

SVC063-P12

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## The crustal deformation of Mayon volcano before and after 2009 eruption

Kenji Fujiwara<sup>1\*</sup>, Kaichi Moriwaki<sup>1</sup>, Jaime S. Sincioco<sup>2</sup>, Eduardo P. Laguerta<sup>2</sup>, Alex Baloloy<sup>2</sup>, Akimichi Takagi<sup>3</sup>, Shinobu Ando<sup>4</sup>, Mitsuyuki Shirasaka<sup>5</sup>, Isao Matsusima<sup>5</sup>, Kaoru Miyashita<sup>6</sup>

<sup>1</sup>JMA-Osaka, <sup>2</sup>PHIVOLCS, <sup>3</sup>MEXT,JAPAN, <sup>4</sup>MRI, <sup>5</sup>JMA, <sup>6</sup>IBARAKI UNIV.

Mayon Volcano located at the southeastern extremity of the Luzon Island is the most active volcano in the Philippines. Since 1616, Mayon has exhibited 49 mild to violent eruptions. Most of the eruptions produced andesitic to basaltic andesite pyroclastic flows and lava flows and airfall tephra. The pyroclastic surges which swept the southern sectors of the volcano during the 1814 eruption killed about 1200 people. It is important, therefore, to closely monitor its activity to provide warning to the growing population in the vicinity who rely on agriculture, commerce and tourism for their livelihood.

After 2006 eruption, its alert status was not lowered to normal level due to continuous observance of summit crater glow. Minor ash explosions occurred on August 10, 2008, September 15, 2009, October 28, 2009, November 11, 2009 and December 14, 2009. After that, from December 15 to December 30, 2009, seismic activity dramatically increased and sulfur dioxide emission rate remained very high. Flowing red hot lava and intermittent rolling incandescent lava fragments were observed moving downslope from the crater. Mandatory evacuations of residents in the danger zones around Mayon were done by the Provincial government of Albay when alert status of the volcano was raised from Alert Level 2 to Alert Level 3 on December 14, 2009.

Global Positioning System (GPS) campaign observation were executed around Mayon in January, August and November 2009 before the eruption in January 2010, InSAR processing using the same term of radar image(20 Jan. 2010 and 05 Dec. 2009 etc.) by 'ALOS' was utilized to detect crustal deformation. A brief summary of Mayon 2009 eruption are included.

Keywords: Mayon, eruption, Crustal Deformation, Philippines, GPS, InSAR