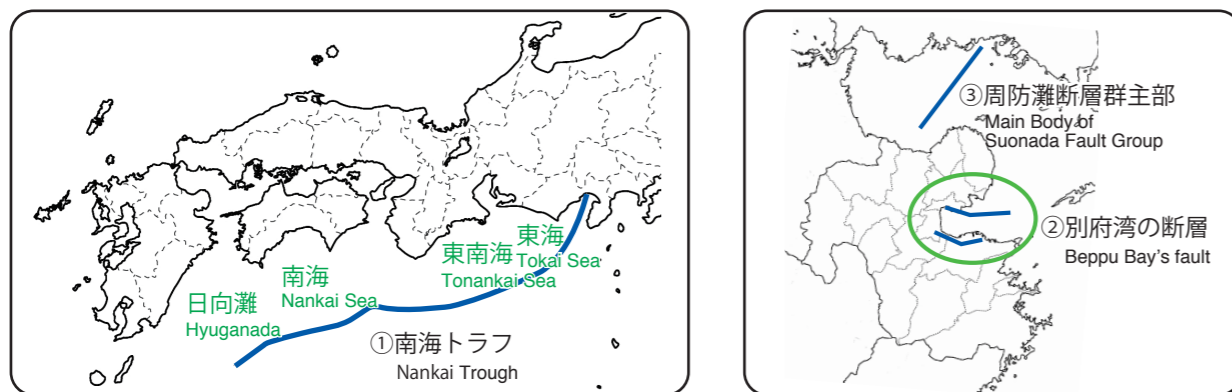


About anticipated earthquakes



① Great Earthquake in Nankai Trough

Map 1 shows an earthquake with the Nankai Trough hypocenter. Related earthquakes would then occur in the Tokai Sea, Tonankai Sea and Nankai Sea. If the source region included Hyuganada, an even greater earthquake would occur.

Magnitude of earthquake : Magnitude 9 class

Place	Height of tsunami	1m wave Tsunami arrival time	Height of tsunami arrival time	Probability of occurrence within 30 years
Kamegawa Higashi machi	4.78m	85min	104min	Tonankai Earthquake:70-80% Nankai Earthquake: Approx. 60%
Kita Matogahama cho	4.61m	85min	108min	

② Earthquake from the active faults in Beppu Bay

• The flood area and floodwater depth could be larger and is noted in the flood prediction map.

Map 2 shows an earthquake on the faults in Beppu Bay. It is estimated to be similar to the Keicho – Bungo Earthquake, which occurred in 1596.

Magnitude of earthquake : Magnitude 7 class

Place	Height of tsunami	1m wave Tsunami arrival time	Height of tsunami arrival time	Probability of occurrence within 30 years
Kamegawa Higashi machi	5.13m	30min	45min	Beppu Bay fault zone: Almost 0% Beppu fault trough southern fringe: 0.03-4%
Kita Matogahama cho	5.42m	24min	40min	

③ Suonada fault zone earthquake

Map 3 shows an earthquake in the Suonada fault zone.

Magnitude of earthquake : Magnitude 7 class

Place	Height of tsunami	1m wave Tsunami arrival time	Height of tsunami arrival time	Probability of occurrence within 30 years
Kamegawa Higashi machi	1.54m	-	88min	2-4%
Kita Matogahama cho	1.41m	-	85min	

Assumed conditions for height of tsunamis noted above

- Tide is average high tide
 - Levee does not work
 - Land subsidence
- * The height of the tsunami, 1m high waves arrival time, the highest wave arrival time is information ascertained by the Oita tsunami flooding forecast and research division (Jan, 2013).
- * The possibility of occurrence within 30 years has been ascertained by the figures provided by the Earthquake Research Promotion Association.

Volcanic eruption warning level" of Mt. Tsurumi, Mt. Garan

When volcanic eruption occurs, "large volcanic cinders" or "pyroclastic flow" may happen, which make you unable to evacuate.

In order to protect yourself from these phenomena, "Mt. Tsurumi, Mt. Garan Volcanic Disaster Prevention Council" composed by prefecture, city, volcanic professors and related organizations usually holds meetings, discussing the rules and measures to meet the emergency. According to the volcanic activities, the Japan Meteorological Agency will announce a 5-level, and prefecture, city, related organizations should enforce the disaster prevention measures.

Volcanic Warning Levels for Mt. Tsurumi & Mt. Garan

Classification	Name	Target Area	Level (Keyword)	Expected Volcanic Activity	Actions to be taken by inhabitants	Measures for Climbers and People Who Entered Mountain
Special warning	Volcanic warning (residential area) or Volcanic warning	Residential area and the side towards crater	Level 5 Evacuate	Eruption will occur or be imminent, which residential area located higher than 3 km above sea level will suffer from	Evacuation from the danger zone (Judge target area and measure according to circumstances)	
				Eruption will occur or be imminent, which residential area located within 3 km above sea level will suffer from		
			Level 4 Prepare to evacuate	Eruption's occurrence can be predicted, which residential area will suffer from		
Warning	Volcanic warning (around crater) or Around crater warning	From crater to nearby residential area	Level 3 Do not approach the Volcano	Eruption occurs, or it's occurrence can be predicted, which will give great impact near to residential area	Residents stay as usual. (pay attention to the volcanic activities later) Let disabled persons prepare to evacuate in line with current volcanic activity.	Refrain from entering the danger zone. (Judge restriction area according to circumstances)
		Around-crater	Level 2 Do not approach the crater	Eruption occurs, or it's occurrence can be predicted, which will give impact to around-crater	Residents stay as usual	Refrain from approaching the crater (Judge restriction area according to circumstances)
Forecast	Volcanic forecast	Inside of crater	Level 1 Take the usual precautions for active volcanoes	Volcanic is quite. According to volcanic activities, ash fall from crater can be seen	Residents stay as usual	Nothing special (In some cases, it may be necessary to refrain from approaching the crater)