

## Change of the volcanic activity at Kuju volcano.

\*Mori Takehiko<sup>1</sup>, Muga Yaguchi<sup>1</sup>, Yasushi Kawamura<sup>2</sup>, Hideyuki Hiramatsu<sup>3</sup>, Keiji Ikeda<sup>2</sup>, Sugai Akira<sup>2</sup>, Michitomo Sugahara<sup>2</sup>, Kenichi Takata<sup>2</sup>, Kyo Matsumoto<sup>2</sup>, Fukuoka Regional Headquarters Japan Meteorological Agency, Oita Meteorological Office Japan Meteorological Agency

1. Meteorological Research Institute, Japan Meteorological Agency, 2. Fukuoka Regional Headquarters, Japan Meteorological Agency, 3. Oita Meteorological Office, Japan Meteorological Agency

In Kuju volcano, after an eruption occurs at the east-hillside of Mt. Hossyo (near Mt. Iwo) in October 1995 and January 1996, the eruption has not occurred. The continuous volcanological observation by a research institution and Japan Meteorological Agency started after the eruption in 1995. Although the active seismicity which has the hypocenter in the shallow zone under Mt. Iwo was observed, the activity became calm after 2005. Moreover, after 1995, continued cooling in the shallow zone under Mt. Iwo was obtained by the geomagnetic observation, and the trend for fumarolic activity to decline gradually was seen. In this way, the declining volcanic activity was captured by various observation data.

Changes in volcanic activity of Kuju volcano began to appear around 2012. First, the GNSS observation showed that the length of the base line between the two points crossing Kuju volcano began to grow slightly. Next, the geomagnetic observation began showing the heat-reserve trend in the shallow region of Mt. Iwo from 2014. The gradual increase in fumarolic activity starts around 2015, and the slight increase in seismic activity also started around 2016.

Before the 1995 eruption, continuous volcano observation at Kuju volcano was not done, so the change of various phenomena preceding the eruption was not sufficiently obtained. We have not been able to judge whether the current volcanic activity change is an activity suggesting future eruptive activity. However, we believe that accumulation of observational data will help predict future volcanic activity. Then, by continuous observation of multiple items not only including geophysical observations but a volcano chemistry observation, the character of the volcanic activity in Kuju Volcano is grasped, and change of volcanic activity is monitored.

Keywords: volcanic activity, crustal deformation, geomagnetic variation, Volcanic Gas, phreatic explosion