BASIC INFORMATION

1. **ICG/PTWS Tsunami National Contacts (TNC)**

   The person designated by a Member State to an Intergovernmental Coordination Group (ICG) to represent his/her country in the coordination of international tsunami warning and mitigation activities. The person is part of the main stakeholders of the national tsunami warning and mitigation system. The person may be the Tsunami Warning Focal Point, from the national disaster management organization, from a technical or scientific institution, or from another agency with tsunami warning and mitigation responsibilities.

   (a) Ms. Xiaolei Yi

   Name: Xiaolei Yi  
   Organization: Forecast and Disaster Mitigation Division, State Oceanic Administration  
   Postal Address: 1, Fuxingmen Ave Beijing, China, 100860  
   E-mail Address: yb@soa.gov.cn  
   Telephone Number: +86-10-6804-7644  
   Fax Number: +86-10-6803-0799

   (b) Mr. Fujiang Yu

   Name: Fujiang Yu  
   Organization: National Marine Environmental Forecasting Center  
   Postal Address: 8 Dahuisi, Haidian district, Beijing, China, 100081  
   E-mail Address: yufj@nmefc.gov.cn  
   Telephone Number: +86-10-6217-3615  
   Fax Number: +86-10-6217-3620  
   Cellular Telephone Number: +86-13911525307

   (c) Mr H Y Mok

   Name: Mr H Y Mok  
   Organization: Hong Kong Observatory  
   Postal Address: 134A Nathan Road, Kowloon, Hong Kong, China  
   E-mail Address: hymok@hko.gov.hk  
   Telephone Number: + 852 2926 8451  
   Fax Number: +852 2311 9448  
   website: http://www.hko.gov.hk

2. **ICG/PTWS Tsunami Warning Focal Point (TWFP)**

   The 7x24 contact person, or other official point of contact or address, is available at the national level for rapidly receiving and issuing tsunami event information (such as warnings). The Tsunami Warning Focal Point either is the emergency authority (civil defense or other designated agency responsible for public safety), or has the responsibility of notifying the emergency authority of the event characteristics (earthquake and/or tsunami), in accordance with national standard operating
procedures. The Tsunami Warning Focal Point receives international tsunami warnings from the PTWC, WC/ATWC, the JMA NWPTAC, or other regional warning centres.

(a)

Name: National Marine Environmental Forecasting Center
Postal Address: 8 Dahuisi, Haidian district, Beijing, China, 100081
E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:
Emergency Cellular Telephone Number:

(b) Duty Forecaster

Name and Title:
Responsible Organization: Hong Kong Observatory
Postal Address:.
E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:

**National Tsunami Warning Centres (if different from the above)**

(a) National Marine Environmental Forecasting Center

Person in Charge:
Title: Deputy Director of National Marine Environmental Forecasting Center
Responsible Organization: National Marine Environmental Forecasting Center
Postal Address: 8 Dahuisi, Haidian district, Beijing, China, 100081
E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:

(b) Hong Kong Observatory

Person in Charge: Duty Forecaster, Central Forecasting Office
Responsible Organization: Hong Kong Observatory
Postal Address:.
E-mail Address:
Emergency Telephone Number:
Emergency Fax Number:

3. **Tsunami Advisor(s), if applicable**

*(Person, Committee or Agency managing Tsunami Mitigation in country)*

Name: National Marine Environment Forecasting Center
Postal Address: 8 Dahuisi, Haidian district, Beijing, China, 100081
E-mail Address: tsu@nmefc.gov.cn
4. Tsunami Standard Operating Procedures for a Local Tsunami (when a local tsunami hazard exists)

In China, National Marine Environmental Forecasting Center (NMEFC) of the State Oceanic Administration (SOA) is responsible for operating the tsunami warning system.

NMEFC operates 24 hours a day, 7 days a week, and identifies and characterizes events that may generate tsunamis, with the support of the China Earthquake Administration (CEA) which operates the earthquake monitoring and warning system in China.

On receiving earthquake information from CEA and/or PTWC indicating that a tsunamigenic earthquake may have occurred, NMEFC would fetch real-time tidal data from all the tide gauge stations along the China coast so as to determine whether or not a tsunami has been generated. If anomalous wave data are recorded soon after an earthquake has occurred, NMEFC would issue a tsunami advisory, watch, or warning as appropriate.

The prospective tsunami generation area under watch for a local tsunami is the area bound by 0°-55° N, 105°-150°E, which includes Yellow Sea, East China Sea, South China Sea, Japan Sea, and the Philippine Sea.

A color-coded warning system based on tsunami heights and seriousness of the hazard has been adopted to facilitate the progress of actions during a tsunami. Tsunami warning is divided into four classes: I, II, III and IV meaning very serious, serious, moderately serious and common, with color codes red, orange, yellow and blue respectively. Details are given below:

(1) Class I (red)
Class I tsunami warning will be declared if the tsunami height is expected to exceed 3 meters and more than about three hundreds kilometers of shoreline are likely to be severely damaged.

(2) Class II (orange)
Class II tsunami warning will be declared if the tsunami height is expected to be between 2 and 3 meters and a considerable part of the shoreline is likely to be severely damaged.

(3) Class III (yellow)
Class III tsunami warning will be declared if the tsunami height is expected to be between 1 and 2 meters and damages to houses and ships are likely in the affected areas.

(4) Class IV (blue)
Class IV tsunami warning will be declared if the tsunami height is expected to be between 0.5 and 1 meter and slight damages are likely in the affected areas.

<table>
<thead>
<tr>
<th>Class</th>
<th>Color</th>
<th>Tsunami Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>RED</td>
<td>3 m ≤ tsunami height</td>
</tr>
<tr>
<td>II</td>
<td>ORANGE</td>
<td>2 m ≤ tsunami height &lt; 3 m</td>
</tr>
<tr>
<td>III</td>
<td>YELLOW</td>
<td>1 m ≤ tsunami height &lt; 2 m</td>
</tr>
<tr>
<td>IV</td>
<td>BLUE</td>
<td>0.5m ≤ tsunami height &lt;1 m</td>
</tr>
</tbody>
</table>

If a tsunami is predicted, NMEFC will issue a tsunami warning and coordinate with the relevant government units and agencies to deal with the emergency. NMEFC provides the electronic media, and national and local authorities for disaster prevention with tsunami forecasts and other tsunami bulletins. Governors of municipalities are authorized to issue evacuation instructions to mitigate the tsunami hazards as and when necessary.

The emergency situation is terminated when NMEFC detects no anomalous sea-level fluctuations at the near-field tide gauge stations. Warnings are cancelled when NMEFC concludes that the threat of tsunami is over.

In Hong Kong, the tsunami monitoring and warning system is operated by the Hong Kong Observatory (HKO). HKO operates a seismographic network to detect earthquakes in the vicinity of Hong Kong, a tide gauge network to monitor sea level around Hong Kong, and is the agency for monitoring the weather and issuing weather warnings. HKO operates 24 hours a day and 7 days a week, identifies and characterizes events that may generate local tsunamis.

Tsunami warnings issued by HKO are disseminated to government departments and related organizations for action according to the contingency plan for natural disasters, and to the mass media for public announcement.

The threshold for a tsunami warning for local tsunami is an earthquake of magnitude 6.5 or above in the sea or near the coast within 100 kilometres of Hong Kong, or a locally felt strong earth tremors lasting 20 seconds due to a submarine earthquake.

The tsunami warning will be cancelled if the observed heights of sea level fluctuations become lower than 20 centimeters 2 hours after the estimated time of tsunami waves arrival.

5. Tsunami Standard Operating Procedures for a Distant Tsunami (when a distant tsunami hazard exists)

For each situation, please provide the following:

- What organization identifies and characterizes tsunamigenic events?
- What is the threshold or criteria for declaring a potential tsunami emergency?
- What organization acts on the information provided by the agency responsible for characterizing the potential tsunami threat?
- How is the tsunami information (warning, public safety action, etc) disseminated within country? Who is it disseminated to?
- How is the emergency situation terminated?
- For Distant Tsunami Procedures:
What actions were taken in response to warnings issued by PTWC, WC/ATWC, and/or JMA NWPTAC during the intersessional period?

In China, NMEFC and HKO are the primary recipients of information on tsunami events from a distant source.

The tsunami warning system operated by NMEFC described in section 4 above also applies to distant tsunamis. In this case, the prospective tsunami generation area under watch extends to the global seas. The threshold for declaring a potential distant tsunami emergency is an earthquake of magnitude M=6.5.

In Hong Kong on the receipt of tsunami messages from PTWC, WC/ATWC or NWPTAC, HKO will assess whether a significant tsunami with tsunami height exceeding 0.5 meter above the normal tide level will affect Hong Kong and the estimated time of tsunami arrival (ETA). HKO will issue a tsunami warning if a significant tsunami is expected and the ETA is 3 hours or less. In the case that a tsunami with a height of 0.5 meter or below is expected or if a significant tsunami is expected and the time is more than 3 hours before ETA, tsunami information bulletins will be issued.

A tsunami warning from HKO triggers the tsunami mitigation procedures in Hong Kong. The warning will be disseminated to government departments and public utilities according to the Hong Kong contingency plan for natural disasters, and to all mass media for public announcement. The emergency will terminate after HKO cancels the warning on an event.

6. National Sea Level Network

Please include a table with position and description of stations/sensors, and a map,

There are over 100 tide gauge stations in China. Most of these stations are located along the coastline of the mainland with several on islands in the open sea. These tide gauges provide real-time sea-level data for NMEFC to assess whether a tsunami has occurred. Anomalous sea-level fluctuations returning to normal provide the basis to determine when a tsunami is over.

Besides the tide gauges, SOA, China also deployed 2 tsunami buoys in South China Sea in order to prevent potential tsunami generated in Manila Trench. The 2 tsunami buoys are in operation since October 2010.

There are two tide gauge stations for tsunami monitoring in Hong Kong:

<table>
<thead>
<tr>
<th>Tide gauge station</th>
<th>Quarry Bay</th>
<th>Shek Pik</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>22°17′28″ N 114°12′48″ E</td>
<td>22°13′13″N 113°53′40″E</td>
</tr>
<tr>
<td><strong>Sensor type</strong></td>
<td>Float-type</td>
<td>Pneumatic</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>1 cm</td>
<td>1 cm</td>
</tr>
<tr>
<td><strong>Sampling</strong></td>
<td>1 min</td>
<td>1 min</td>
</tr>
<tr>
<td><strong>Transmission</strong></td>
<td>Public telephone network</td>
<td>Public telephone network</td>
</tr>
<tr>
<td><strong>Data Delay</strong></td>
<td>Real-time</td>
<td>Real-time</td>
</tr>
</tbody>
</table>
7. **Information on Tsunami occurrences**

*Please include sea level observations, pictures, wave arrival descriptions, public, media, or other responses to warnings, lessons learned, etc.*

There were more than 10 tide gauges recorded tsunami wave during the 2010 Chilean Tsunami. Most of them are lied along the coastline of East China Sea and South China Sea. The max amplitude is 0.28m which was recorded in Jiaojiang gauge station.

During the M8.8 Chilean earthquake and tsunami event in February 2010, a tsunami of less than 0.1 metre was observed in Hong Kong.

![Fig.1 The tsunami wave recorded in gauges Shipu, Jiaojiang and Jiantiao.](image-url)
There were more than 10 tide gauges recorded tsunami wave during the 2011 Japan Tsunami. Most of them are lied along the coastline of East China Sea and South China Sea. The max amplitude is \(0.55\)m which was recorded in Shenjiamen gauge station. The tsunami buoys didn't recorded tsunami.

During the M9.0 Japan earthquake and tsunami event in March 2011, a tsunami of about 0.2 metre was observed in Hong Kong.
Fig. 3 The tsunami wave recorded in gauges Sansha, Pingtan and Dongshan.

Fig. 4 The tsunami wave recorded in gauges Nanao, Zhelang and Shantou.
8. **Web sites (URLs) of national tsunami-related web sites**

http://www.nmefc.gov.cn/

http://www.weather.gov.hk/gts/equake/tsunami_info_warn_e.htm

9. **Summary plans of future tsunami warning and mitigation system improvements.** *This information will be used to aid the development of the PTWS Medium Term Strategy and the PTWS Implementation Plan.*

**NATIONAL PROGRAMMES AND ACTIVITIES INFORMATION**

9. **EXECUTIVE SUMMARY**

*Brief statement of no more than one page addressing all items discussed in the Narrative section of the National Report*

State Oceanic Administration (SOA) deployed two tsunami buoys in the South China Sea.

10. **NARRATIVE**

*Detailed description of innovations or modifications to National tsunami warnings procedures or operations since last National Report, tsunami research projects, tsunami mitigation activities and best practices (especially in preparedness and emergency management), as well as public*
education programmes or other measures taken to heighten awareness of the tsunami hazard and risk.

SOA has purchased and deployed 2 tsunami buoys in the South China Sea. These buoys are in operation since October 2010. NMEFC/SOA have also revised the emergency response plan for tsunami based on tsunami warning experience during 2010 Chilean tsunami in the past year.

Date: .................................. Name: ..................................