RECENT ERUPTIONS AND LAHARS OF MAYON VOLCANO, PHILIPPINES (2000-2006)

The Mayon Volcano Study Team

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Abstract:

Volcanic unrest in the Philippines' most active volcano Mayon for the period 2000-2006 consisted of three eruptions in 2000, 2001 and 2006 and rain-triggered lahars in 2006. We summarize data gathered from event documentation, geological mapping, geochemical analyses, interviews and other tools in order to characterize these events and demonstrate the importance of geological studies to hazards mitigation in Mayon Volcano.

The 2000 eruption transpired in by phases of non-explosive, Strombolian and climactic explosive-Strombolian activity (23 February-1 March) and followed by post-eruptive lava flowage. Erupted magma was partitioned into pyroclastic flows (14 M m^3), blocky to aa lava flows (12 M m^3) and fallout tephra (3 M m^3). The main bulk of lava and pyroclastic flows were emplaced on the southeastern sector, but pyroclastic flows of the climactic phase emplaced on all sectors of the volcano. A peculiar range of pyroclastic flows that includes those from high-intensity Strombolian fountaining, and texturally bimodal pyroclasts in flows from explosive events, are the salient characteristics of this eruption.

Renewed Strombolian eruptions in June and July 2001 produced pyroclastic flows (12 M m^3), blocky to aa lava flows (11 M m^3) and fallout tephra (1 M m^3). Pyroclastic and lava flows were confined to the southeastern volcanic flanks, the lava flows completely covering those of 2000. In July-October 2006, some 80 M m^3 of blocky to aa lava flow was extruded on the southeastern flanks, overriding previous flows to cover an aerial distance of 6.4 kms.

Eruptions from 2000 to 2006 in general were of decreasing explosivity and erupted geochemically homogenous medium-K basaltic andesite (SiO_2 53-54 wt.%).

On November 30 2006, major lahars and floods in river channels on the southern flanks were generated by the passage of *Super Typhoon Reming* over the Mayon's . These flows, unprecedented in recent history, devastated downstream communities with burial and washout, resulting in some 1,200 casualties, 1,400 injuries and several barangays buried in boulder and sediment. The lahar event and its impacts are the subject of PHIVOLCS' current research in Mayon.