

Dome growth has continued during the period, focused on the north-western quadrant of the dome. This growth has been primarily "endogenous", that is, not focused into lobe structures, but inflation of the whole north-western section of the dome.

The most significant event occurred early on 8 January, with audible explosive activity, followed by the largest pyroclastic flow to date in Belham Valley. This event was preceded by an increase over the previous 24 hours in the number and energy (run out distance) of the pyroclastic flows observed in Tyres Ghaut and Gages Valley. Between 06:05-07 (ECT) on 8 January three pulses of explosive activity were audible as far north as Woodlands. The rising ash cloud was visible from all over Montserrat moving out westwards, to the south of St Georges Hill and Garibaldi Hill. Pyroclastic flows were observed in Gages Valley and Tyres Ghaut simultaneously suggesting source high on dome directly behind Gages Mountain. At 06:15 the largest pyroclastic flow to date entered Tyres Ghaut and from there, the Belham Valley. The deposits reaching as far as the edge of Cork Hill, a run out distance of around about 5 km. At 06:25 the ash cloud was reported to have reached 30,000 ft. Pyroclastic activity in Tyres Ghaut continued at high levels over the following 1.5 hours establishing an almost regular 5-7 minute cycle. The run out distances of the individual flows were limited to 1-1.5 km, and each flow was preceded by a minor pulse of ash venting. During the rest of the morning, the frequency declined.

Subsequent observations of the dome show that very little material has been removed, although the area above the head of Tyres Ghaut has been eaten back to form an amphitheatre-like structure cutting through the old crater rim. This could conceivably channel larger volumes of dome material into Tyres Ghaut (and Belham Valley) during future events. Deposits from pyroclastic surges were also observed to the north of the volcano towards Streatham and Harris, and flows had travelled into Paradise Ghaut below Harris at the bottom of Farrell's Plain. Examination of the deposits has shown them to contain abundant pumice us material, consistent with explosive fragmentation.

Subsequently pyroclastic activity has been very limited with just a few flows were observed in Tyres Ghaut and even fewer in Gages Valley.

Low-level gas and ash venting from a vent on the western side continued and was at times audible as a low roaring or rumbling sound.

After dark incandescent rockfalls have been clearly visible on a sector of the dome extending from south of west (Chances Peak) to the northeast above Farrell's plain, confirming active dome growth remains focused to the north west.

Seismicity during the period remained relatively low, and is dominated by rockfall signals and long period earthquakes, accepted as resulting from either surface or shallow (1-2 km) activity. The seismic network recorded 348 rockfall signals, 26 long-period rockfall signals, 24 long-period earthquakes, and 2 volcano-tectonic earthquakes. The most significant event was the explosive event of 8 January. Seismic records show a low-level tremor signal emerged at

about 06:30 and onset of the main event can be placed between 06:04 and 06:05. The largest amplitude seismic signal was recorded between 06:05 and 06:10, coincident with audible explosive activity. This was followed by a second pulse of activity at around 06:15 coincident with the largest pyroclastic flow. By 06:30 seismicity had returned to background level. The main event was followed by a sequence of flows into Tyres Ghaut. These flows didn't produce significantly large amplitude seismic signatures. In the days following the January 8 episode, seismicity has remained at very low level.

The sulphur dioxide (SO₂) flux rate during the period was low, ranging from a recorded minimum of 61 tones per day (t/d) to a maximum of 285 (t/d), with an average of 159 t/d.

The alert level stands at 4.

Residents of Montserrat and visitors to the island are advised to tune into ZJB Radio 95.5 FM for up-to-date information on the volcano.

Access to all areas south of the Belham Valley [excluding Isles Bay Hill] is now suspended. The daytime entry zone, comprising the top part of St. George's Hill, is closed. Access to all areas south of Richmond Hill, and south of Jack Boy Hill to Bramble airport and beyond is prohibited at all times. The maritime exclusion zone around the southern part of the island extends 4 km off shore from Spanish Point to Roches Yard on the east side of the volcano, 2 km offshore from O'Garras to Gingoes on the south-west, and 200 m offshore from Plymouth. In view of the level of volcanic activity, a review of the extent of the maritime exclusion zone offshore around Plymouth in progress, and extreme caution should be exercised in that area.

For further explanations of the volcanic phenomena described, and information about the Soufrière Hills Volcano and the ongoing eruption, please look at the MVO website: <http://www.mvo.ms> <<http://www.mvo.ms>> .

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