

Seismic Activities in the Nikko-Ashio Area by Routine Observation

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The Nikko-Ashio area, the northwestern part of Tochigi prefecture, is one of the most seismically active regions in Japan. In addition to that, Mt. Sirane and Mt. Nantai, and active faults such as Uchinokomori fault are in the region. We detect a large amount of earthquakes about 8,000 a year by routine observation of Earthquake Observation Center, Earthquake Research Institute (ERI). This study reports those seismic activities during the period from November 1993 to the present. The specific characteristics of the activities are as follows: 1. Events are mainly active in three regions: Ashio mountain district, Border area of Gunma and Tochigi Prefecture and Tyuzenjiko area. 2. Earthquakes separate into clusters. 3. The depth of earthquakes is shallower than 15 km and tends to shallow toward Mt. Sirane. 4. Reflected phase S_xS and S_xP exist in the waveform. 5. Deep low frequency earthquakes occur beneath the region. We determine precise hypocenters using 5 stations of ERI in the Nikko-Ashio area and 54 stations of the Japan Meteorological Agency (JMA) and the National Research Institute for Earth science and Disaster Prevention (NIED) in the neighboring area adopted HYPODD method to obtain the accurate locations of the clusters. We examine the distribution of clusters and its sequence and relationship.