

## True feature of seismicity in Palau region

ISHIHARA, Yasushi<sup>1\*</sup>, Azusa Shito<sup>1</sup>, Takashi Tonegawa<sup>1</sup>, Satoru Tanaka<sup>1</sup>, Daisuke Suetsugu<sup>1</sup>

<sup>1</sup>JAMSTEC

Palau islands locate at about 3,000km, south of Japan, in the western Pacific region. The islands locate at edge of Kyushu-Palau ridge and Palau trench develop in the near east of islands. However seismic activity is very low according to earthquake catalogue, which is much different from Mariana trench. Plate motion model also shows very low subducting velocity. The development process of this topography is attractive topic.

OHP network operates broadband seismic network in the western Pacific islands. Koror island, Palau, (station code: PALU) is one station of the network and is operated from 1990's. The continuous seismic data records small local earthquakes frequently. Our team deploys temporal stations in Palau to focus local earthquake monitoring from September, 2011. The other purpose of campaign measurement is evaluation of new site for PALU station to record low ambient noise.

Fortunately there was a major earthquake on October, 2011 at northern region of the island. The earthquake is catalogued by global network monitoring and good index to evaluate performance of our temporal array. The local array succeeds to record frequent small earthquakes, including its aftershocks and other swarm-like activity.

We tried to locate hypocenters of these seismic events using P and S wave arrival time. Hypocenters locate at two swarms and sparse events. One swarm is major events and its aftershocks. The other swarm locates in the east of islands, which is near trench axis. The depth of all earthquakes is 20 to 30 km, which means that these events locate under part converse plates. Our observation suggests that high seismic activity and more present active subduction process.

Keywords: Palau, seismicity, Ocean Hemisphere Network