

**Nankai Trough Earthquake Extra Information (Megathrust Earthquake Attention) issued following the 2024 Hyuga-nada Earthquake (Mw7.0)**

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On August 8, 2024, at 16:42, an earthquake with  $M_{JMA}7.1$  occurred in Hyuga-nada, off the east coast of Miyazaki Prefecture, Kyushu, Japan and the Japan Meteorological Agency (JMA) announced the "*Nankai Trough Earthquake Extra Information (Under Analysis)*" at 17:00. At 17:30, the "Nankai Trough Earthquake Assessment Committee" was convened, and as a result of the analysis, the "Nankai Trough Earthquake Extra Information (Megathrust Earthquake Attention)" was issued at 19:15. This is because the earthquake was estimated to have a moment magnitude (Mw) of 7.0 and occurred within the designated "monitoring area." This area includes the "anticipated focal region and surroundings along the Nankai Trough," as defined by the Central Disaster Management Council (2013), as well as the region extending approximately 50 kilometers beyond the Nankai Trough axis of the focal area.

**Nankai Trough Earthquake Countermeasures by the Central Disaster Management Council**

In the Nankai Trough, large earthquakes M8+ have repeatedly occurred in the past, causing significant damage. The largest recorded earthquake was the 1707 Hiei earthquake (M8.6), but theoretically, the possibility of a super-large earthquake, such as the 2011 Tohoku-oki earthquake (M9.0) cannot be ruled out. The Central Disaster Management Council had set out countermeasures based on the assumption of damage in the event of an earthquake of the largest class (Mw 9.0 for shaking and Mw 9.1 for tsunami). According to the government's report, the current capabilities of seismology are not sufficient to predict earthquakes in a way that contributes to disaster prevention responses, and that it is necessary to revise the *earthquake disaster prevention emergency measures* based on the earthquake prediction in Tokai region. On the other hand, it is said that the perspective of utilizing current scientific knowledge for disaster prevention measures will remain important, and it was decided to issue the *extra information on the Nankai Trough earthquake*.

**Dissemination of information**

If anomalous phenomena are detected or the possibility of an earthquake along the Nankai Trough is considered relatively high, the JMA issues *Nankai Trough Earthquake Extra Information*. There are four types of the extra information: (1) *Under analysis*, (2) *Analysis completed*, (3) *Megathrust Earthquake Alert*, and (4) *Megathrust Earthquake Attention*. On August 8, 2024, an initial (1) was issued, followed by the release of (4) as a result of the analysis. The criteria for which type of information is issued based on

the observed events are determined and published in advance.

### Concluding Remarks

The *Nankai Trough Earthquake Extra Information (Megathrust Earthquake Attention)* was issued for the first time since the system's establishment in 2019. The information was distributed in accordance with the predetermined protocol. It was intended to let people remain prepared for an earthquake on a daily basis. This information is neither an earthquake prediction nor an earthquake alert. However, it's important to assess whether people understand the meaning of this information and are taking the necessary steps to stay safe in case of an earthquake. We need to continue studying effectiveness of this system.

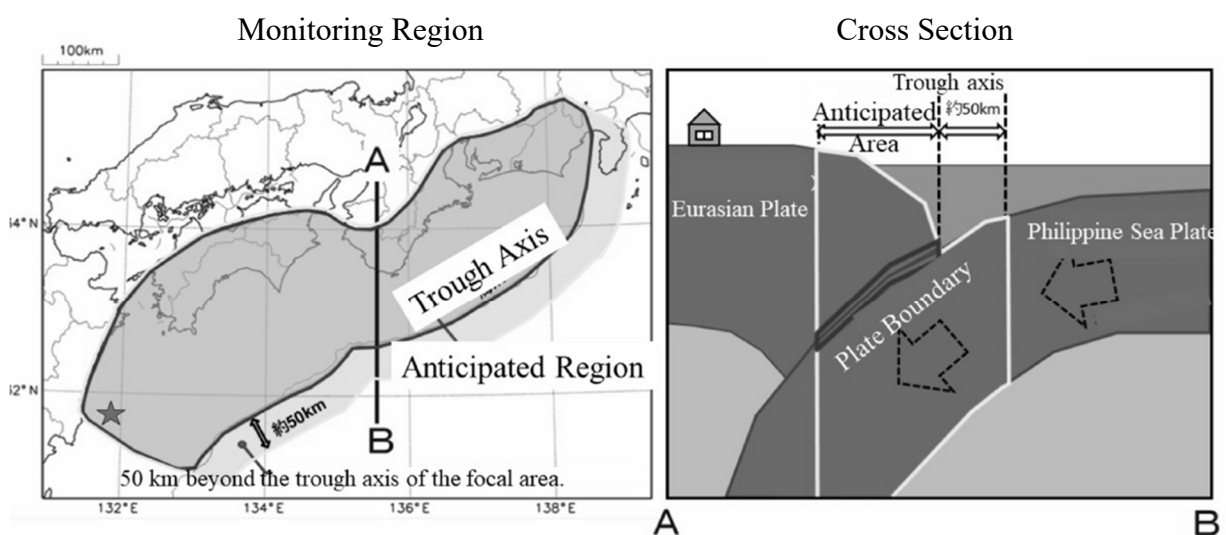


Figure 1. Designated monitoring area and an epicenter of the 2024 Hyuga-nada Earthquake (★)