

Case study - eruption in a developed country: La Palma

La Palma is one of the Canary Islands which lie in the Atlantic Ocean. The Canary Islands are an autonomous region of Spain. The Cumbre Vieja volcano on La Palma erupted from the 19th September to the 13th December 2021.

The Canary Islands have over 30 volcanoes, 10 of which lie on the island of La Palma. The volcanoes are unusual in that they are intraplate. This means that they are located above a 'hot spot' rather than along a plate boundary. Hot spots occur where columns of superheated magma, or mantle plumes, cause the Earth's crust to melt and become thinner. The Canary Island hotspot is located on the African plate, which is estimated to be moving between 2cm to 3cm per year.

A build-up of magma swelled beneath the ground a week before the first eruption. Warnings were sent out and nearly 7,000 people evacuated the affected areas. An 'earthquake swarm' of more than 20,000 earthquakes took place in the days and weeks before the eruption.



Primary impacts

- More than 7,000 people had to leave their homes
- Over 1,300 homes were destroyed by the lava flow
- Many other buildings, such as churches and schools, were damaged or destroyed.

Secondary impacts

- Hundreds of acres of farmland, including banana plantations, were destroyed
- Flights were cancelled and tourist resorts closed, which affected the local economy
- The molten rock increased the size of the island as it flowed into the ocean.

Responses

- The Spanish prime minister, Pedro Sanchez, promised to repair any damage to the island
- The government also set aside €225m euros (£192m) to help people living on the island.