

Brief Introduction of Typhoon Prevention Measures of the RO-RO Passenger Ships Engaged in Qiongzhou Strait



- ❖ Hainan Maritime Safety Administration
- ❖ Sep. 2013



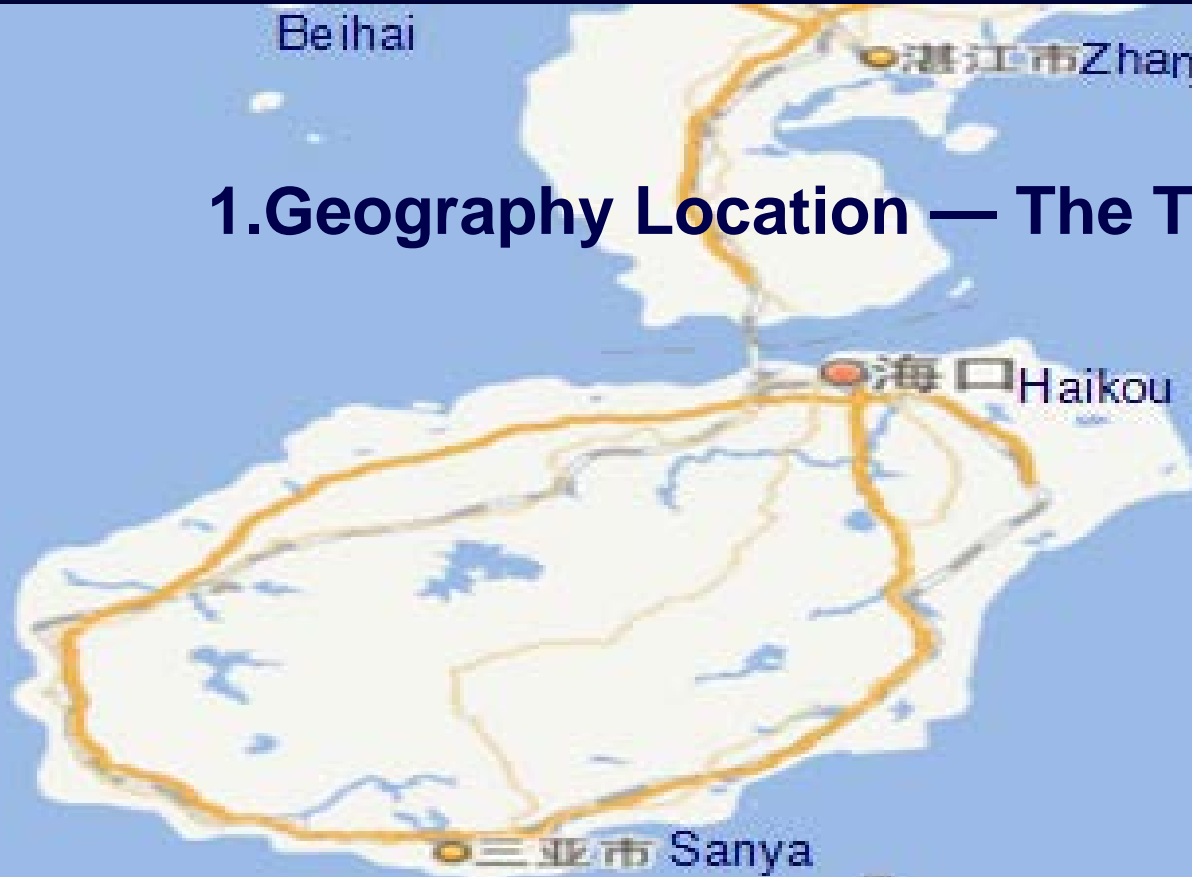
Beihai

湛江市 Zhanjiang

1. Geography Location — The Typhoon Corridor

海口市 Haikou

三亚市 Sanya

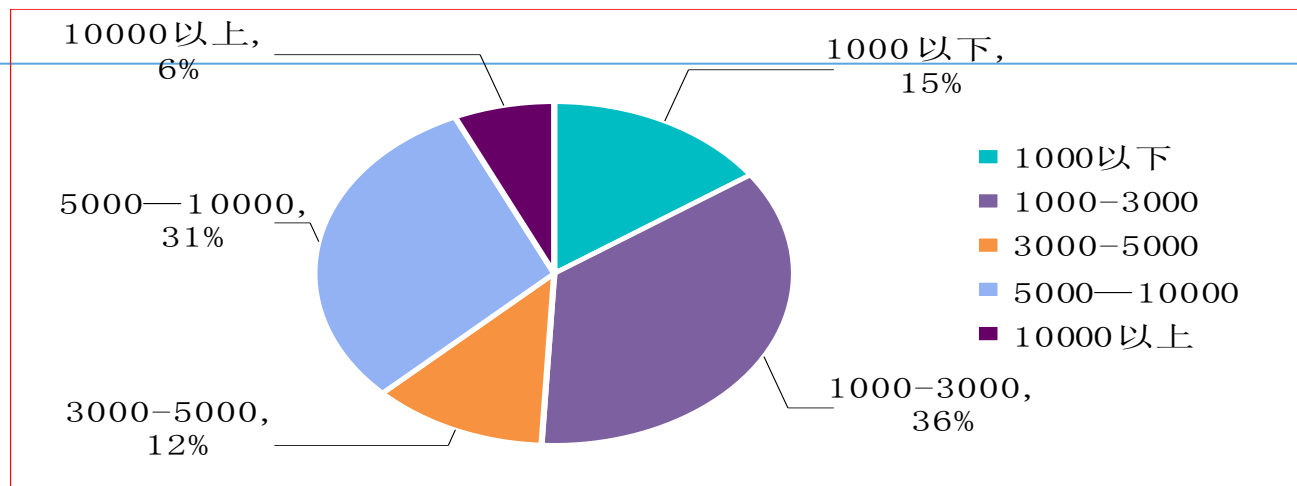


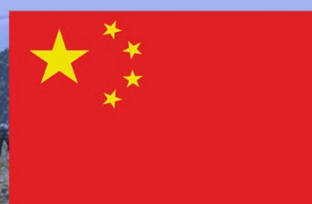


2. Basic information of the RO-RO passenger ships engaged in Qiongzhou Strait

Tonnage:

Below 1000GT:	9 ships, 15%	1000GT—3000GT: 21 ships, 36%
3000GT—5000GT:	7 ships, 12%	5000GT—10000GT: 18 ships, 31%
Above 10000GT:	4 ships, 6%	The Max. one: 23217GT

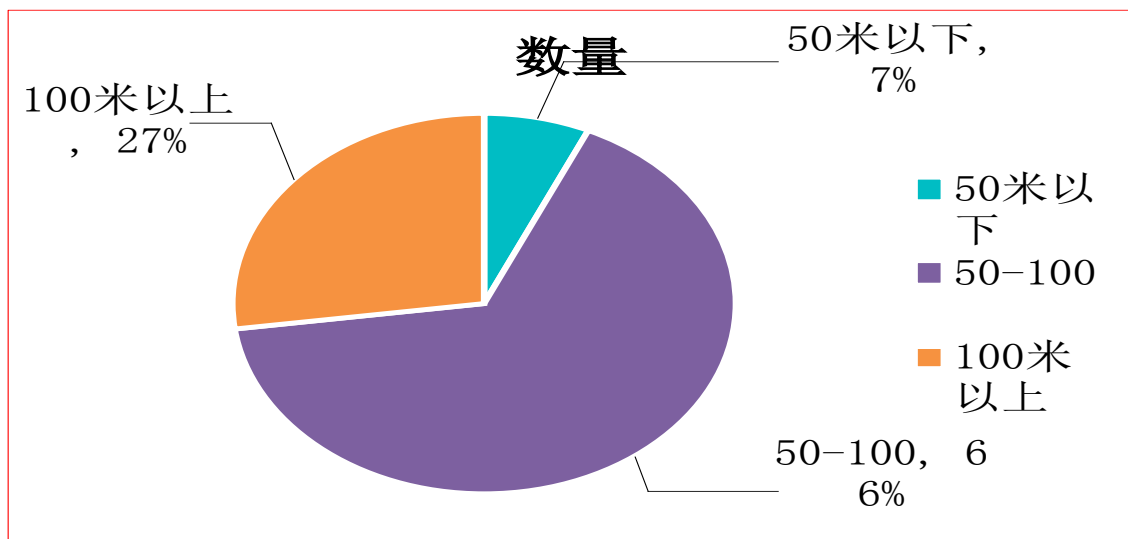




2. Basic information of the RO-RO passenger ships engaged in Qiongzhou Strait

Length:

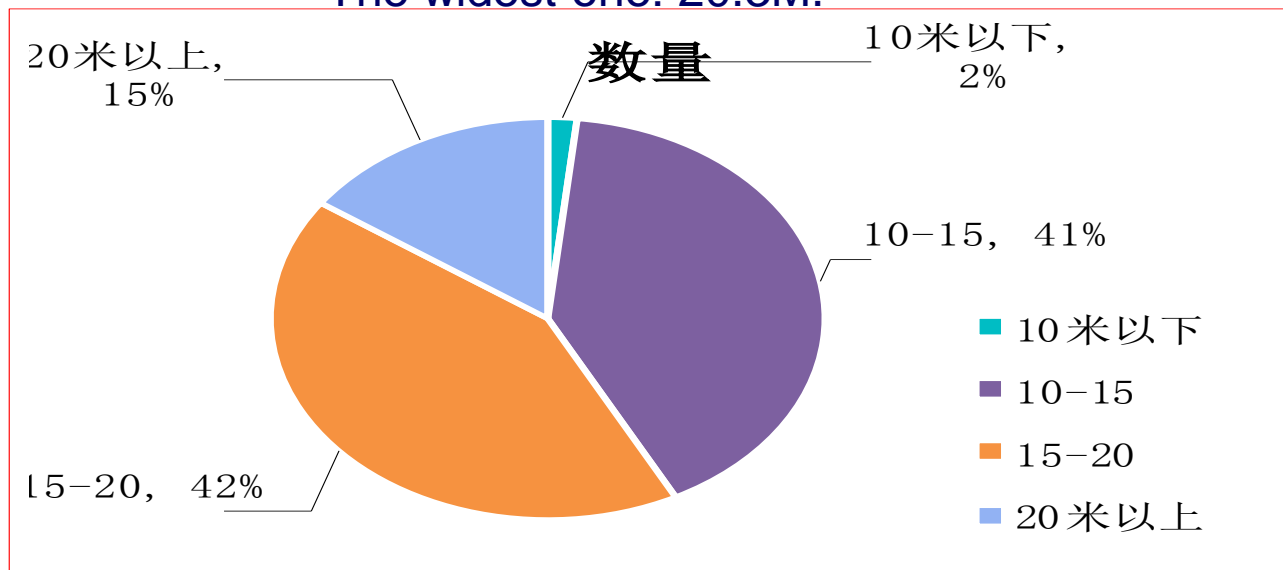
Below 50M: 4; 50M—100M: 39; Above100M: 16.

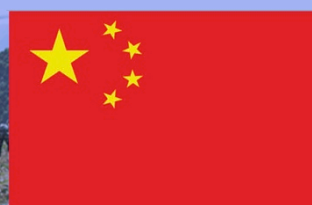




2. Basic information of the RO-RO passenger ships engaged in Qiongzhou Strait

Below 10M: 1, 10M—15M: 24, 15M—20M: 25, Above 20M: 9.
The widest one: 20.3M.



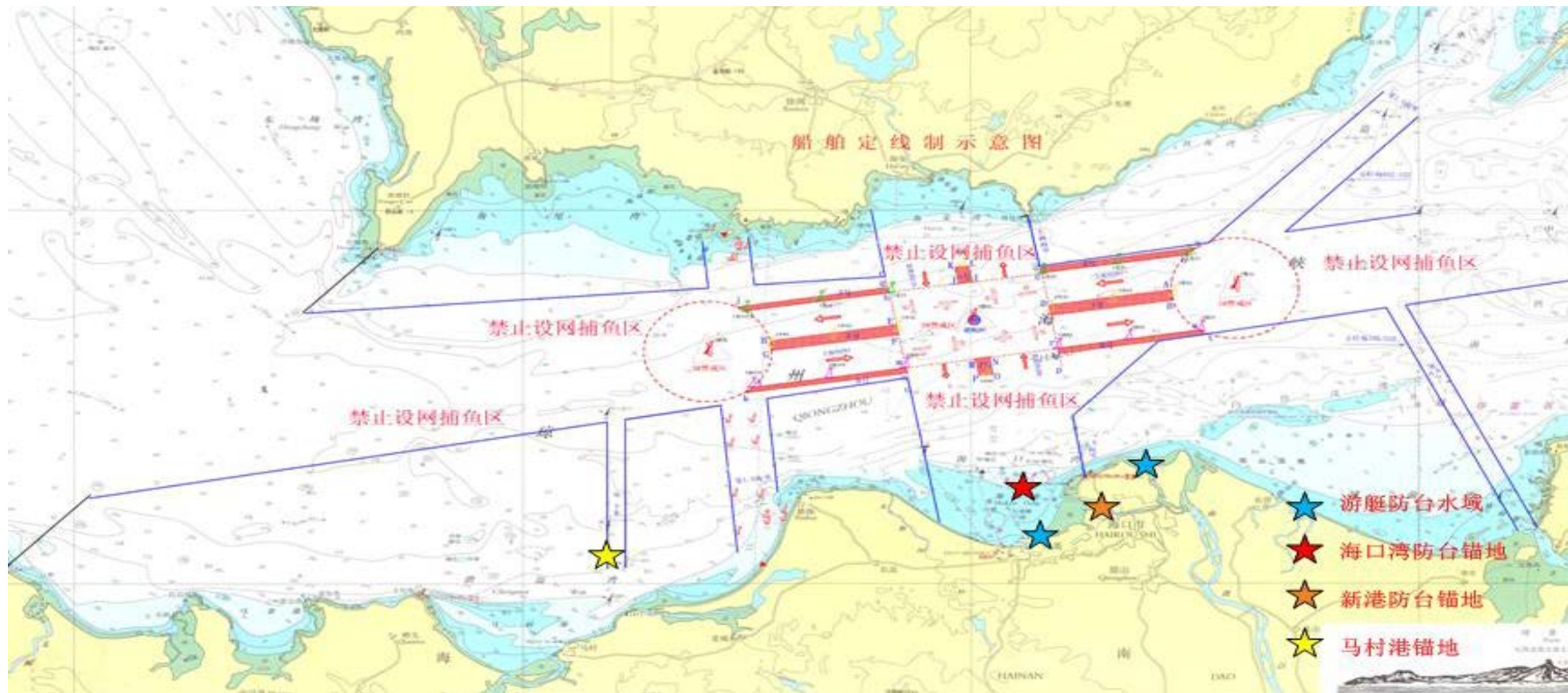


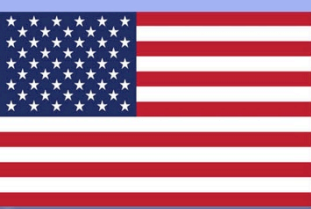
2. Basic information of the RO-RO passenger ships engaged in Qiongzhou Strait





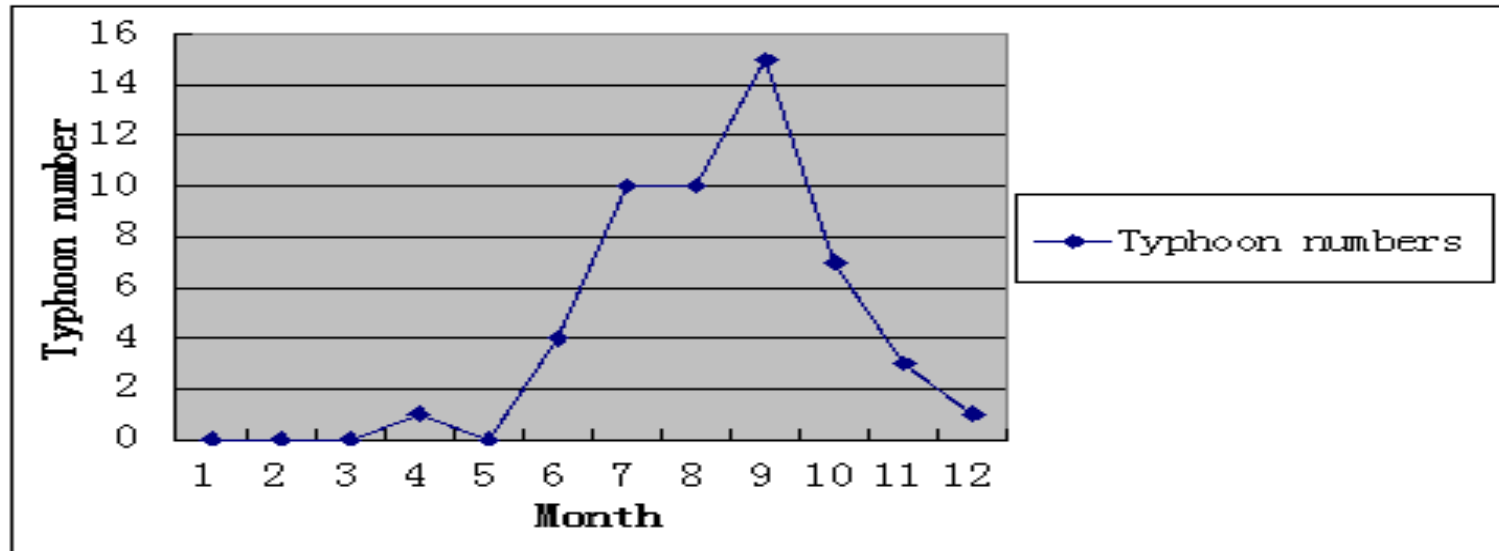
3. Typhoon sheltered waters and anchorages





4. The features of typhoons in the region

❖ Typhoon Season



**Typhoon season begins from Jun. to Nov.
Sept. is the most seriously affected month.**



5. Typhoon tracks

❖ Typhoon tracks of the area

3 different typhoon tracks:

Type1: Hainan island landing typhoon

Type2: Passing by the southern part of Hainan island

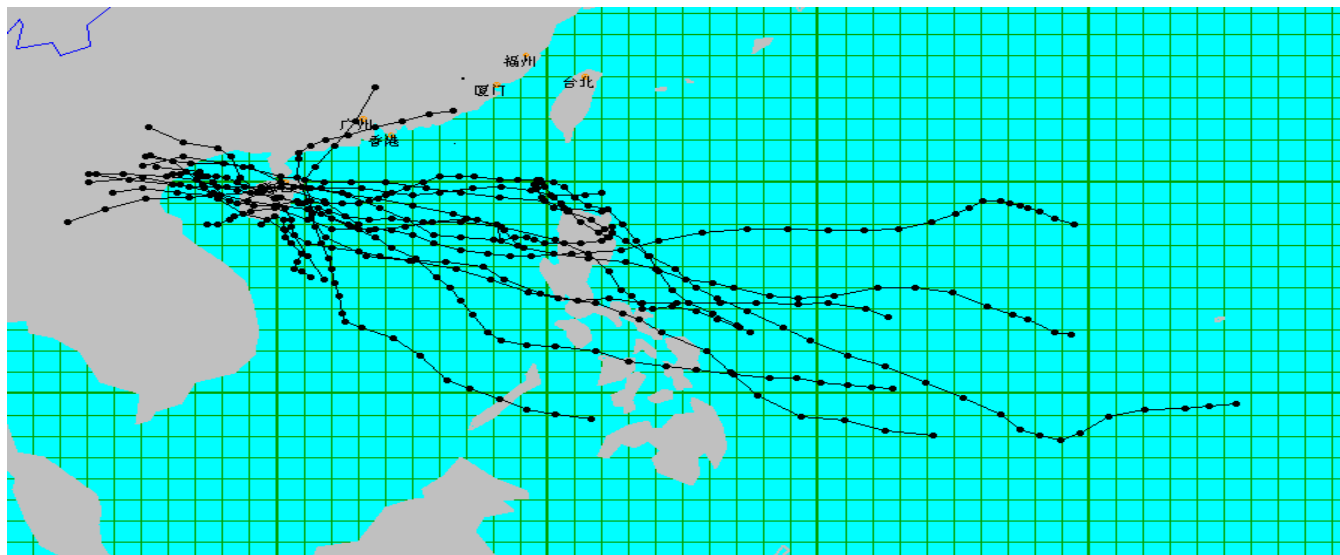
Type3: Landing or passing by the coastal area of Canton Province.

Compared with type2, typhoons of type1&type3 cause greater impact to Qiongzhou strait, that's why we pay special attention to them.



5. Typhoon tracks

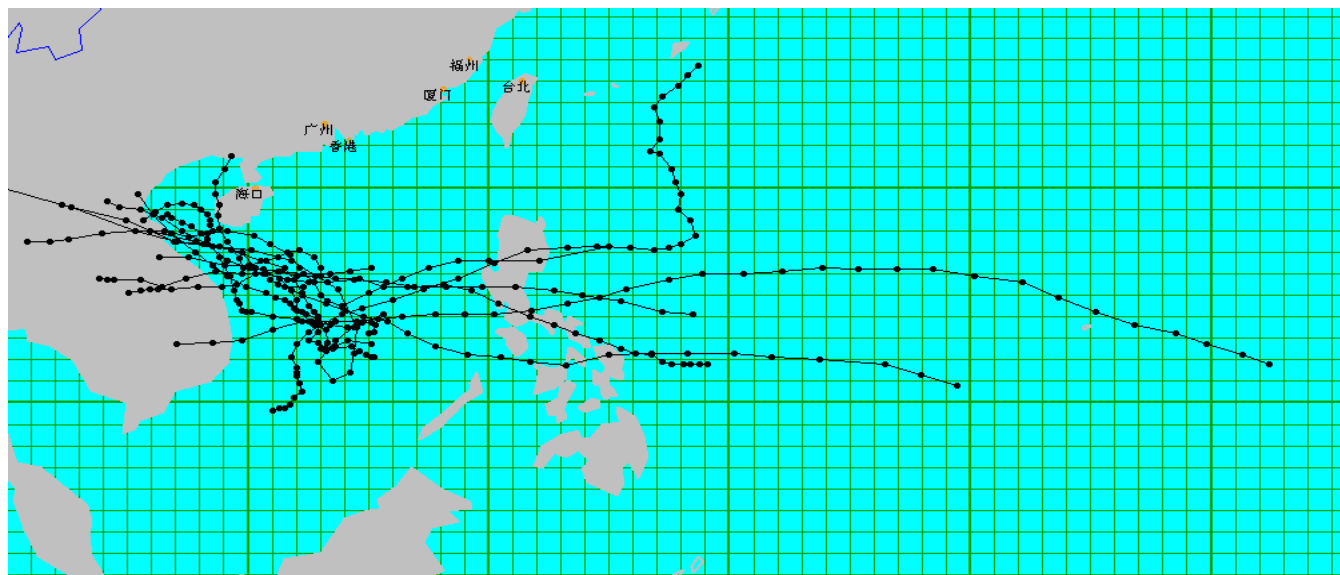
5.1 Hainan island landing typhoon





5. Typhoon tracks

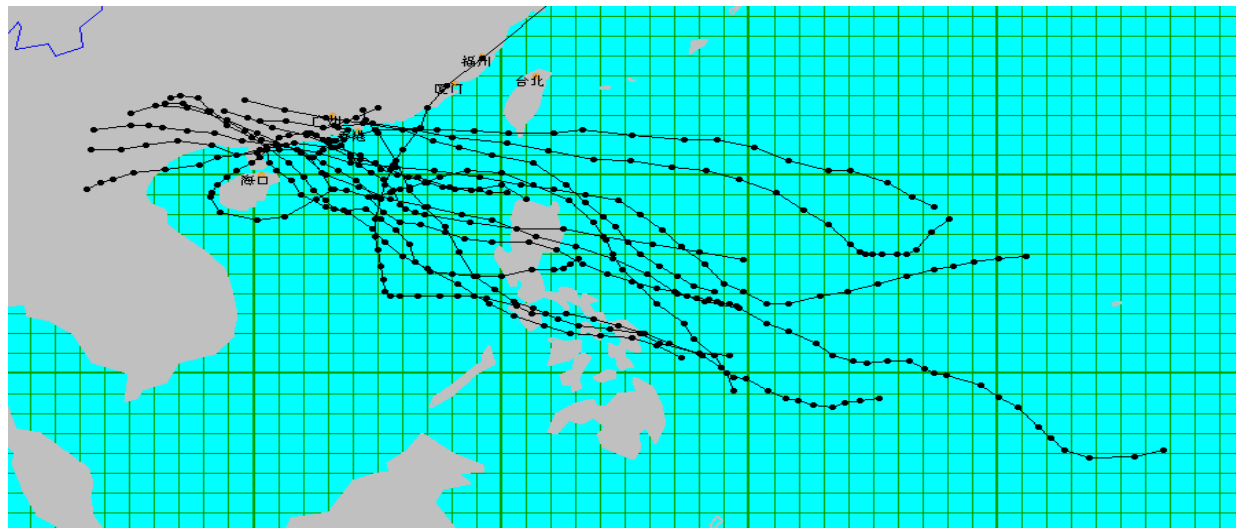
5.2 Typhoon passing by the southern part of Hainan island.





5. Typhoon tracks

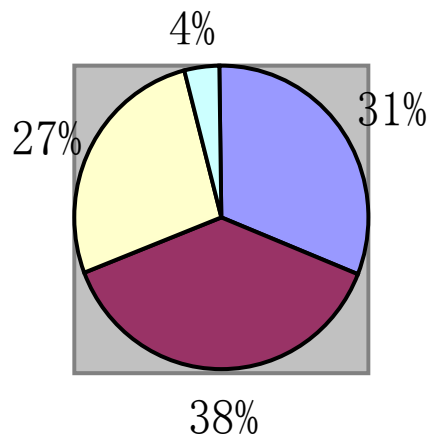
5.3 Typhoon landing or passing by the coastal area of Canton Province



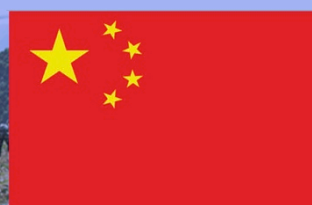


5. Typhoon tracks

图4.3—4 从台风路径分析表

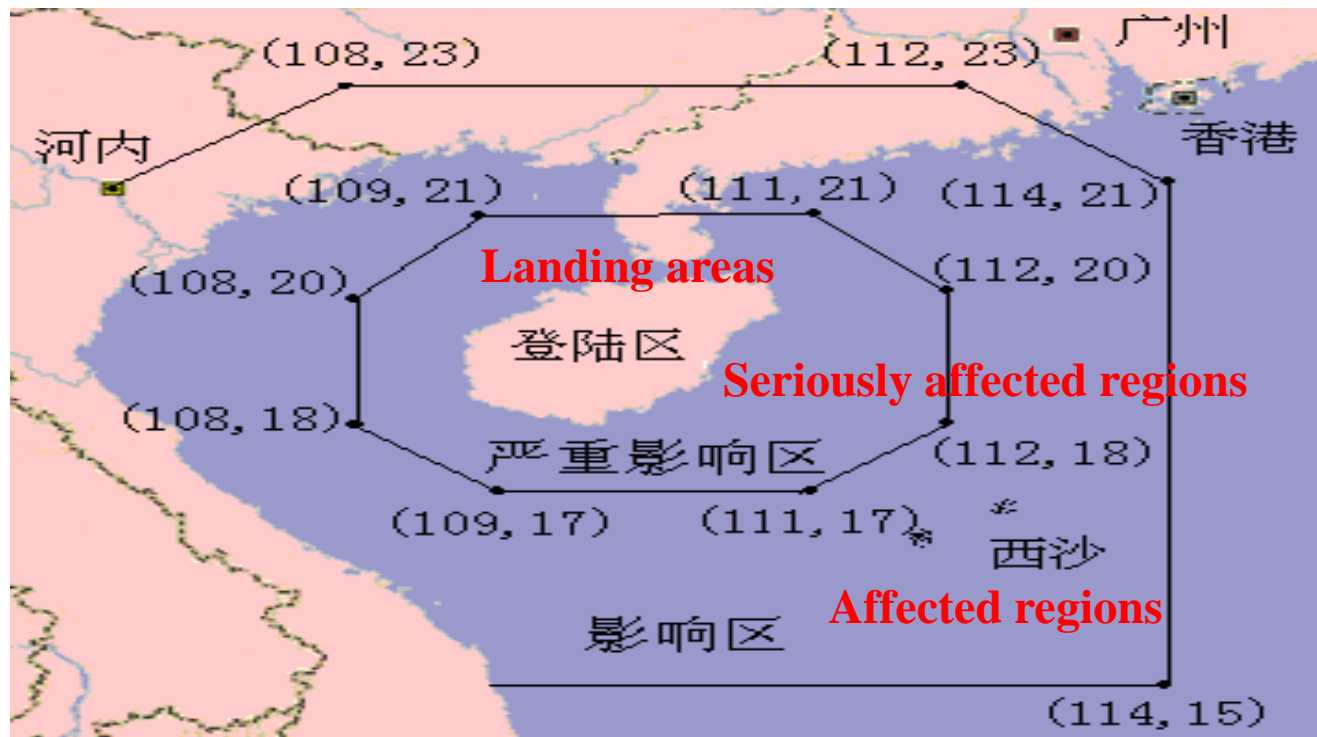


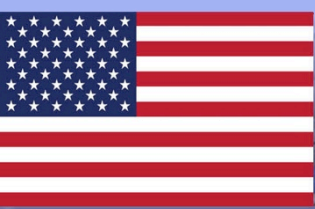
- 从广东沿海登陆或擦过
- 从海南登陆
- 在海南南部经过
- 路径不明



5. Typhoon tracks

According to the different landing sites of typhoons, We divide the typhoon affected regions as landing areas, seriously affected regions and affected regions

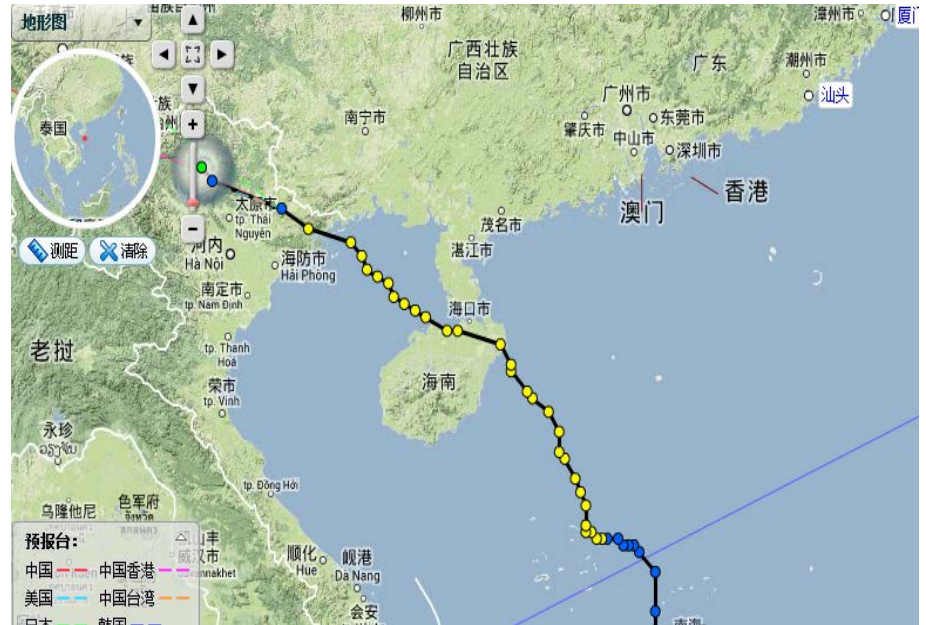


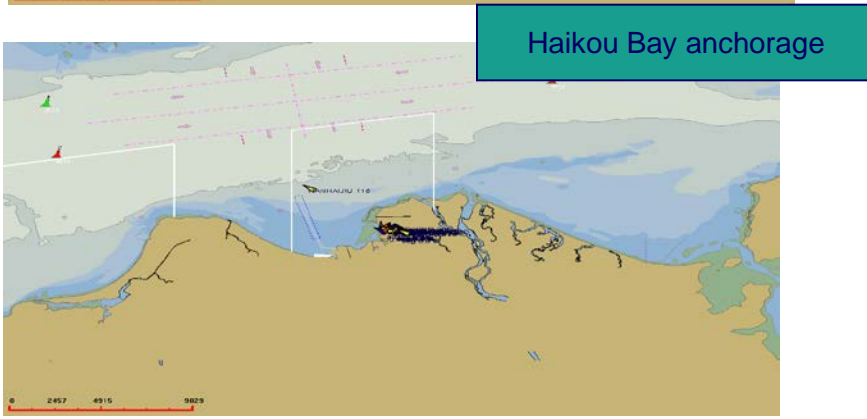
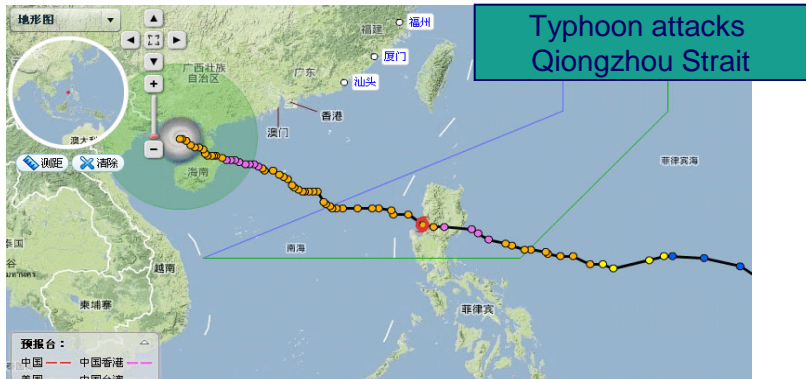


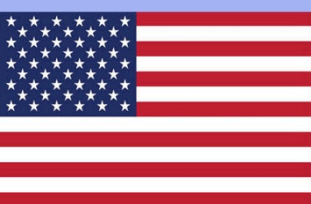
6. Countermeasures to the different typhoon tracks

❖ 6.1 Typhoon landing at Hainan Island

when a typhoon attacks Haikou, and the wind force gusts up to 12, Haikou Bay anchorage will not be suitable for typhoon prevention, except those sheltered in New port inner anchorage, all the RO-RO passenger ships must be moved to Houshuiwan typhoon anchorage



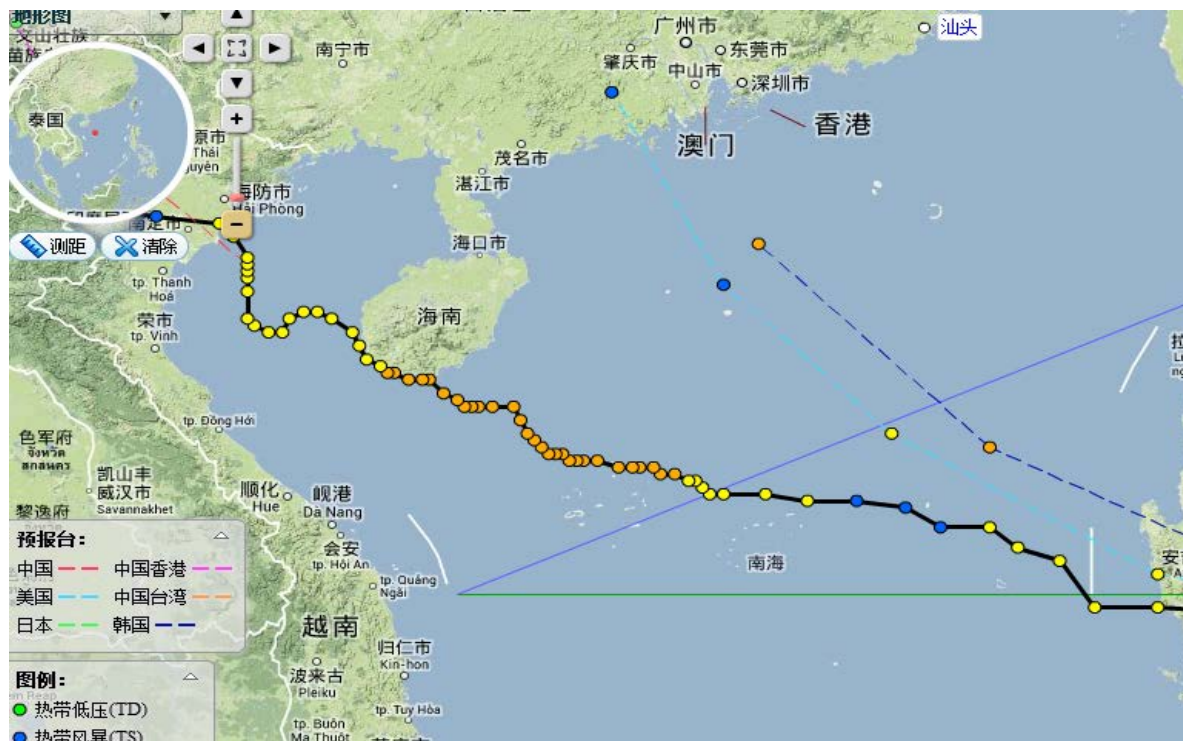




6. Countermeasures to the different typhoon tracks

6.2 Typhoon passing by the southern part of Hainan Island

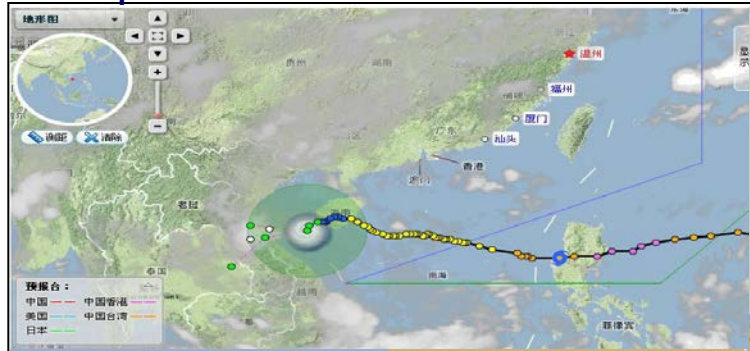
when typhoon passes by the southern part of Hainan Island, and the wind force is below 10, the impact caused to the RO-RO passenger ships will not be serious, so the ships are allowed to be berthing at the terminal or moved to Haikou Bay anchorage.





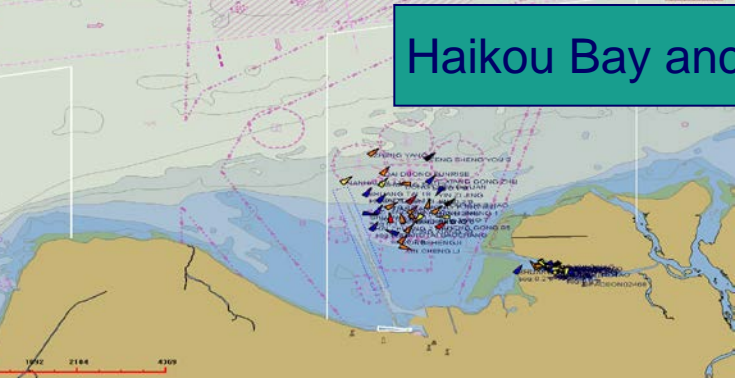
Typhoon passing by the southern part of Hainan Island

Houshuiwan Typhoon Anchorage



New port inner anchorage

Haikou Bay anchorage



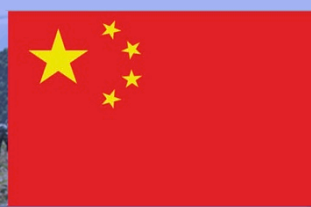


6. Countermeasures to the different typhoon tracks

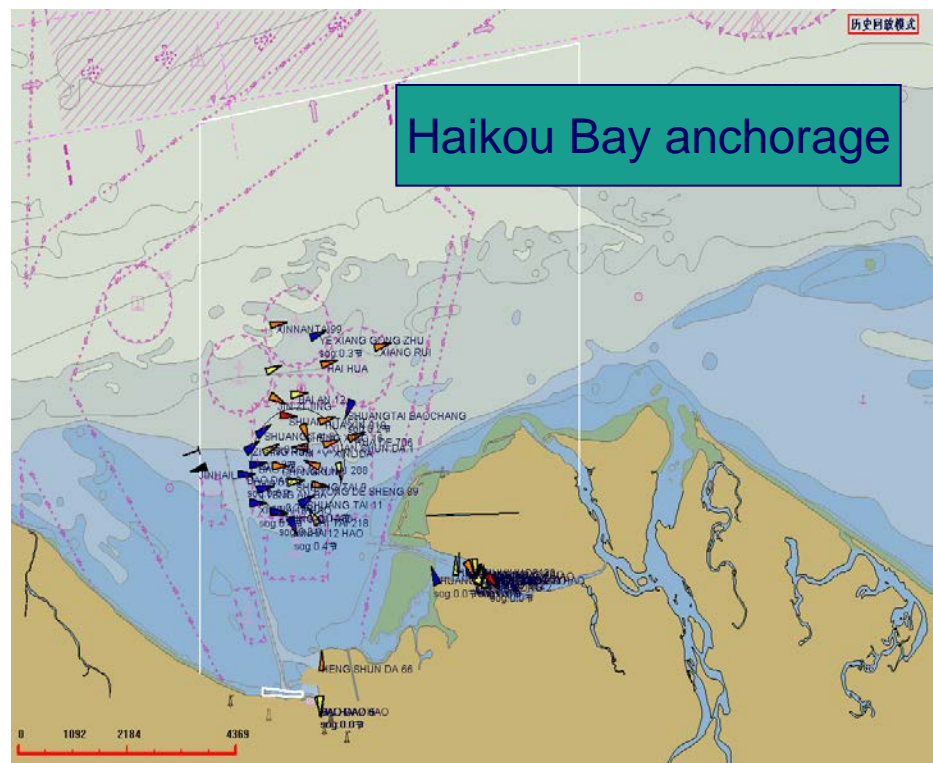
❖ 6.3 Typhoon landing or passing by the coastal area of Canton Province

when the typhoon track is near Qiongzhou Strait but not hit Haikou directly, and the wind force is 10-12, RO-RO passenger ships below 3000GT may move to the New port inner anchorage, while ships above 3000GT will be sheltered at Haikou Bay anchorage or Houshuiwan anchorage.





Typhoon landing or passing by the coastal area of Canton Province





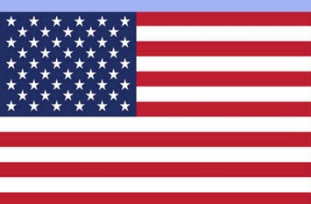
7. Experience Share

7.1 Verify the wind resistance class for different ships

7.2 Early warning and precautions

7.3 Dynamic monitoring

7.4 linkage mechanism



7. Experience Share

7.2 Early warning and precautions



1. 台风蓝色预警信号。24小时内可能或者已经受到热带气旋影响，沿海或者陆地平均风力达6级以上，或者阵风达8级以上并可能持续。



2. 台风黄色预警信号。24小时内可能或者已经受到热带气旋影响，沿海或者陆地平均风力达8级以上，或者阵风达10级以上并可能持续。



3. 台风橙色预警信号。12小时内可能或者已经受到热带气旋影响，沿海或者陆地平均风力达10级以上，或者阵风达12级以上并可能持续。



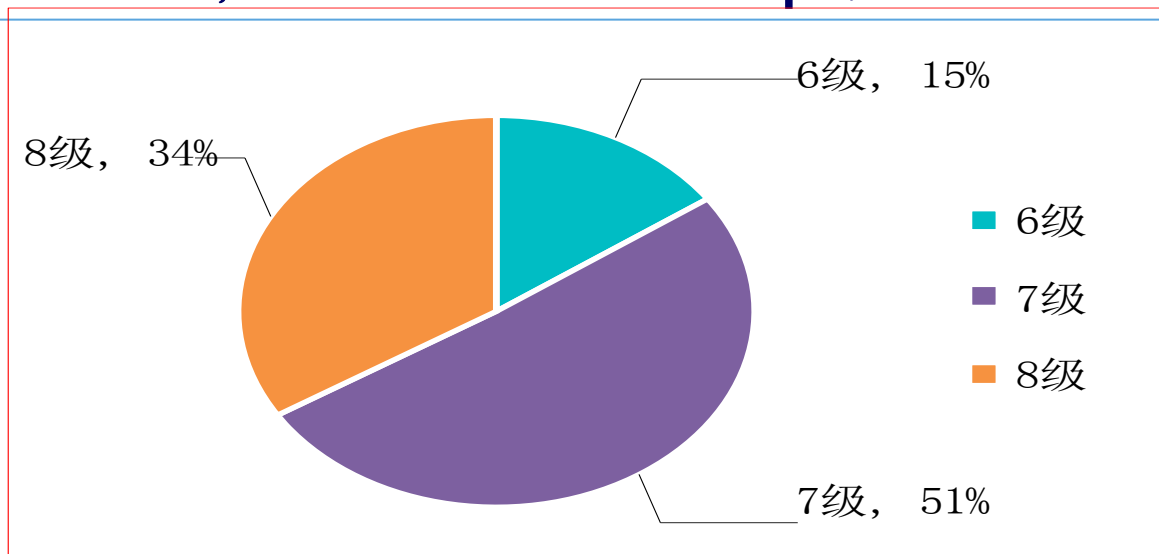
4. 台风红色预警信号。6小时内可能或者已经受到热带气旋影响，沿海或者陆地平均风力达12级以上，或者阵风达14级以上并可能持续。



7. Experience Sharebuild

- 1 Verify the wind resistance class for the RO-RO passenger ships

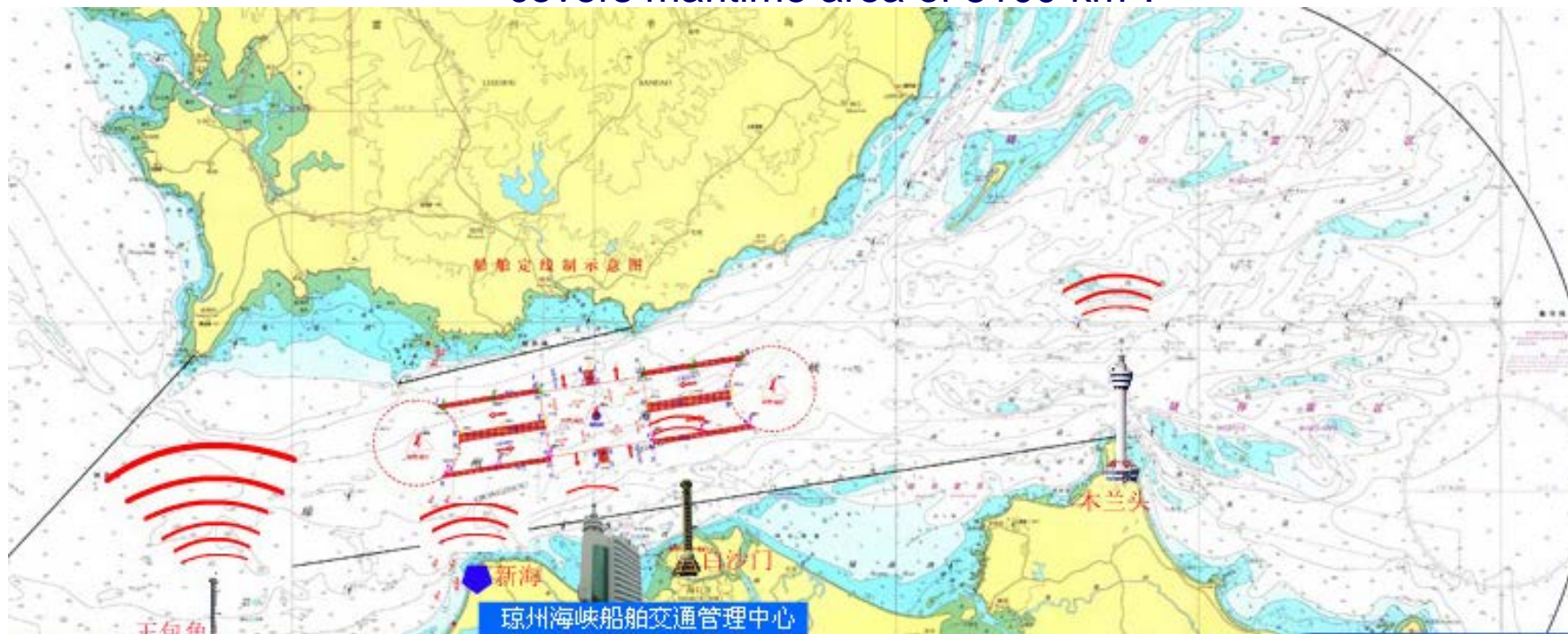
wind force 6: 9 ships, 15%; wind force 7: 30 ships, 51%; wind force 8: 20 ships, 34%.

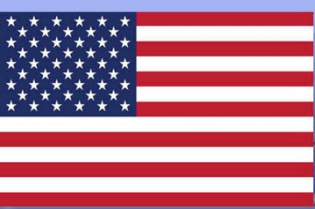




7. Experience Sharebuild

Qiongzhou Strait VTS: 5 radar stations & 1 command center, covers maritime area of 5100 km².





7. Experience Share

7.4 linkage mechanism

build linkage mechanism with local governments, meteorologic bureau and S&R center, share information and react swiftly.





Thank you

