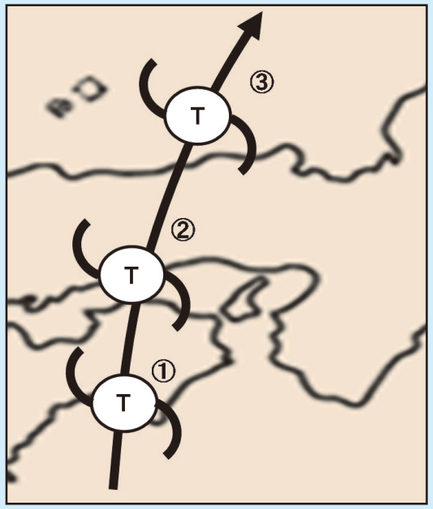
◎ Please be particularly careful about the following typhoon paths in Osaka Bay.

Example of a typhoon path that requires caution



Examples of weather phenomena that are unique to Osaka Bay

- When a typhoon passes through western Osaka Bay, a southerly wind blows continuously from the east as the typhoon approaches, which switches to a westerly wind after the typhoon has passed. The time duraion from increase in wind velocity to its decrease could be anywhere between a few hours to over 30 hours. Therefore, use caution even after the typhoon has passed.
- Wind velocities can exceed 35 m/s off the coast of Kobe. Use caution.
- Inside the bay, the westerly waves from the southeast become large. Off the coast of Kobe, the wave height can reach 4 m. Use caution.
- The length of time in which the wave heights are large can last for over 40 hours after the wave heights initially increase. Use caution.

Typhoon location	Wind condition		Precautions
①	Easterly	Wind velocity increases gradually	Be careful about securing enough distance between ships considering the changes in the wind direction as the typhoon approaches.
②	Southerly	Wind velocity increases as the wind enters the dangerous semicircle	Be careful about pressurized flows and anchor dragging.
③	westerly	Wind gradually becomes calm	Be careful about the continuous growth of hammering waves towards the bay's SW.

◎ Be careful of large low-pressure areas, winter pressure patterns, and low-pressure areas located on the Sea of Japan.

- Westerly winds can blow continuously and reach wind velocities up to 30 m/s. Use caution.
- Be careful about the growth of westerly waves with short periods.
- Waves from Tomogashima Suido can reach the sea region around Kansai International Airport. Use caution.

◎ Where to obtain weather information, etc.

1 Japan Meteorological Agency typhoon information
https://www.jma.go.jp/jp/typh/
2 Telephone, FAX, or email from shipping companies or agencies
3 International VHF (ch16)
4 Japan Coast Guard "Maritime Information and Communication System"
(Computer)
https : //www.kaiho.mlit.go.jp/info/mics/
(Cell phone)
https : //www6.kaiho.mlit.go.jp/m/index.html
(Smartphone)
https : //www6.kaiho.mlit.go.jp/sp/index.html

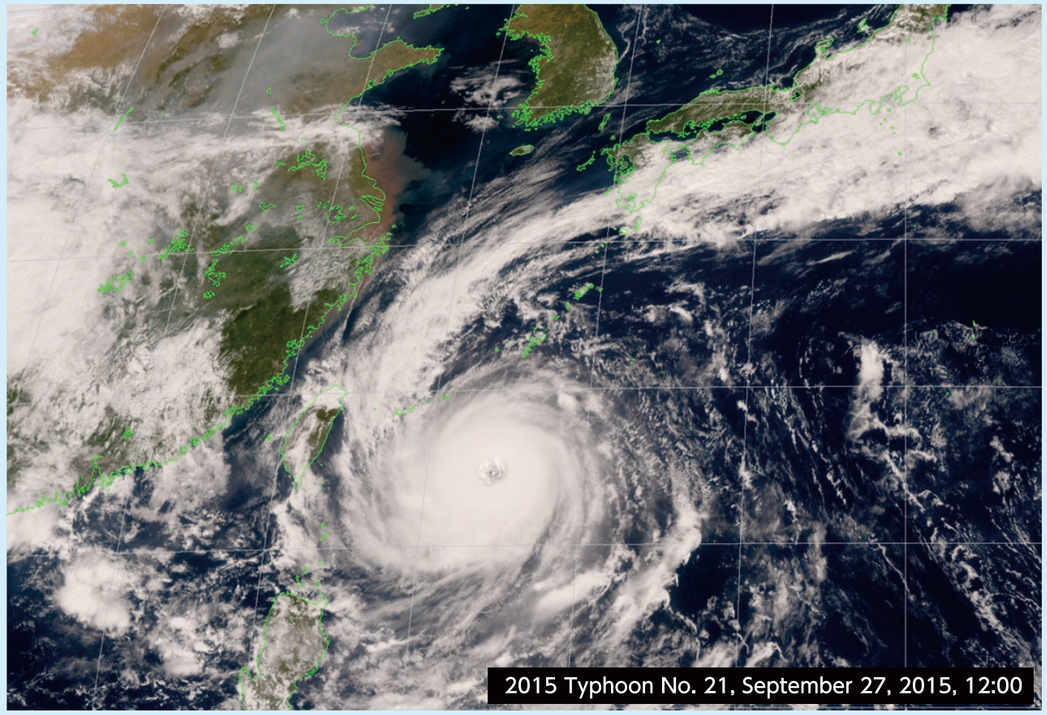
QR codes for the Maritime Information and Communication System

QR code for cell phones

QR code for smartphones

Precautions and information regarding evacuation when typhoons and large low-pressure areas approach Osaka Bay

If you are thinking "I'm still fine", then it's already too late.
Make an effort to evacuate early while you can still afford to do so!



(Photo credits: Japan Meteorological Agency)

◎ Make an effort to obtain the latest typhoon information!
◎ Follow all instructions and advice related to evacuation issued by the harbormaster when anchored at the port!
◎ Secure a method of communication with the Japan Coast Guard and surrounding ships!
◎ Select an appropriate anchorage or sea area for evacuation!
◎ Be careful about the impact of waves as well as wind, depending on the path and location of the typhoon!
◎ Always be prepared to respond immediately during emergencies!
◎ In some situations, it is better for ships that have not yet entered the port to evacuate to the open sea instead of attempting to enter the port. Consider this option!

Public Interest Incorporated Association **The Kobe Marine Casualty Prevention Institute**

The information contained in this document is current as of March 1, 2018.

Reference diagram for evacuation when typhoons and large low-pressure areas approach Osaka Bay

≪General precautions while keeping or having to keep anchor watch≫

(1) Check for whirling movements (2) Confirm ship's position (3) Monitor ship's velocity
(4) Understand wind direction and velocity (5) Confirm the position of your ship relative to other ships
(6) Always listen to the international VHF channel. (7) Detect signs, such as abnormal noises, early using your five senses
(8) Turn AIS switch ON and enter AIS information accurately

Port of Hanshin (Kobe and Amagasaki/Nishinomiya/Ashiya areas) Recommendations, etc. in case of typhoons

Alert

≪When there is a risk of a typhoon approaching Osaka Bay≫

◎ Be careful about the movements of the typhoon
◎ Put your crew on standby
◎ Prepare necessary evacuation systems, such as the engine, etc.

Evacuation recommendations for large vessels, etc.

≪When there is a risk of the Port of Hanshin (Kobe and Amagasaki / Nishinomiya / Ashiya areas) being covered by the typhoon storm zone≫

◎ Vessels over 10,000 G/T
...should generally evacuate from the port
◎ Vessels over 1,000 G/T (excluding ferries)
...should generally postpone entering the port
◎ Vessels under 1,000 G/T
...must select an anchorage and begin anchoring without delay
◎ Vessels engaged in construction work, etc.
...must stop work and evacuate to a safe location

Evacuation recommendations for all vessels

≪When it is certain that the Port of Hanshin (Kobe and Amagasaki / Nishinomiya / Ashiya areas) will be covered by the typhoon storm zone≫

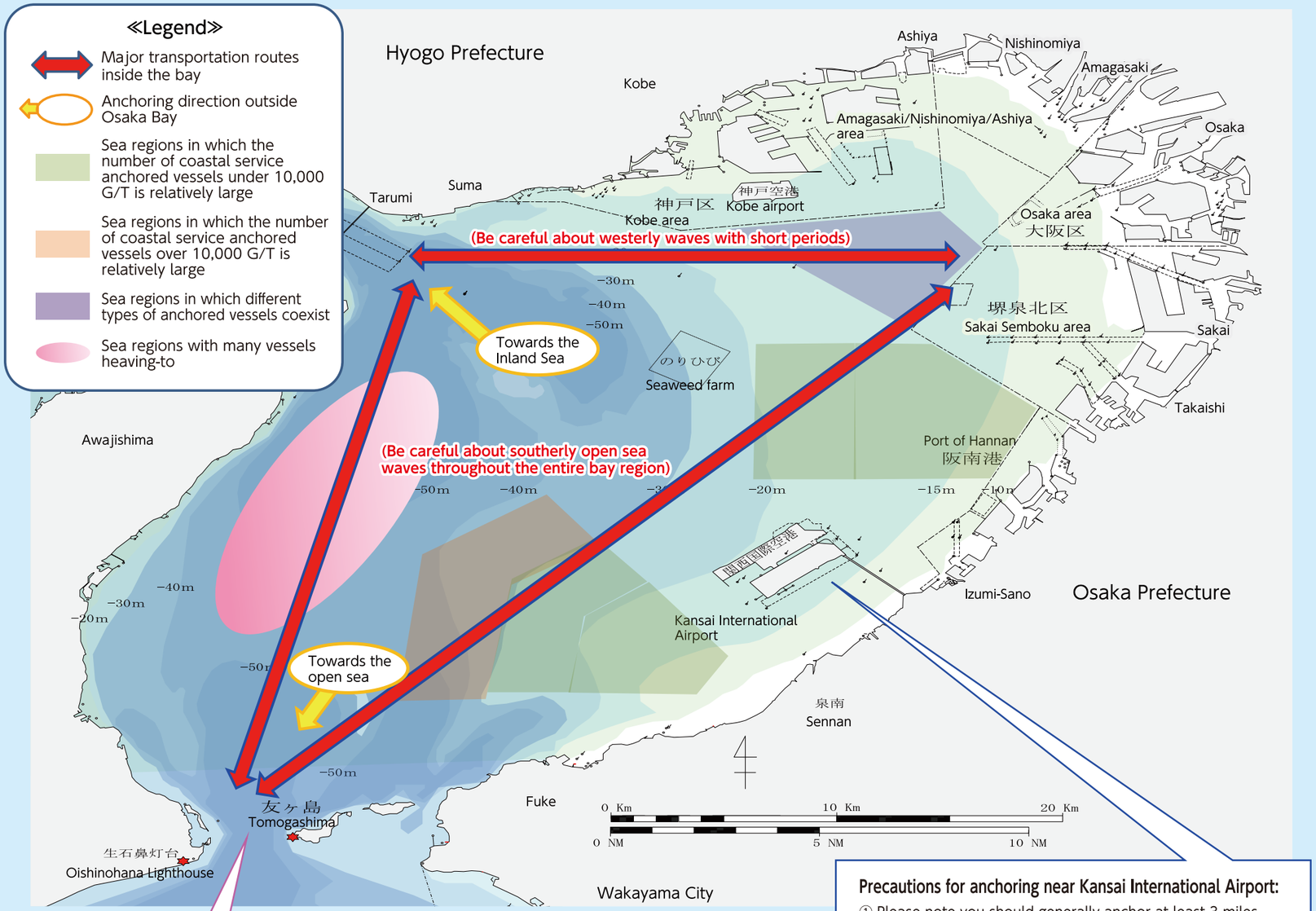
◎ Vessels over 1,000 G/T
...should generally evacuate from the port. Take all possible ship safety measures.
◎ Vessels under 1,000 G/T
...must evacuate to a safe location, such as inside the port. Take strict safety measures.

Contact numbers for information regarding typhoon evacuations, etc.

Kobe Coast Guard Office, Navigation Safety Division
☎ 078-331-6743
FAX 078-327-8836
Nishinomiya Coast Guard Station
☎ 0798-22-7070
FAX 0798-22-7071

≪Legend≫

- Major transportation routes inside the bay
- Anchoring direction outside Osaka Bay
- Sea regions in which the number of coastal service anchored vessels under 10,000 G/T is relatively large
- Sea regions in which the number of coastal service anchored vessels over 10,000 G/T is relatively large
- Sea regions in which different types of anchored vessels coexist
- Sea regions with many vessels heaving-to



Be careful about open sea wave hammering

This diagram indicates actual anchoring conditions. It is not a recommendation of sea regions for anchoring.

※ This bathymetric chart is a representation that was created based on the information available in the Osaka Bay Environmental Database maintained by the Kinki Regional Construction Bureau.

Precautions for anchoring near Kansai International Airport:

① Please note you should generally anchor at least 3 miles away from the shore of Kansai International Airport!
≪Contact≫ Kansai International Airport Coast Guard Air Base 072-455-4999
② Restricted areas have been established under Aviation Laws in the area surrounding the airport. There are restrictions on the height of vessels anchoring in this area.
≪Inquiry Window≫ New Kansai International Airport Company, Ltd. Operation Office 072-455-2055

Port of Hanshin (Osaka, Sakai/Semboku areas), Port of Hannan Recommendations, etc. in case of typhoons

Alert

≪When there is a risk of a typhoon approaching Osaka Bay≫

◎ Collect weather information and pay attention to the movements of the typhoon
◎ Gather your crew, prepare for stormy weather, and secure navigation operations
◎ Secure methods of communication with related parties

First Stage of Evacuation

≪When there is a risk of the port being covered by the typhoon storm zone≫

◎ Osaka area
Vessels over 10,000 G/T carrying dangerous bulk cargo or J pier mooring vessels
...should generally evacuate from the port
◎ Sakai Semboku Area
Vessels over 30,000 G/T
...generally evacuate from the port
◎ Large vessels over 1,000 G/T (excluding ferries)
...should generally postpone entering the port
◎ Vessels engaged in construction work, etc.
...must stop work and evacuate to a safe location
◎ Small vessels
...must select an anchorage and begin anchoring without delay

Second Stage of Evacuation

≪When it is certain that one or both ports will be covered by the typhoon storm zone or be severely impacted≫

◎ Vessels over 1,000 G/T
...should generally evacuate from the port
◎ Small vessels
...must evacuate to a safe location, such as a river, a canal, etc.
Take strict safety measures.

Contact numbers for information regarding typhoon evacuations, etc.

Osaka Coast Guard Office, Navigation Safety Division
☎ 06-6571-0223
FAX 06-6572-1700
Kishiwada Coast Guard Station
☎ 0724-22-3592
FAX 0724-37-0444