



OVSM - IPGP – Friday 24th of September 2021 – 12h (local time, UTC-4h)

Weekly report on the activity of la Montagne Pelée September 17 to 24, 2021

Between September 17, 2021 4 p.m. (UTC) and September 24, 2021 4 p.m. (UTC), the OVSM recorded at least **133** volcano-tectonic earthquakes of magnitude less than or equal to 0.6. These earthquakes of low energy were located inside the volcanic edifice between 0.5 km under sea level and the surface. This superficial volcano-tectonic seismicity is associated with micro-fracturing in the volcanic edifice. Since September 22 2021, 6 long-period type earthquakes along with 4 hybrid-type earthquakes (with characteristics intermediate to those of volcano-tectonic and long-period earthquakes) have been detected. These signals are associated with the presence of fluids (gas, hydro-thermal waters) within the volcanic edifice. None of these earthquakes were felt by the population.

An area of underwater gas emission is observed at shallow depths between St Pierre and the Prêcheur. This kind of phenomena is common at submarine volcanic sites, active or not, for example in Dominica or Italy. The IPGP is currently organizing field surveys to map this area of gas emissions and sampling of these fluids in order to constrain the origin of the degassing and to evaluate its possible relationship with the hydrothermal system of Mount Pelée. This new site is monitored regularly by the OSVM who is measuring different physico-chemical parameters. The analyses underway by the OVSM IPGP will determine the possible relationship of this underwater degassing with the unrest recorded at Mount Pelée by the observatory since 2019.

A main zone of strongly degraded, browned and dead vegetation is still observed on the southwest flank of Montagne Pelée, between the upper Claire River and the Chaude River, above their confluence.

The reports of OVSM-IPGP are available at <http://www.ipgp.fr/fr/ovsm/actualites-communiqués-publics-de-lovsm>. You can also find us on our Facebook and Twitter accounts. Locations of volcano-tectonic and tectonic earthquakes determined by the OVSM-IPGP are available in real-time at <https://renass.unistra.fr/fr/zones/les-antilles/>.

The alert level remains YELLOW: vigilance.

The Director's office of OVSM IPGP.