The Revision of the User’s Guide for SCSTAC Products for the South China Sea Tsunami Warning and Mitigation System

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South China Sea Tsunami Advisory Center(SCSTAC)

Draft User's Guide for SCSTAC products for the South China Sea Tsunami Warning and Mitigation System （TS-149）

1. OVERVIEW
2. Major Updates On Products For End-users
3. Major Updates On Explanatory Descriptions
4. Forecast Point Review
5. Recommendations For Consideration

Background

The User’s Guide is a living document that may require changes over time to reflect changes in TSP services, products, or other information. Current SCSTAC’s user guide which was published in 2019 becomes out of date.

The 30th Session of ICG/PTWS (11-15 September 2023, Nuku’alofa, Tonga) reviewed and agreed on the proposed common Table of Contents proposed by the WG2 Task Team of TSPs.

The 12th Session of WG-SCS (7-8 November 2024, Jakarta, Indonesia) requested SCSTAC to make ready the draft revised User’s Guide by December 2024 for the Chair of the WG-SCS to circulate it to Member State for review by January 2025.

During the 31st Session of ICG/PTWS (7-11 April 2025, Beijing, China), it was noted that SCSTAC was continuing to revise its own User’s Guide and would finalize a draft version before the 13th Session of WG-SCS.

New Structure

SCSTAC has reorganized the contents following ...

Appendix 2 to Recommendation ICG/PTWS-XXX.8

Working Group 2
Tsunami Detection, Warning and Dissemination
Task Team on Tsunami Service Providers
Proposed Common PTWS TSP Users' Guide Table of Contents

In bold below is the structure and the main headings and sub-headings that should be included in all TSP Users' Guides. Other sub-headings, if necessary, would be at the discretion of individual TSPs based upon their unique capabilities, procedures, and products. Other common headings in all TSP User's Guides may be included, if necessary, with a consensus among the TSPs.

Change Log

The User's Guide is a living document that may require changes over time to reflect changes in TSP services, products, or other information. This section includes a table providing a brief description of any changes made, and the date of the change.

Executive Summary

This section may include some background information about the TSP, why the document exists, and a general summary of the document content.

TABLE OF CONTENT

2. Major Updates On Products For End-users

- **Product Criteria Changes**
- **Product Type and Template Reform**
  - **Informational bulletin** for EQ inside the ESZ - **A1& A2**
  - **Threat bulletin** for EQ inside the ESZ- **B1& B2**
  - **Threat bulletin** for EQ Outside the ESZ - **C1& C2**
- **Product examples**

Major Criteria Changes (Chapter 3.1)

In the new version, if an earthquake occurred between 7.1*M*w and 7.5*M*w, the type of the product will be determined as "Information" or "Threat" based on the results of numerical simulation.

In the old version, the "threat" message will be made if an earthquake occurred with magnitude equal to or exceeding 7.1*M*w.

Magnitude(Mw)	Tsunami Potential Description
6.0 ≤ M_w ≤ 7.0	There is no tsunami threat from this earthquake
7.1 ≤ M_w ≤ 7.5	Possibility of a destructive local tsunami confined to 100-300 km of the epicenter
M_w≥7.6	Possibility of a destructive basin-wide tsunami

(Tab.1 Old version)

Magnitude(Mw)	Tsunami Forecast	Tsunami Potential Description
6.0 ≤ *Mw* ≤ 7.0	NONE	There is no tsunami threat from this earthquake
7.1 ≤ *Mw* ≤ 7.5	Available if amplitude < 0.3m	There is no tsunami threat but minor waves are expected
	Available if amplitude >= 0.3m	Possibility of a destructive local tsunami confined to 100-300 km of the epicenter
7.6 ≤ *Mw* ≤ 7.9	Available	Possibility of a destructive regional tsunami confined to 1000 km of the epicenter
Mw ≥ 8.0	Available	Possibility of a destructive basin-wide tsunami

(Tab.2 New version)

Product Template Reform (Chapter 3.1.1 & 3.1.2)

Informational bulletin for EQ inside the ESZ - A1& A2

Bulletin type		Criteria
Tsunami Information for EQ occurs in the ESZ (A1)	Only one bulletin unless minor waves observed and should be reported	EQ inland or depth≥100km
		Submarine EQ with magnitude 6.0-6.4 & depth<100km
		Submarine EQ with magnitude 6.5-7.0 & depth<100km
		Submarine EQ with magnitude 7.1-7.5 & depth<100km & no tsunami forecast amplitude 0.3m or above
Tsunami Information for EQ occurs in the ESZ (A2)	Waves observation recorded	Observed amplitude less than 0.3 m
	Downgrade from threat message according to wave observation or forecast	Observed amplitude less than 0.3 m; or EQ parameter or tsunami forecasts falling into the informational criteria

Product Template Reform (Chapter 3.1.1 & 3.1.2)

Informational bulletin - Highlight templates: A2-2&A2-3

This type of template is used to change the bulletin type from "Threat" to "Information" when subsequent information (e.g., tsunami observations or updated forecasts) indicates that the tsunami threat is lower than initially assessed.

Bulletin type	Criteria
A2-2. Downgrade from threat message according to **wave observation**	Observed amplitude less than 0.3 m; or up-to-date earthquake parameters falling into the informational criteria; or up-to-date tsunami forecasts falling into the informational criteria
A2-3. Downgrade from threat message according to **forecast**	

Product Template Reform (Chapter 3.1.1 & 3.1.2)

Threat bulletin for EQ inside the ESZ - B1& B2

Bulletin type		Criteria
Tsunami Threat Message for EQ occurs in the ESZ (B1)	Supplementary or final bulletin will follow with persistently updated wave observations	Submarine EQ with magnitude 7.1-7.5 & depth<100km & tsunami forecast amplitude 0.3m or above
		Submarine EQ with Magnitude no less than 7.6 & depth<100km
Tsunami Threat Message for EQ occurs in the ESZ (B2)	Waves observation recorded	Observed amplitude 0.3 m or above
	Upgrade from the information according to wave observation or forecast	Observed amplitude 0.3 m or above; or EQ parameter or tsunami forecasts falling into the threat criteria
	Final bulletin for threat message	Less than 0.3m of wave amplitude recorded for 2h

Product Template Reform (Chapter 3.1.1 & 3.1.2)

Threat bulletin - Highlight templates: B2-2&B2-3

This type of template is used to upgrade from "Information" to "Threat" when subsequent data confirms or indicates a higher tsunami threat than initially assessed.

Bulletin type	Criteria
B2-2. Upgrade from information message according to wave observation	Observed amplitude 0.3 m or above; or up-to-date earthquake parameters falling into the threat criteria; or up-to-date tsunami forecasts falling into the threat criteria
B2-3. Upgrade from information message according to forecast	

Product Template Reform (Chapter 3.1.1 & 3.1.2)

Threat bulletin for EQ outside the ESZ - C1& C2

Bulletin type		Criteria
Tsunami Threat Message for EQ occurs **outside the ESZ** but poses potential threat to AOS(C1)	Supplementary or final bulletin will follow with persistently updated wave observations	Submarine EQ with magnitude no less than 7.6 & depth<100km & outside the ESZ but in the Pacific Ocean & forecast tsunami amplitude 0.3m or above
Tsunami Threat Message for EQ occurs **outside the ESZ** but poses potential threat to AOS (C2)	Waves observation recorded	Observed amplitude 0.3m or above
	Final bulletin for threat message	Less than 0.3m of wave amplitude recorded for 2h

Product examples （C1）

C1 Sample Message of [1st BULLETIN - Tsunami threat from EQ. of Mw >= 7.6 OUTSIDE THE ESZ] undersea or very near to coastlines

WESS21 BABJ 240240 (NMEFC) OR
WESS21 VHHH 240240 (HKO)

TSUNAMI BULLETIN NUMBER 1
ISSUED BY SOUTH CHINA SEA TSUNAMI ADVISORY CENTER (SCSTAC)
ISSUED AT 0239 UTC Jul 24 2025

...POTENTIAL TSUNAMI THREAT EXISTS FOR CHINA,INDONESIA,PHILIPPINES...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****
THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE UNESCO/IOC SOUTH CHINA SEA SUB-REGIONAL TSUNAMI WARNING AND MITIGATION SYSTEM. NATIONAL AUTHORITIES WILL BE RESPONSIBLE FOR DETERMINATION OF THE APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY. THE PUBLIC SHOULD FOLLOW THE GUIDANCE OF NATIONAL AUTHORITIES.
**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

[PRELIMINARY EARTHQUAKE PARAMETERS]

*MAGNITUDE	8.6
*ORIGIN TIME	0231 UTC Jul 24 2025
*COORDINATES	33.0 N,135.0 E (OUTSIDE THE AOS)
*DEPTH	20 KM
*LOCATION	NEAR S. COAST OF WESTERN HONSHU

[EVALUATION]
THERE IS A POSSIBILITY OF A DESTRUCTIVE TSUNAMI BASED ON AVAILABLE INFORMATION.

HAZARDOUS TSUNAMI WAVES ARE FORECAST FOR THE COASTS.

[TSUNAMI AMPLITUDE AND ETA FORECASTS]

FORECAST POINT	COORDINATES	ETA(UTC)	MAX. AMPL
CHINA			
KAOHSIUNG	120.3, 22.5	0528	0.3-1M
HONG_KONG	114.2, 22.3	0846	0.3-1M
INDONESIA			
MELONGUANE	126.6, 4.1	0640	0.3-1M
TABUKAN_TENGAH	125.6, 3.6	0658	0.3-1M
JAILOLO	127.5, 1.1	0721	0.3-1M
MANADO	124.9, 1.6	0729	0.3-1M
TOLI-TOLI	120.7, 1.1	0749	0.3-1M
TARAKAN	117.6, 3.3	0927	0.3-1M
PHILIPPINES			
LAOAG	120.6, 18.2	0531	0.3-1M
CURRIMAO	120.4, 18.0	0533	0.3-1M
GENERAL_SANTOS	125.2, 6.1	0701	0.3-1M
ZAMBOANGA	122.3, 7.0	0741	0.3-1M

* THIS LIST IS GROUPED BY COUNTRIES, AND COUNTRY NAMES ARE ORDERED ACCORDING TO THREAT LEVELS.

* ETA - ESTIMATED TIME OF ARRIVAL OF THE INITIAL TSUNAMI WAVE. NOTING THAT IN SOME COASTAL AREAS TSUNAMI WAVES MAY ARRIVE EARLIER THAN OUR ESTIMATE DUE TO COARSE BATHYMETRY USED BY MODEL.
* MAX. AMPL - MAXIMUM WAVE HEIGHT RELATIVE TO NORMAL SEA LEVEL EXTRACTED
FROM MODEL RESULTS AND GROUPED INTO FOUR BINS OF <0.3 M, 0.3 TO 1 M, 1 TO 3 M and ABOVE 3 M. NOTING THAT THE INITIAL WAVE MAY NOT NECESSARILY BE THE LARGEST, AND WAVE ACTIVITIES MAY VARY SIGNIFICANTLY ALONG COASTS DUE TO LOCAL FEATURES.

[RECOMMENDED ACTIONS]
* LOCAL AUTHORITIES SHOULD PAY CLOSE ATTENTION TO THE EVALUATION OF THEIR NATIONAL TSUNAMI WARNING CENTERS ON TSUNAMI HAZARD, AND TAKE APPROPRIATE ACTIONS IN RESPONSE TO THIS POTENTIAL HAZARD.
* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD KEEP ALERT FOR WARNING INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.

[UPDATES]
THE NEXT BULLETIN WILL BE ISSUED AS MORE INFORMATION BECOMES AVAILABLE.

[ADDITIONAL INFORMATION]
* MORE DETAILED INFORMATION CAN BE FOUND AT WEBSITE SCSTAC.OCEANGUIDE.ORG.CN OR BSCSTAC.HKO.GOV.HK.
* TSUNAMI BULLETIN REGARDING THIS EVENT MAY BE ISSUED BY PACIFIC TSUNAMI WARNING CENTER. IN CASE OF CONFLICTING INFORMATION, MORE CONSERVATIVE INFORMATION SHOULD BE ADOPTED.

* EMAIL: TSU@NMEFC.CN OR
* EMAIL: INFO-BSCSTAC@HKO.GOV.HK

---------- END OF BULLETIN ----------

Product examples （C2)

C2-2 Sample Message of [Final bulletin for threat message - Threat passed]

WESS21 BABJ 240900 (NMEFC) OR
WESS21 VHHH 240900 (HKO)

TSUNAMI BULLETIN NUMBER 3
ISSUED BY SOUTH CHINA SEA TSUNAMI ADVISORY CENTER (SCSTAC)
ISSUED AT 0900 UTC Jul 24 2025

... TSUNAMI THREAT HAS PASSED...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****
THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
UNESCO/IOC SOUTH CHINA SEA SUB-REGIONAL TSUNAMI WARNING AND MITIGATION
SYSTEM. NATIONAL AUTHORITIES WILL BE RESPONSIBLE FOR DETERMINATION OF THE
APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY. THE PUBLIC SHOULD FOLLOW
THE GUIDANCE OF NATIONAL AUTHORITIES.
**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

[PRELIMINARY EARTHQUAKE PARAMETERS]
*MAGNITUDE 8.6
*ORIGIN TIME 0231 UTC Jul 24 2025
*COORDINATES 33.0 N,135.0 E (OUTSIDE THE AOS)
*DEPTH 20 KM
*LOCATION NEAR S. COAST OF WESTERN HONSHU

[EVALUATION]
BASED ON ALL AVAILABLE DATA, TSUNAMI THREAT NO LONGER EXISTS.

HOWEVER, DUE TO LOCAL FEATURES MINOR SEA LEVEL FLUCTUATIONS MAY
CONTINUE FOR HOURS.

[RECOMMENDED ACTIONS]
* LOCAL AUTHORITIES MAY ASSUME NO TSUNAMI THREAT EXISTS WHEN NO
OBVIOUS SEA LEVEL FLUCTUATION OBSERVED FOR TWO HOURS AFTER THE
ESTIMATED TIME OF ARRIVAL OR HAZARDOUS WAVES HAVE NOT OCCURED FOR AT
LEAST TWO HOURS.
* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD KEEP ALERT FOR
WARNING INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.

[UPDATES]
THIS WILL BE THE FINAL BULLETIN REGARDING THIS EVENT UNLESS ADDITIONAL
INFORMATION BECOMES AVAILABLE..

[ADDITIONAL INFORMATION]
* MORE DETAILED INFORMATION CAN BE FOUND AT WEBSITE
SCSTAC.OCEANGUIDE.ORG.CN OR BSCSTAC.HKO.GOV.HK.
* TSUNAMI BULLETIN REGARDING THIS EVENT MAY BE ISSUED BY PACIFIC TSUNAMI
WARNING CENTER. IN CASE OF CONFLICTING INFORMATION, MORE CONSERVATIVE
INFORMATION SHOULD BE ADOPTED.

* EMAIL: TSU@NMEFC.CN OR
* EMAIL: INFO-BSCSTAC@HKO.GOV.HK

----------END OF BULLETIN ----------

C2-3 Sample Message of [Final bulletin for threat message - No tsunami confirmed]

WESS21 BABJ 240900 (NMEFC) OR
WESS21 VHHH 240900 (HKO)

TSUNAMI BULLETIN NUMBER 2
ISSUED BY SOUTH CHINA SEA TSUNAMI ADVISORY CENTER (SCSTAC)
ISSUED AT 0900 UTC Jul 24 2025

... TSUNAMI THREAT NOT CONFIRMED...

**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****
THIS STATEMENT IS ISSUED FOR INFORMATION ONLY IN SUPPORT OF THE
UNESCO/IOC SOUTH CHINA SEA SUB-REGIONAL TSUNAMI WARNING AND MITIGATION
SYSTEM. NATIONAL AUTHORITIES WILL BE RESPONSIBLE FOR DETERMINATION OF THE
APPROPRIATE LEVEL OF ALERT FOR EACH COUNTRY. THE PUBLIC SHOULD FOLLOW
THE GUIDANCE OF NATIONAL AUTHORITIES.
**** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE **** NOTICE ****

[PRELIMINARY EARTHQUAKE PARAMETERS]
*MAGNITUDE 8.6
*ORIGIN TIME 0231 UTC Jul 24 2025
*COORDINATES 33.0 N,135.0 E (OUTSIDE THE AOS)
*DEPTH 20 KM
*LOCATION NEAR S. COAST OF WESTERN HONSHU

[EVALUATION]
NO EVIDENCE SHOWED A DESTRUCTIVE TSUNAMI ACTUALLY OCCURED BASED ON
ALL AVAILABLE INFORMATION.

HOWEVER, NATIONAL TSUNAMI WARNING CENTERS SHOULD CONTINUOUSLY
MONITOR THEIR OWN SEA LEVEL STATIONS DUE TO RELATIVELY SPARSE
OBSERVING NETWORKS IN THIS REGION.

[RECOMMENDED ACTIONS]
* LOCAL AUTHORITIES MAY ASSUME NO TSUNAMI THREAT EXISTS WHEN NO
OBVIOUS SEA LEVEL FLUCTUATION OBSERVED FOR TWO HOURS AFTER THE
ESTIMATED TIME OF ARRIVAL.
* PERSONS LOCATED IN THREATENED COASTAL AREAS SHOULD KEEP ALERT FOR
WARNING INFORMATION AND FOLLOW INSTRUCTIONS FROM LOCAL AUTHORITIES.

[UPDATES]
THIS WILL BE THE FINAL BULLETIN REGARDING THIS EVENT UNLESS ADDITIONAL
INFORMATION BECOMES AVAILABLE..

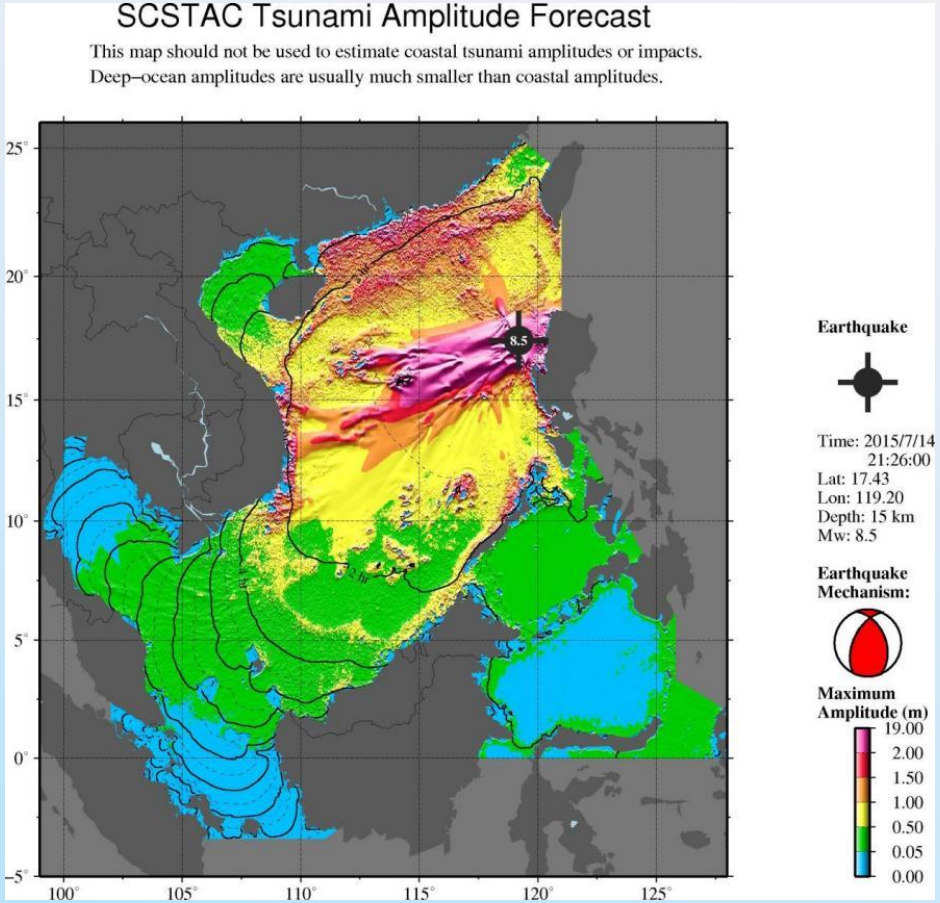
[ADDITIONAL INFORMATION]
* MORE DETAILED INFORMATION CAN BE FOUND AT WEBSITE
SCSTAC.OCEANGUIDE.ORG.CN OR BSCSTAC.HKO.GOV.HK.
* TSUNAMI BULLETIN REGARDING THIS EVENT MAY BE ISSUED BY PACIFIC TSUNAMI
WARNING CENTER. IN CASE OF CONFLICTING INFORMATION, MORE CONSERVATIVE
INFORMATION SHOULD BE ADOPTED.

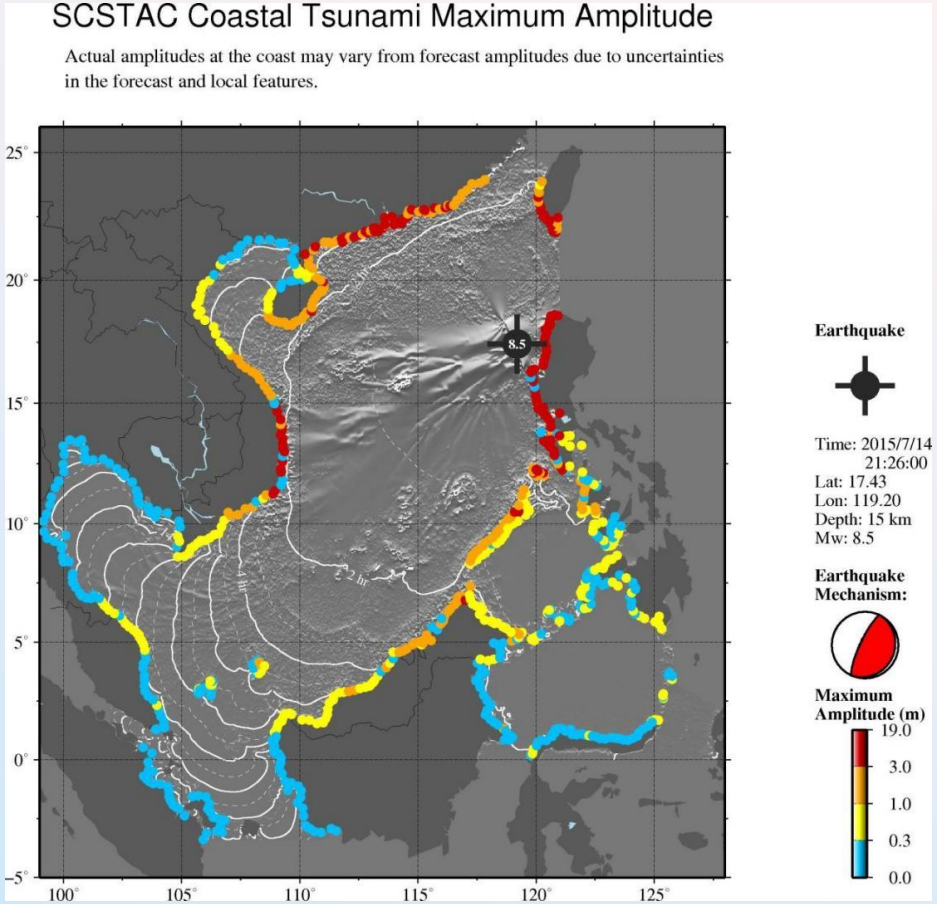
* EMAIL: TSU@NMEFC.CN OR
* EMAIL: INFO-BSCSTAC@HKO.GOV.HK

----------END OF BULLETIN ----------

Product Examples - Forecast Map

The tsunami energy map and coastal forecast map will removed from the SCSTAC website to avoid misleading the public, but will be retained in emails.





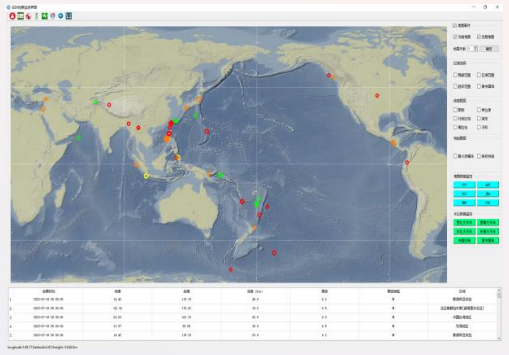
3. Major Updates On Explanatory Descriptions

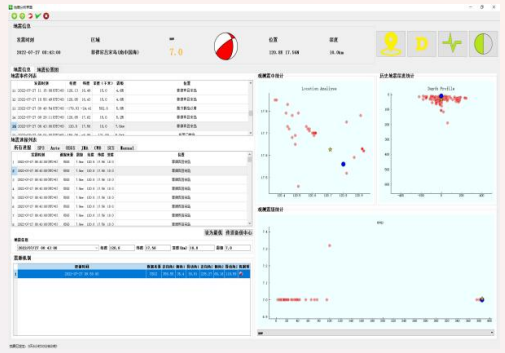
- Background (Up-to-date)
- **Operational tools and procedures**
- **Earthquake Source Zone**
- Dissemination (Fax method was terminated, Map removed from website)
- **Contact Information**
- **Sea-level observation sites (In ANNEX III)**

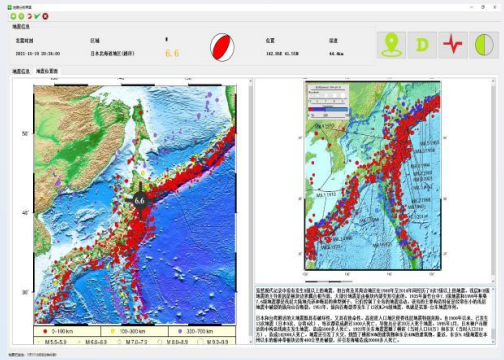
Operational tools and procedures

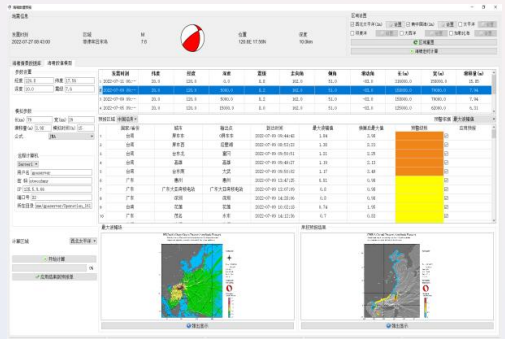
The Decision Support System has been upgraded to the self-developed "Smart Tsunami Information Processing System (STIPS)," with its module composition detailed. Gives the screenshot of the new Decision Support System interface.

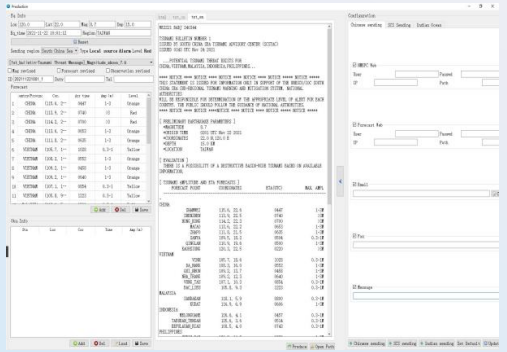
- Interplayed GIS module
- Earthquake Analysis module
- Tsunami Forecast module
- Tsunami Detection module
- Product Making and Dissemination module





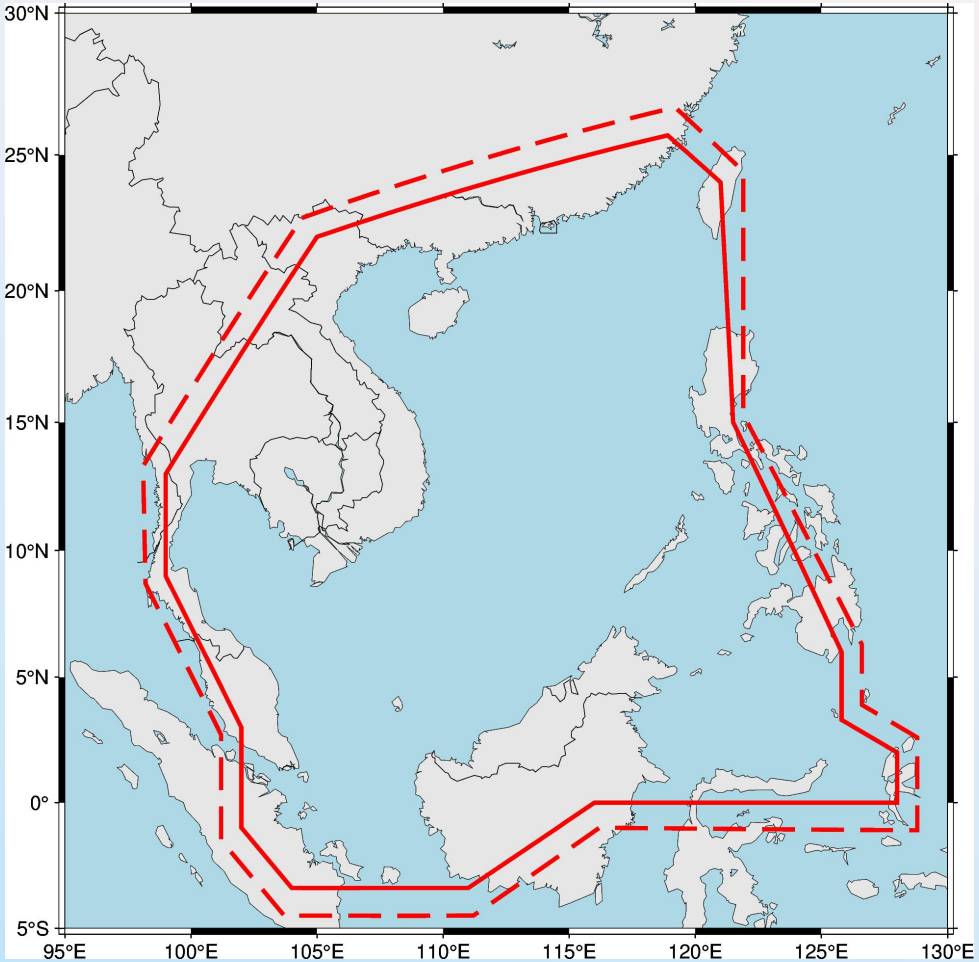






Earthquake Source Zone

Adding buffer zones" to address earthquakes occurring near the boundaries of different Tsunami Service Providers' ESZs.



Contact Information

Contact Information of SCSTAC and BSCSTAC are provided.

SCSTAC: National Marine Environmental Forecasting Center /MNR of China
National Tsunami Warning Center /MNR of China
Contact: PhD. WANG Dakui
Address: 8 Dahuisi Rd., Haidian District, Beijing, 100081
E-mail: dakui.nmefc@gmail.com;
Telephone:

BSCSTAC: Hong Kong Observatory
Contact: Ms. LAM Ching-chi
Address: 134A Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong, China
E-mail: cclam@hko.gov.hk
Telephone:

Sea-level Observation Sites (In ANNEX III)

Station	Latitude	Longitude	GTS-CODE
Quarry Bay	22.29	114.21	quar
Shek Pik	22.22	113.89	shek
Shenzhen	22.47	113.88	shen
Zhapo	21.58	111.82	zhap
Qinglan	19.57	110.82	qing
Ambon	-3.68	128.18	ambon
Bitung	1.44	125.19	bitu
Currimao	17.98	120.48	curri
Subic Bay	14.77	120.25	subi
Manila	14.58	120.97	mani
Lubang	13.82	120.2	luba
Davao	7.15	125.66	davo
Qui Nhon	13.76	109.25	quin
Vung Tau	10.34	107.07	vung
Bere-Bere	2.389	128.667	MRTMI
Beo	4.230	126.788	BETSI
Talengen	3.590	125.567	TBSSI
Kema Fishing	1.358	125.077	KMMSI
Ampana	-0.847	121.600	AMTSI

Totally 19

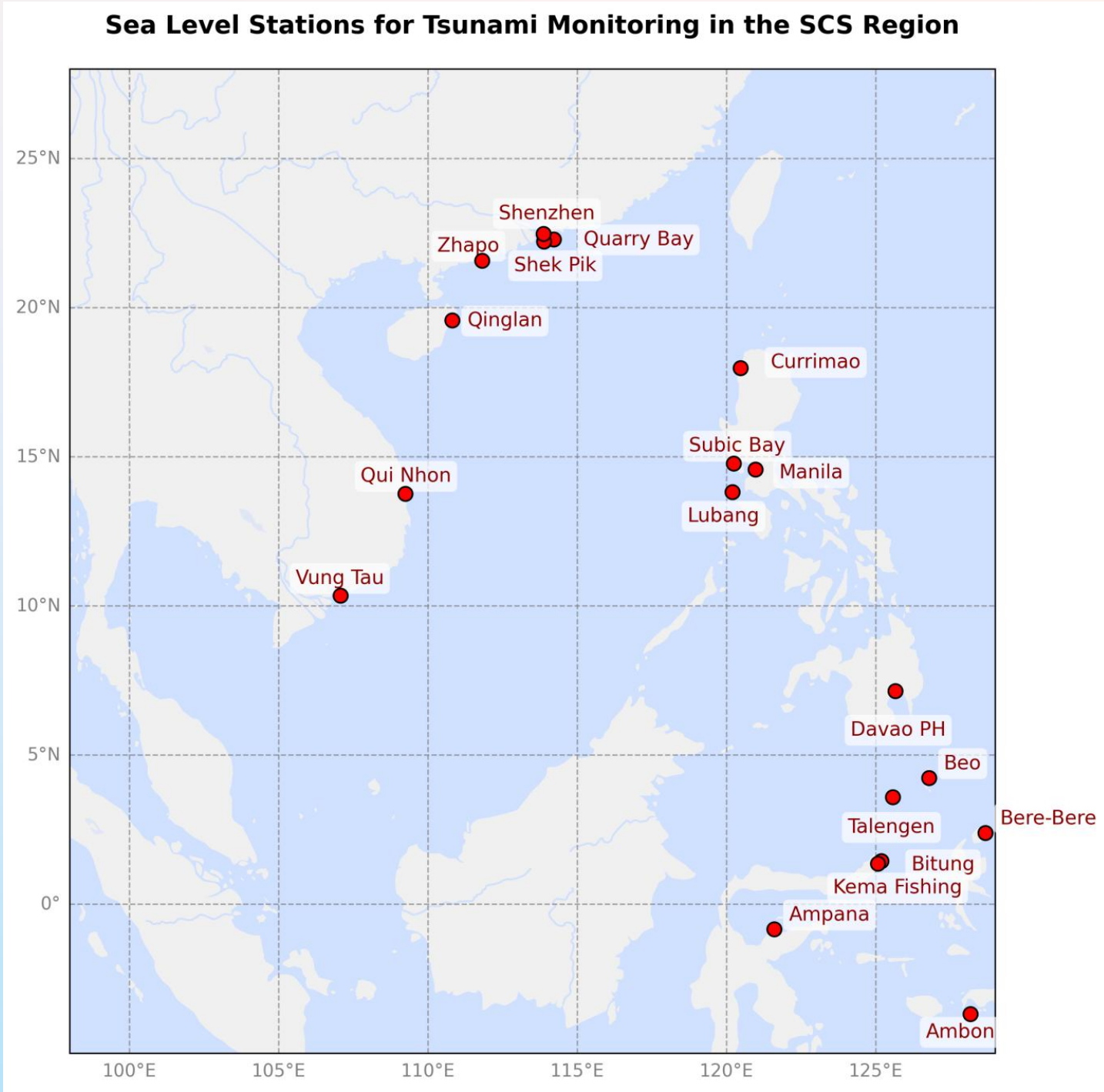
China (5)

Indonesia (2)

Philippines (5)

Viet Nam (2)

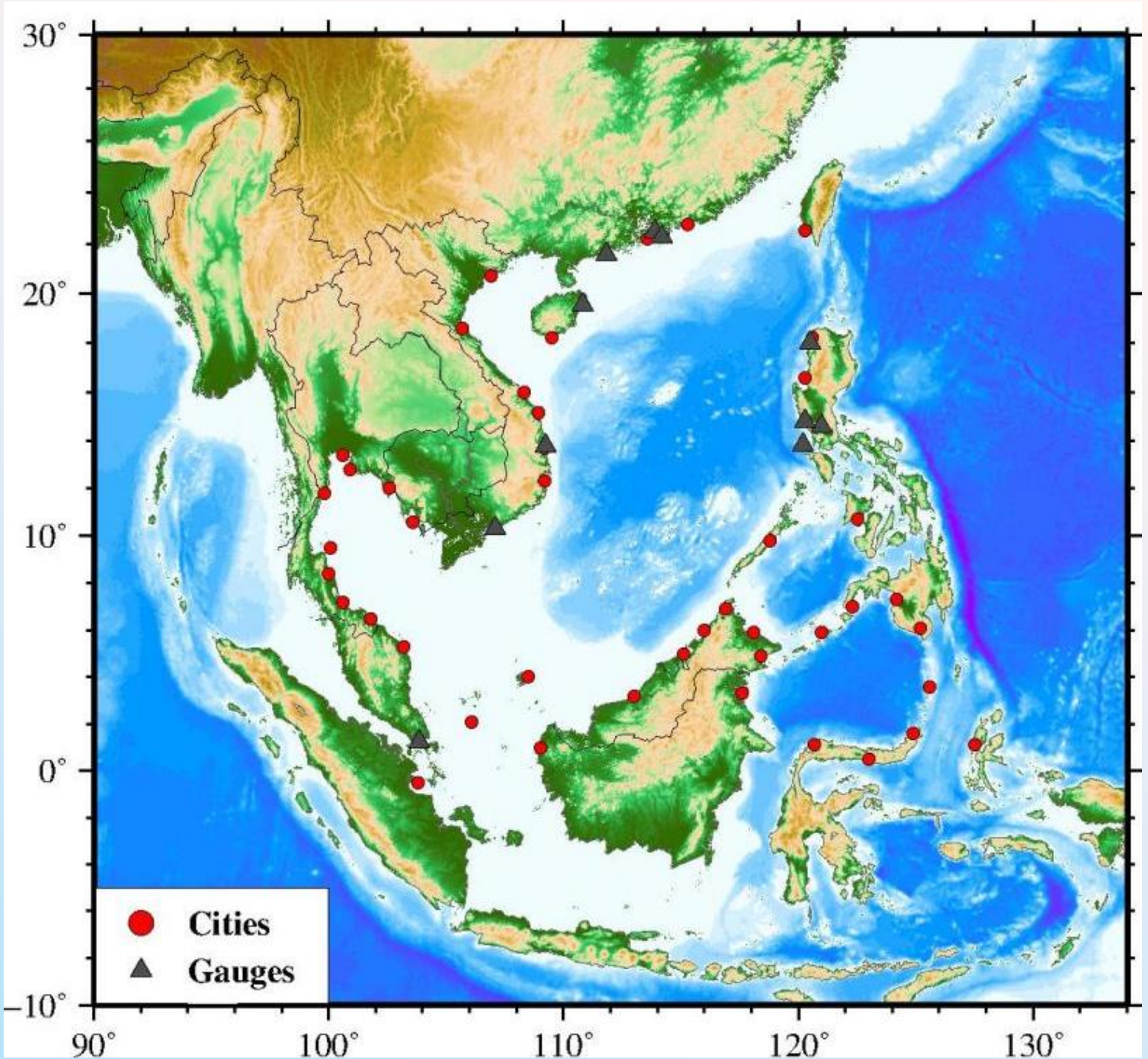
Indonesia (5 New) in 2025


Sea Level Stations for Tsunami Monitoring in the SCS Region
25°N
20°N
15°N
10°N
5°N
0°
100°E
105°E
110°E
115°E
120°E
125°E
Shenzhen
Quarry Bay
Zhapo
Shek Pik
Qinglan
Currimao
Subic Bay
Manila
Qui Nhon
Lubang
Vung Tau
Davao PH
Beo
Talengen
Bere-Bere
Bitung
Kema Fishing
Ampana
Ambon

4. Forecast Point Review

The TT-TSP recommended that the Member State to which forecast points belong to choose their names. In this context, after the comparison, the TT-TSP recommends that the IOC Technical Secretary inquires with the Member States to confirm the names of the forecast points and polygons that overlap and do not overlap between the TSPs.

	COUNTRY/PLACE	LOCATION	LATITUDE	LONGITUDE		COUNTRY/PLACE	LOCATION	LATITUDE	LONGITUDE		COUNTRY/PLACE	LOCATION	LATITUDE	LONGITUDE
1	BRUNEI	MUARA	5.0°N	115.1°E	20	INDONESIA	MANADO	1.6°N	124.9°E	39	PHILIPPINES	GENERAL_SANTOS	6.1°N	125.2°E
2	CAMBODIA	SIHANOUKVILLE	10.6°N	103.6°E	21		JAILOLO	1.1°N	127.5°E	40	SINGAPORE	SINGAPORE	1.3°N	103.9°E
3	CHINA	SANYA	18.2°N	109.5°E	22	MALAYSIA	K_TERENGGANU	5.3°N	103.2°E	41	THAILAND	PRACHUAP_KRK	11.8°N	99.8°E
4		SHANWEI	22.75°N	115.3°E	23		BINTULU	3.2°N	113.0°E	42		PATTAYA	12.8°N	100.9°E
5		HONG_KONG	22.3°N	114.2°E	24		KOTA_KINABALU	6.0°N	116.0°E	43		NAKHON_SI_TMR	8.4°N	100.0°E
6		MACAO	22.2°N	113.6°E	25		LAHAD_DATU	4.9°N	118.4°E	44		NARATHIWAT	6.5°N	101.8°E
7		SHENZHEN	22.5°N	113.9°E	26		SANDAKAN	5.9°N	118.1°E	45		SONGKHLA	7.2°N	100.6°E
8		ZHAPO	21.5°N	111.8°E	27		KUDAT	6.9°N	116.9°E	46		SAMUI_ISLAND	9.5°N	100.1°E
9		QINGLAN	19.6°N	110.9°E	28	PHILIPPINES	LUBANG	13.8°N	120.2°E	47		BANGKOK	13.4°N	100.6°E
10		KAOHSIUNG, TAIWAN	22.5°N	120.3°E	29		SUBIC_BAY	14.82°N	120.3°E	48		TRAT	12.0°N	102.6°E
11	INDONESIA	TABUKAN_TENGAH	3.6°N	125.6°E	30		CURRIMAO	18.0°N	120.4°E	49	VIETNAM	VINH	18.6°N	105.7°E
12		PANGKALPINANG	2.1°S	106.1°E	31		LAOAG	18.2°N	120.6°E	50		QUI_NHON	13.7°N	109.2°E
13		KEPULAUAN_RIAU	4.0°N	108.5°E	32		SAN_FERNANDO	16.6°N	120.3°E	51		QUANG_NGAI	15.1°N	108.9°E
14		KUALA_INDRAGIRI	0.5°S	103.8°E	33		MANILA	14.6°N	121.0°E	52		NHA_TRANG	12.3°N	109.2°E
15		SINGKAWANG	1.0°N	109.0°E	34		ILOILO	10.7°N	122.5°E	53		DA_NANG	16°N	108.3°E
16		TARAKAN	3.3°N	117.6°E	35		PUERTO_PRINCESA	9.8°N	118.8°E	54		VUNG_TAU	10.34°N	107.071°E
17		MELONGUANE	4.1°N	126.6°E	36		ZAMBOANGA	7.0°N	122.3°E	55		HAI_PHONG	20.7°N	106.9°E
18		TOLI-TOLI	1.1°N	120.7°E	37		MAIMBUNG	5.9°N	121.0°E					
19		GORONTALO	0.5°N	123.0°E	38		COTABATO_CITY	7.3°N	124.2°E					


30°
20°
10°
0°
−10°
90°
100°
110°
120°
130°
Cities
Gauges

5. Recommendations for Consideration

Request the Member States of South China Sea Tsunami Warning and Mitigation System to review the revised SCSTAC user's guide, and focus on adding, deleting and revising their respective forecast points, and give feedback to SCSTAC (wangzc@nmefc.cn) until 19th January 2026.

Request SCSTAC to further revise the user's guide according to the feedback from the Member States, and submit it to the ICG/PTWS-SC in 2026 for endorsement.