

Archaeological Areas of Pompeii and Herculaneum

Engineering geological conditions and problems:

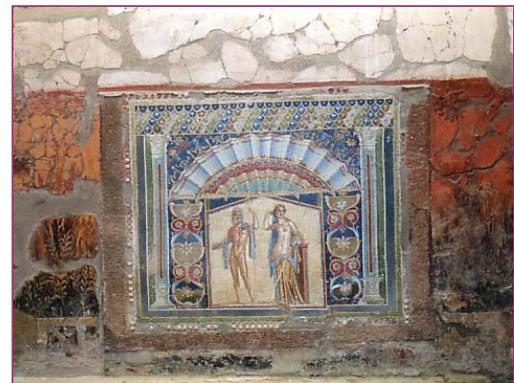
In 79 A.D. a great eruption of the Vesuvius buried Pompeii and Herculaneum and caused the death by asphyxia of thousands of people. The event has been carefully reconstructed starting from the description reported in two famous letters that Pliny the Young wrote to Tacito. Pliny the Young describes what reported to him about the death of his uncle, Pliny the Elder near the eruption sites. The description was so accurate to be recognized as the first vulcanological document of the history.

The most significant Vesuvius' eruptions of the last centuries happened in 1694, 1794 and 1906. The last one occurred in March 1944, with slow emission of lava.

All the archaeological areas of Pompeii and Herculaneum are in a seismic zone. The class of seismicity is considered medium, according to the Italian classification.



The Vesuvius
(www.foto.portanapoli.com/vulcani.html)



Mosaic in an Ercolano's house (www.ac-amiens.fr)

Investigations already realized:

All the studies recently realized are concerning the description of pyroclastic soil, aimed to assess grain size and geotechnical properties of the soils. The investigations were realized both in Pompeii and Herculaneum. It has been studied also the old coast line in the area of Herculaneum in Romans' times.

Other studies concern building structure, especially in the Pompeii area.



A Roman temple in Pompeii
(www.pompeiiisites.org)

References on studies already done:

DI COCCO I., FRANCESCHELLI C. e GIORGI E. (2002) "Rilievo tradizionale e moderne metodologie. Il caso dell' *Insula* del centenario a Pompei". Atti della 6^a conferenza nazionale ASITA, vol II, pag. 1043-1047.

PAGANO M., PESCATORE T. e RIPPA F. (1996) "The coast in the area of Herculaneum excavations at the time of the Romans". Proc. Intern. Symp. "Geotech. Eng. For the preservation of Monuments and historic sites" Naples 3-4 October 1996, pag. 759-766.

RIPPA F. (1997) "A description of pyroclastic soils that buried Pompeii and Herculaneum in A.D. 79". Geotechnical Engin. for the preservation of Monuments and historical site, pag. 261-270.