## India

## **Scenarios Exercised:**

- ✓ Andaman Trench (4 Oct)
- ✓ Makran Trench (11 Oct)
- Heard Island (18 Oct)
- Java Trench (25 Oct )





IOWave23 Bulletins Dissemination at ITEWC



SEOC/DEOC Operations & Public announcement



Public evacuations and rescue operations



Tsunami awareness activities in relief shelters

## **Exercise Participants**

DMOs of east coast India participated on 4 Oct and west coast of India participated on 11 Oct scenarios. Around 42 coastal villages from 12 districts of 4 coastal States/UTs of Odisha (32 villages), Andaman (3), Puducherry (4) and Tamil Nadu (3) were involved and evacuated during the exercise on 4 Oct 2023. More than 40,000 people were evacuated to shelters/safe places during mock exercise. Community people, school students, elderly personnel, etc. were involved in the evacuations.

NDMA, Navy, Coast Guard, National Disaster Response Force, Nuclear power plants, Port and Harbors, Fisheries departments, etc. were also participated.

## **National Tsunami Warning & Mitigation System**

The Indian Tsunami Early Warning Centre (ITEWC) established at Indian National Center for Ocean Information Services (INCOIS), under Ministry of Earth Science (MoES), Govt. of India, Hyderabad and is operational since October 15, 2007. ITEWC is having all the necessary observational, computational and communication infrastructure which enables reception of real-time data from all the sensors, analysis of the data, generation and dissemination of tsunami advisories following a Standard Operating Procedure (SOP). ITEWC is responsible to provide tsunami advisories along with Australia and Indonesia to Indian Ocean rim Countries in the framework IOTWMS of IOC-UNESCO.

ITEWC is providing tsunami advisories (Warning/Alert/Watch) to National/State Disaster Management Organisations (DMOs). In the Warning chain, all the stake holders involved such as NDMA, State/Local DMOs, Broadcasting Media. State/Local DMOs are responsible for public evacuations.

In connection with tsunami preparedness, India implemented UNESCO's Tsunami Ready programme. Odisha State Disaster Management Authority (OSDMA), with the support of INCOIS, implemented Tsunami Ready in two villages (Venkatraipur and Noliasahi) of Odisha and these villages recognized as Tsunami Ready Communities by IOC-UNESCO in 2020. India is the first country to achieve this distinction among all Indian Ocean rim countries. Efforts are underway to extend tsunami ready programme to other vulnerable coastal communities.

## **National Organisation of Exercise IOWave23**

India has participated in IOWave23 tsunami mock exercise on two days at National level (i) Andaman Trench scenario on 4th Oct and (ii) Makran Trench scenario on 11<sup>th</sup> October 2023. As a TSP, ITEWC issued test bulletins to Indian Ocean countries for 3 scenarios.

As preparation to the, INCOIS organised pre-IOWave23 workshop on tsunami Standard Operating Procedure (SOP) for DMOs & Media during 13-14 September 2023. This was conducted in collaboration with NDMA and around 60 participants from various organization were attended. Prepared National Tsunami Exercise manual for IOWave23 and provided for all participated agencies. Coastal provinces officials organised local training and coordination meetings for Districts and village level officials.

On 4<sup>th</sup> October for Nicobar event, provinces of east coast of India and on 11<sup>th</sup> October for Off coast of Iran event, provinces of west coast of India DMOs/communities were participated. During the exercise, over 40,000 people from 42 coastal villages of east coast of India of Tamil Nadu, Odisha, Puducherry, and Andaman Islands participated and were evacuated to safe shelters. Overall response time less than 30 minutes to notify the public. Different modes of communication were used. In Odisha, Tsunami Ready indicators evaluated for 6 Tsunami ready implemented communities.

### **Lessons Learnt**

Overall, IOwave23 tsunami mock exercise was great success, and which enhanced the awareness and preparedness among the coastal people of India. Response time to notify the public was varying from 5-30 minutes. Email was found to be most effective way of communication, followed by SMS and Fax. Dedicated Siren systems to be installed in the most vulnerable regions by DMOs. Regular mock exercise, trainings, awareness and preparedness programmes required at community level. Tsunami Ready programme need to be implemented in vulnerable coastal villages.



## **Further Information:**

Videos of IOWave23 activities will be shared.

Links to the social media: @IOWave23 and #IOWave23

X (twitter): @ESSO INCOIS

(https://twitter.com/ESSO\_INCOIS?ref\_src=twsrc%5Egoogle%7Ctwcamp%5Eserp%7Ctwgr%5Eauthor)

Instagram: https://www.instagram.com/incois\_official/

Facebook: https://m.facebook.com/p/INCOISofficial-100095071570299/

Linkdin: https://in.linkedin.com/company/indian-national-centre-for-ocean-information-services-

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#### IOWave23 exercise News Links:

- https://www.thehindu.com/news/national/telangana/incois-to-simulate-earthquakes-on-eithercoast-to-test-tsunami-preparedness/article67304350.ece
- https://newsroomodisha.com/iowave23-32-tsunami-prone-villages-across-six-coastal-districts-ofodisha-participate-in-tsunami-mock-exercise/
- <a href="https://timesofindia.indiatimes.com/city/hyderabad/incois-to-hold-tsunami-mock-drill-on-oct-4/articleshowprint/104118314.cms">https://timesofindia.indiatimes.com/city/hyderabad/incois-to-hold-tsunami-mock-drill-on-oct-4/articleshowprint/104118314.cms</a>
- https://telanganatoday.com/incois-conducts-tsunami-mock-exercise-along-the-indian-ocean
- <a href="https://nicobartimes.com/local-news/tsunami-communication-exercise-iowave23-to-be-held-on-4th-october-citizens-asked-not-to-panic/">https://nicobartimes.com/local-news/tsunami-communication-exercise-iowave23-to-be-held-on-4th-october-citizens-asked-not-to-panic/</a>
- https://news.knowledia.com/IN/en/articles/mock-tsunami-exercise-on-east-coast-tomorrow-1a37efd0be4ce632714361eeccacdac332e4ceff
- https://hyderabadnow.in/2023/10/02/mock-tsunami-exercise-on-east-coast-tomorrow/
- <a href="https://www.icsf.net/newss/india-incois-to-simulate-earthquakes-on-either-coast-to-test-tsunami-preparedness/">https://www.icsf.net/newss/india-incois-to-simulate-earthquakes-on-either-coast-to-test-tsunami-preparedness/</a>
- <a href="https://www.thehindu.com/news/national/telangana/incois-conducts-mock-tsunami-exercise-on-west-coast/article67408980.ece">https://www.thehindu.com/news/national/telangana/incois-conducts-mock-tsunami-exercise-on-west-coast/article67408980.ece</a>
- https://dip.goa.gov.in/2023/10/10/indian-ocean-wave-23-tsunami-mock-exercise-on-oct-11/

#### **News Clips**

# INCOIS to lead tsunami mock exercise tomorrow

#### IOWave23 to finetune tsunami preparedness

CITY BUREAU

Hyderabad-based Indian National Centre for Ocean Information Services (IN-COIS), along with several other countries in the Indian Ocean, is all set to take part in a tsunami mock exercise titled 'IOWave23' on October 4.

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These exercises will help us fix any gaps in warning chains and be fully prepared for future events

DR T SRINIVASA KUMAR, DIRECTIS INCOIS

uate response capabilities in each State and improve coordination throughout the

ordination throughout the region.

The drill will facilitate excreising the standard operating procedures (SOPs) of the emergency services and evaluating their state of readiness — handle tsunami-like emergency sixtements of the sunami warning and response

chain, with primary focus

in local coastal communities India, the IOWave23
mock exercise is being conclation with the National
Disaster Management Authority (NDMA). All the disaster management organisations (DMOs) of coastal
states/Union Territories,
Navy, Coast Guard, and National Disaster ResponseForce (NDRF), personnel
from critical installations
such as nuclear power
plants, port and harbours
will participate in the exercise. "These exercises will
provide a great opportunity
for all stakeholders to test
their tsunami warning procedures and enhance public
awareness and preparedness. It will help us fix any
gaps in warning dains and
cyents," said Dr T Srinivasa
Kumar, Director, INCOIS.



'The mission of our government is

