



## Measures and thinking of response to disastrous weather by Shanghai Transport, Port & Shipping Industry



**Ms. Zhang Wei, Deputy Director, Safety Supervision, Shanghai Municipal Transport and Port Authority (SMTPA)**



# I . Main Disastrous Weather in Shanghai



typhoon



rainstorm



heavy wind



lightning



tornado



hail



heavy fog



cold spell



snowstorm



High temperature



## II . Alarming Classification

**Level 1: catastrophic disaster, red alarm**

**Level 2: major disaster, orange alarm**

**Level 3: serious disaster, yellow alarm**

**Level 4: general disaster, blue alarm**



# 1. Criteria of Level 4: General Disaster, Blue Alarm

- 1、Shanghai Meteorological Center (SMC) issues typhoon blue alarm: it may be or may have been affected by tropical cyclone within 24 hours, coastal and land wind of grade-6 or above, or gust of grade-8 or above that may last.
- 2、Shanghai Meteorological Center (SMC) issues typhoon blue alarm: rainfall is to reach 50mm or above within 12 hours, or has reached 50mm or above that may last.
- 3、Shanghai Flood Control Information Center (SFCIC) issues tidal level blue alarm: tidal level along Huangpu River and Suzhou Creek may reach or reaches warning data of 4.55m within 12 hours.
- 4、Other floods that cause general damages: less than 100 homes flooded; less than 1000 Mu farm land flowed or facilities damaged; less than 5 houses collapsed; 1 person or 2 dead from floods.





## 2. Criteria of Level 3: Serious Disaster, Yellow Alarm

- 1、Shanghai Meteorological Center (SMC) issues typhoon yellow alarm: it may be or may have been affected by tropical cyclone within 24 hours, coastal and land wind of grade-8 or above, or gust of grade-10 or above that may last.
- 2、Shanghai Meteorological Center (SMC) issues typhoon yellow alarm: rainfall is to reach 50mm or above within 6 hours, or has reached 50mm or above that may last; rainfall is to reach 35mm or above within 1 hour, or has reached 35mm that may last.
- 3、Shanghai Flood Control Information Center (SFCIC) issues tidal level yellow alarm: tidal level along Huangpu River and Suzhou Creek may reach or reaches warning data of 4.91m within 12 hours, average once every 5 years.
- 4、Potential damage of flood wall or seawall may cause regional disasters.
- 5、Other floods that cause serious damages: 100 to 300 homes flooded; 1000 to 10,000 Mu farm land flowed or facilities damaged; 5 to 50 houses collapsed; 3 to 5 people dead from floods.



### 3. Criteria of Level 2: Major Disaster, Orange Alarm

- 1、 Shanghai Meteorological Center (SMC) issues typhoon orange alarm: it may be or may have been affected by tropical cyclone within 12 hours, coastal and land wind of grade-10 or above, or gust of grade-12 or above that may last.
- 2、 Shanghai Meteorological Center (SMC) issues typhoon orange alarm: rainfall is to reach 50mm or above within 3 hours, or has reached 50mm or above that may last.
- 3、 Shanghai Flood Control Information Center (SFCIC) issues tidal level orange alarm: tidal level along Huangpu River and Suzhou Creek may reach or reaches warning data of 5.10m within 12 hours, average once every 10 years.
- 4、 Potential damage of flood wall or seawall may cause serious regional disasters.
- 5、 Other floods that cause major damages: 300 to 1000 homes flooded; 10,000 to 50,000 Mu farm land flowed or facilities damaged; 50 to 150 houses collapsed; 6 to 9 people dead from floods.



## 4. Criteria of Level 1: Catastrophic Disaster, Red Alarm

- 1、Shanghai Meteorological Center (SMC) issues typhoon red alarm: it may be or may have been affected by tropical cyclone within 6 hours, coastal and land wind of grade-12 or above, or gust of grade-14 or above that may last.
- 2、Shanghai Meteorological Center (SMC) issues typhoon red alarm: rainfall is to reach 100mm or above within 3 hours, or has reached 100mm or above that may last; rainfall is to reach 60mm or above within 1 hour, or has reached 60mm or above that may last.
- 3、Shanghai Flood Control Information Center (SFCIC) issues tidal level red alarm: tidal level along Huangpu River and Suzhou Creek may reach or reaches warning data of 5.29m within 12 hours, average once every 20 years.
- 4、Seawalls along Yangtze River and Hangzhou Bay or flood walls in major city areas burst.
- 5、Other floods that cause catastrophic damages: more than 1000 homes flooded; more than 50,000 Mu farm land flowed or facilities damaged; more than 150 houses collapsed; more than 10 people dead from floods; metro sections severely water logging.



## III. Main Approaches

Now I'd like to illustrate our measures and experience on preventing meteorological disasters with the strong Typhoon “Sea Anemone” in 2012 by Shanghai Transport, Port and Shipping Industry.

### 1. Prevention and Warning

SMTPA issued a statement before flood season, requiring involved departments at all level an inspection.

**We show no tolerance to following problems:**

- a. places that haven't been checked up
- b. hidden danger and weakness found from inspection
- c. unclear reasons for hidden danger and weakness
- d. departments that haven't carried out required rectification
- e. unclear person responsible for typhoon-related disaster prevention
- f. person responsible for disaster prevention that goes unpunished





## III. Main Approaches

### 3. Support Measures

- 1) Adjusting ground public transport running routes
- 2) Supporting metro operation
- 3) Stopping operation of inter-provincial coaches by which routes typhoon passed
- 4) Stopping water-borne passenger transport
- 5) Guiding inland vessels into harbor to get away typhoon
- 6) Strengthening onsite project of water-borne transport
- 7) Notifying port enterprises of operation stoppage
- 8) Ensuring airplane passengers to be evacuated timely

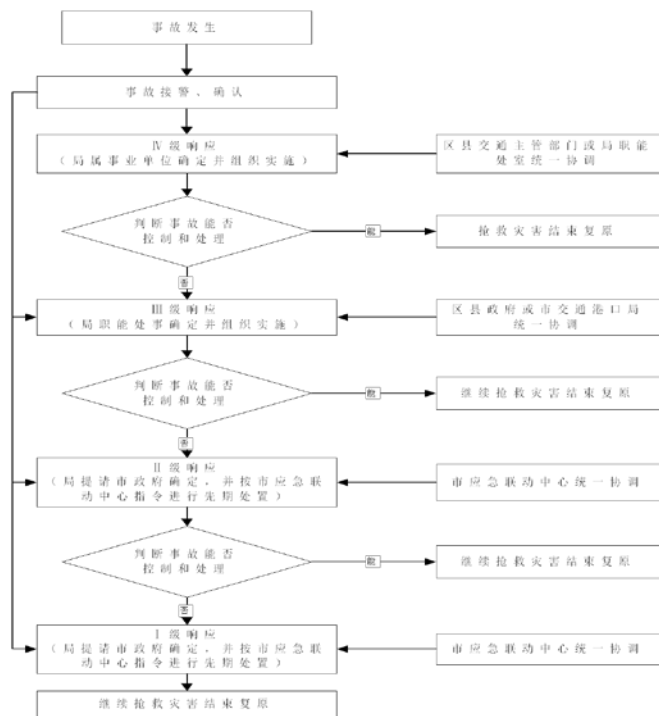


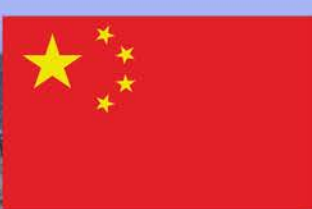
# 三、主要做法

## (二) 统一指挥

### 上海市交通港航行业突发事件总体应急响应程序

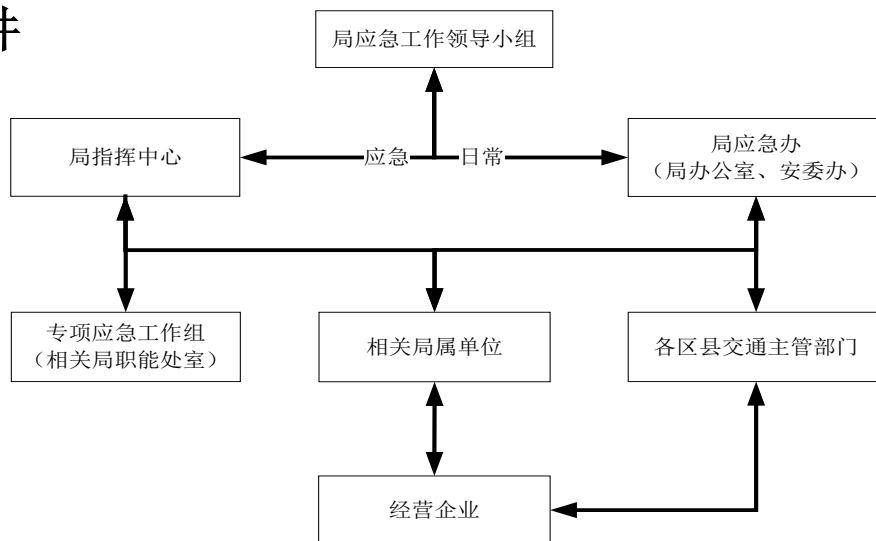
以上事故应急等级根据事故的严重程度，可以直接跳到最高（I级）级别。





## 三、主要做法

### 上海市交通港航行业突发事件 应急组织体系





## 4. Assessment after Disaster

Transportation competent departments at all levels should conduct assessments on emergency handling and related precaution against disastrous weather. After the emergency response, all involved units should strengthen their statistical analysis work, clarify their responsible departments and personnel, and conduct statistics on all relevant emergency information timely, accurately and in an all-round manner, including casualties, property loss, number of vessels into the harbor, number of vessels stranded, yet safely berthing at the port, number of ferry-crossings out of service along inland river, number of ferry boats out of service, and major measures and etc.

