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NATIONAL REPORT OF CHINA, PEOPLE'S REPUBLIC OF

BASIC INFORMATION

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4. Local and Distant Tsunami Procedures

National Marine Environment Forecasting Center (NMEFC) of the State Oceanic Administration (SOA) operates 24 hours a day, 7 days a week and is responsible for tsunami warning in China. NMEFC identifies and characterizes events that may generate tsunamis, with the support of the China Earthquake Administration (CEA).

The threshold for declaring a potential local tsunami emergency is an earthquake of magnitude $M_s=6.5$.

For both local and distant tsunamis, 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.

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 respectively. Their respective color codes are red, orange, yellow and blue.

(1) Class I (red)

Class I tsunami warning will be declared if the tsunami height is expected to exceed three 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 two and three 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 one and two 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 would be less than one meter and slight damages are likely in the affected areas.

I	RED	$3 \text{ m} < \text{Wave height}$
II	ORANGE	$2 \text{ m} < \text{Wave height} \leq 3 \text{ m}$
III	YELLOW	$1 \text{ m} < \text{Wave height} \leq 2 \text{ m}$
IV	BLUE	$\text{Wave height} \leq 1 \text{ m}$

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 warning system is operated by the Hong Kong Observatory (HKO). HKO operates a seismograph network to detect earthquakes in the vicinity of Hong Kong, and is also 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.

The threshold for a tsunami warning for local tsunami is an earthquake of magnitude 6.5 or above or locally felt strong earth tremors lasting 20 seconds or longer due to a submarine earthquake.

For both local and distant tsunamis, HKO will assess, based on seismic analysis and available tsunami information, 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 height 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 final bulletin to cancel the tsunami warning will be issued if the observed heights of sea level fluctuations diminish and become lower than 20 centimeters two hours after ETA.

5. Information on Tsunami Occurrences

No local tsunami occurred in 2003-2005.

One distant tsunami was detected in 2003-2005 which was the tsunami originated from the Indian Ocean near Sumatra on 26 December 2004 ($M_w = 9.3$). Several waves of a few centimeters of amplitude were observed by the tide gauge station at Xisha Islands.

No tsunami forecast was issued during this period.

NARRATIVE

The government of the People's Republic of China gives high emphasis on the protection of human lives and property against maritime hazards. SOA has been charged with the responsibility for tsunami warning in China. SOA would make the best use of the existing marine environment monitoring and forecasting system to upgrade and build up its tsunami monitoring and warning capabilities, as part of the comprehensive maritime disaster monitoring and warning system.

In 2005, China announced the National Contingency Plan for tsunami, storm surge and sea ice. This is the first national contingency plan against maritime hazards in China.

China has already enlisted a plan to enhance its technical capability as a national project in the eleventh 5-year plan from 2006 to 2010. On the other hand, China is planning to make the following enhancements:

- (i) to increase the number of tide gauge stations, especially island stations
- (ii) to enhance the collection of ocean monitoring data using buoys in the South China Sea
- (iii) to upgrade monitoring instruments and communication system of the marine environment monitoring network to enable continuous collection of data.