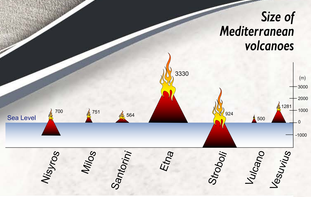
Volcanoes of Mediterranean



MAIN MEDITERRANEAN ACTIVE VOLCANOES

Mediterranean active volcanoes are located in the Southern Italy and Aegean Sea. Volcanism of Aeolian Islands (Stromboli and Vulcano islands - Italy) and Aegean Archipelago (Milos, Santorini and Nisyros - Greece) is due to the subduction of the African plate under the European one. Vesuvio, Campi Flegrei, Ischia and Etna volcanism is related to magma rising along structures of the upper crust. Volcanism in Greece initiated some million years ago, whereas in Italy just a few hundreds of thousand years.

Vesuvio (Italy)

Vesuvio is a volcanic cone 1,281 m height, with a crater about 500 meters in diameter, which s grown within the caldera of the older edifice of Mt.Somma. The Somma-Vesuvio volcanic history is characterized by long periods of rest, interrupted by violent explosive eruptions of (Plinian or Sub-Plinian type). Since the last explosive eruption of 1631, Vesuvio entered in an open-conduit phase that lasted until 1944, and actually it is in a closed conduit quiescence phase. Vesuvio is considered to be one of the highest risk volcanic areas in the world for the high level of urbanization.

Campi Flegrei (Italy)

Campi Flegrei is a volcanic filed characterised by a peculiar landscape including several volcanic landforms. The main volcanic feature is a caldera structure formed during the two main events of the Campanian Ignimbrite (40 kyr) and Neapolitan Yellow Tuff (15 kyr) eruptions.

The last eruption of Monte Nuovo (1538 AD) occurred after about 3,500 years of rest. Recently slow ground movements events, named bradiseism, occurred (1970-72 and 1982-84 unrest crises). They were accompanied by hundreds earthquakes and by 3.5 m of ground uplift, forcing the town of Pozzuoli to be evacuated.

Ischia (Italy)

Ischia is the top of a volcano which rises for more than 1,000 m from the sea floor. Volcanism at Ischia started more than 150,000 years ago and continued, alternating long periods of quiescence, till the last eruption in 1302 A.D. The dominant Mt. Epomeo is a resurgent block in the caldera formed by the violent explosive eruption occurred 55,000 years ago. Recent volcanism has been particularly intense, with over 46 effusive and explosive eruptions occurred mainly in the last 3,000 years, and a disastrous earthquake occurred in 1883, heavily damaging the town of Casamicciola.

Vulcano (Italy)

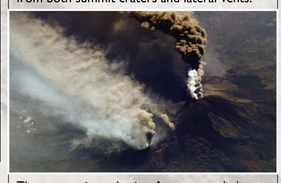
Vulcano island is the Aeolian archipelago. Its complex morphology is due to the alternation effusive and explosive eruptions. The last eruption at Volcano took place at La Fossa in 1888-90. At present the island presents widespread fumarole activity and lower seismicity. Between 1985 and 1994 seismic and intense fumarole activity together with ground deformation at La Fossa, caused alarm and the fear of a new eruption.

Santorini (Greece)

Santorini is a volcanic archipelago formed by five islands. The biggest one is Thera composed of volcanic successions cut by at least four calderas. The youngest one was generated about 3,600 years ago, during the Late-Bronze-Age Minoan eruption, responsible of a highly destructive tsunami. This famous eruption destroyed the town of Akroriri and probably effected climate at least in Europe. From 197 BC explosive and effusive intra-caldera eruptions formed two islands of Palea and Nea Kameni, in the center of the caldera. In 1650 AD a submarine explosive eruption outside the caldera built up Kolumbo volcano, whose collapse generated a tsunami which damaged Santorini's coasts and caused fatalities. Last eruption (1950 AD) was effusive, occurred at Nea Kameni.

Etna (Italy)

Etna volcano high 3,330 m, is the European largest active volcano. Etna eruptions are mainly effusive, even if some highly explosive, caldera forming eruptions occurred. During recent centuries the volcano's activity has been more or less continuous, with frequent low-energy explosive eruptions and lava effusions from both summit craters and lateral vents.



These eruptions, lasting from several days to several years, have many times damaged urban areas along the volcano slopes with ash and scoria fallout and lava flows. Of particular note is the lateral eruption of 1669, when the city of Catania was partly destroyed by a lava flow.

Stromboli (Italy)

Stromboli island in the Aeolian archipelago, rises from a depth of 1500-2000 m below sea, reaching the height of 924m. The active craters are in the upper part of the Sciara del Fuoco, a collapse structure on the volcano's north-eastern flank.

The typical Strombolian activity consisting of mild intermittent explosions ejecting bombs, lapilli and ash from an open conduit in which magma is present at shallow depth. The explosions are accompanied by continuous magma degassing. This type of activity is sometimes interrupted by lava flows and more violent explosions.

Nisyros (Greece)

Nisyros is a stratovolcano which is the emerged portion of a larger edifice formed by volcanic activity aged more than 150,000 years. The island shape is due to a plinian eruption non younger than 24,000 years which formed a 3.8 kilometres large caldera. Post-caldera activity was chara-cterized by the emplacement of lava domes inside and outside the Nisyros caldera (Lakki Plain). All explosions occurred on Nisyros during historical times were phreatic explosions, and the most recent ones occurred in 1871-1873 and 1888.

Milos (Greece)

Milos is a stratovolcano active since 3.5 million years. The most recent magma-tic events consist of two explosive phreato-magmatic eruptions that built up Trahilas (380.0000 years) and Fyriplaka (19,000 years) tuff rings. Although magmatic historic eruptions have not been registe-red, both the intensive shallow seismicity and the high heat flow indicate a possible future volcano unrest.

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