



New Information which will be issued for coming Nankai Trough Earthquake in Japan

Noriko Kamaya

Earthquake Research Institute, The University of Tokyo, Tokyo, Japan

Japan Meteorological Agency (JMA) had been operating a system to predict Tokai Earthquake with magnitude 8 by observing pre-slip with strainmeter data and announce it in "Tokai Earthquake Information" since 1977. However, 40 years later, in August 2017, the Research Committee of the Central Disaster Management Council under the Cabinet Office concluded that "it is difficult to predict timing, location and scale of the earthquake with high certainty." In addition, the Working Group of the Council pointed out that increasing urgency of large-scale earthquakes throughout the Nankai Trough area including the western side of the assumed focal region of the Tokai Earthquake, and importance of utilizing the current scientific knowledge for disaster prevention measures. For these reasons, the JMA decided not to publish the "Tokai Earthquake Information", and started the operation of "Nankai Trough Earthquake Information" in November 2017.

Basically, the Nankai Trough Earthquake Information will be issued when anomalous phenomena occur and relatively high potential of occurrence of great earthquakes in the Nankai Trough area is expected. We will introduce the result of considering what kinds of Nankai Trough Information will be issued. Based on the report of the working group of Central Disaster Management Council, the contents of information can be roughly categorized into the following four patterns.

- (1) The first announcement about observation of anomalous phenomena: A large earthquake occurred in the assumed source region of the Nankai Trough Earthquake / large strain change was observed. We will hold "Nankai Trough Earthquake Assessment Committee".
- (2) Be careful of the occurrence of the Nankai Trough Earthquake: The possibility of occurrence of a large earthquake is increasing in the Nankai Trough area.
- (3) Announcement that the remaining undestroyed area is small: It is considered that almost all of the assumed Nankai Trough source region was destroyed, but pay attention to large earthquakes in the unbroken area and aftershock activity.
- (4) Announcement of the end of disaster preparedness period: The possibility of the occurrence of a large earthquake in the Nankai Trough area has become lower, but pay attention to earthquake (aftershock) activity. Please make daily preparation for earthquakes.

According to the report of the Central Disaster Management Council, in the case of (2), if half of the assumed source region of the Nankai Trough Earthquake is destroyed, people will evacuate for about one week in preparation for the subsequent large earthquake. In other cases of (2), if small part of the source region is destroyed or anomalous slow slip is observed, JMA calls us to reconfirm daily preparation for earthquakes. Although we cannot declare end of disaster preparedness period on the basis of expertise in seismology, the information of (4) will be issued one week after the occurrence of abnormal phenomena by putting the tolerance limits of residents into account.