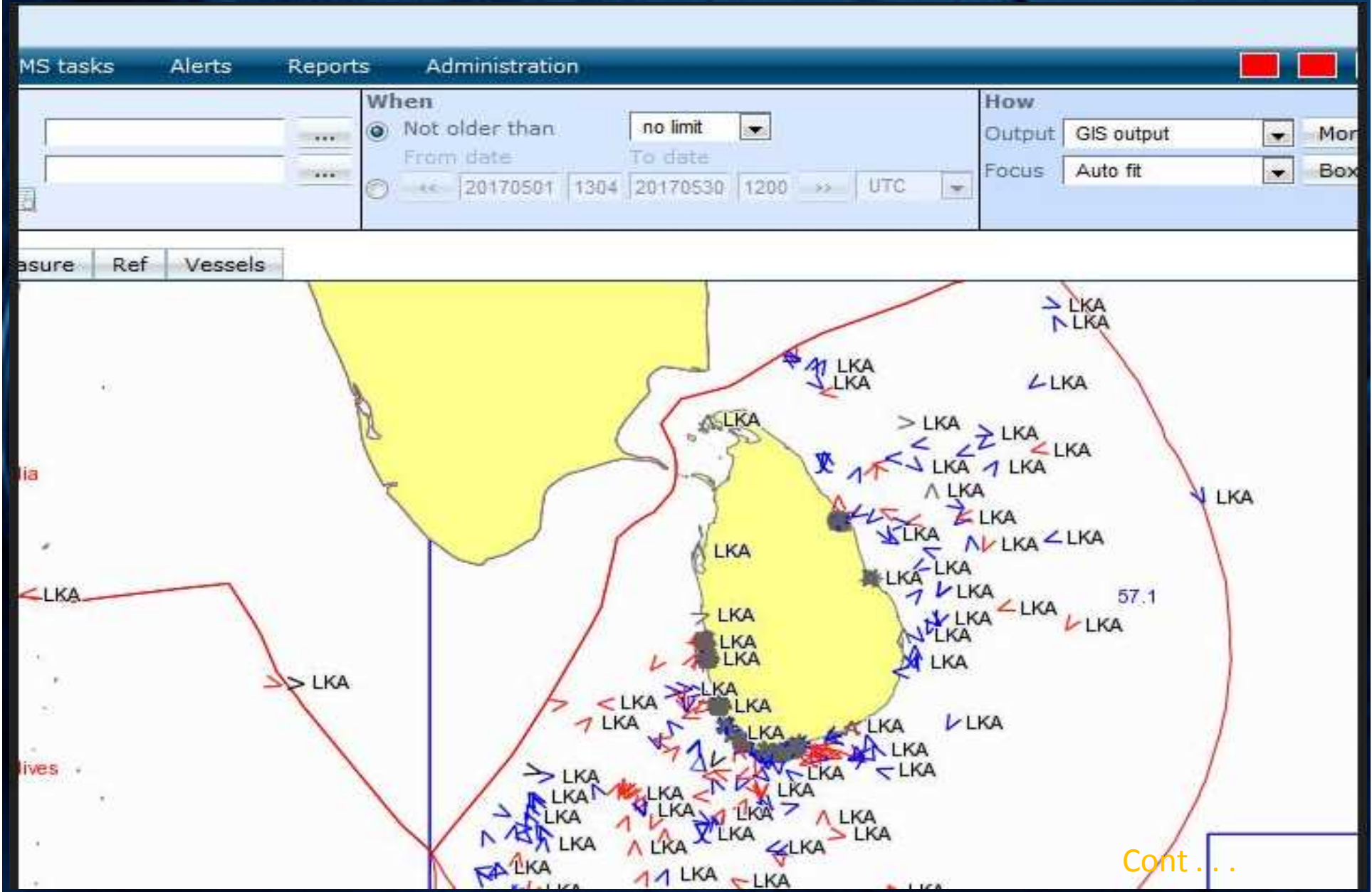
Quality Threshold

Time Limit (minutes)

Length Limit (points)

Selections Validated

# VESSEL MONITORING SYSTEM (VMS)

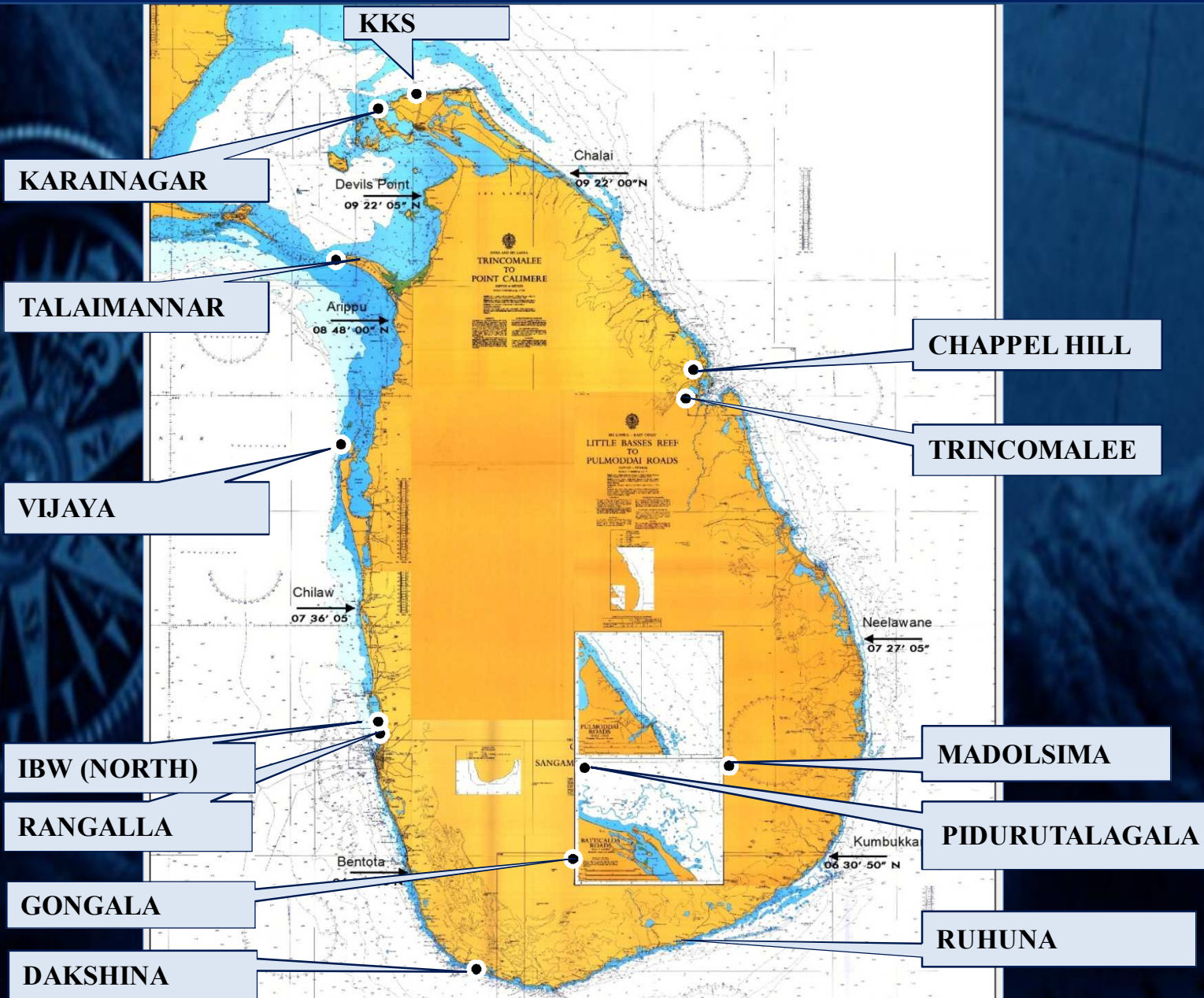




# VESSEL MONITORING SYSTEM (VMS)

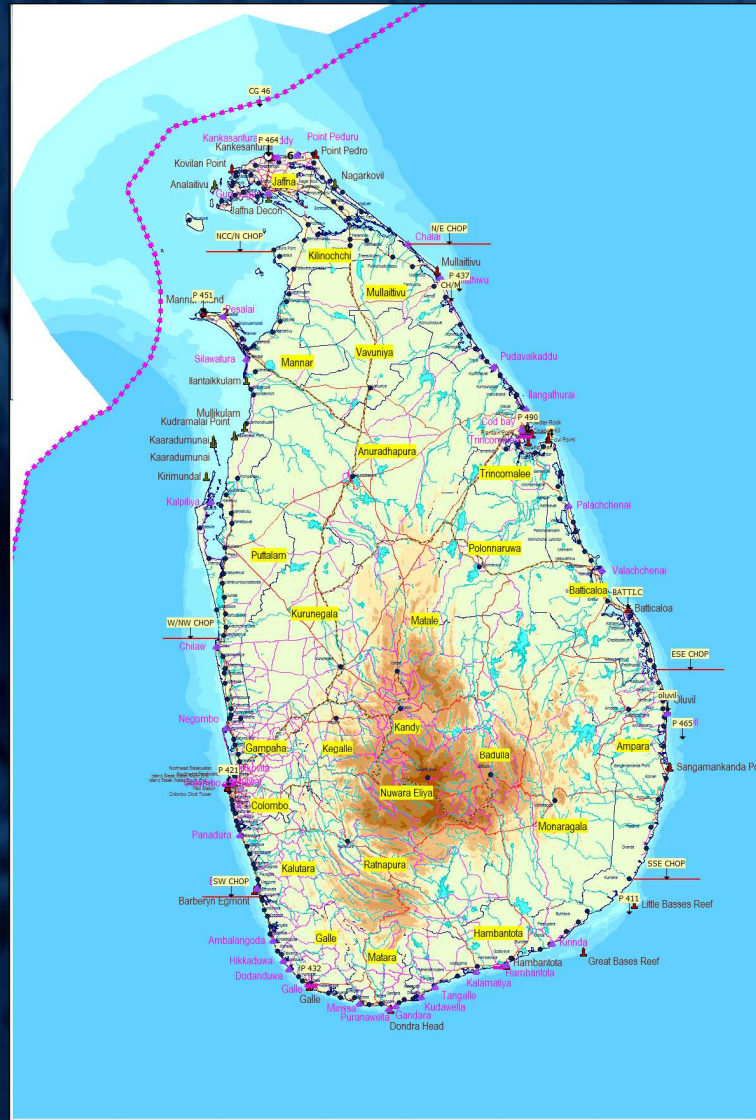
- ❑ **System delivered by DFAR with a MoU to monitor the movements of Sri Lankan fishing vessels.**
- ❑ **Monitored continuously to detect and report the border crossing of FVs**
- ❑ **At present 1560 crafts can be monitored which are fitted with transponders.**

# AUTOMATIC IDENTIFICATION SYSTEM (AIS)





# AUTOMATIC VESSEL LOCATING SYSTEM (AVLS)



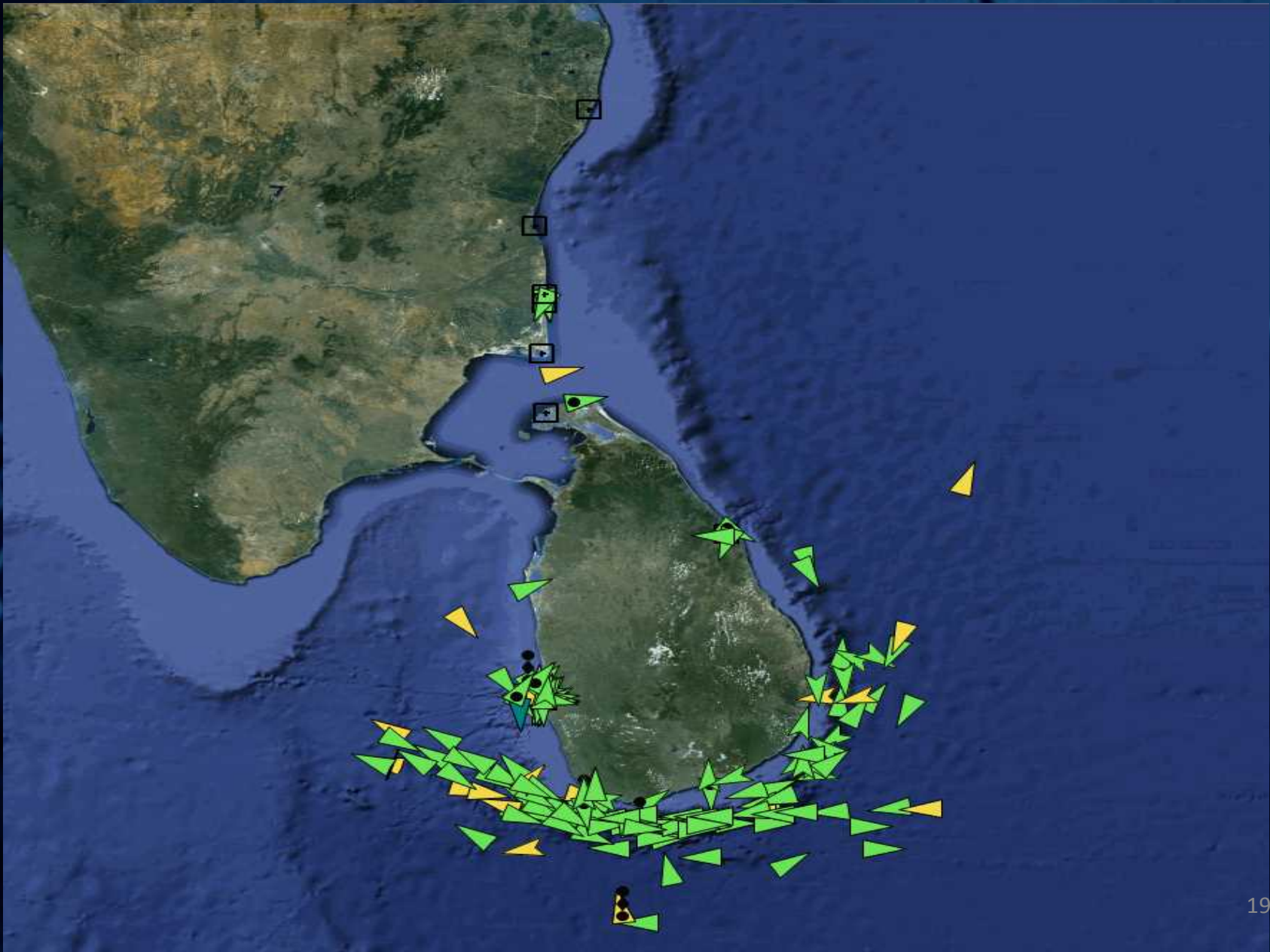
# AUTOMATIC VESSEL LOCATING SYSTEM (AVLS)

- ❑ System is used to monitor SLN fleet units deployed on maritime surveillance/special task and linked up with by UHF network which supported by 10 repeaters.

- ❑ Colombo(WTC)
- ❑ Kalpitiya
- ❑ TMNR
- ❑ Delft
- ❑ PPD
- ❑ Trincomalee (ChappelHill)
- ❑ Kallarawa
- ❑ Arugambay
- ❑ Tangalle
- ❑ Galle



# INTERGRADED MARITIME SURVEILLANCE SYSTEM

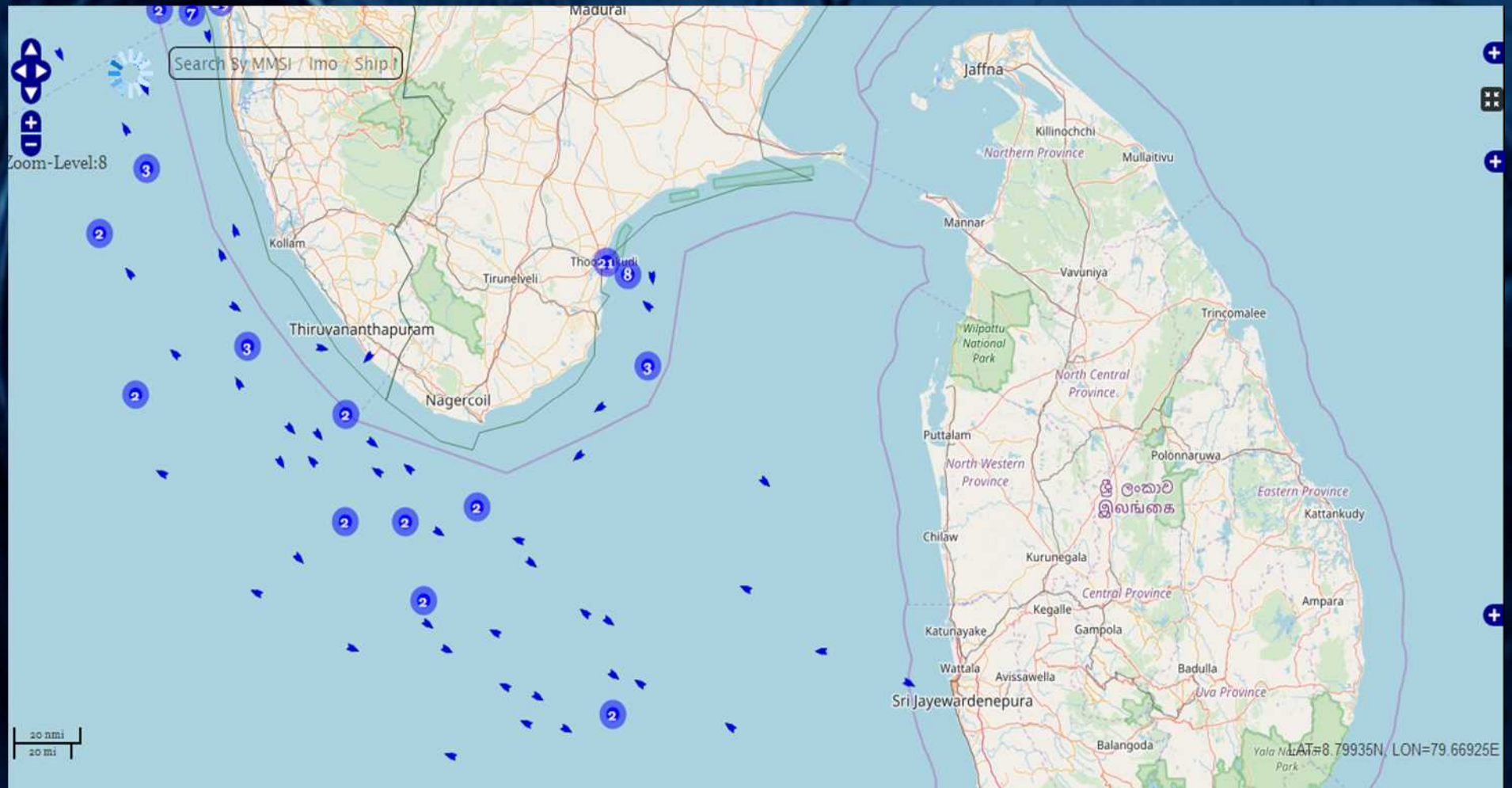


# INTERGRADED MARITIME SURVEILLANCE SYSTEM

- ❑ **System developed by SLN R&D department and University of Kalaniya.**
- ❑ **Intergraded with 6 AIS locations.**
  - ❑ **Uththara**
  - ❑ **Chappel hill**
  - ❑ **Madolsima**
  - ❑ **Gongala**
  - ❑ **Piduruthalagala**
  - ❑ **IBW (N)**



# MERCHANT SHIP INFORMATION SYSTEM (MSIS)

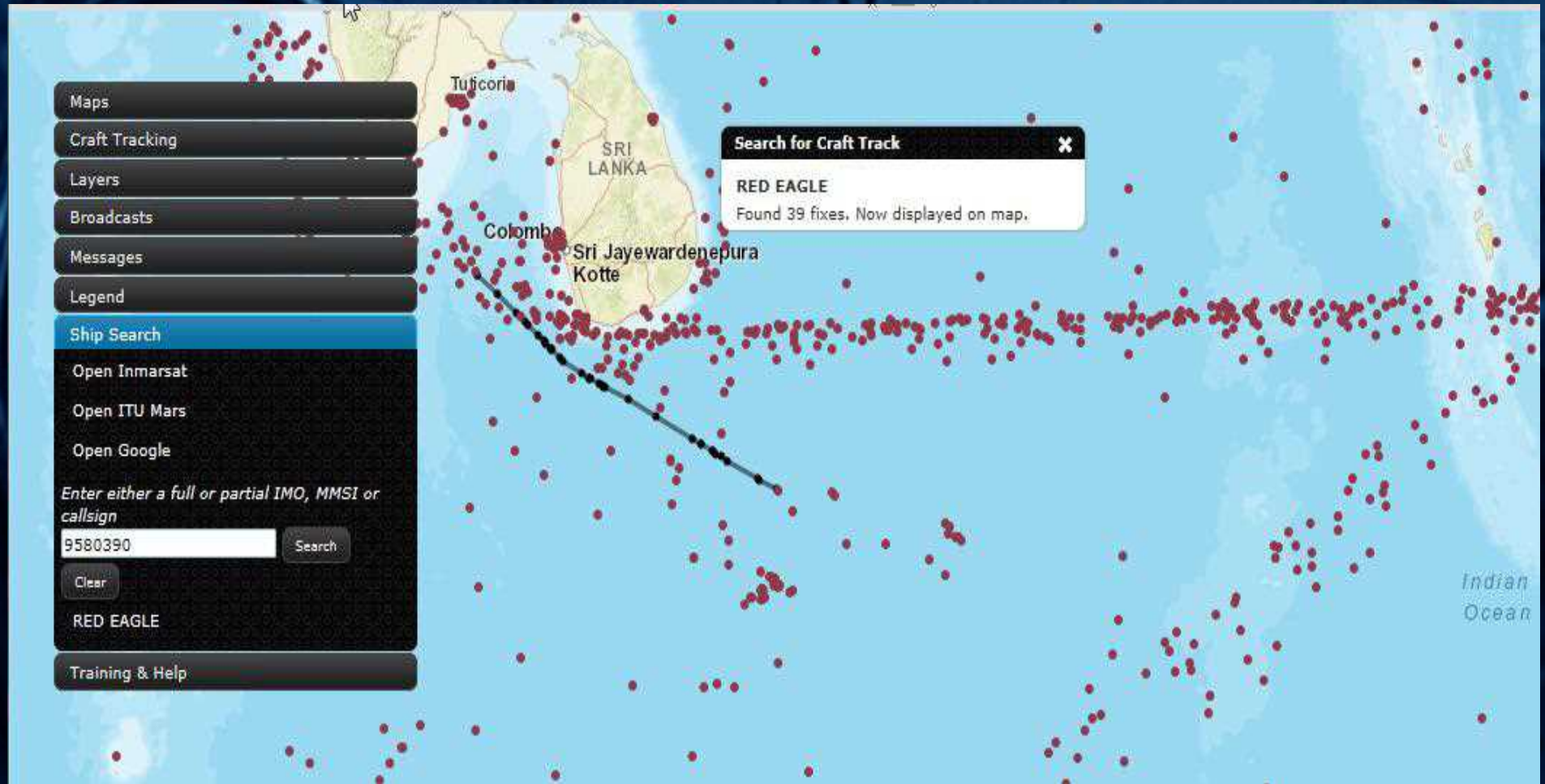


# MERCHANT SHIP INFORMATION SYSTEM (MSIS)

- ❑ **MSIS was launched on 21st October 2013 as a joint venture between Sri Lanka and India.**
- ❑ **AIS based system which provides details of merchant ships.**
- ❑ **Share data collected from AIS stations in both countries.**



# E - BROADCAST



# E - BROADCAST

- ❑ **System delivered by Australian Maritime Safety Authority (AMSA).**
- ❑ **Designed to assist vessels in distress by broadcasting distress alerts to the ships in area .**



# DRIFT MODELING SYSTEM

File Edit View History Bookmarks Tools Help

Sri Lanka Problem loading page

https://amsa-marsar.cls.fr/spilltrack/sri\_lanka/?page=home

Most Visited Getting Started Web Slice Gallery Navy Generals Windward Intelligence Fort, Colombo to Ban... Inbox - lankadiss@gm... ReCAAP GALLE DIALOGUE 2016

Sri Lanka CLS proocean

SEARCH AND RESCUE Select feature... RESET LOGOUT

Forward

1 3

Currents: CMEMS  
Winds: NCEP

**MISSINGFGD**  
08°02'49"N / 081°33'53"E  
27/07/2017 12:10 UTC  
Duration: 20h  
Uncertainty diameter: 2nm  
Degree of uncertainty: Low  
Particles per object: 1200  
Component(s):  
Survival Craft / Maritime Life Rafts / No Ballast Systems /  
Canopy / no drogue

19 h  
28/07/2017 07:10 UTC

Boat  
07°51'09"N / 081°50'53"E  
27/07/2017 14:00 UTC  
Cruising speed: 5kn  
Endurance: 96h  
Search Speed: 3kn  
Cross leg: 2.07nm

Click two points on the map, drag them to adjust and click OK when the desired angle is reached.

Angle: -105.3°

parallel creep  
sector expanding square

EDIT GRID

08°04'22"N / 081°35'09"E

Map showing drift modeling results. A red particle cloud is centered on a yellow circle labeled 'MISSINGFGD'. An orange square search area is overlaid on the map, with vertices labeled A, B, C, and D. The map shows the Sri Lankan coastline with locations like Wellkanda and Kalkudah EP. A scale bar at the bottom right indicates 10 km and 5 mi.

10 km 5 mi

EN 11:44 AM 8/19/2017

# DRIFT MODELING SYSTEM

- ❑ **System delivered by AMSA under Search & Rescue Capability Partnership Program (SCPP)**
- ❑ **This web based system facilitate to simulate the predicted position of floating objects at sea.**



# POPOSED SYSTEMS

- ❑ **Advance AIS system for target detection**
- ❑ **Satellite based system for target classification and identification**

