

Presentation information

Poster

IASPEI Symposia » S04. Historical and macroseismic studies of earthquakes

[S04-P] Poster

Thu. Aug 3, 2017 3:30 PM - 4:30 PM

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3:30 PM - 4:30 PM

[S04-P-01] Development of historical earthquake and volcanic activity database using historical diaries

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Japan is exposed to frequent disaster risks of earthquakes and volcanic eruptions. Descriptions on these natural disasters can be found in a large amount of historical diaries that were written by officials of local governments before the middle of AD 19C. These historical diaries were often used as official records of local governments and contain descriptions about natural phenomena such as daily weather, earthquake ground shaking or volcanic smoke. Since these descriptions were made on the same day as those phenomena occurred, they are highly credible. Furthermore, the place where the diaries were written can be precisely specified. Since the same person kept the diary for several decades, continuous and stable information can be obtained. In Kinki district, especially around the ancient capitals, Kyoto and Nara, the historical diaries have been existed from the ancient and medieval (AD 10-16C) eras providing the continuous records of about 900 years. From the modern times (AD 17-19C), the historical diaries can be found nationwide. Therefore, it is possible to analyze seismic and volcanic activities of the historical era by utilizing the historical diaries before observations of modern instruments began.

In this research, we analyze the historical diaries and extract the high-quality records of natural phenomena such as sensible earthquakes and volcanic smoke to create a database. In addition, we will create a geographic information system based on this

database to show spatio-temporal distributions of felt earthquakes and volcanic activities of the historical era. By combining the present analysis with earthquake and volcanic researches based on modern instrument observations, we aim to elucidate the long-term nationwide earthquake and volcanic activities in Japan from the historical era to the present day.