

ETNA

Mount Etna is Europe's largest volcano. Its volume is at least 350 km³ and the base of the volcano is about 60 by 40 km. At approximately 3350 meters, it is also Europe's highest active volcano.

Etna lies in an area that is still not well understood from a geological standpoint. While some scientists relate, in a broader sense, the Etnean volcanism to subduction of the Ionian oceanic seafloor beneath the Calabrian Arc, others postulate a hot spot beneath Etna, thus explaining its high lava production and fluid (mafic) magmas. Whatever of this is true, it is evident that Etna lies in a very complex geodynamic environment hardly comparable to any other region on Earth.

GREAT MYTHOLOGY

For the ancient Greeks, the mountain housed the workshop of Hephaestus, the god of fire and metalwork, and was home to the giant one-eyed monster, Cyclops. Homer placed the cave of Polyphemus, the Cyclops who captured Odysseus and his comrades, on Etna's slopes.

Another myth said that Typhon, a 100-headed monster who was the son of earth goddess Gaia, was trapped under Mount Etna by Zeus after he tried to rebel, and he has been spitting out his angry flames ever since.

THE MORPHOLOGY OF ETNA

Contrary to common belief, Etna is not a simple shield or strato volcano. Its shape and structure are extremely asymmetric and complex, and a classification of the mountain on a morphological basis is nearly impossible. The reason for this complexity is that Etna did not grow as one single large cone, but as a succession of volcanic edifices most of which suffered partial collapse at least once during their lifetimes, and whose centers shifted from one place to another.

At the summit of the volcano stands a complex of large cones which actually host the four summit craters. This peculiar family of craters is a relatively recent feature. One hundred years ago, until 1911, there was one single large cone at the summit of Etna, that was truncated by the 500 m-diameter Central Crater. Two new craters, the Northeast and Southeast Craters, formed in 1911 and 1971, have since built their own cones which rival the old central summit cone in size and height. In recent years the Southeast Crater has been particularly active and its growing cone now forms a prominent landmark at the summit of Etna. Viewed from south and southeast it actually seems higher than the central summit cone, but this is an effect of perspective; actually the summit of the Southeast Crater cone is still about 20 m lower than the highest point of the volcano.

ERUPTIONS

Etna's history is long and complex. The oldest lavas, exposed on the lowermost flanks of the volcano, erupted 300,000 years ago. Some of these are pillow lavas, indicating Etna started as a submarine volcano and grew above sea level.

Etna has the longest record of historic eruptions. The first recorded eruption was in 1500 B.C. Since then Etna has erupted at least 190 times.

Most of these eruptions have a volcanic explosivity index of 1 or 2 and activity consists of gently effusion of lava or Strombolian explosions. Large eruptions are rare. However there are records of major eruptions, for example the eruptions in 122BC, 1169, 1669 and 1787.

One of the most dramatic eruptions of Etna was in 1669. It threatened Catania and destroyed 16 villages.

Earthquakes began on February 25 and caused great damage in Nicolosi, about 10 km South and East of Catania. The eruption began on March 11 as a 12 km fissure opened from near Nicolosi to Mt. Frumento Supino, 2 km from the summit. Several more vents formed. On April 12 flows arrived at the walls of Catania. Lava rose to the top of the wall and cascaded over. Lava also knocked over a section that was 40 m long. Large parts of the town were destroyed. Lava reached the sea on April 23. The eruption stopped on July 15.

2001 eruption

Etna's first flank eruption of the new millennium was also one of the most complex eruptive events at this volcano in the past few centuries. The eruption lasted nearly 24 days, from early 17 July to late 9 August 2001. In terms of volume this was a medium-sized eruption. Estimates give a total volume of about 30 million m³ of magma emitted. The area covered by new lavas is about 5.5 km². The eruption was certainly a dangerous one and it did cause significant damage, mostly to the cable car and ski lifts located between 1900 and 2600 m on the S flank of the volcano. Yet it was not the devastating event it appeared to be from what was said in the media. The much-publicized "serious threat" to the town of Nicolosi was essentially an invention of reporters.

ETNA AND MAN

The relationship of the inhabitants of the Etna region with the volcano is a peculiar one. In the first place, it is characterized by a strong pride for the mountain. Etna and its eruptions strongly condition their lives in both a positive and a negative sense - positive because the mountain is their home, and its volcanic nature is the reason for the extreme fertility of the area, the beauty of the landscape and the arrival of numerous tourists which provide a major source of income for the region; negative because eruptions at times disrupt the daily routine and may even destroy homes and land property.