

## The eruptions of Mount Etna

### Living in the shadow of Italy's volcanoes

Mount Etna first erupted some 500,000 years ago. Since then it has erupted hundreds of times. Throughout the 19<sup>th</sup> century, Mount Etna erupted 19 times - that is an average of one eruption every five years! In the 20<sup>th</sup> century Mount Etna was no less active, experiencing 15 eruptive periods, some with multiple eruptions. It has already erupted 11 times since 2000, most recently in January 2015 when there was a small ash eruption and again in March 2017.

The eruptions of Mount Etna vary considerably. Some are typically effusive fiery eruptions involving mostly lava flows and spectacular lava fountains. Others can be more explosive, with considerable ash clouds and even pyroclastic flows. The main reason why some eruptions are explosive is the presence of groundwater aquifers within the volcano as water and magma don't mix well!

#### Some notable recent eruptions

Date	Eruption details	Impacts	Responses
2010	Ash eruption from the SE crater. Series of earthquakes occurred before the eruption.	Ground cracking occurred adjacent to Ragabo mountain hut. Mareneve road, which links the town of Linguaglossa to the tourist area of Piano Provenzana, was fractured in two locations.	Disruption to tourism resulted in detours to different localities. Road maintenance to repair damage.
2002-3	Explosive flank eruption with ash clouds erupted up to 3km above the volcano. Lava fountains and a lava flow were also associated with the eruption.	Ash fell as far away as the Greek island of Cephalonia. A lava flow threatened Rifugio Sapienza. Many houses in the area were affected by structural damage.	Evacuation of the zone threatened by the lava flow. Interruption to tourist activities though many were drawn to see the spectacular eruption.
2001-2	Eruptions occurred at seven fissures on the volcano's flanks with lava flows and ash clouds reaching	Significant damage to tourist facilities. For several days the town of Nicolosi on the S flank of the	Interruption to tourist activities though many were drawn to



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	6km above the volcano.	volcano was threatened by lava flows. Some damage to the Etna Sud tourist facilities.	see the spectacular eruption.
1991-93	This flank eruption lasted an incredible 473 days. A huge volume of lava was erupted, the most for 300 years.	The town of Zafferana Etnea was threatened by the lava flows	Huge earth barriers were constructed to protect the town, the main one being over 230m long and 21m high. When this was overflowed in 1992 additional barriers were constructed closer to the town. Attempts were made to block lava tunnels using concrete blocks. Eventually a diversion channel was constructed and explosives used to divert 2/3 <sup>rd</sup> of the lava flow away from its main flow which stopped just 850m away from the town!
1983	Lava erupted for over 100 days from a fissure on the volcano's flank.	Several villages were threatened and farmland destroyed.	Barriers were used to divert lava in the Piano Vetore area. This saved the Serra la Nava pinewood area as well as the Grand Hotel of Etna, the Astrophysics Observatory and a number of housing developments.

(Source: <http://www.volcanolive.com/etna2.html> )

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### Questions

1. On a large sheet of paper draw a timeline from 1983 to the present day to show the occurrences of Mount Etna's eruptions. Include information on your timeline about the nature of the eruptions and their impacts on people. Illustrate your timeline with a selection of photos. Use the internet to discover if there have been any recent eruptions in the last few years.
2. Investigate the eruption that took place in 2017. Find out about the small explosion that occurred and the effects that it had on the BBC crew who were filming at the time. Should they have been allowed to be there?