



**PAN INDIA**  
**CONSULTANTS** PVT.  
LTD.



**Conceptualize, design, and deliver exceptional execution**

**INDO-PACIFIC**  
**GE**  **INTELLIGENCE**



**THEME** **SPACE INFRASTRUCTURE**  
**AND GEOINT STRATEGY**  
**A SHARED VISION**



**Presented by:**  
**Vivek Bansal**  
**Vice President**  
**(Pan India Group)**

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# About Pan India





Make In India / Make in India Initiatives

# Pan India's

# "Make in India" Initiatives



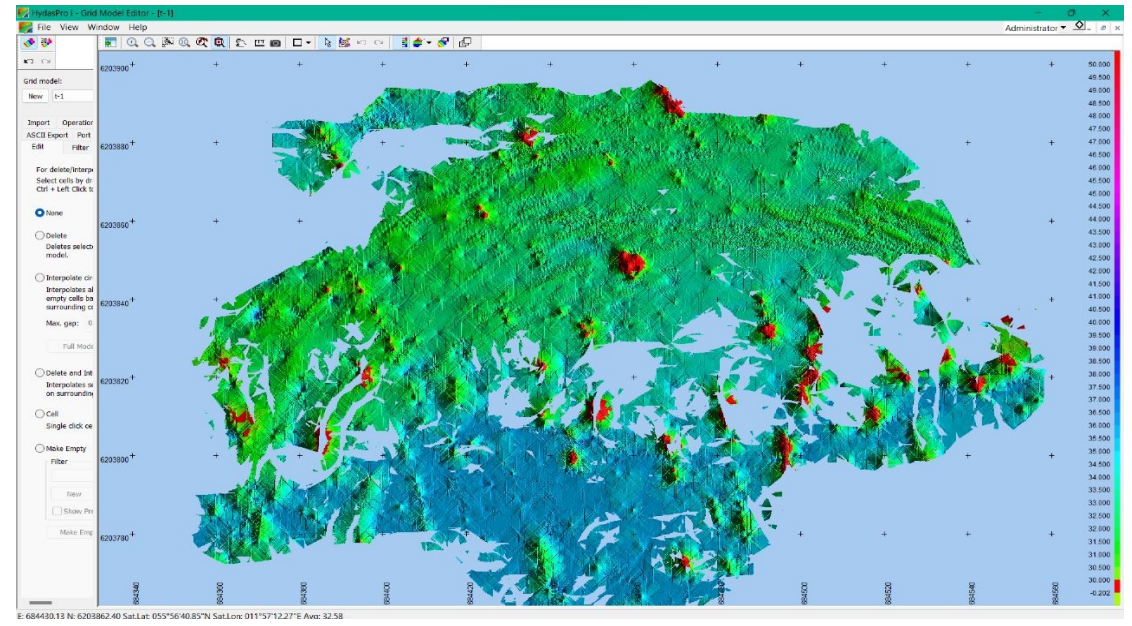
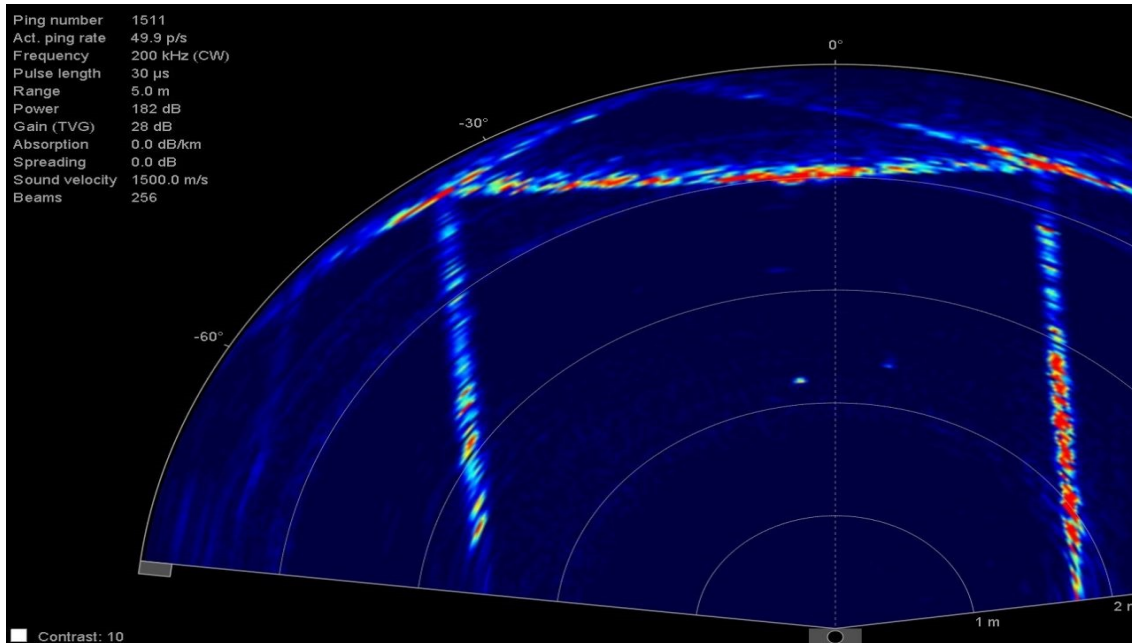
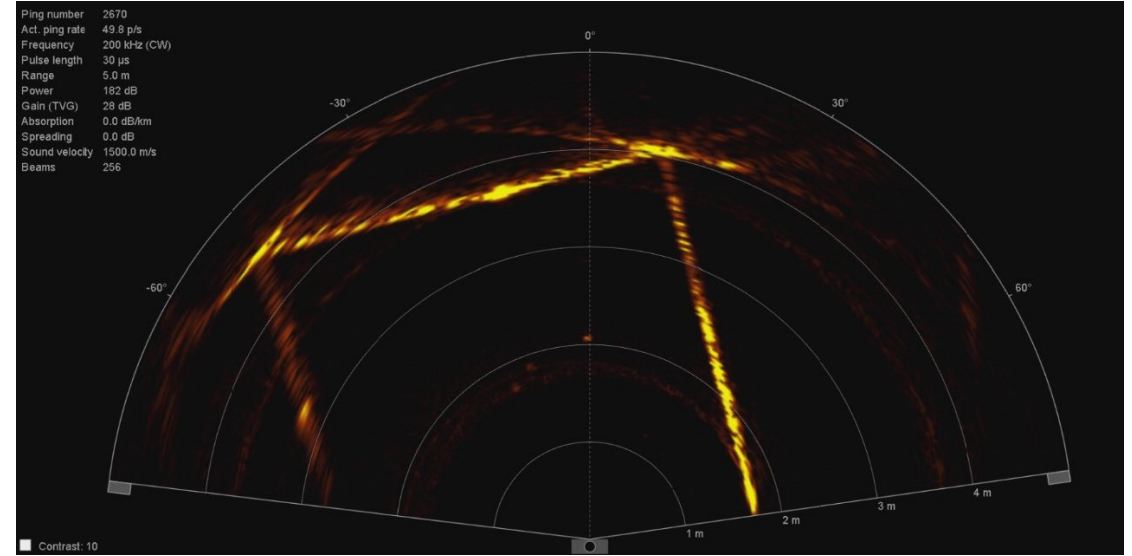
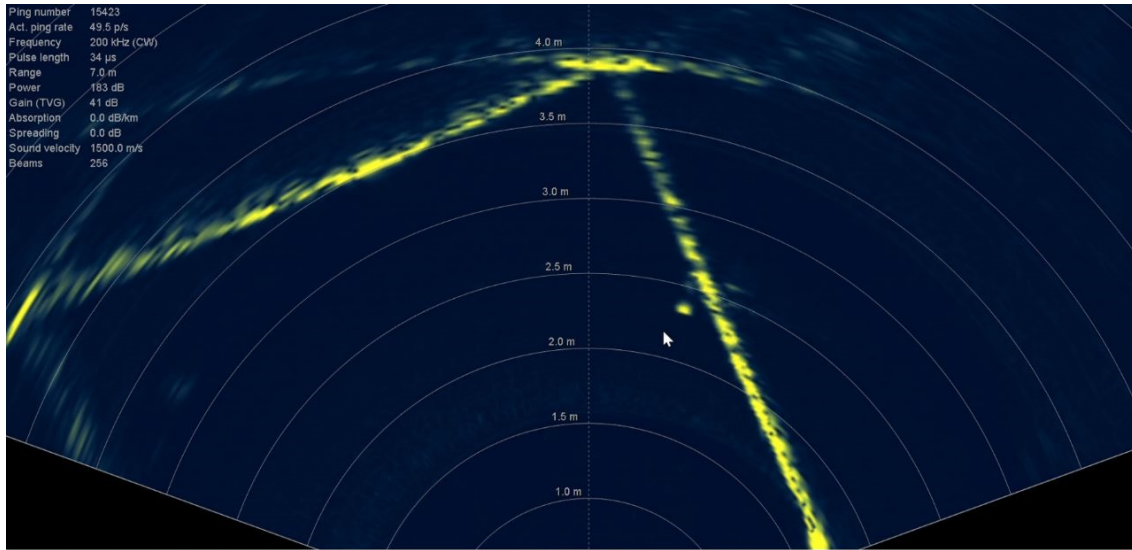
- ✓ Pan India is the Winner of iDEX-2022, DISC 7 (SPRINT) Challenge for Indian Navy
- ✓ Challenge issued by Defence Innovation Organization (DIO), Department of Defence and Production under Ministry of Defence, Government of India.
- ✓ Challenge is to indigenously manufacture “**3D Forward Looking Sonar for surface platforms and Autonomous Underwater Vehicles (AUVs)**”
- ✓ Our Partner Incubator (PI) for the challenge is FITT-IIT Delhi



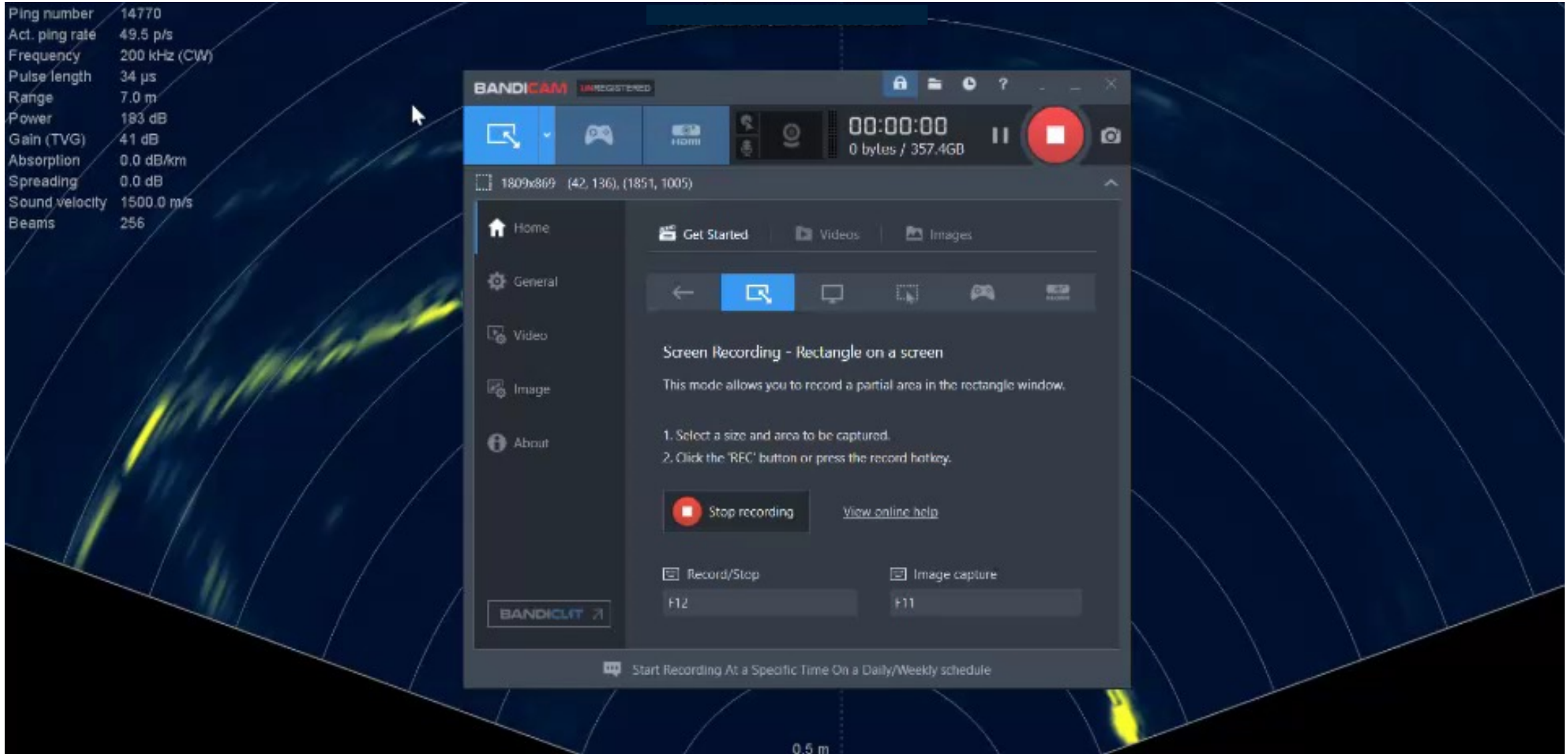
**iDEX** Innovations for  
Defence Excellence  
PM Awardee



# Obstacle Avoidance Sonar



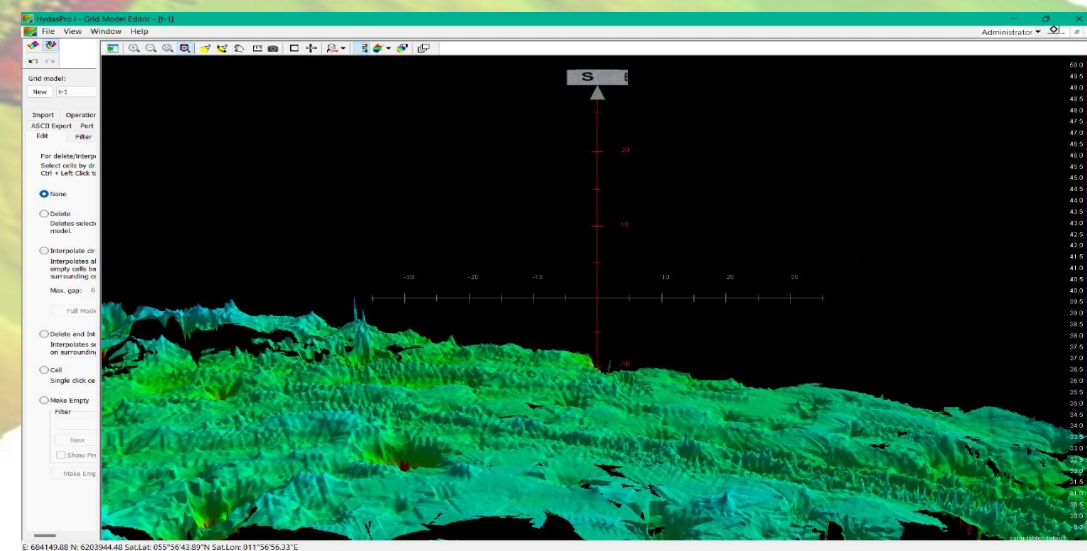
# Obstacle Avoidance Sonar



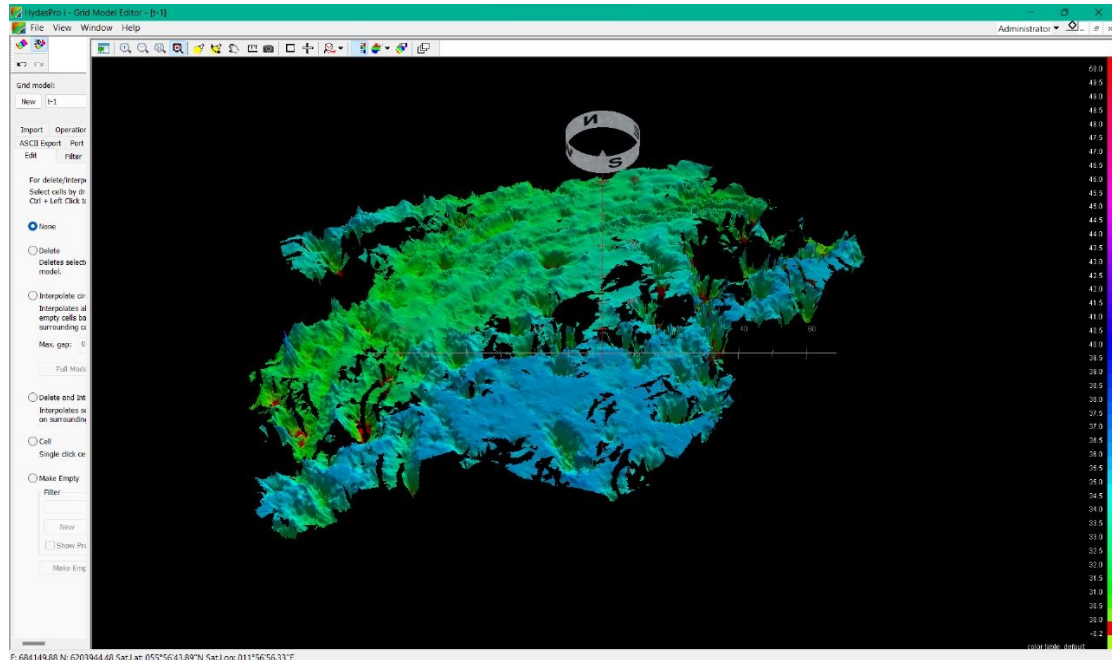
## Search & Rescue, Recovery and Monitoring

Indigenously developed and delivered to Indian Navy Ships, integrated solution for Hydrographic and Oceanographic Data Acquisition and Processing System (DAPS) Integrating multiple sensors

- Multibeam Echosounders
- Single beam Echosounders
- Differential Global Positioning System
- Altitude and Heading Reference Unit
- Remotely Operated Vehicle
- ECDIS ,AIS, Gyro etc.
- Current Meter
- And many other various sensors

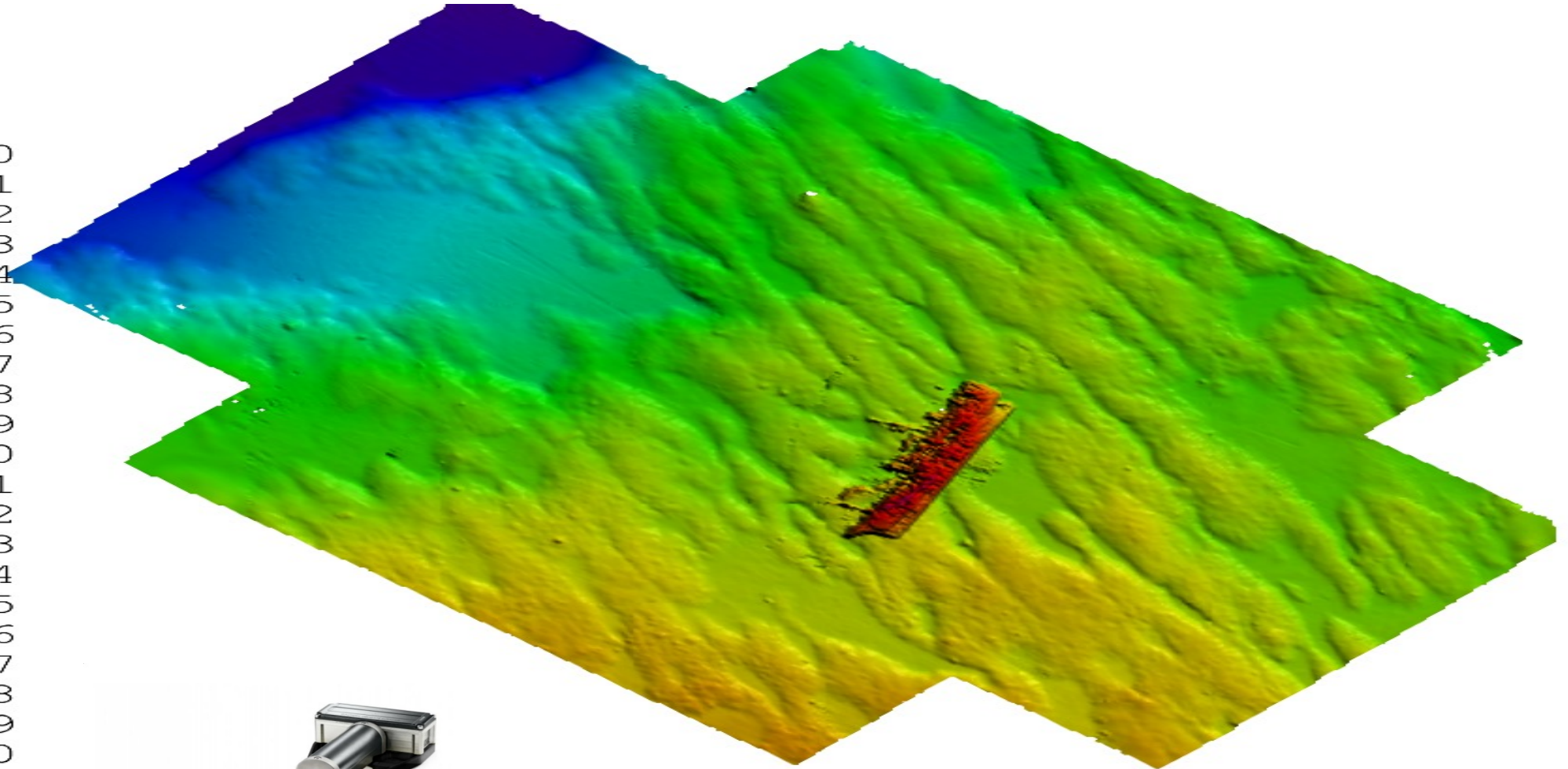
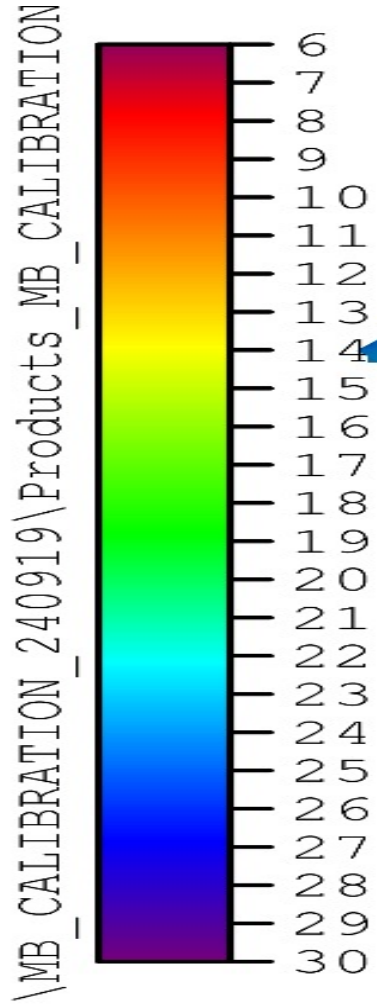


# Bathymetric Survey

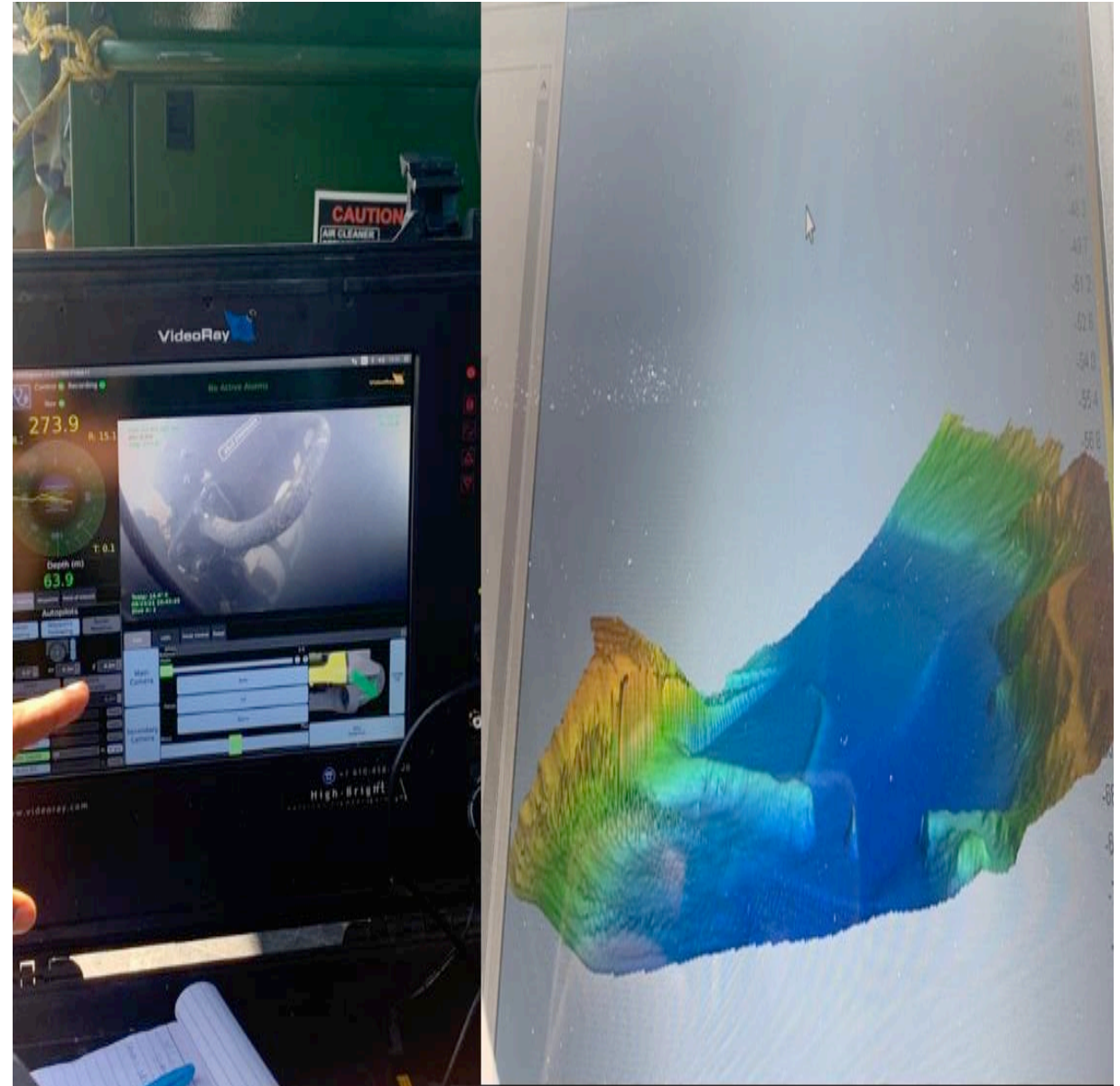




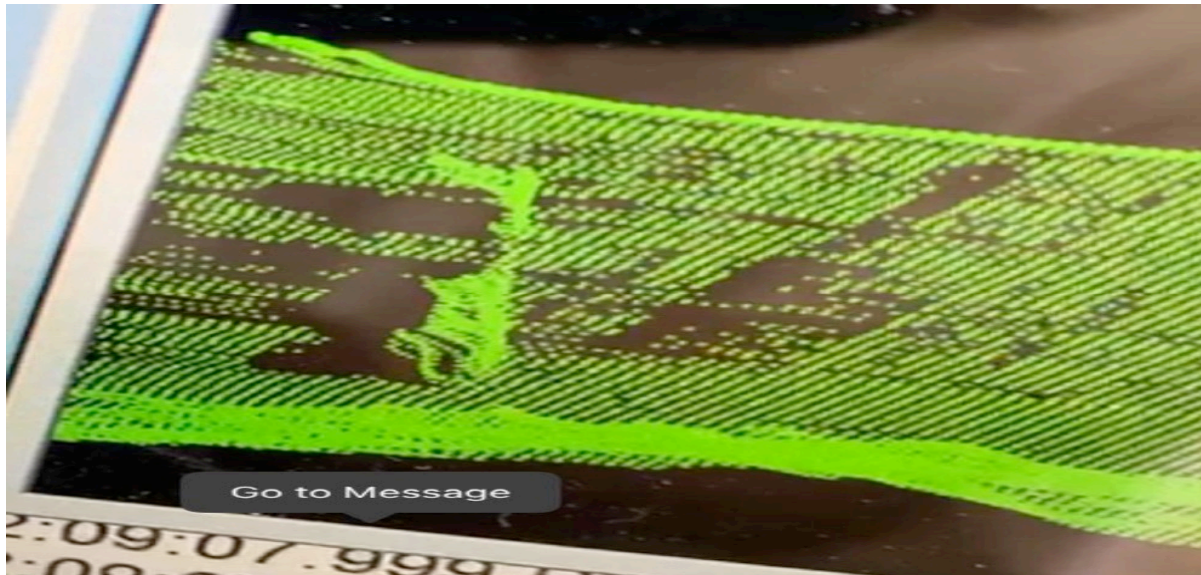
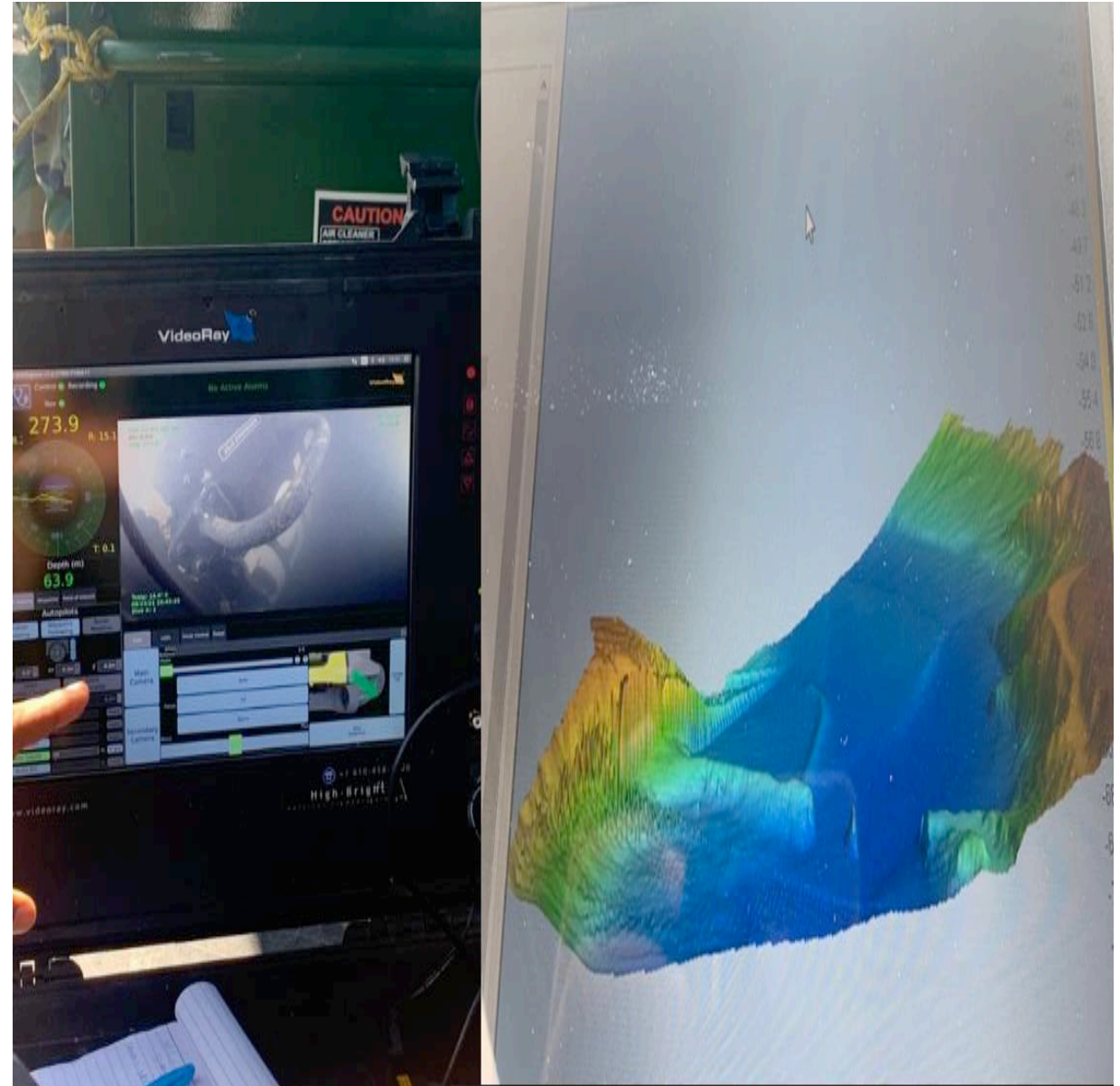
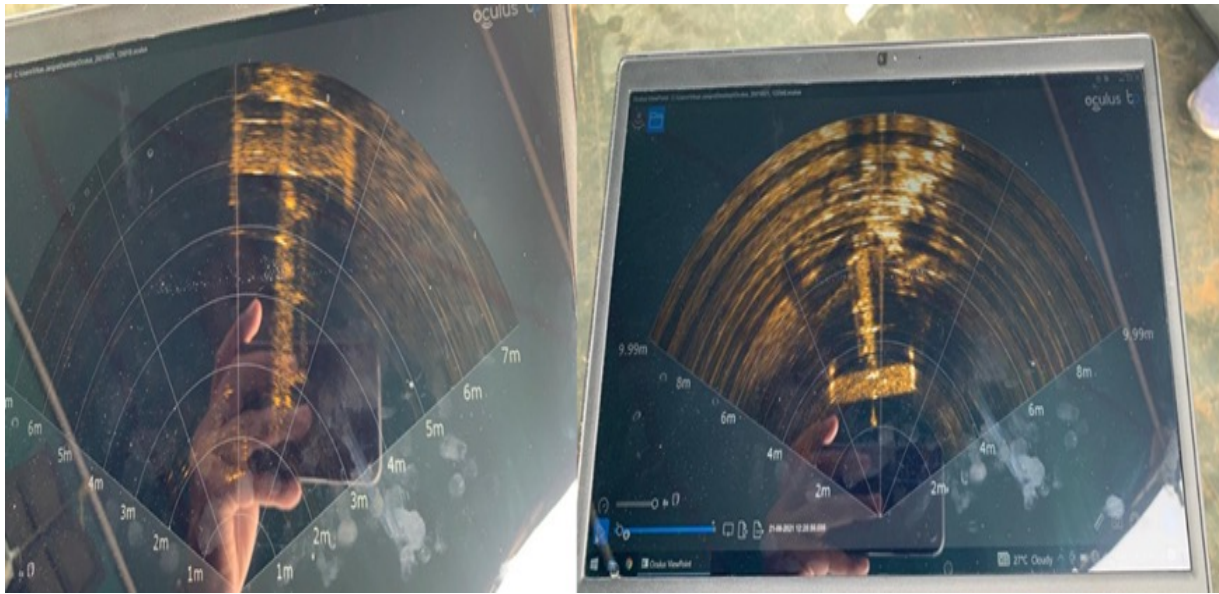
# Installation of Teledyne T20 P Multibeam SONAR



# Rescue Operations at Ranjit Sagar Dam



# Rescue Operations at Ranjit Sagar Dam

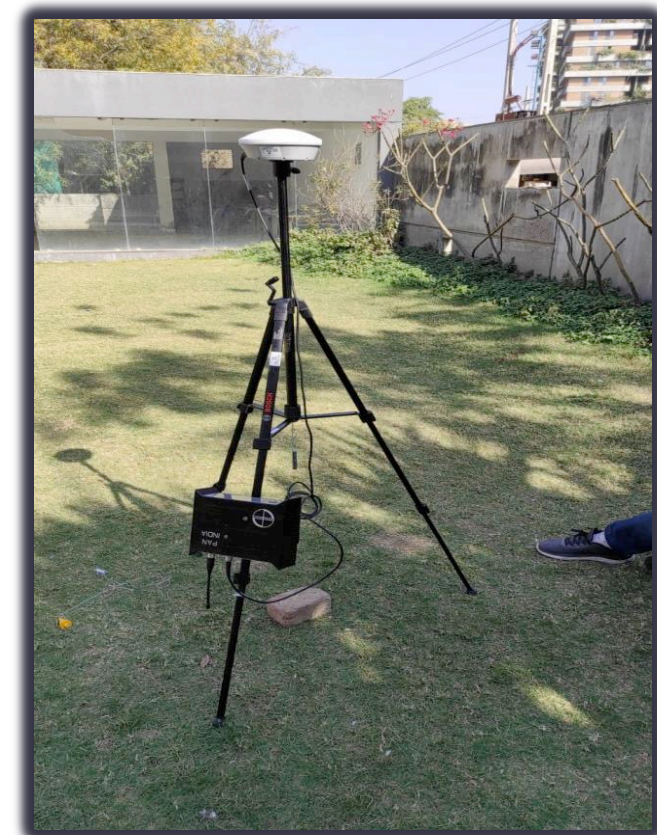


# Underwater ROV Survey at Mining Site In Meghalaya



## PARTH 1000 GNSS Receiver

- ✓ IRNSS enabled GNSS DGPS/RTK receiver
- ✓ GNSS receiver and radio with a choice of an external antenna
- ✓ 336/672 Tracking Channels for multi constellation GNSS
- ✓ Compact design for mobile applications
- ✓ Flexible RS 232 USB and Ethernet, Wi fi Bluetooth interfacing
- ✓ High precision multiple correlators for GNSS pseudo range measurements
- ✓ Advanced RF Spectrum Monitoring and Analysis
- ✓ Rugged IP67 enclosure
- ✓ Applications in rescue missions, land surveying, rail networks, mining, agriculture, and environmental monitoring etc.
- ✓ Certified MIL Grade JS 55555 standards



## Field Trials for PARTH 1000 GNSS Receiver



## Border Security Force (BSF)

- ❖ Pan India Consultants Pvt Ltd deployed **28 smart Hydrophones** to BSF with different types of Mountings (Floaters, Tripod, Boat mounting) and Pan India customised arrangements for stationary floating platforms and for riverbank
- ❑ **Application:** Covering waterways border area to stop intrusion activity & detect unwanted movements through inland waterways.
- ❑ Integrated hydrophones into their command control centre (C2 centre) for Realtime data visualisation and alerts.



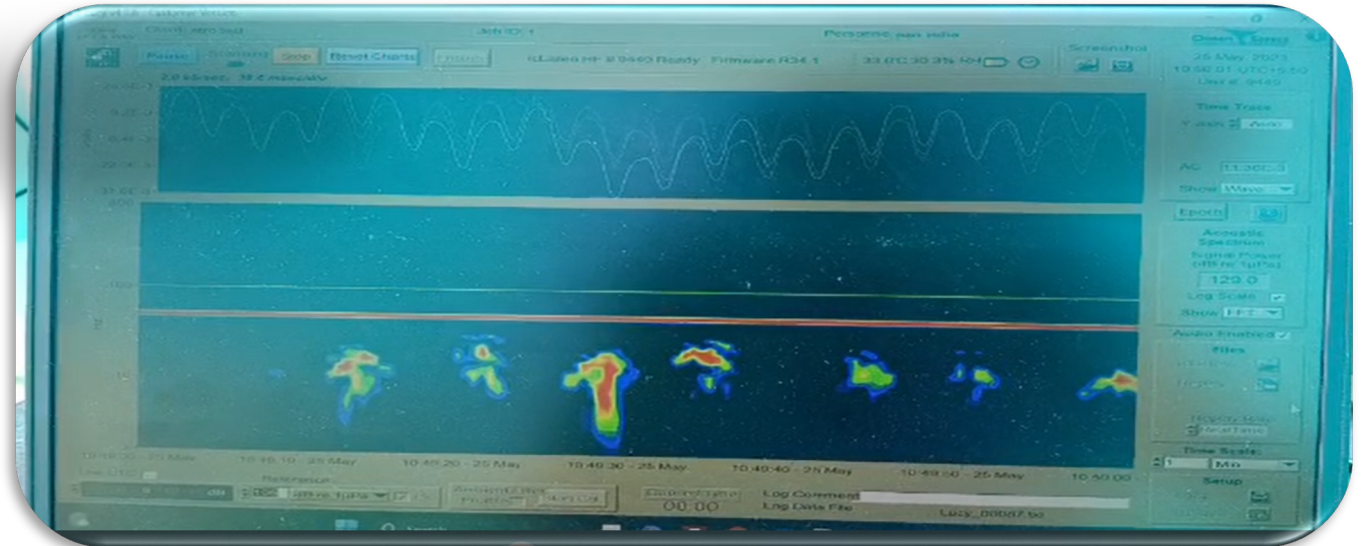
# Hydrophones Deployment for Security Forces







## Passive Acoustic Monitoring- Hydrophone



## National Institute of Ocean Technology (NIOT)

- ❑ **Application** : Deep Ocean sound observations and Research.
- ❑ NIOT is using Hydrophones for collecting and analysing different type of sounds in deep Sea. They deploy Hydrophones for long time observation.



## Naval Physical Oceanographic Laboratory (NPOL)

- ❑ **Application** : Study of ocean environment, Reserach and underwater materials
- ❑ NPOL is using very low frequency Hydrophones with external battery packs



## Supply of Ground Penetrating Radar (GPR)

### Ground-penetrating radar (GPR)

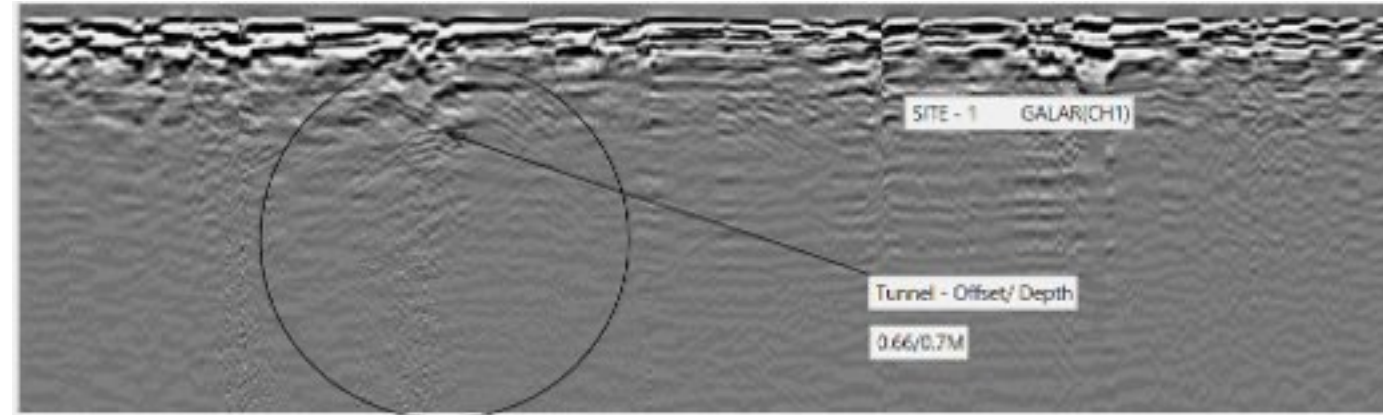
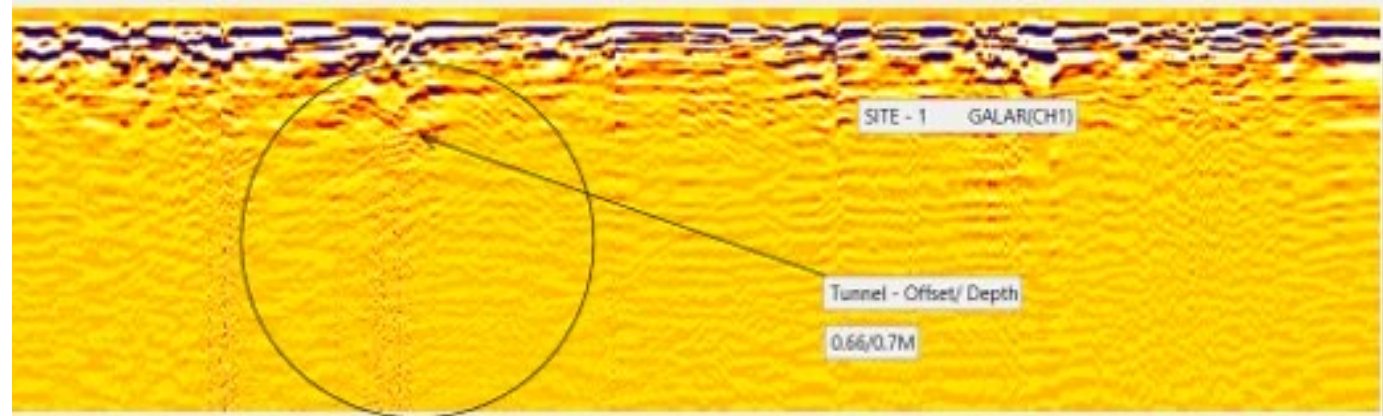
A geophysical method that uses radar pulses to image the subsurface.

A non-intrusive method of surveying the sub-surface to investigate underground utilities such as concrete, asphalt, metals, pipes, cables or masonry. This non-destructive method uses electromagnetic radiation in the microwave band (UHF/VHF frequencies) of the radio spectrum and detects the reflected signals from subsurface structures.

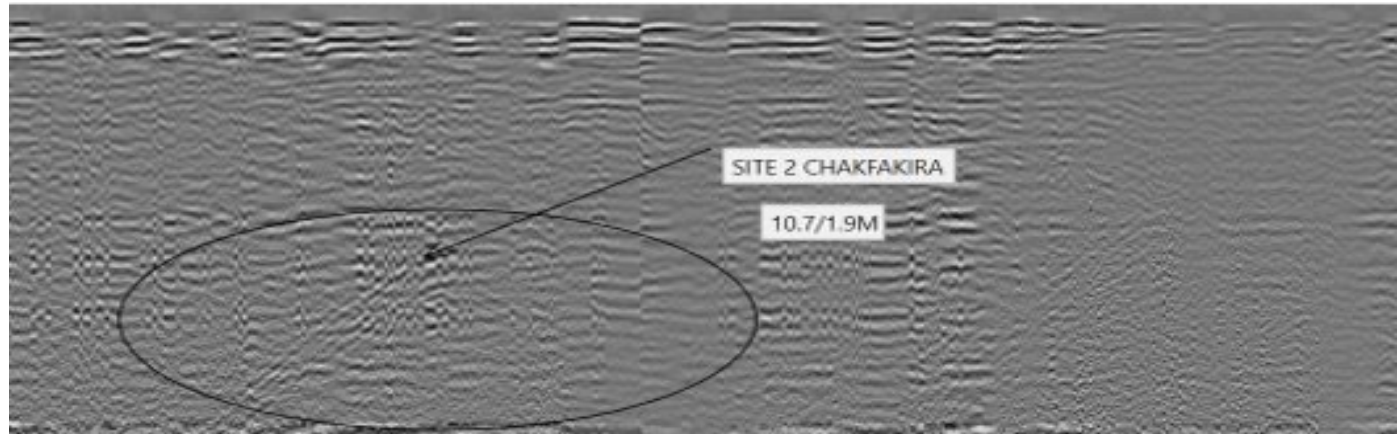
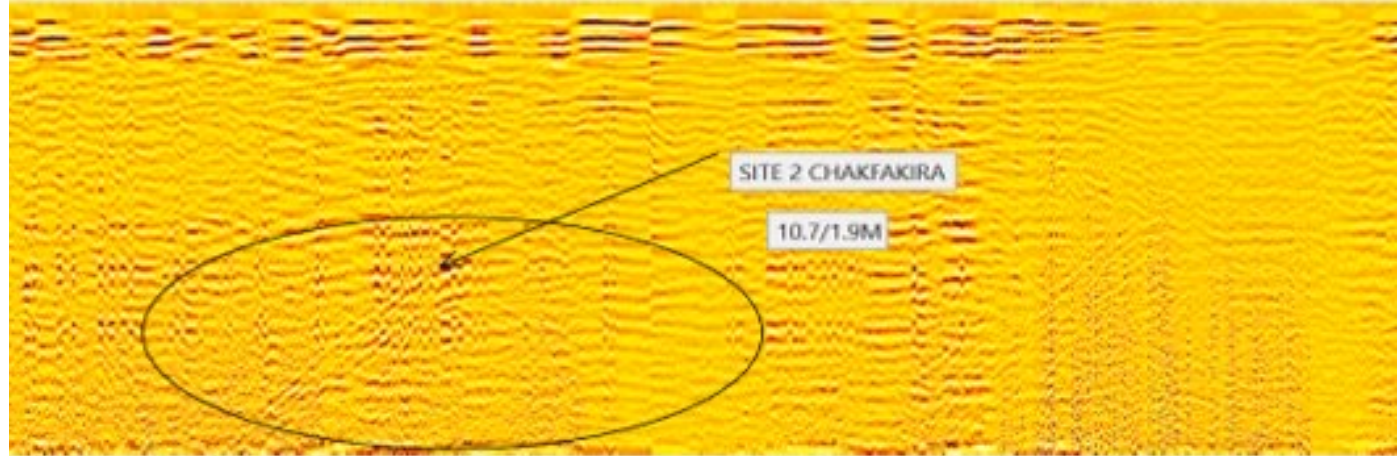
**Applications** in a variety of media, including rock, soil, ice, fresh water, pavements and structures.



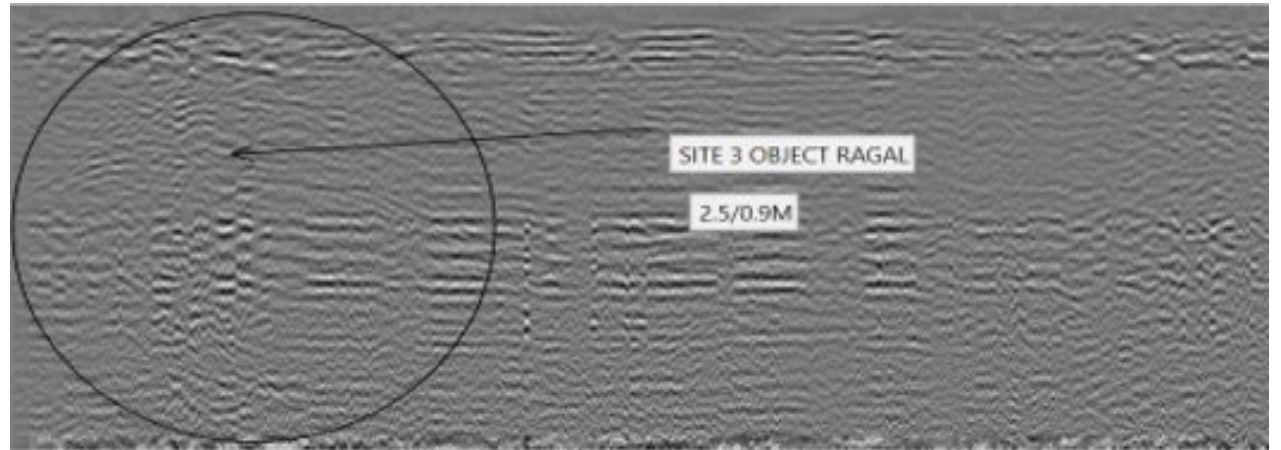
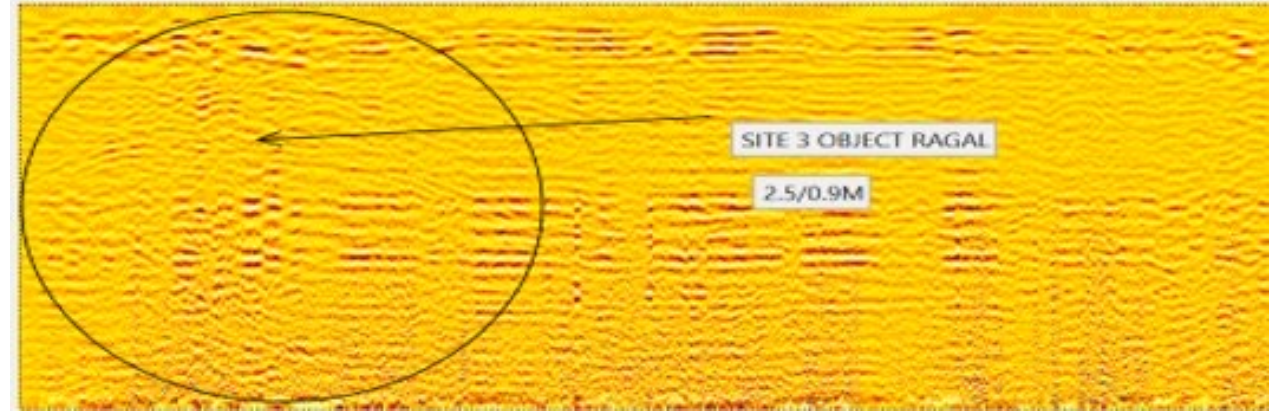
# Field Trials for Ground-Penetrating Radar (GPR)

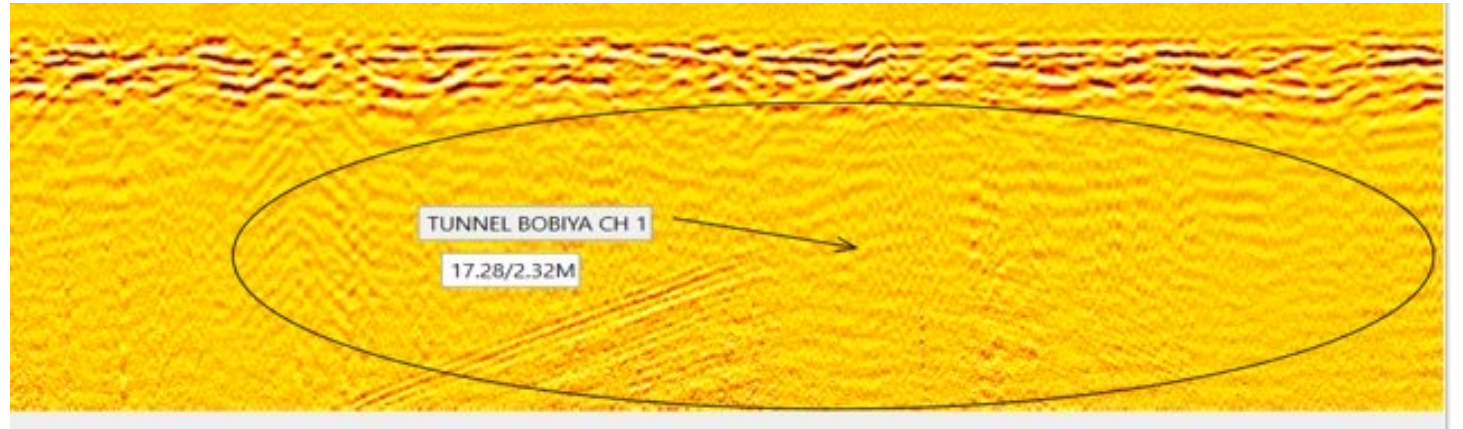
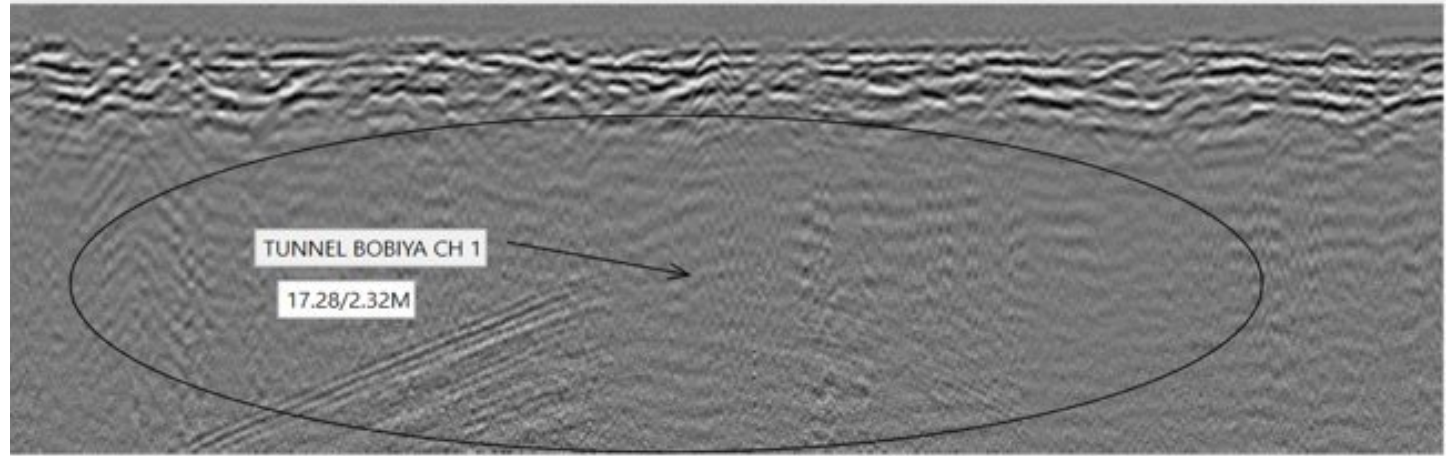


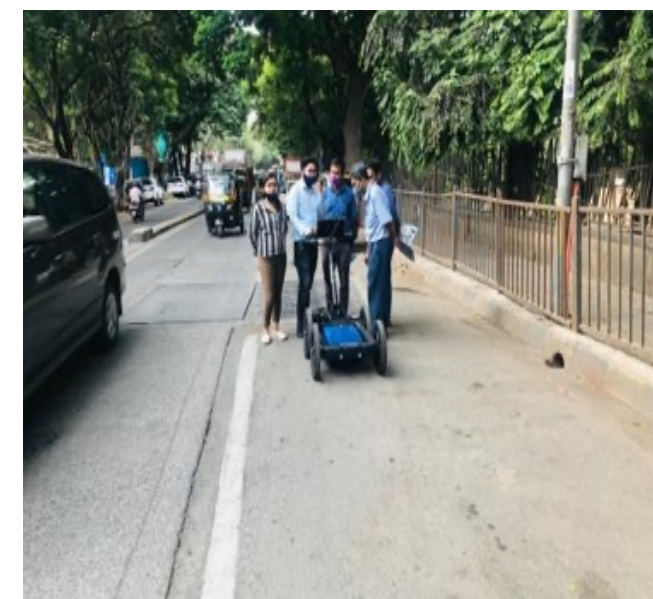
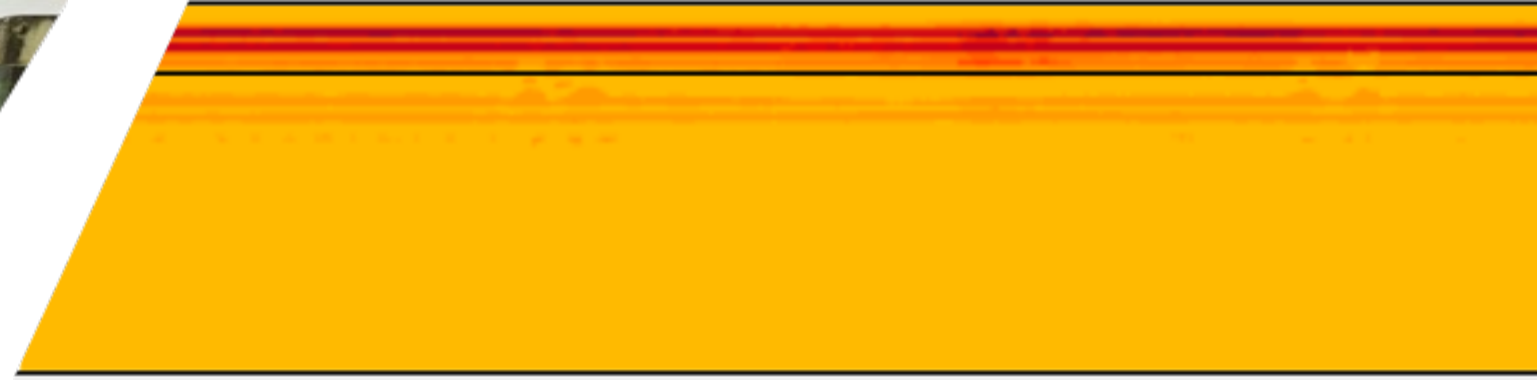
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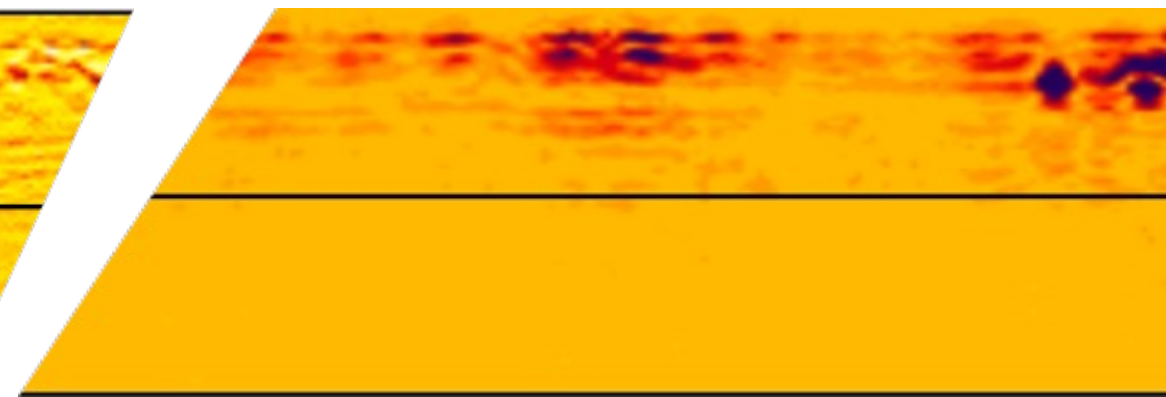
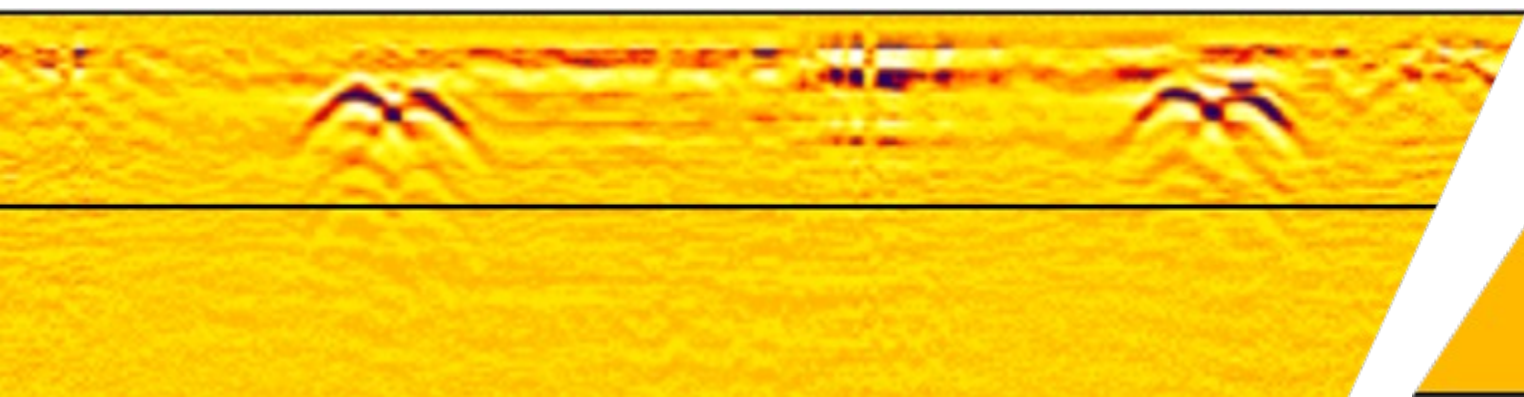




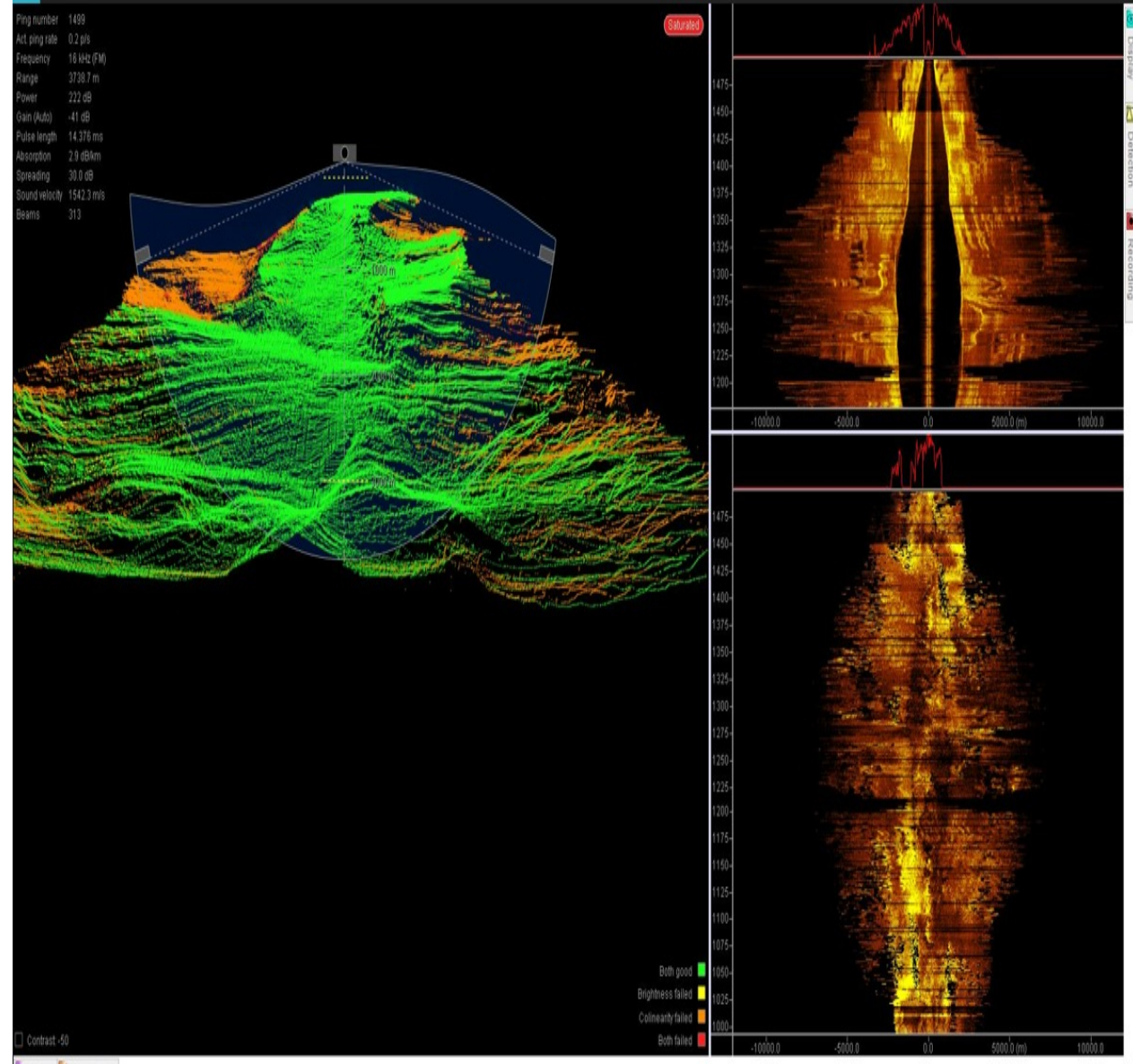


**Depth Slice In 3 different format**

**Field Trials for Ground-Penetrating Radar (GPR)**





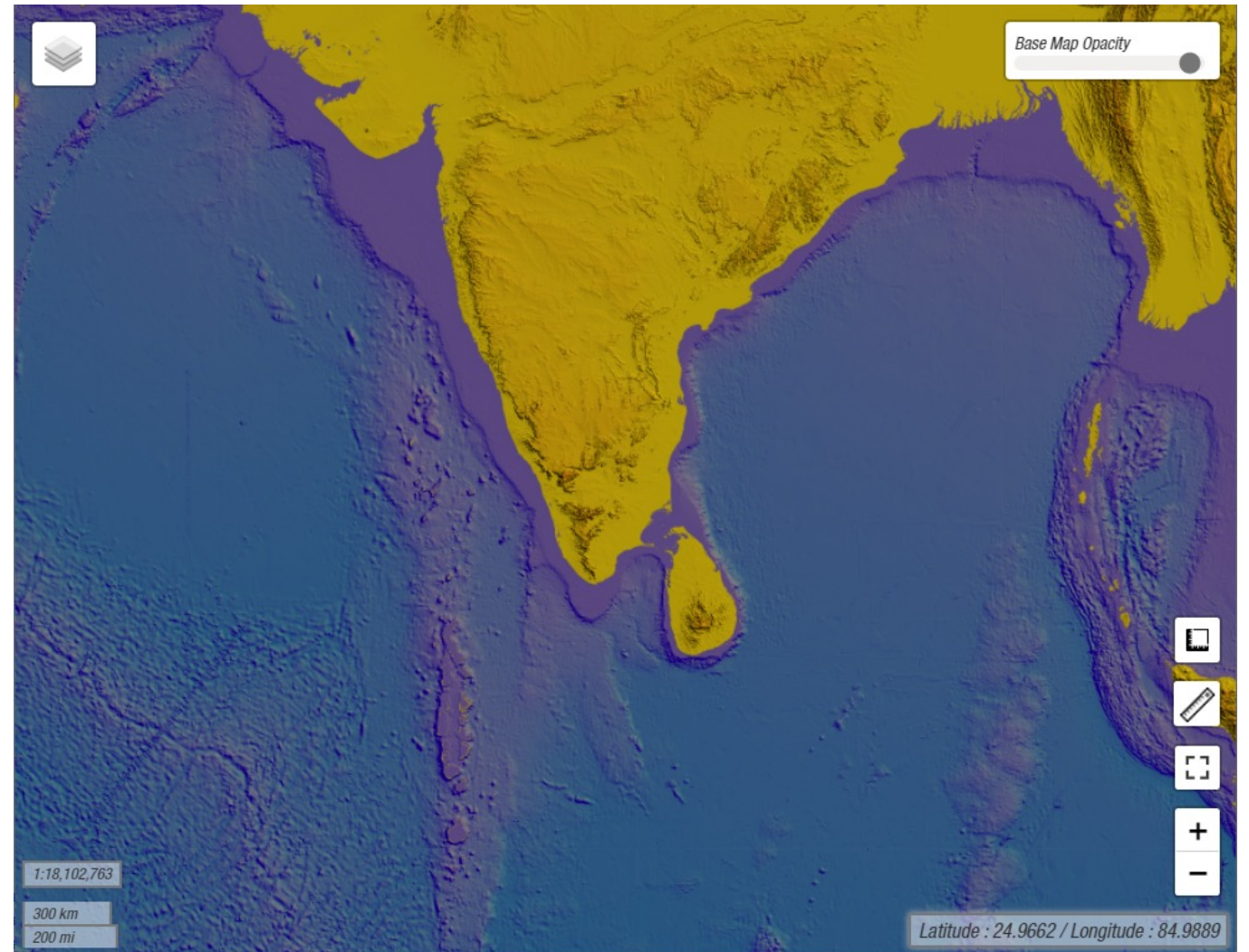


The process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives.

A web-based tool showing interactive digital map of India representing the concept of MSP.

It is capable of rendering different type of GIS formats such as ESRI Shape file, GeoTiff files, Geojson file format.

Brings together users to make informed and coordinated decisions about how to use marine resources sustainably.



**Standard View of MSP Application**

# Tools Available in MSP Application

Layers Control



Base Map Opacity



Base Map Opacity

Scale Factor

1:18,102,763

Map Scale

300 km

200 mi



Measure Area



Distance & Bearing



Full Screen



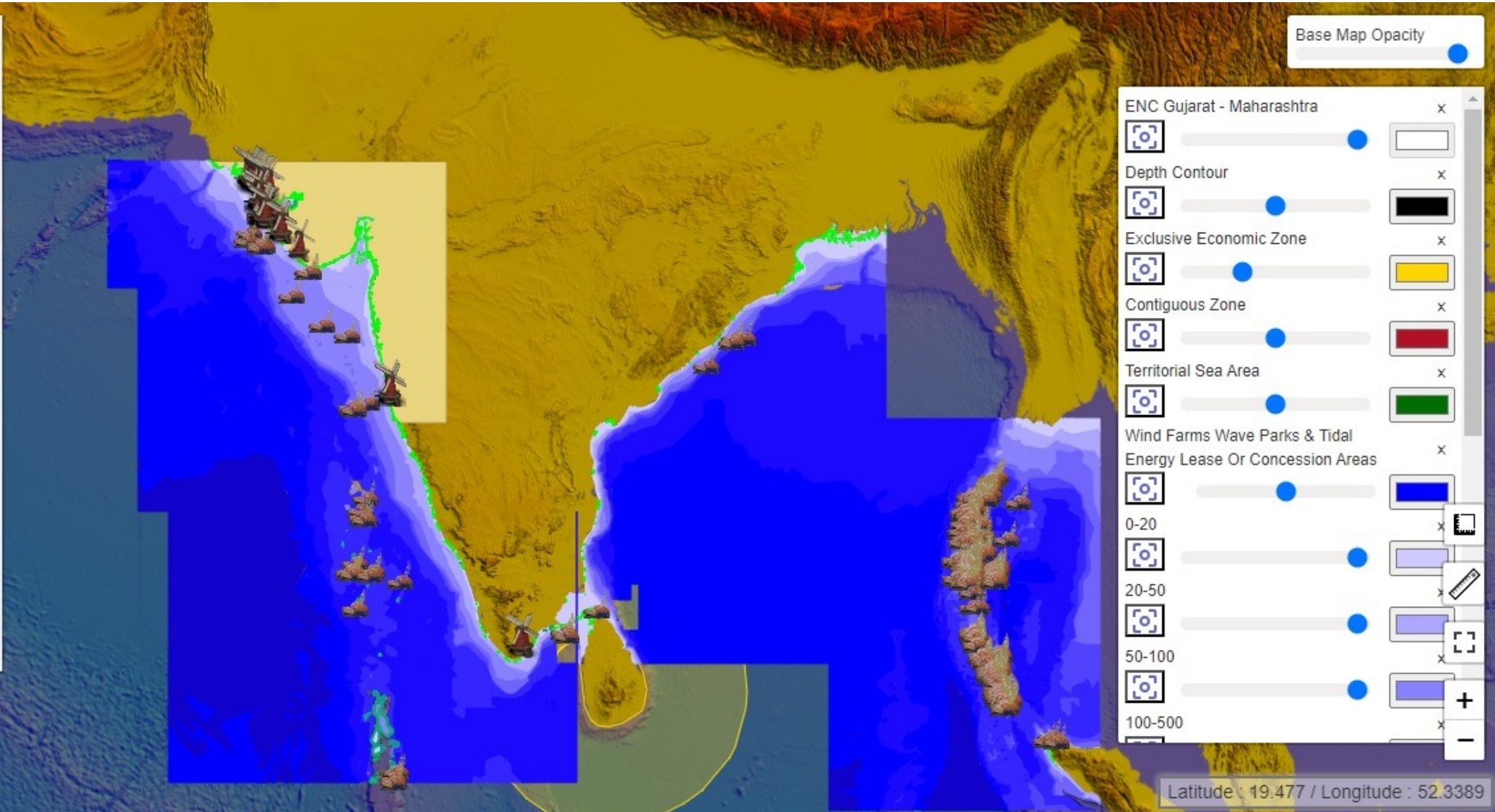
Zoom In / Zoom Out



Pointer Position

Latitude : 25.006 / Longitude : 79.7158

- Fishing
- Dredging
- Marine Transportation
- Oil & Gas
- Pipelines & Cables
- Ports
- Navigational Information
- Maritime Boundaries
- Water Surface
- Depth Contour
- Seabed Classifications
- Military
- Renewable Energy
- Marine Protected Areas
- Land Features
- Sewage
- ENC Backdrop
- Raster



Base Map Opacity

ENC Gujarat - Maharashtra

Depth Contour

Exclusive Economic Zone

Contiguous Zone

Territorial Sea Area

Wind Farms Wave Parks & Tidal Energy Lease Or Concession Areas

0-20

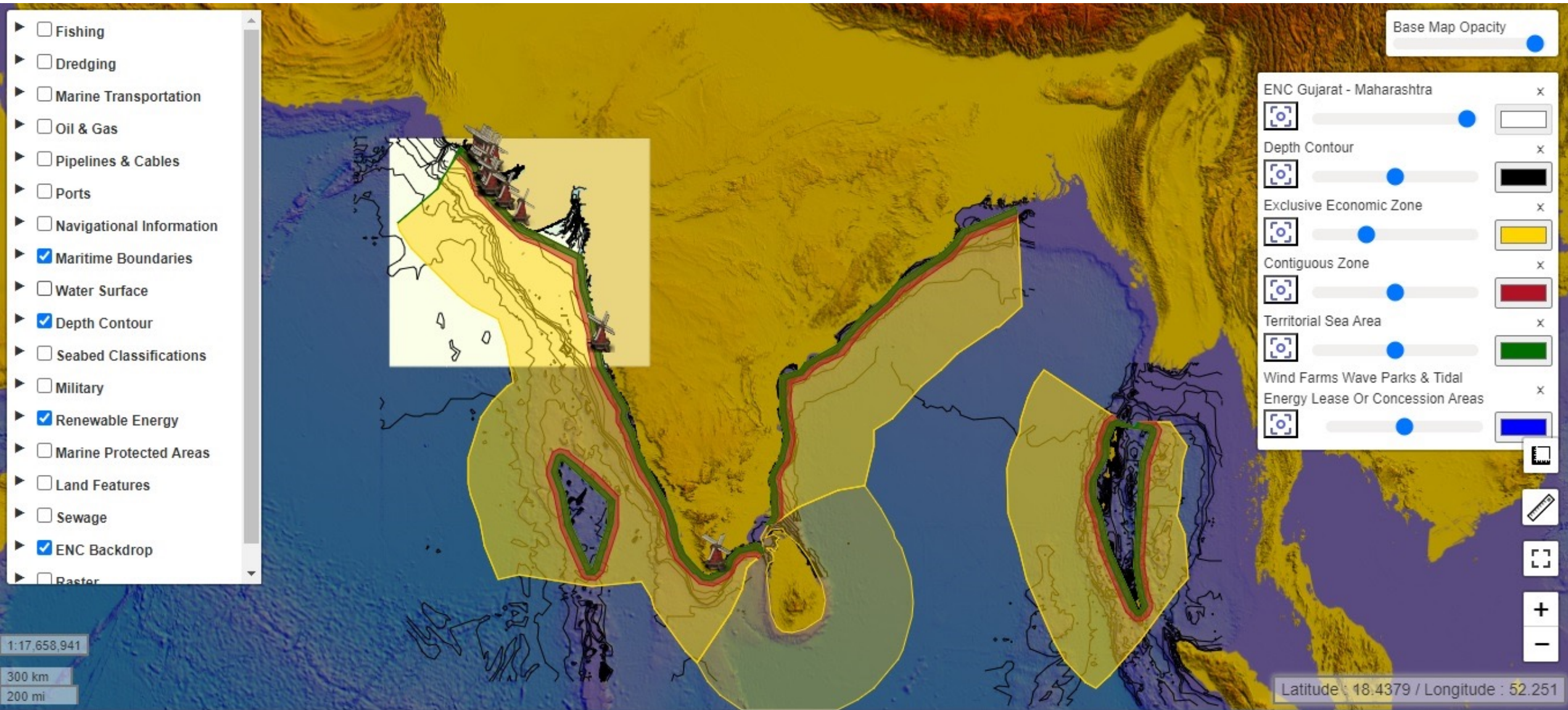
20-50

50-100

100-500

1:17,658,941  
300 km  
200 mi

Latitude : 19.477 / Longitude : 52.3389



Thank  
You!



“Looking forward to  
privilege of working  
together for  
achieving best  
results in our work.”

For Questions or feedback contact:  
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Mobile: +91- 9871091371