



## Vesuvius: The Waiting Game

Judith Harris (July 22, 2015)

This week the mayors of 25 townships bordering Mount Vesuvius are meeting to discuss evacuation plans for what is considered an inevitable future eruption. Scary? Yes. The “red zone” considered the most dangerous area is home to 670,000 people. In recent centuries eruptions have occurred at regular intervals. Because the last took place on March 8, 1944, experts consider a new eruption overdue.

NAPLES – No visit to Naples is complete without a visit to Mount Vesuvius. In order to gaze into the crater of what is considered Europe’s most dangerous volcano, the visitor drives relatively high up the 4,200-foot volcano, to the point where there is a car park. The climb continues on foot along a slowly rising path, accessible after payment of a modestly priced ticket. From there stunning views of the caldera open up, with occasional ominous streams of smoke spewing up from within.

Scary? Yes, and enough so that this week the mayors of 25 townships whose citizens are at serious risk from what is considered an inevitable future eruption are meeting to develop and refine the existing evacuation plan. An eruption is not if but when: speaking at a conference in Naples recently, the noted Japanese volcanologist Nakada Setsuya warned that, “Vesuvius will erupt – that is certain because it is an active volcano even if we cannot predict when.”

In recent centuries eruptions have occurred at fairly regular intervals: six times in the 1700s, eight times in the 1900s, and again in 1906, 1929 and the last on March 8, 1944, in full wartime; because Allied planes returning to ships dumped leftover bombs into the crater, the Allies were initially blamed for causing the eruption. At one point, as pyroclastic material flows down the street of one of the three Vesuvian towns afflicted, citizens rushed away carrying mattresses, but also statues of protective saints. (A fascinating, extraordinarily dramatic film showing U.S. military footage of the 1944 eruption can be seen at: [line-height:150%>https://www.youtube.com/watch?v=1bsmv6PyKs0](https://www.youtube.com/watch?v=1bsmv6PyKs0) [1].)

By one geologist’s account, the 2-square-mile sea of lava underlying Vesuvius has become shallower than in the past, reducing the pressure behind an eruption, and this just might explain the long gap since 1944. Nevertheless most experts here consider a new eruption overdue, and predict that it may also affect the Campi Flegrei north of Naples.

Most famous for the eruption of 79 AD, which destroyed Pompeii and its neighboring ancient cities like Herculaneum, Vesuvius remains a ticking time bomb and indeed the world’s most dangerous volcano simply because a million or so people today live on or near the slopes.

Why do so many people live where there is such danger? The answer is simple. Agriculture is



fostered by the mineral-rich volcanic soil, producing wonderful grapes for wine, olive oil, and wheat crops; and the Bay of Naples, into which the volcano bulges, has one of Italy's finest ports, these days crammed with acres of piled-up containers from, among other places, China. Not surprisingly, the U.S. has had a naval base there since the early postwar days. Agriculture, commerce, shipping: this has been the story of the Bay of Naples since at least the Bronze Age. Pompeii itself was a rich business city, a port at the point where a river bringing goods from the farms inland met the sea.

Why today's inhabitants ignore the risk with such fatalism is another question. As one man who lives at Ercolano complained during the RAI 1 radio broadcast Tuesday, "We know nothing about all this!" In fact, the present evacuation plan is much criticized; this week will bring its fifth revision. Although experts warn that volcanoes do not give much advance warning, the evacuation plan includes plans for those in the "zona rossa" (red zone) to receive hospitality in distant cities for up to several months. "We are twinning with other towns in Italy and have a plan for national solidarity," said Italo Giulivo, geologist speaking for the regional Civil Protection Agency on Rai 1 Tuesday. "Our strategy in the pre-alarm phase is first to evacuate those in hospitals and in prisons."

Authorities acknowledge that there are two crucial problems, beginning with communication: how to give citizens instructions. Also, once the cell phones spread the news, panic is also inevitable, and how is the city to avoid a total traffic meltdown, as occurred in a trial evacuation a few years back? Another problem, says Giulivo, are false alarms. "The volcano gives alarms, but also false alarms, such as when we see an increase in seismic activity, or land movements." Nothing happens, but there is widespread panic.

The website [www.livescience.com](http://www.livescience.com) [2] explains that Vesuvius is a "complex stratovolcano." These are the most dangerous of all because their typically explosive eruptions involve ash and rocks, as well as lava flows. Civil protection authorities have divided the volcano into three areas, red being the most dangerous, and home to 670,000 people, according to Giuseppe De Natale, who is director of the National Observatory for Geophysics and Volcanology, the oldest volcano observatory in the world.

Technically Vesuvius is called Somma-Vesuvius because the Vesuvius which destroyed Pompeii was a mountain that grew up within the broader crater of a mountain called Somma (the word refers to a caldera in which a new cone has been formed—that is, a volcano within a volcano). A fresco painting in the National Archaeological Museum at Naples shows Vesuvius before the eruption of 79 AD as a single cone, generously covered with vineyards.

The double-trouble volcano of Somma-Vesuvius falls within what is called the "Campanian volcanic arc," sitting atop a tectonic boundary, where the deeply underground African plate is essentially sliding underneath the Eurasian plate. Because a tear in the African plate has developed, heat from the center of the earth escapes, melting rock and building up pressure. Not surprisingly, devastating earthquakes occur frequently; one took place near Naples in 1999.

Meantime, keeping watch over the volcano is the Vesuvius Observatory, first created in 1841 under the Bourbon King Federico II. Today it monitors the volcano's activity, but it is also a museum with a fascinating archive of volcanic history, the Historical Catalogue of Vesuvian Eruptions from 1631 to 1944.



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[1] <https://www.youtube.com/watch?v=1bsmv6PyKs0>

[2] <http://www.livescience.com>