the Thirtieth Session of the Intergovernmental Coordination Group for the Pacific Tsunami Warning and Mitigation System (ICG/PTWS-XXX), Nuku'alofa, Kingdom of Tonga, 11–15 September 2023

Tsunami Warning System and Services in China

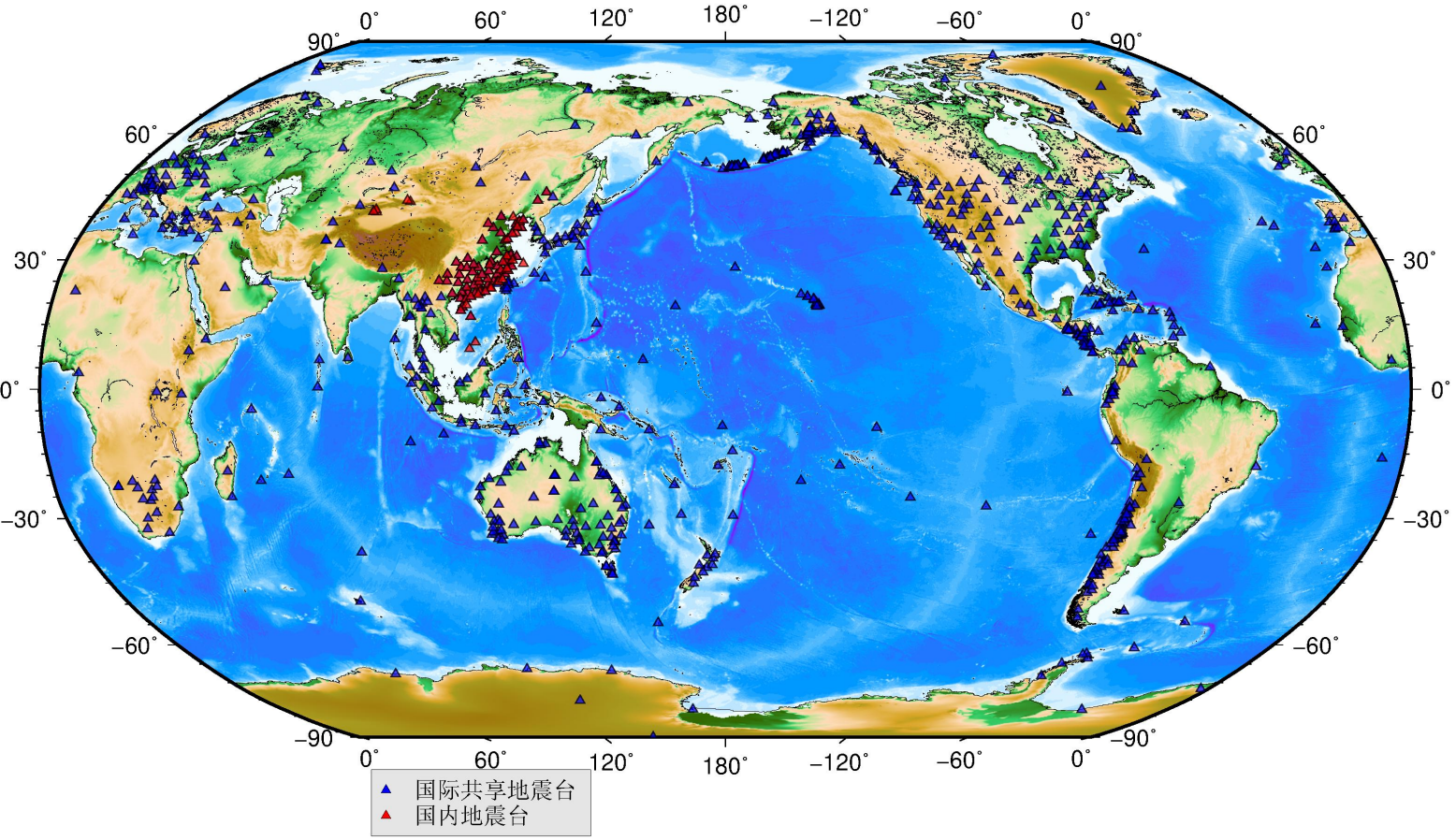
National Progress Report in 2022~2023

National Tsunami Warning Center,

***Ministry of Natural Resources*, P. R. China**

Earthquake Detecting and Sea Level Monitoring Capability

Global Seismic Station



Real-time, broadband seismic waveform data from:

- MNR(27)
- CEA(54)
- IRIS
- GEOFON
- GEOSCOPE

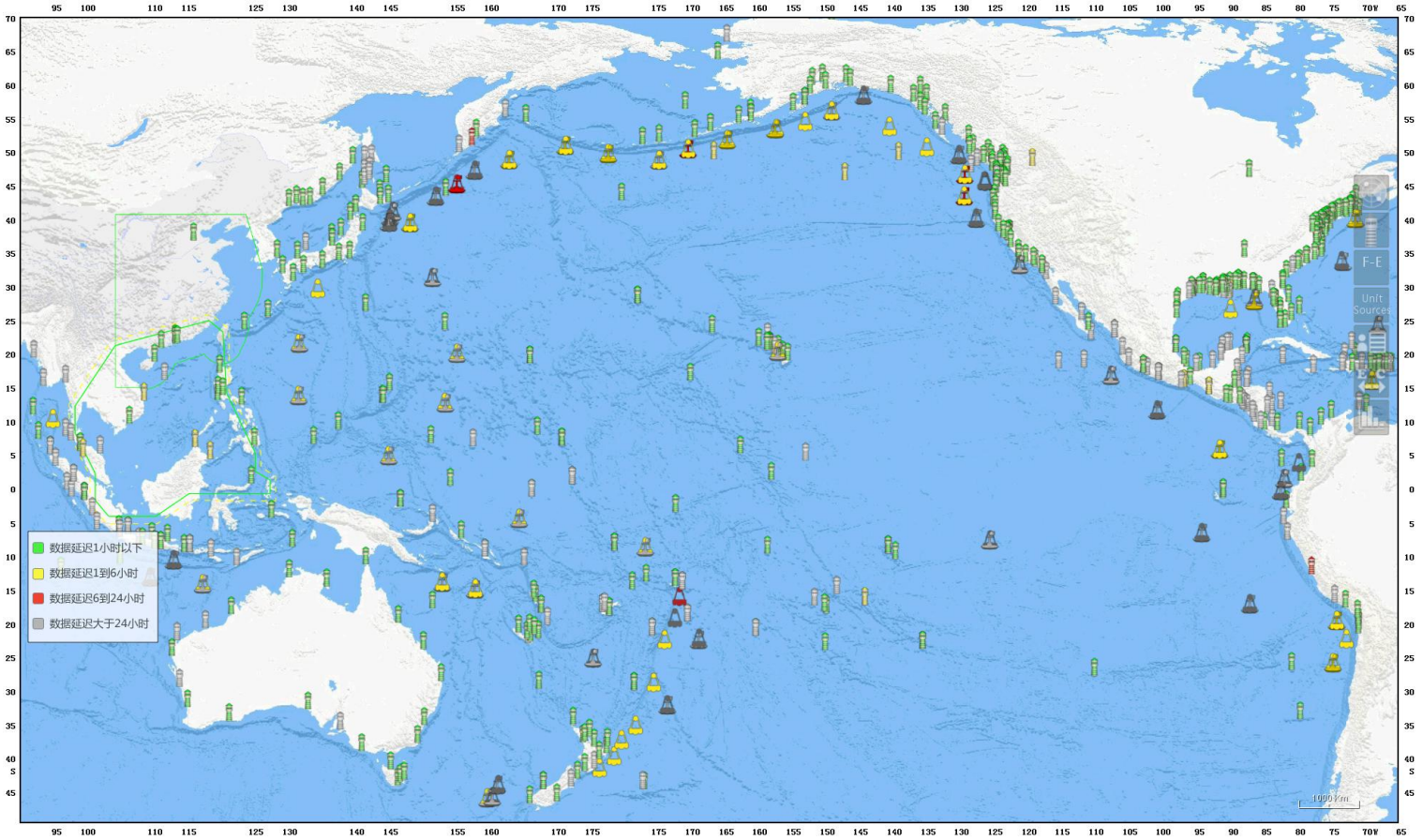
• （700+）

Earthquake fast Report Information

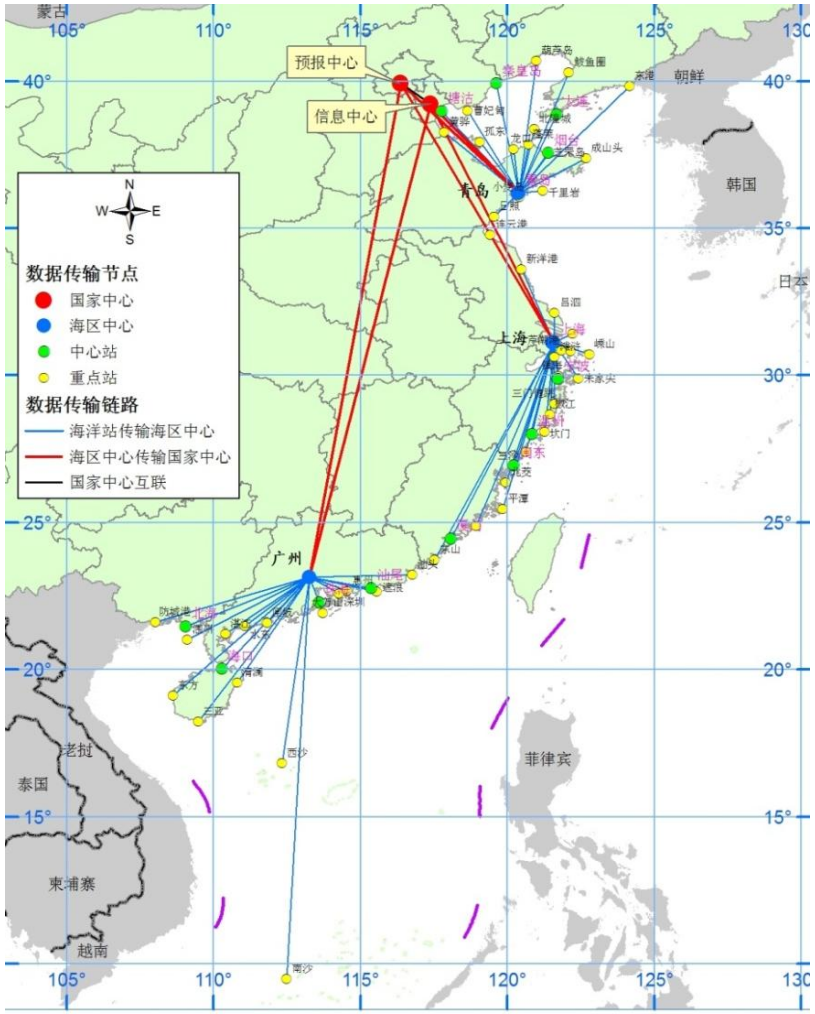
- Antelope SeisComp3
- WCMT
- CEA EQIM
- PTWC, USGS earthquake info

Earthquake Detecting and Sea Level Monitoring Capability

- Real-time sea-level data from nearly **600** functional tidal gauges and Dart bouys via GTS and from sea-level monitoring facility website
- Metadata file and Tide Tool update following PTWC's Emails



Earthquake Detecting and Sea Level Monitoring Capability



- 130~ tidal gauges along the Chinese coasts
- Data sharing via GTS for tsunami warning and mitigation system in the SCS region:

✓ Shenzhen

✓ Zhapo

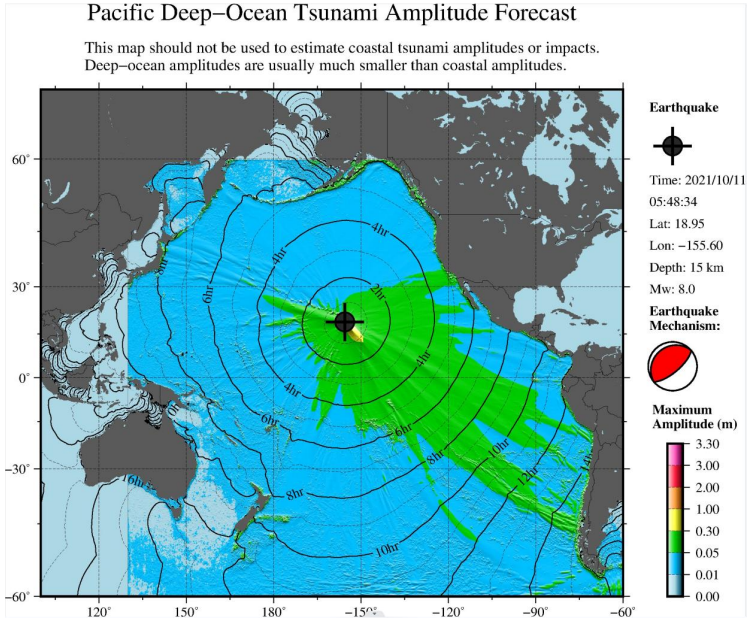
✓ Qinglan

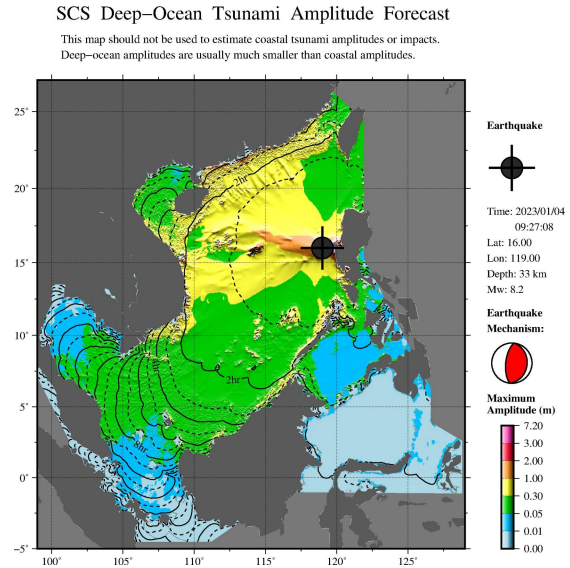
✓ Quarry Bay

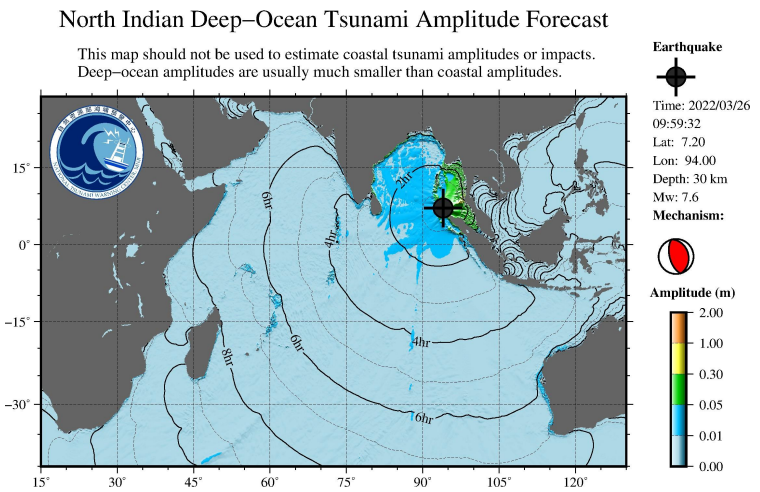
✓ Shek

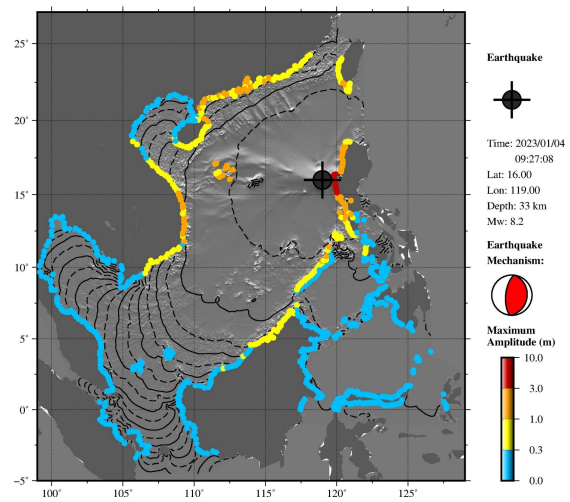
Earthquake Detecting and Sea Level Monitoring Capability

- Total six areas
- **Pacific Ocean**
- **South China Sea**
- **Indian Ocean**
- North Atlantic Ocean
- Mediterranean Sea
- Caribbean Sea



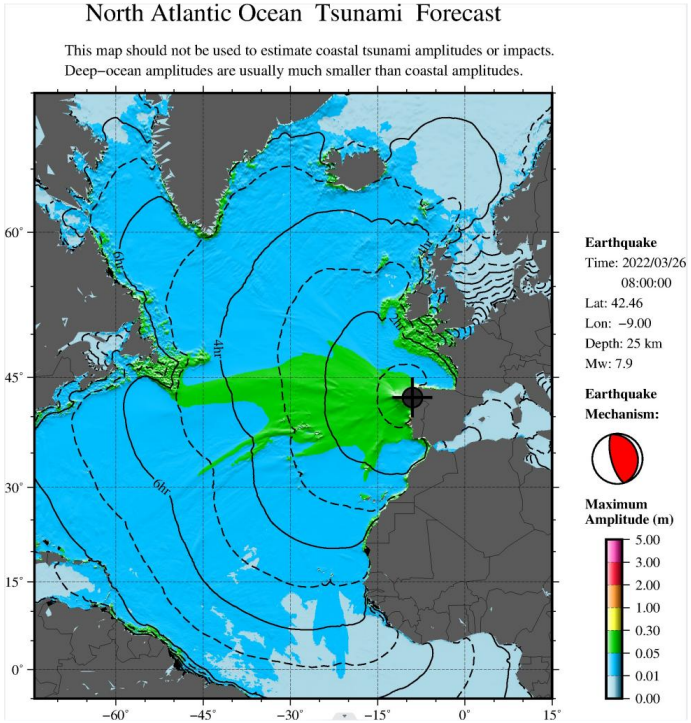


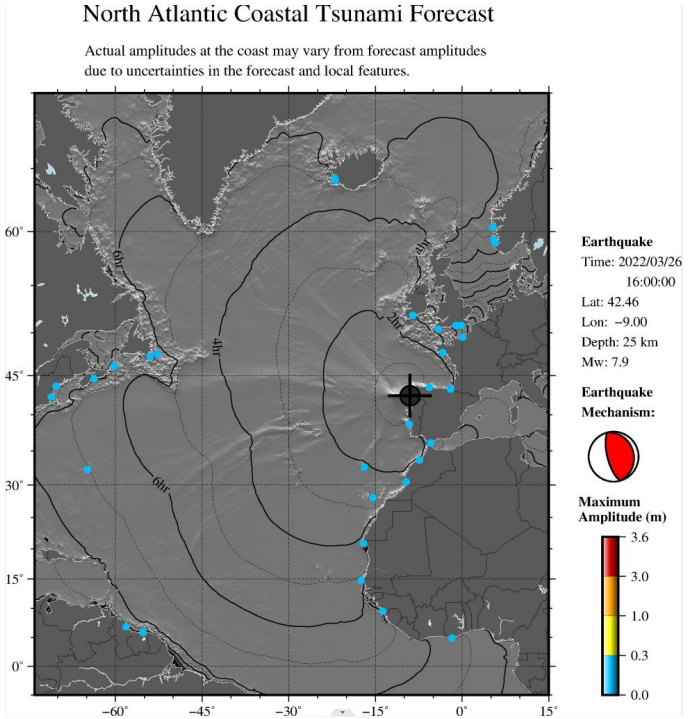


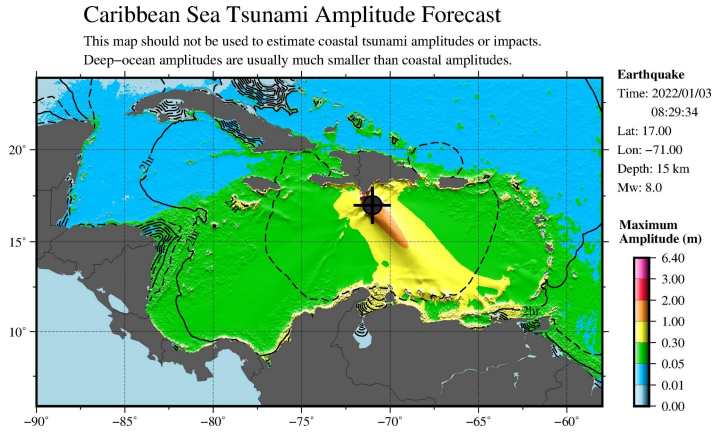


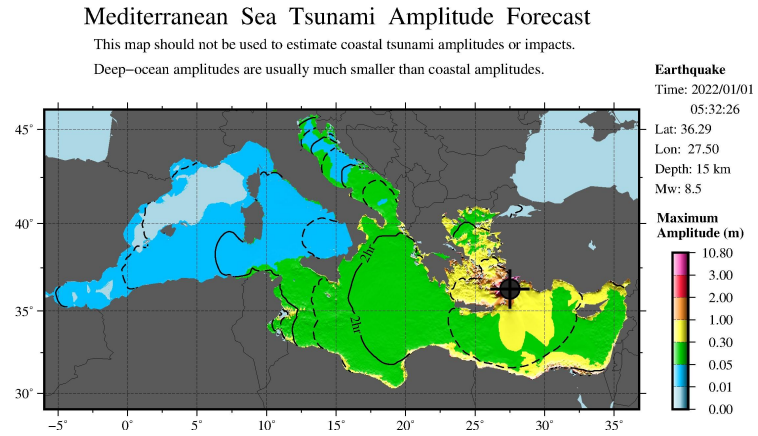
Earthquake Detecting and Sea Level Monitoring Capability

- Total six areas
- Pacific Ocean
- South China Sea
- Indian Ocean
- **North Atlantic Ocean**
- **Mediterranean Sea**
- **Caribbean Sea**



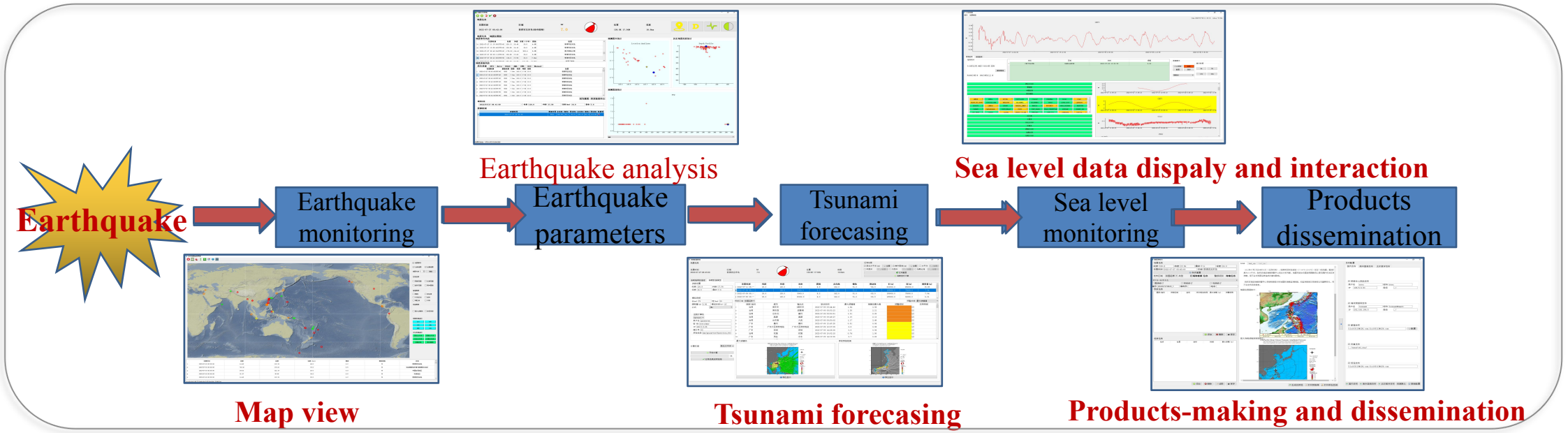






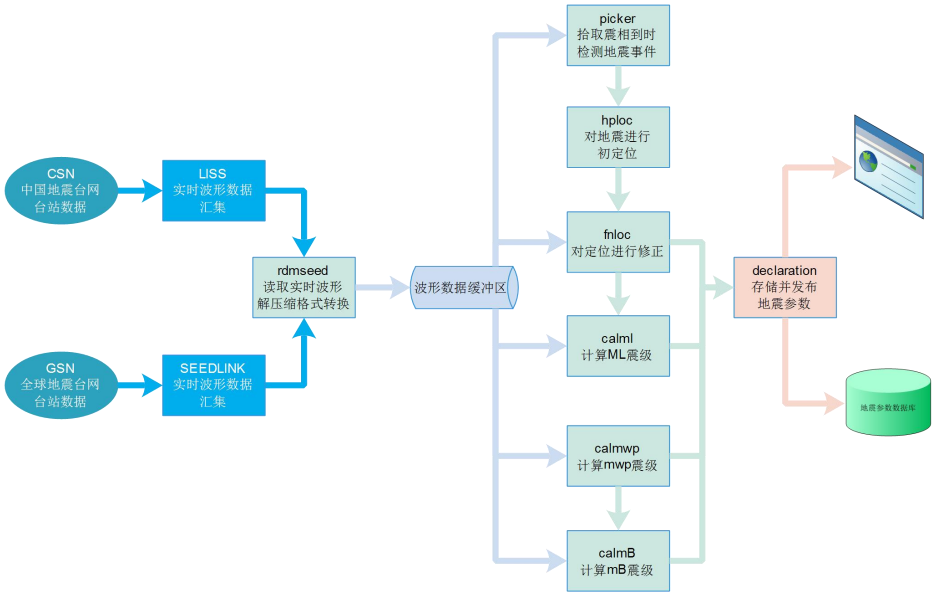
Earthquake Detecting and Sea Level Monitoring Capability

Self-development



Smart Tsunami Information Processing System(STIPS): A fully self-developed tsunami warning and decision-making publishing system based on Python language is operating in a commercial manner.

Earthquake Detecting and Sea Level Monitoring Capability



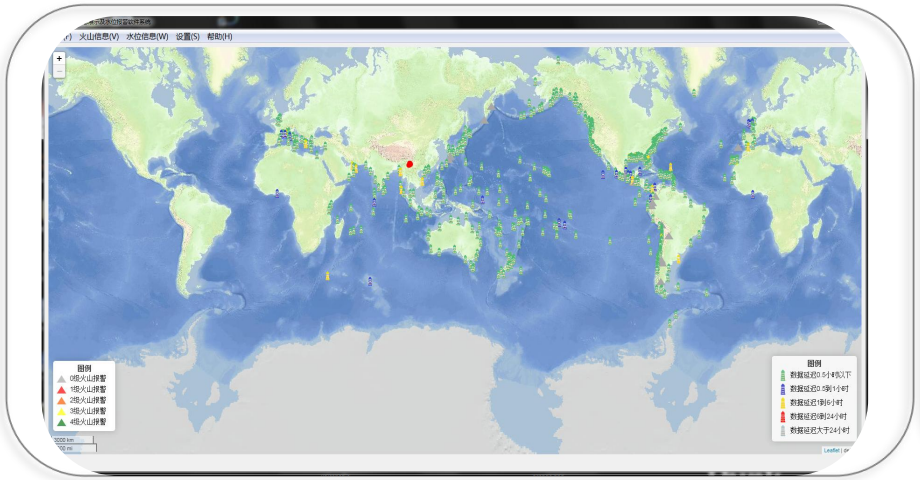
System function module architecture diagram

- 7×24h Running
- Global earthquakes (M>6.0) in near real-time;
- Autonomous and controllable

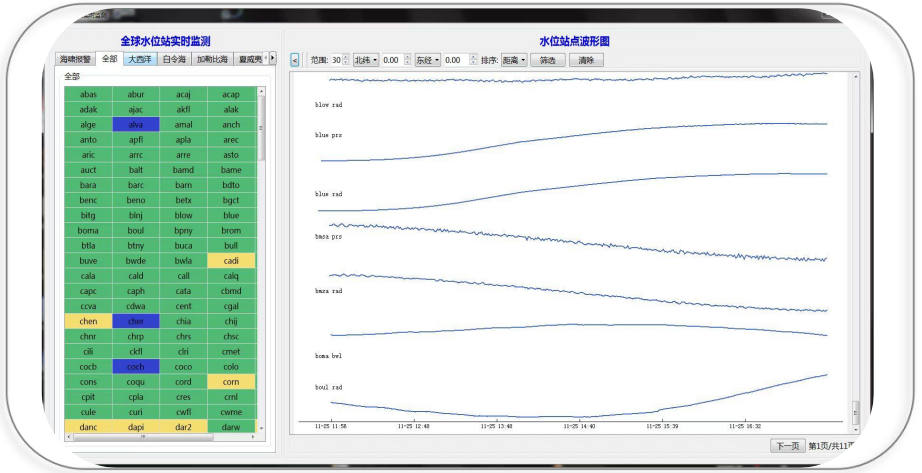
Self-development Global Earthquake Automatic Detecting and Location System

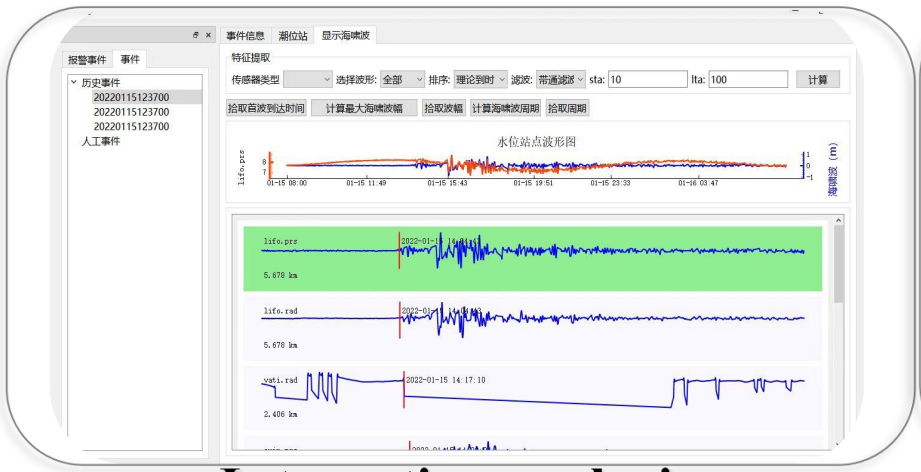
Earthquake Detecting and Sea Level Monitoring Capability

Map view

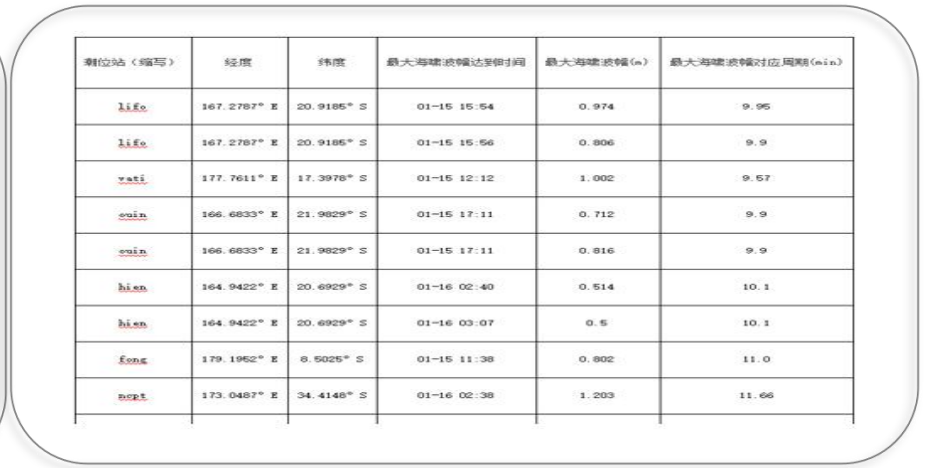


Near real-time sea level data display





Interactive analysis



潮位站（缩写）	经度	纬度	最大海啸波幅达到时间	最大海啸波幅(m)	最大海啸波幅对应周期(min)
lifo	167.2787° E	20.9185° S	01-15 15:54	0.974	9.95
lifo	167.2787° E	20.9185° S	01-15 15:56	0.806	9.9
vati	177.7611° E	17.3978° S	01-15 12:12	1.002	9.57
suin	166.6833° E	21.9829° S	01-15 17:11	0.712	9.9
suin	166.6833° E	21.9829° S	01-15 17:11	0.816	9.9
hien	164.9422° E	20.6929° S	01-16 02:40	0.514	10.1
hien	164.9422° E	20.6929° S	01-16 03:07	0.5	10.1
fong	179.1952° E	8.5025° S	01-15 11:38	0.802	11.0
ncpt	173.0487° E	34.4148° S	01-16 02:38	1.203	11.66

Tsunami observation report

Back-up Service Center Construction

◆ Back-up SCSTAC(Hong Kong) commences operation

✓ Fully operational from 29 March 2023

✓ Running in stand-by state

✓ Optimization and deployment of the backup center website

✓ Synchronous operation the SCSTAC website

香港天文台 HONG KONG OBSERVATORY

臨近預報區域專業氣象中心 RSMC for Nowcasting

WMO

亞洲航空氣象中心 AAMC Asian Aviation Meteorological Center

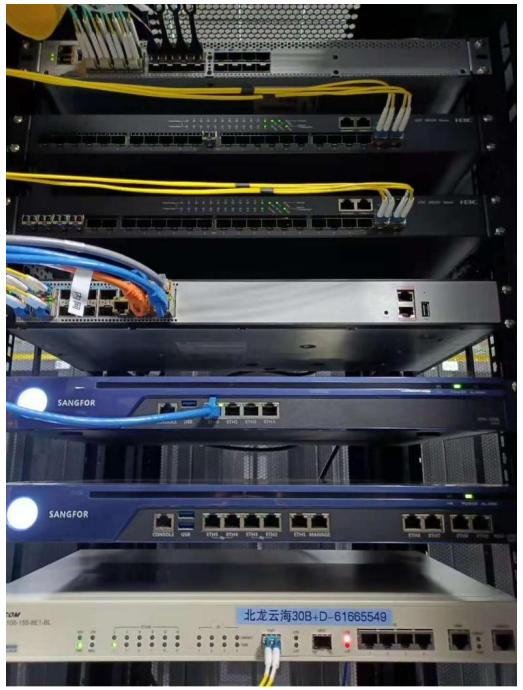
unesco

南中國海區域海嘯預警中心備份中心(香港) Backup South China Sea Tsunami Advisory Center (Hong Kong)

◆ Back-up Tsunami Warning Center (Shunyi District, Beijing)

✓ Hardware and software construction

✓ Running in stand-by state



International communication and cooperation

The NMEFC-BMKG International Conference on Non-seismic Tsunamis and Complex Tsunamis (online) July 14，2022

2022 International Symposium on Applied Technologies for Earthquake and Tsunami Monitoring, Early Warning and Disaster Mitigation in the South China Sea Region (online) Dec 20,2022

Tsunami Mitigation-Publicity

National Disaster Prevention and Mitigation Day
Online

World Earth Day
The National Maritime Museum

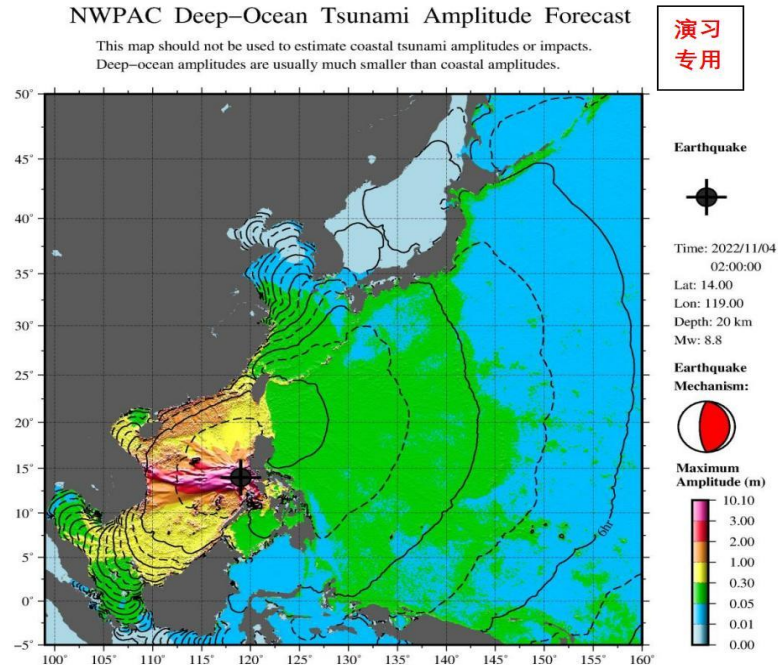
Beijing Science Center

World Tsunami Awareness Day

Hypothesis Source: Earthquake with *M*w8.8 in Manila trench

Warning: Catastrophic impact in Hainan, Guangdong, Guangxi and Fujian

Dissemination: Warning Mes. Sent and Received Effectively in 10 minutes



Thank You!

National Tsunami Warning Center, *Ministry of Natural Resources*, P. R. China