

U021-13

Room:304

Time:May 24 14:30-14:50

Expectations for the Practical Application of Predictions of Earthquake and Volcanic Eruption

Takayoshi Iwata^{1*}

¹Emergency Management, Shizuoka Pref. Gov

Shizuoka Prefecture has worked on earthquake preparedness measures as a high-priority issue since 1976, when the so-called Tokai earthquake was announced to hit the area. The Tokai earthquake is predicted to be a large-scale earthquake and to occur right under the Shizuoka Prefecture region. Almost whole area of Shizuoka Prefecture is expected to experience severe ground shaking ranging from an upper 6 to 7 on the Japanese seismic scale of intensity. In addition, a tsunami will hit along the coasts of Suruga Bay and Enshu Sea within several minutes after the occurrence of the earthquake.

Shizuoka Prefecture has worked on various earthquake preparedness measures to mitigate the expected damage, such as the earthquake-proofing of buildings and the maintenance and creation of facilities to protect against tsunami. Moreover, we have implemented disaster prevention education and fostered voluntary organizations for disaster prevention to secure disaster control in the region.

9,000 people will likely be killed if the Tokai earthquake hits the area without warning. In order to reduce the number of casualties, it is necessary to have an earthquake prediction system. In order to make the Tokai earthquake prediction system, the Large-scale Earthquake Countermeasures Act was enacted in 1978. A warning declaration will be announced by the Prime Minister when a precursor of the Tokai earthquake is observed. When the warning declaration is announced, social activities will be limited including the operation of railways, and an evacuation order will be announced to residents in the regions where tsunami or landslides are expected to occur. By taking such precautions beforehand, not only will human lives be saved, but the extent of damage can be limited. Thus, information from the scientifically-based Tokai earthquake prediction system has been used for a system of disaster prevention activities throughout the community.

In regards to volcanic eruption prediction information, the Meteorological Agency introduced an eruption alert level in 2007. Since then the Meteorological Agency has announced eruption warnings, including evacuation notices for residents, as well as to provide information related to the scale of previous volcanic activity.

Thus, the information related to prediction of large-scale earthquake and volcanic eruption (currently limited to the Tokai earthquake and 26 volcanoes) is being utilized in the formation of a public disaster prevention information system. If observational data and scientific knowledge concerning earthquake and volcanic activity are much more accumulated, real-time analysis and predictions of them will become possible. Then, people can expect more accurate disaster prevention information, which will reduce the damage caused by the earthquake and volcanic eruption. To meet these expectations, it is necessary to establish a relationship of trust between scientists and citizens.

I will discuss citizen's awareness of earthquake and volcano prediction information, the social system that utilizes the same information, and the related expectations towards such research.

Keywords: Earthquake prediction, Volcanic eruption prediction, Disaster prevention information