

Minister for regional policy attends PEVOLCA Steering Committee, as attention focuses on lava near La Laguna

- **Flows are appearing to slow but are increasing in height and width**
- **Total area of island affected by lava now 845 hectares, 20.49 hectares more than previous figure**
- **415 people currently being rehoused: 56 in Los Llanos de Aridane and 359 in Fuencaliente; a further 46 are staying in community health centres.**

Spain's minister for regional affairs and government spokesperson, Isabel Rodríguez, took part in today's meeting of the Steering Committee of the Canary Islands' Volcano Emergencies Plan (PEVOLCA), which is headed by the Canarian minister for public administrations, justice and security, Julio Pérez. The meeting updated the information on the ongoing volcano eruption on the basis of the daily report from the Scientific Committee and maps of the progress of the lava. Particular attention is focusing on the direction of the flow nearest the district of La Laguna, which is being fed by large amounts of lava even if it has slowed by mid-day today.

The minister for regional affairs highlighted the work done by all services working in the emergency as well as that of the scientists and the Steering Committee, whose main goal at all times has been to guarantee the safety of the population. "That great work - she said - has ensured there have been no casualties".

Rodríguez also emphasised the unity and coordination among the various institutions and stressed that this has to continue "until normality returns once the reconstruction of La Palma is complete".

Canarian minister Julio Pérez, whose government department is responsible for the Plan, provided a timeline of actions undertaken since the Plan was implemented on

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Monday 13 September. He recalled that the first week proved decisive to enable the Steering Committee, with advice from the Scientific Committee, to anticipate the emergency, review evacuation plans, establish meeting points and shelters for persons and animals, and consider responses to ensure the continuation of essential services, as well as organise information meeting in towns likely to be affected by the eruption. All this was carried out under the auspices of the island's governing Cabildo, which was responsible for the preparatory work during the first week. When the eruption began on 19 September, responsibility passed to the Canarian government, although full cooperation has continued since.

For his part, PEVOLCA technical director Miguel Ángel Morcuende explained that recent hours have witnessed an apparent slowing of the progress of the lava flows, which is the likely cause of their increased height and width.

Morcuende added that the main danger at present is the evolution of the flow affecting La Laguna. Although it had almost slowed to a halt at mid-day today, thermal imaging indicates it may be subject to great pressure. It is being monitored carefully to determine its definitive direction of travel, the most appropriate one being to the south of La Laguna Mountain.

There are currently 415 people being accommodated temporarily in hotels. Of these, 56 are in a hotel in Los Llanos de Aridane and 359 in Fuencaliente. All are being cared for by the Red Cross in coordination with local social services. In addition, 46 dependent persons are being accommodated in community health centres.

Carmen López, head of volcano surveillance at Spain's National Geographic Institute (IGN), took part in the press Conference that followed the meeting of the Steering Committee and spoke on behalf of the Scientific Committee. She reported that seismicity is stable at intermediate depths and has fallen at deeper levels, although further earthquakes felt by the population cannot be ruled out.

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López reported that ground deformation is stable in and around the eruption zone and is displaying a deflationary trend in zones furthest way.

Although air quality is improving thanks to the higher altitude of the temperature inversion and to the changes in wind direction, the PEVOLCA technical director reiterated that FFP2 masks should still be worn by persons suffering from a health or respiratory condition. Their use by the general public is also recommended.

Infrastructure affected

A total of 845.72 hectares have now been affected by the eruption, 20.45 more than the figure reported yesterday. The maximum width between the far edges of the lava flows remains at approximately 2900 metres, although some parts within this area have not been affected.

Figures from the Land Register indicate that the number of buildings destroyed or damaged by the eruption now stands at 1280, of which 1030 are residential, 132 agricultural, 64 industrial, 30 leisure and hospitality, 11 public use and 14 used for other purposes.

A total of 258.23 hectares of farmland have been affected, of which more than 56% (144.93 hectares) are banana crops.

The Steering Committee also reviewed the situation of essential public services (electricity, phones, schools) and stated that no incidents of note have been recorded. The portable desalination plants in Puerto Naos are progressing well and they should be operational tomorrow (Saturday) if all goes well.

The Committee also discussed the work being carried out by the island's Water Board to pipe water over the lava to the Jedey area using the available fire protection network and the Las Cuevas reservoir and pumping station. Another water storage facility is to be built to enable water to be transported to the Cuatro Caminos reservoir.

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Daily Scientific Committee Report

Prior to the meeting of the Steering Committee, the Plan's Scientific Committee met - with Spain's regional affairs minister in attendance - and heard the findings of its members on the evolution of the eruption since yesterday. The Scientific Committee is coordinated by the Canary Island government's Directorate General for Safety and Emergencies and comprises representatives of Spain's National Geographical Institute (IGN), Science Research Council (CSIC), Canarian Institute of Vulcanology (Involcan), Spanish Geological and Mining Institute (IGME), National Institute of Meteorology (AEMET), National Oceanographic Institute (IEO), and the universities of La Laguna and Las Palmas de Gran Canaria.

Its conclusions were as follows:

“The fissure eruption continues to display a strombolian mechanism (a hybrid mechanism with, simultaneously, phases of explosivity that produce pyroclast deposits and effusive phases that trigger lava flows). The effusive phases predominate at present. In vulcanology, the magnitude of volcanic eruptions is measured on the Volcanic Explosivity Index (VEI) on a scale of 0 to 8; the estimated VEI of the present eruption is 2 so far.

The main lava flow is along the north flank; it is currently travelling on the northern margins of older flows in two directions (west and north-west) within the existing exclusion zone. At the exit of the vent, the flow is concentrated in a tiered lava channel, which subsequently branches into channels and volcanic tubes. The vents in the cone are still active with intermittent pyroclast ejections, although one is emitting lava only. The explosivity has diminished and the volume of lava is lower in these vents, respectively. The active fronts of the lava are moving more slowly but are now thicker.

The emergence of new vents in the vicinity of the main cone cannot be ruled out, nor can other surface observables (visible gas emissions) inside the exclusion zone.

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The morphology of the cone is changing repeatedly due to the successive growth and reconfiguration processes. The eruption process can feature episodes of higher and lower strombolian activity, together with pulses with phreatomagmatic activity.

The ash and gas column height has been measured today at 2800 m.

The prevailing winds continue to be N-NE at low and low-mid troposphere layers (up to 3000-5000 m) but are expected to veer E with increased altitude. The ash and SO₂ cloud is currently situated south-southwest of the eruption zone and is expected to move west during the early hours of tomorrow morning. Flights are unlikely to be affected today and conditions will be favourable for operations at airports in the Canary Islands as of the early hours of tomorrow. The areas near the eruption zone and those to the south and south-east will be worst affected by ash fall. The possibility that fine ash may reach El Hierro, La Gomera and western parts of Tenerife cannot be ruled out. Light rain is likely in northern and eastern areas of La Palma today, on Saturday (with rain also likely further inland and on the western side of the island) and on Sunday.

Seismicity continues to be largely concentrated close to that of early days, at depths of between 10 and 15 km. The frequency of this seismicity has increased. Earthquakes deeper than 20 km are being recorded also and these continue to be of high magnitude, even if less frequent, in recent hours. The high amplitude values of the tremor signal remain unchanged, with intensification pulses. The highest magnitude recorded is 4.4 mbLg with intensity IV EMS, from an event 38 km deep. The seismicity at intermediate and deep depths is part of the same current eruption process. No significant surface seismicity is being recorded at present. Current levels continue to suggest that more earthquakes may be felt by the population, possibly reaching intensities of VI (EMS), with minor rockfalls possible on steep slopes. Relevant information on this aspect is included in the Recommendations section below.

The land deformation pattern is stable in the vicinity of the eruption zone, with slight regional deflation of a deep origin detected in stations furthest away.

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During yesterday (21/10), sulphur dioxide (SO₂) emissions associated with the volcanic plume (visible emissions of volcanic gases) remained high, reaching 28745 tonnes per day (underestimated value). The diffuse emission of carbon dioxide (CO₂) associated with the 220 km² of the Cumbre Vieja volcanic rift (non-visible emissions of volcanic gases) has continued to fall over the last 9 days and has been estimated at 633 tonnes per day (21/10). Diffuse CO₂ emissions monitored at the Los Llanos geochemical station (LP10) show a higher magmatic-hydrothermal fraction than that observed at the Fuencaliente station (LP08). All these geochemical observations are consistent with the current eruption process.

Regarding air quality, sulphur dioxide (SO₂) values yesterday and this morning have been low - well below the hourly limit (350 µg/m³) - across all stations on the island.

Concentrations of particles of less than 10 microns (PM₁₀) were generally lower yesterday than on previous days, although they were close to the daily limit of 50 µg/m³. The El Pilar station in Santa Cruz de La Palma recorded high PM₁₀ concentrations, with a peak hourly average of 260 µg/m³ at 15:00h. The daily limit was exceeded at the El Pilar and Los Llanos stations.

OBLIGATIONS AND RECOMMENDATIONS

SEA PLUME:

- Particular attention should be paid to the wind forecast to monitor possible changes in direction by the sea plume and act accordingly, particularly in the case of persons with weakened respiratory systems (asthma sufferers, for example) as they are more vulnerable to lower concentrations.
- Eye flushing is also recommended after every exposure given that symptoms are often not felt until later.
- These plumes can be perceived up to several kilometres from the source, albeit in a more diluted form. If a plume reaches residential areas, the public are advised to stay indoors if possible and close all doors and windows.

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- For safety reasons, research vessels undertaking scientific work in the zone are recommended to keep a distance of at least 500 m in zones with active lava deltas (fed by lava and with visible manifestations) and 200 m in more stable zones. Sailing for scientific purposes related to the management of the emergency is authorised at closer distances on the responsibility of the vessel owner and captain, provided that approval has been sought from the PEVOLCA technical management and Harbourmaster.

LAVA FLOWS:

- The public are also advised not to go near the lava flows due to the risk posed by exposure to gases, possible rockfalls and the high temperatures.

- Given its thickness at certain points, break-ups of the lava front may occur and lead to the formation of large fragments of lava in steeper parts. Depending on the terrain, these may travel distances of several metres from the flow front very quickly after detachment. Small pyroclastic flows are also possible on very steep slopes.

FALLING PYROCLASTS:

- The public are reminded that an exclusion zone with a radius of 2.5 km has been established around the vents to minimise the risk of impact of pyroclasts and exposure to volcanic gases.

- If explosive activity becomes more intense, some violent detonations could break windows. People are advised to stay away from windows up to 5 km from the cone.

- In areas affected by heavy ash fall (where ground deposits are clearly seen) and particularly if haze is visible, the public are advised to stay indoors. When outdoors, the wearing of FFP2 masks and goggles is recommended.

- If ash reaches other islands, the wearing of surgical masks is recommended. Roof terraces with ash deposits of several centimetres should be cleaned. The procedure recommended by the civil protection authorities for ash removal from roofing and floors (moisten the ash, protect eyes, wear a mask, protect skin, etc, see attached document) should be followed closely. FFP2 masks and gloves should be worn when

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clearing ash, which should be moistened slightly before brushing. Blowers should not be used except for cleaning of airport premises by specialist personnel wearing appropriate PPE. Blowers increase the resuspension of the particulates most harmful to health.

For their safety, scientists working on land inside the exclusion zone are advised to stay at least 1000 m from the main emission zone. They may move closer for scientific observations related to the management of the emergency, with the approval of the PEVOLCA technical authorities.

At distances of less than 3km from the current emission zone in the southern sector and inside the exclusion zone, particular attention should be paid to any observable phenomena and exposure should be kept to a minimum.

SEISMIC MOVEMENTS

- The PEVOLCA scientific committee monitors the volcanic activity constantly.
- Take preventive measures both at work and at home: secure bookshelves and lamps, and remove large objects from furniture.

Outdoors:

If you are outdoor when an earthquake occurs, head for open spaces and stay clear of structures that might fall to the ground, as well as of areas at risk of landslides. For your own safety, please remember the following self-protection recommendations:

- Head for open spaces.
- Stay away from buildings, balconies, traffic lights, street lights, overhead cables and trees.
- Stay clear of areas at risk of landslides/rockfalls.
- Follow the recommendations issued by the authorities and keep up to date with news from official sources and the media.

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- If in a vehicle, reduce your speed and, when you can do so, switch off your engine - away from buildings and hilly areas. Turn on your hazard lights and stay in the vehicle until the earthquake ends.

Indoors:

If an earthquake occurs when you are indoors, remain calm and follow these self-protection recommendations:

- Do not go outside during the earthquake.
- Take shelter in a doorway or under a solid piece of furniture such as a table.
- Stay away from windows.
- If you need to leave your home, turn off the water, gas and electricity.
- In case of evacuation, use the stairs not the lift.
- Follow the recommendations issued by the authorities and keep up to date with information from official sources and the media.

People in La Palma are advised to wear FFP2 masks when outdoors.

Exclusion zones at sea and on land must still be observed to ensure the safety of the population. Continuous monitoring of seismic activity has been stepped up and any significant change observed will be notified.

Be on the alert for information issued by the appropriate Civil Protection authorities.”

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