

National Report - India

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India

Launch of Phase 2 of the UNESCAP Project:

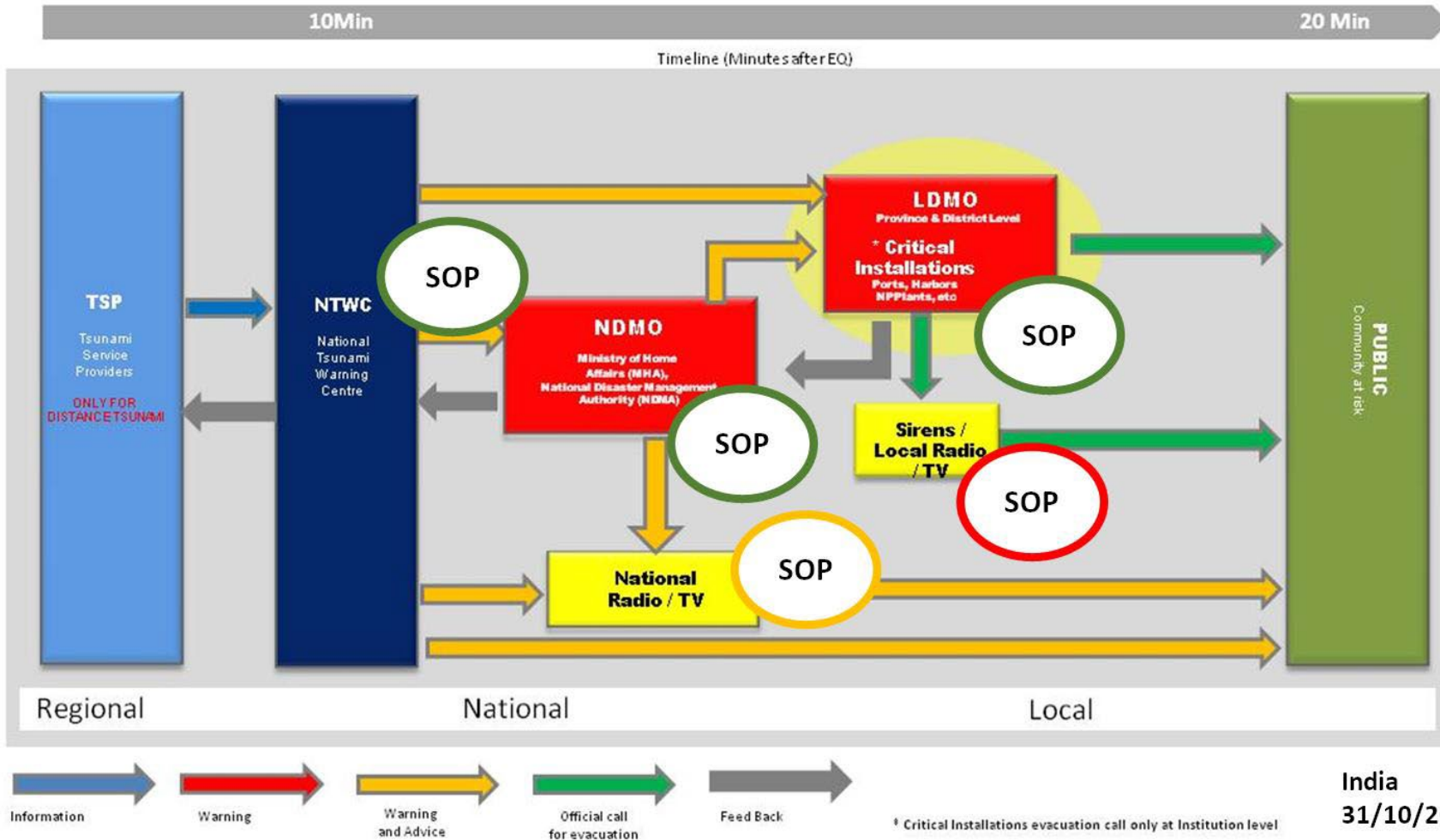
Strengthening Tsunami Warning in the North-West Indian Ocean through Regional Cooperation

16 May 2022

India Status Report

- Observations.
- Progress made since the end of Phase 1 of the project.
- Issues and topics currently been worked on, or have planned in the next month.
- Support expected or needs until the next and final SOP workshop in July or August 2022

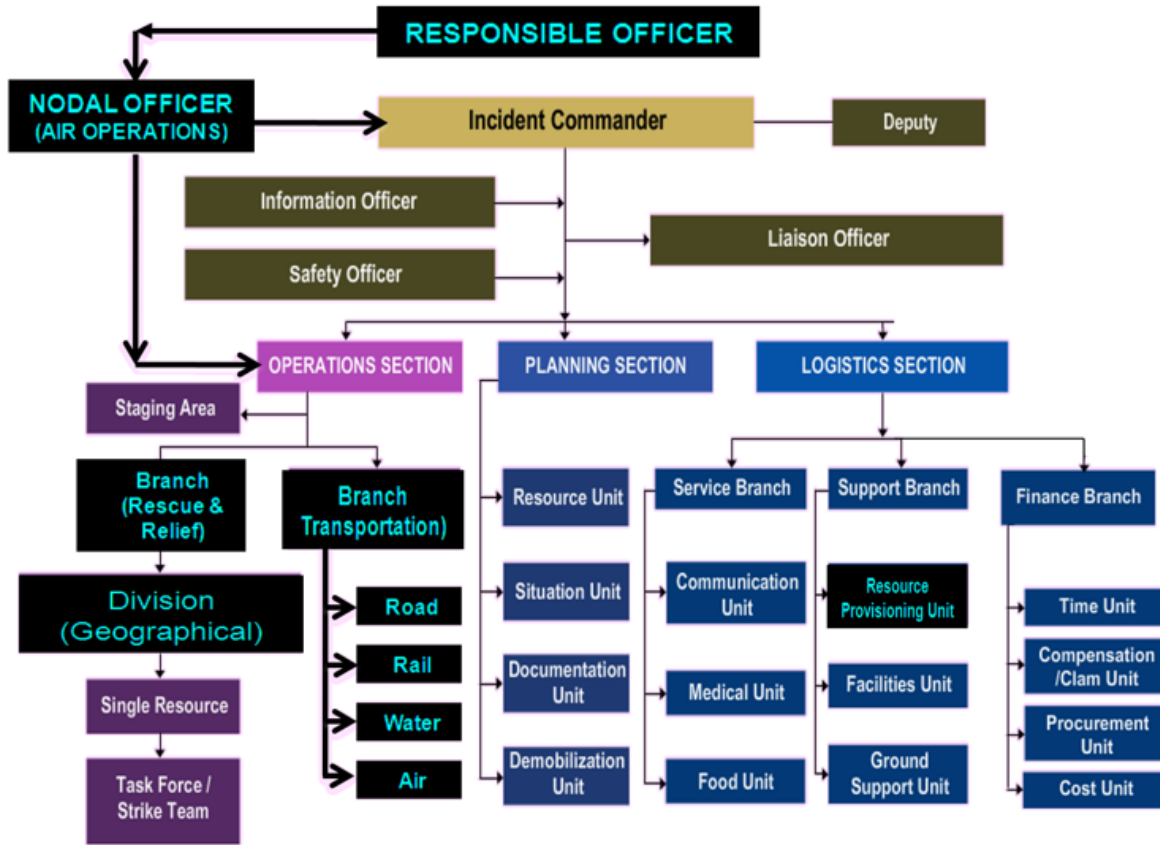
Tsunami Warning Chain



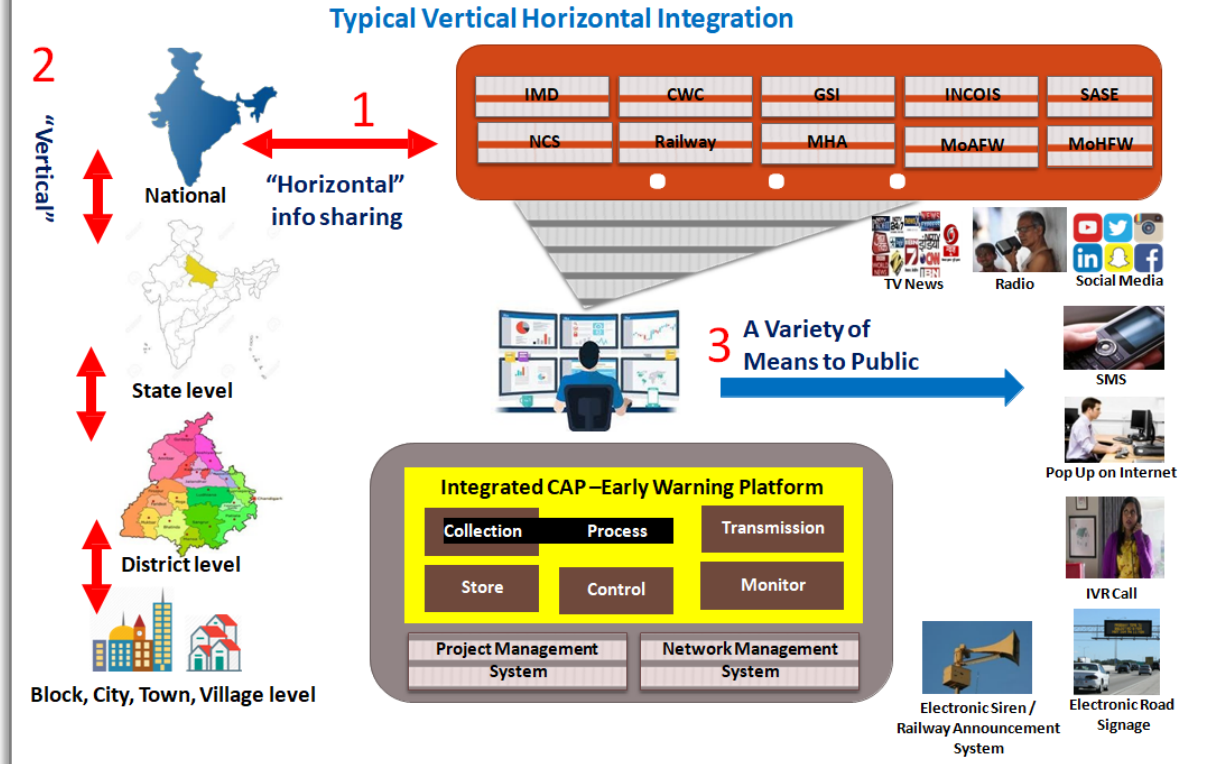
- WARNING CHAIN (India) has been consolidated and considered as 'solid' and 'valid'
- Institutional SOPs are in place at NTWC, NDMO and LDMO level along with official documentation
- Draft SOPs were prepared for National broadcasting media, but SOPs for local broadcasting media need to be established
- Most of coastal states SDMO & LDMO's having SOPs specific to tsunamis in line with the time requirement from near-field tsunami events .
- However, a few SDMO & LDMO's SOPs are part of multi-hazard SOPs and needs to be revised inline with time requirement from near-field tsunamis.

DMOs SOP

INCIDENT RESPONSE SYSTEM - NDMA

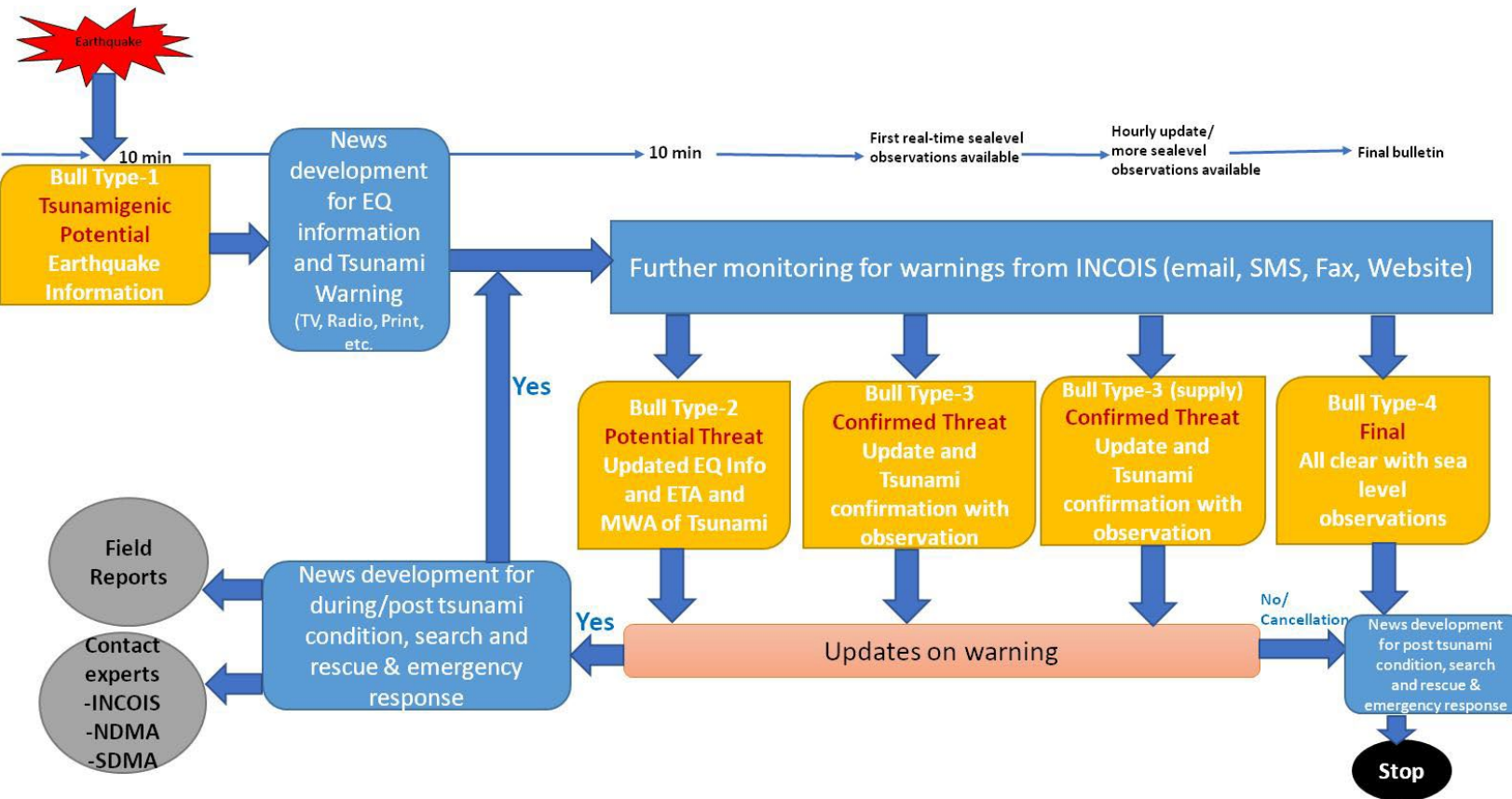


Common Alerting System Working Model



- NDMA's Incident response system (IRS) is in place to provide warnings to community at risk along with necessary procedures with specified roles & responsibilities and 24 X7 arrangements
- The role of the NDMA/SDMA in the warning process is to interpret warning messages from the NTWC (INCOIS), take decisions and prepare guidance messages to the LDMOs (District/UT Disaster Management Organizations) and Media.
- The LDMOs are in charge to decide and call on evacuations

Broadcasting Media SOP (DRAFT)

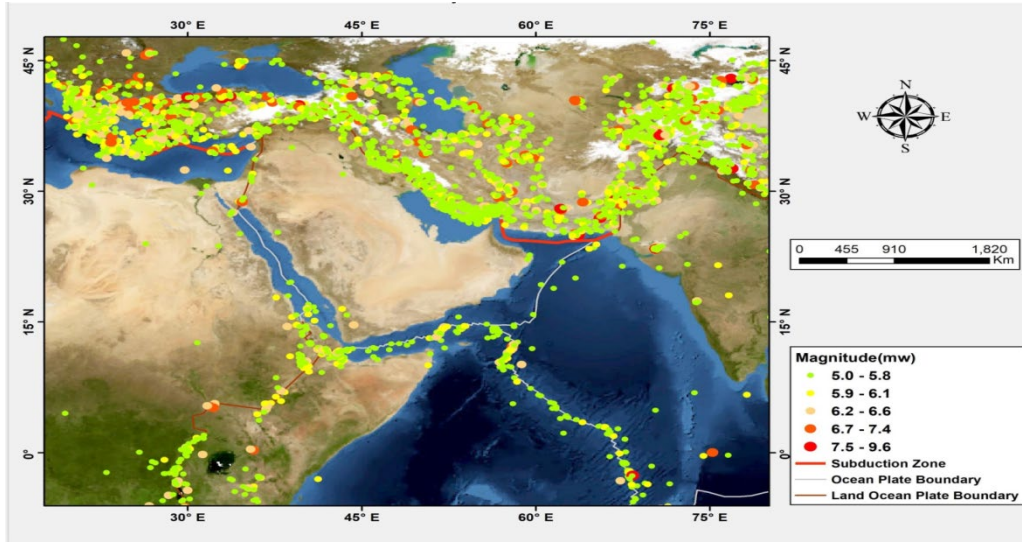


- Important clarifications and progress had been made regarding national media SOPs, following the two Media SOP Workshops organised during Sep & Oct 2021 .
- The participants from the national media team (PIB) had gone through the detailed tsunami bulletins and relevant information from NTWC, that served as a reference for the formulation of media SOPs (DRAFT version)
- Regarding the bulletins to be disseminated from media for the public, it was recommended to make them simpler in terms of language and contents.
- A template for media & procedures needs to be further developed in consultation with the NTWC (INCOIS) team.
- SOPs for local media are not yet in place.

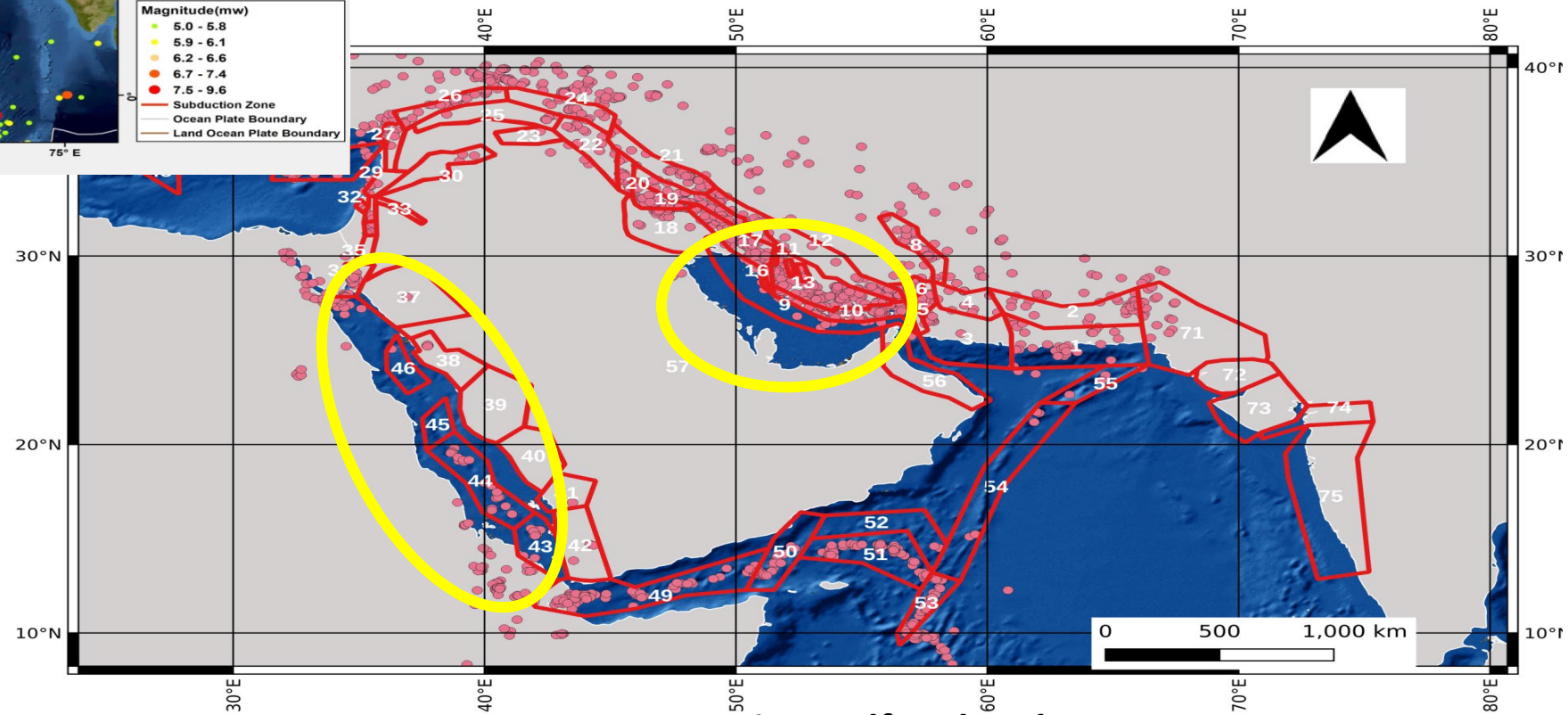
Progress & Issues

- Progress made since the end of Phase 1 of the project.
 - Dissemination of 'No threat' messages for public
 - NDMA is initiated the process for no threat information (through IRS & CAP implementation)
 - SOPs for National broadcasting media drafted based on media, NDMA representatives inputs
 - Message templates with simplified versions drafting is in progress in consultation with Media
 - NDMA will share the Sample procedures and formats depicting the organized and implemented processes
- Issues
 - SDMO & LDMO's SOPs are part of multi-hazard SOPs and needs to be revised inline with time requirement from near-field tsunamis.
 - Media needs to play a 'strategic' role in linking NTWC directly with communities at risk
 - NTWC bulletins needs to be converted as much simple and actionable message for media purposes
 - Heads-up messages/calls from NTWC to media personal needs to be formulated to trigger media SOP
 - Frequent mock drills to be scheduled at regular intervals to test Integrated SOPs of NTWC/DMO/Media
- Modeling towards PTHA
 - Catalogues of Historical Seismicity analysis is under progress for Persian Gulf and Red sea areas
 - Full set up source parameter combinations needs to be finalised for generating scenarios
 - Technical setup of ADCRIC Models made ready in HPC facility along with Finite Element Mesh (with SRTM30+ datasets) and POIS (at the coast) , but some fine tune is required for blowups
 - Sample scenarios can be run as POC for computational times and storage and Full set of Scenarios can be simulated down the time line once the source parameters combination finalized

Historical Seismicity and Source zones

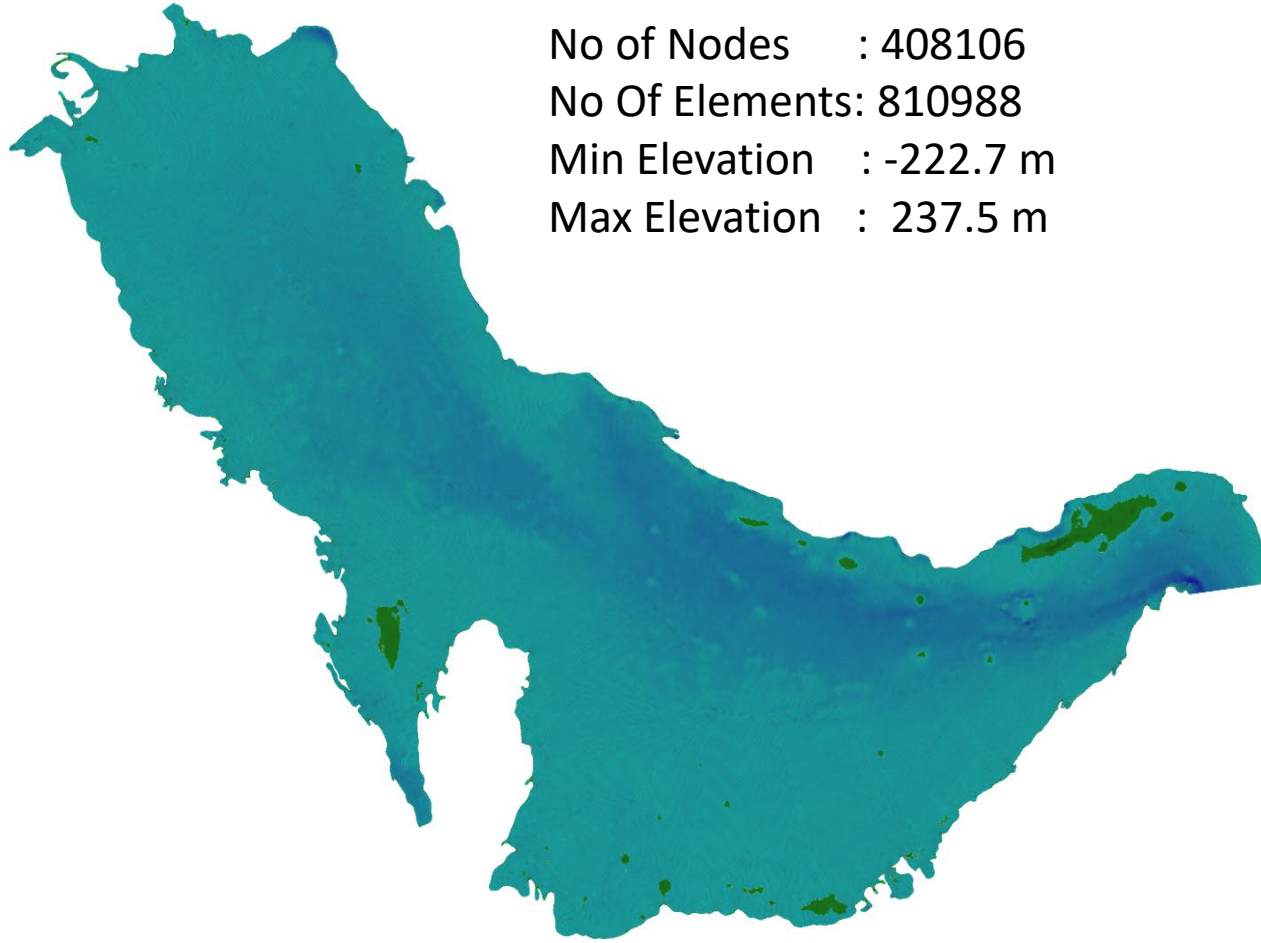


Historical Seismicity



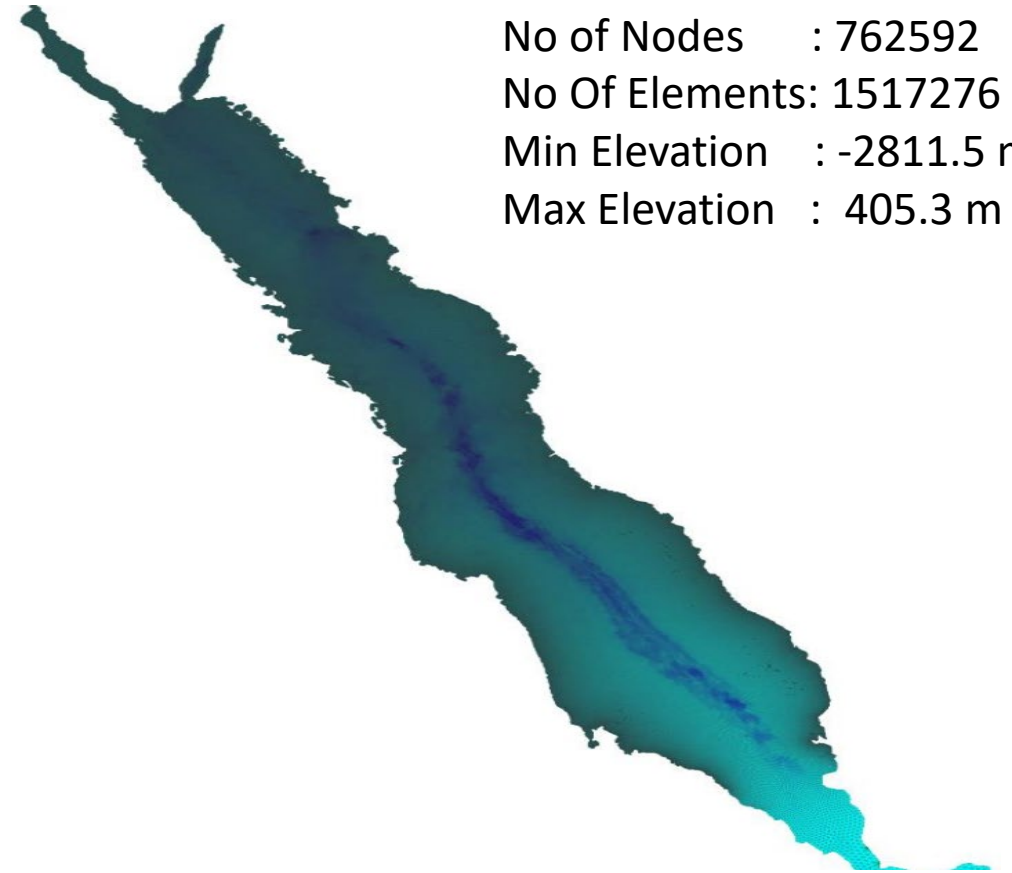
Source zones – Persian Gulf and Red Sea

Model setup for PTHA



No of Nodes : 408106
No Of Elements: 810988
Min Elevation : -222.7 m
Max Elevation : 237.5 m

Finite Element Mesh for Persian Gulf



No of Nodes : 762592
No Of Elements: 1517276
Min Elevation : -2811.5 m
Max Elevation : 405.3 m

Finite Element Mesh for Red Sea

Future Plans and Support

- Issues and topics currently been worked on, or have planned in the next month.
 - Co-ordination Meeting with NDMA, DMOs and Media for Integrated SOP and Mock drills
 - Preparation of message Templates & SOP for broadcasting media
 - Media and INCOIS in consultation with NDMA will come-up with draft document of integrated SOP
- Support expected or needs until the next and final SOP workshop in July or August 2022
 - Exchange of an Expert for Enhancement of PTHA Source model and for its use for Inundation Mapping.
 - Support gap analysis and help to develop specifications for a unified approach for tsunami modelling and inundation mapping in India
 - Help develop national policy, guidelines, and support establishment of mechanism for tsunami evacuation planning in India.

THANK YOU