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Overview of the IOTWMS

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Head of Secretariat for ICG/IOTWMS

ICG Indian Ocean Tsunami Warning & Mitigation System SOP Workshops July 2023:
*Standard Operating Procedures (SOPs) for
National Tsunami Warning Centres (NTWCs) and
Disaster Management Organisations (DMOs)*

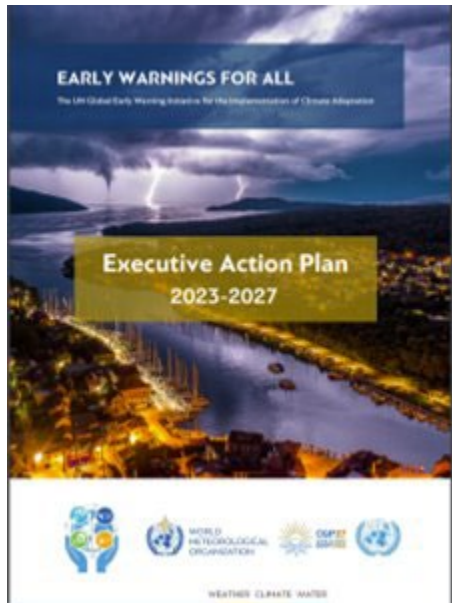
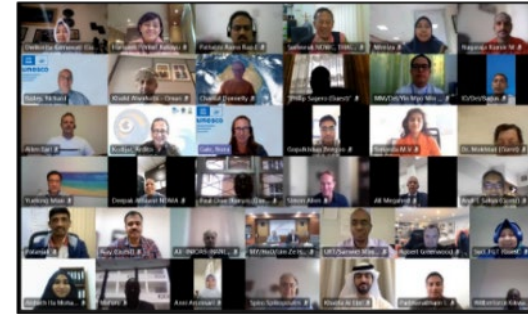
ICG/IOTWMS Work Programme



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In line with UN **“Early Warnings for All”** (EWS4ALL) initiative from COP-27, ICG/IOTWMS working groups and task teams continue to work across all four pillars:



Pillar 1

Disaster risk knowledge

Systematically collect data and undertake risk assessments

- Are the hazards and the vulnerabilities well known by the communities?
- What are the patterns and trends in these factors?
- Are risk maps and data widely available?

Pillar 2

Detection, observations, monitoring, analysis and forecasting of hazards

Develop hazard monitoring and early warning services

- Are the right parameters being monitored?
- Is there a sound scientific basis for making forecasts?
- Can accurate and timely warnings be generated?

Pillar 4

Preparedness and response capabilities

Build national and community response capabilities

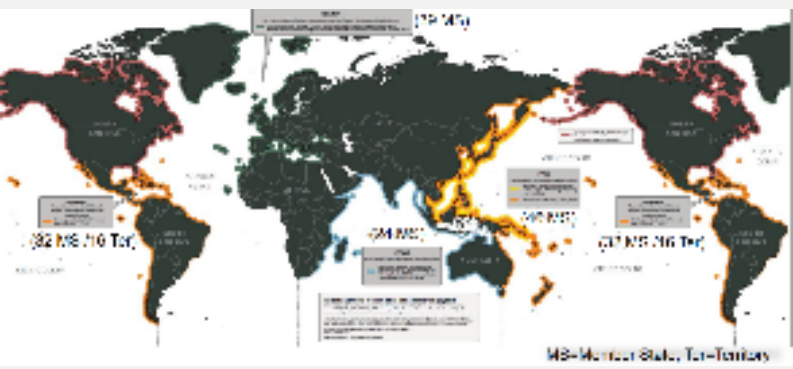
- Are response plans up to date and tested?
- Are local capacities and knowledge made use of?
- Are people prepared and ready to react to warnings?

Pillar 3

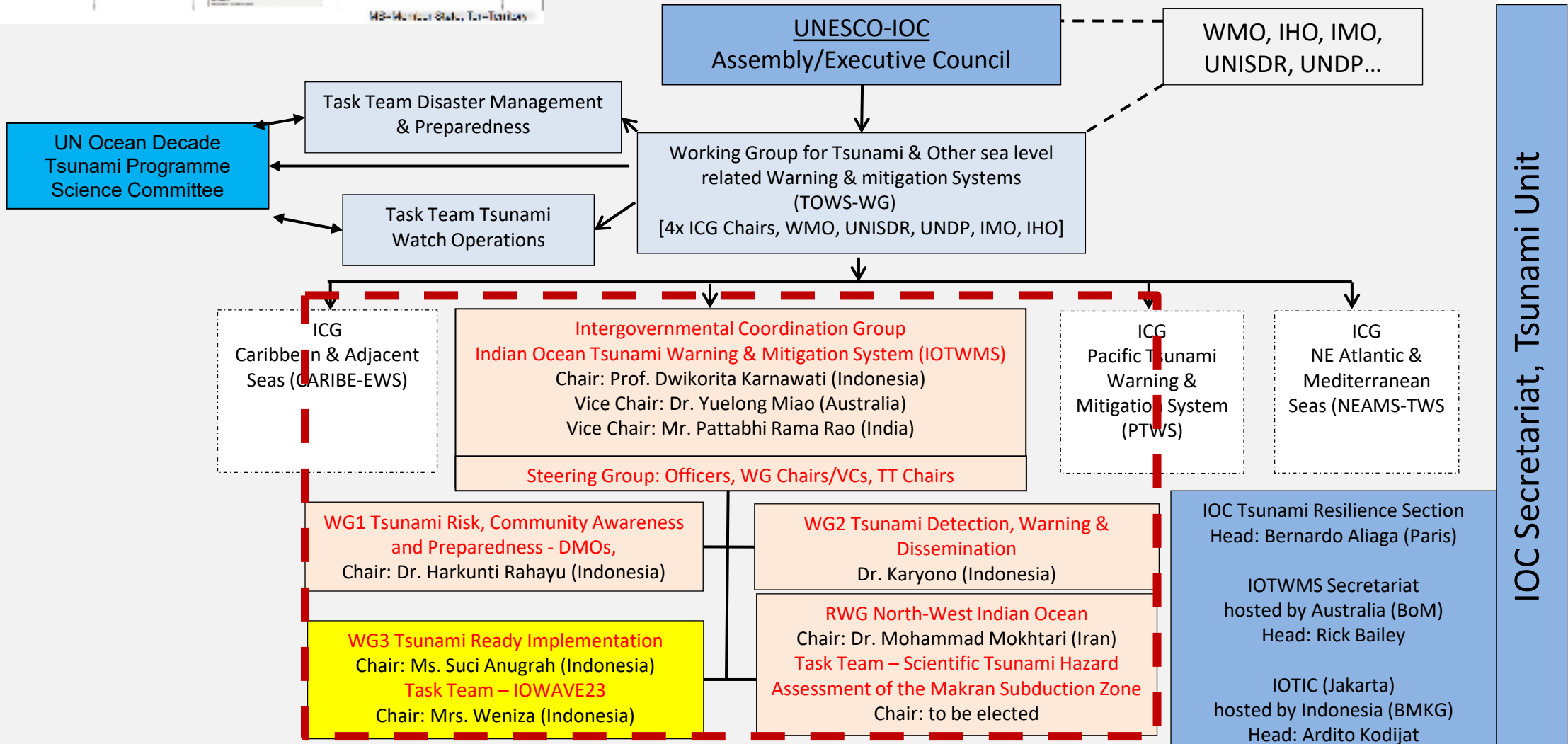
Warning dissemination and communication

Communicate risk information and early warnings

- Do warnings reach all of those at risk?
- Are the risks and warnings understood?
- Is the warning information clear and usable?



ICG/IOTWMS GOVERNANCE

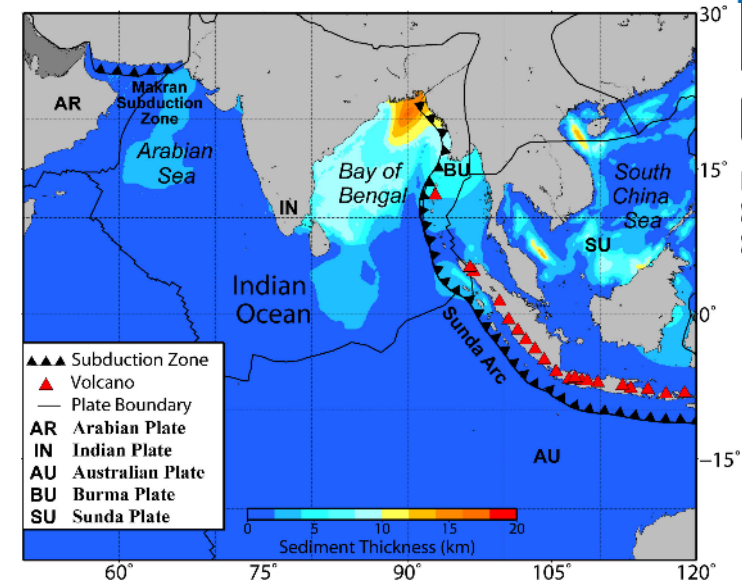


IOC Secretariat, Tsunami Unit

PILLAR I: TSUNAMI RISK ASSESSMENT

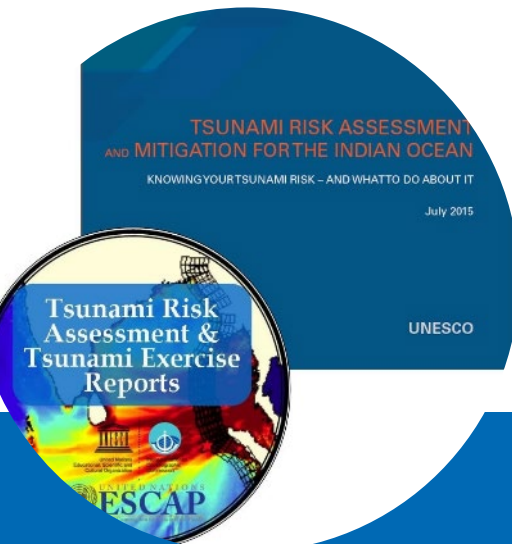
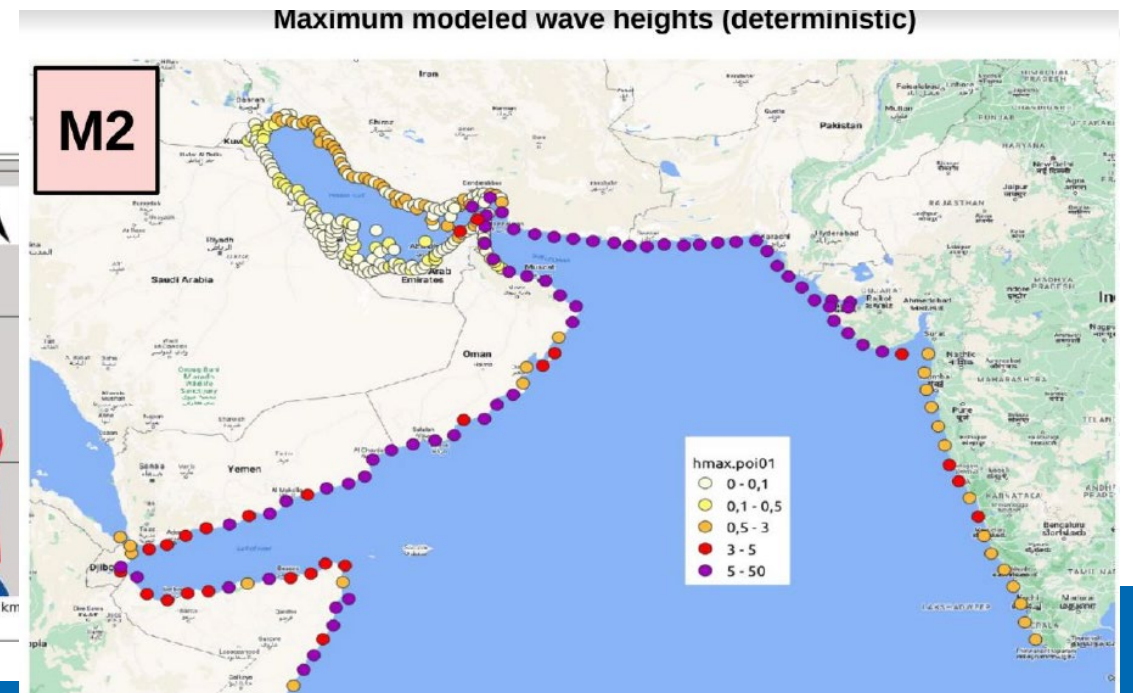
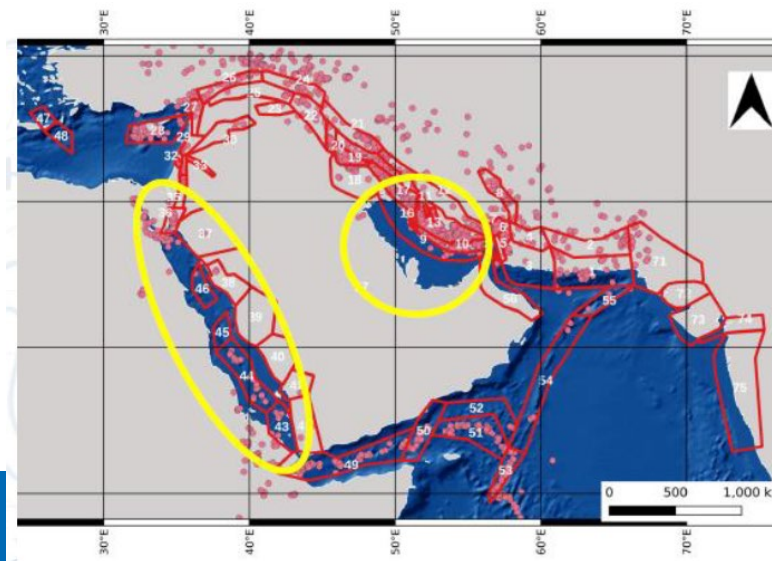
Tsunami Hazard Assessment

- Underpins better understanding of the risk and guide preparedness by authorities and communities
- Probabilistic Tsunami Hazard Assessment (PTHA) V1.0 developed for NW Indian Ocean by UNESCAP funded project
- Future versions to include other sources, such as splay faulting, submarine landslides, etc



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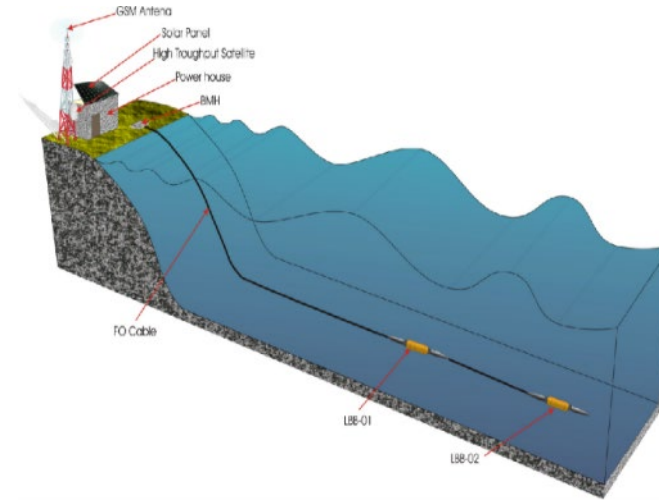
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PILLAR II: TSUNAMI DETECTION AND WARNING

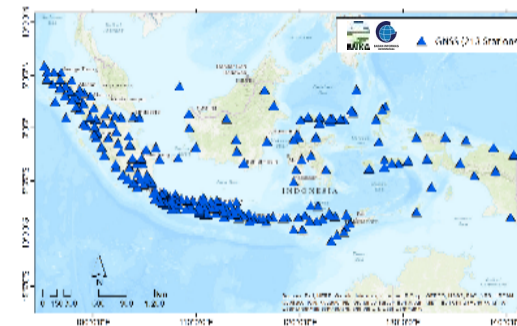
Tsunami Service Providers

- Operated by **Australia, India, and Indonesia**
- Developing within **multi-hazard** environments
- **ISO compliant:** ISO 9001 (Australian and India) and ISO 22328-3 (Indonesia)
- **Performance monitoring** against 9 KPIs
- Threat information provided for **non-seismic source tsunami** by Australia from 2023
- **Maritime products for NAVAREAs** to be trialed in 2023 and implemented from 2024
- **Warning tools & systems** being enhanced by TSPs
- Indonesia deployed Feb22 **undersea cable-based tsunameter (CBT)** system and more seismometers
- **More support for observations required reach Ocean Decade Goal** increased accuracy and timeliness of tsunami warnings



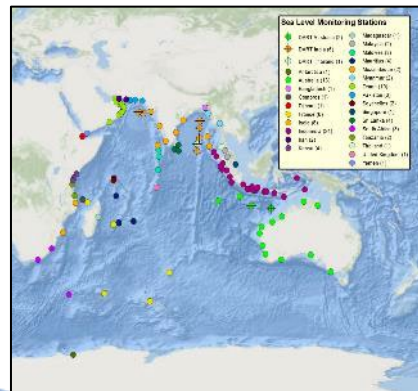
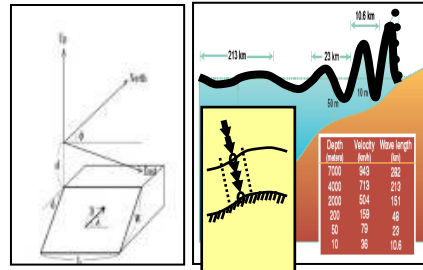
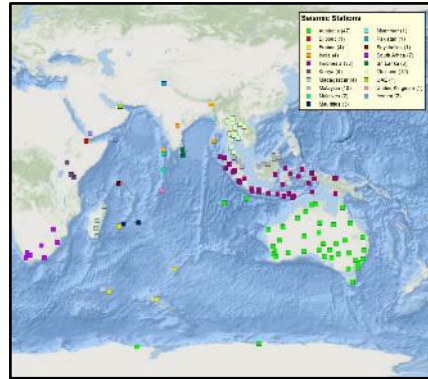
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Tsunami Detection, Warning & Dissemination

Observations



Regional Analysis

Seismological Data

Model Results

Sea level Data



Threat Information

Warning Status

Threat Information

Warning Status

Threat Information

Warning Status

National Warnings

National DMO
Local DMO
Media
Public



National Tsunami Warning Centre-1

National Tsunami Warning Centre-2

National Tsunami Warning Centre-N

- TV
- Radio
- SMS
- Email
- Web
- SIRENS

MEDIA ROLE

Issue

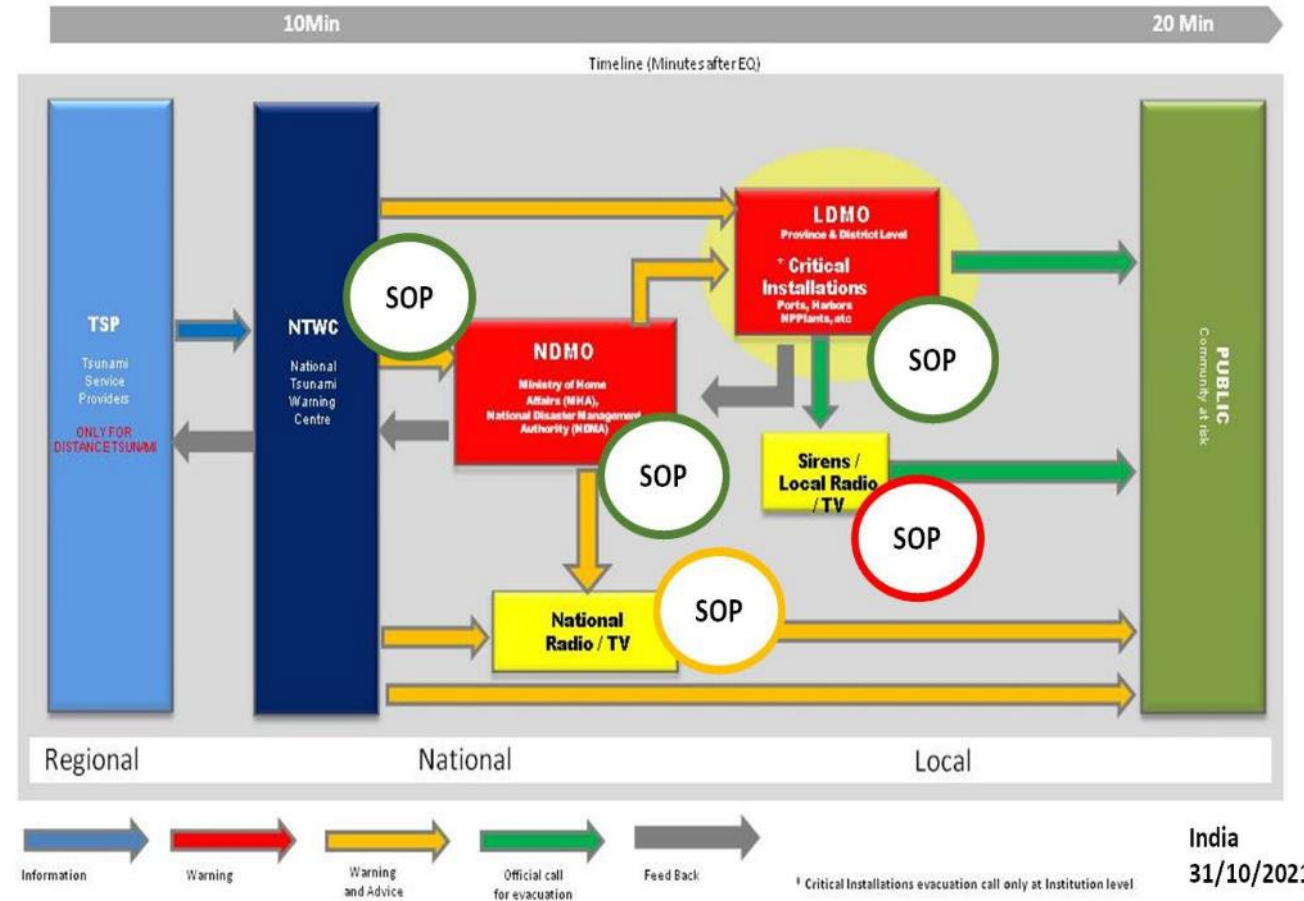
Communicate

- GTS
- SMS
- FAX
- Email
- Web

PILLAR III: TSUNAMI WARNING DISSEMINATION

National Tsunami Warning Chains and SOPs

- National tsunami warning chains involve National Tsunami Warning Centres (NTWCs), Disaster Management Organisations (DMOs at national, provincial, and local level), and Broadcast Media
- **Standard Operating Procedures (SOPs)** underpin each link.
- **Extend UNESCAP funded project outcomes to provide SOP Training Workshops for all MS Jul23**
- **Routine 6-monthly communication tests Jun and Dec every year (email, GTS, SMS, Fax)**
- Test national tsunami warning chains and SOPs in **Exercise IOWave23 in Oct23**



PILLAR IV: COMMUNITY AWARENESS & PREPAREDNESS

Tsunami Ready Recognition in the Indian Ocean



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INDIA:

1. Venkatraipur
2. Noliasahi

INDONESIA:

1. Tanjung Bena Village - Badung
2. Glagah Village - Kulonprogo
3. Kemadang Village - Gunung Kidul
4. Pangadaran Village - Pangadaran
5. Panggarangan Village - Lebak
6. Desa Tambakrejo - Malang
7. Kuta Mandalika Village - Lombok Tengah
8. Purus Village - Padang Barat
9. Lolong Belanti Village - Padang Utara

✓ 11 communities now Tsunami Ready recognized

✓ Australia, Iran, Maldives, Oman, Pakistan, Seychelles, Sri Lanka, Thailand, and Timor Leste planning to implement

✓ **More support required reach Ocean Decade Goal 100% communities at risk Tsunami Ready**



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THANK YOU