

Piton de la Fournaise eruption

From: Thomas Staudacher <staud@univ-reunion.fr>

The April 2, 2007 eruption at Piton de la Fournaise started at about 650 m altitude after a short summit eruption within Dolomieu crater on February 18, followed by an other short flank eruption at 1900 m altitude close to the "Deuxième Formica Leo" crater on March 30.

Since the beginning, the eruption was accompanied by a very strong seismic activity beneath the summit, which let us fear a collapse of the Dolomieu crater floor.

The eruption formed a very large cone of lapillies, lava fountains of up to 200 m have been observed and lava debit of the eruption is extremely high. First volume estimations give us about $40 \times 10^6 \text{ m}^3$ within the first 10 days, without the material which went to the sea.

In the night of April 5 to 6 and over the whole following day, the Dolomieu crater floor in fact collapsed, dragging along about 30 to 40 m of the "Dolomieu sud" plateau and the remaining separation between Bory and Dolomieu craters. These collapses formed large dust clouds above Piton de la Fournaise and the seismic events were felt by habitants at the 4 km far "gite du volcan". On Friday a new collapse again formed such a dust cloud.

New estimations of the depth of Dolomieu are about 300 m or even more over an area of 1000 to 800 m, with an estimated volume of about $50 \times 10^6 \text{ m}^3$.

Presently the eruption goes on with lava fountains about 100 m high and a lava flow of up to 200 m long going to the sea.

During this eruption, enhanced SO₂ were measured by the local ORA and SO₂ and dust clouds were observed from space over the Indian Ocean.

Thomas Staudacher

OVPF/IPGP

Thomas Staudacher
Observatoire volcanologique du Piton de la Fournaise
14 RN3 le 27ème km
F-97418 La Plaine des Cafres
La Réunion
tél +262(0)262 27 52 92
fax +262(0)262 59 12 04