Aeolian Islands

Engineering geological conditions and problems:

The Aeolian Islands provide an outstanding record of volcanic island building and destruction and of ongoing volcanic phenomena. Object of studies since at least the 18th century, volcanic phenomena occurred in the islands gave the name to two types of eruption (Vulcanian and Strombolian) and so have featured prominently in the education of all geoscientists for over 200 years. The site still continues to enrich the field of vulcanological studies. On 28 December 2002, the Stromboli volcano started its first effusive eruption since 17 years. Two days later, two landslides up to 5 million cubic meters in volume descended from *Sciara del Fuoco* into the sea, triggering a tsunami which damaged ten houses close to the Stromboli village beaches.

Stromboli. Eruption in 1996
(http://www.educeth.ch/stromboli)

Stromboli. Eruption in 2002
(http://www.educeth.ch/stromboli)

Investigations and protection measures already realized:

The Italian National Institute of Geophysics and Volcanology studies and monitors the activity of all volcanos, especially Stromboli.

The Italian Civil Protection installed on Stromboli a monitoring system for the control both seismic activity and landslides. For monitoring the possible eruption the installed systems are:

- Seismic;
- Seismic and acoustic;
- Geochemical;
- Magnetic and gravimetric;
- Instruments for soil deformations;
- Thermal camera;
- Rock collection for petrographic examination.

For the monitoring the mass movements the installed systems are:

- Radar interferometer;
- Two wavemeters.

Panarea *(http://www.vulcanoconsult.it)*

Supplementary information:

The Aoeolian Island were inserted in the UNESCO Worl Heritage List in 2000 because the islands' volcanic landforms represent classic features in the continuing study of volcanology world-wide.

References on studies already done:

BARBERI F., INNOCENTI F., FERRARA G., KELLER J. e VILLARI L. (1994) "Evolution of Aeolian Arc Volcanism" Earth Placet. Sci. Lett., 21, 269-276.

BARBERI F., MACEDONIO G., PARESCHI M.T., SANTACROCE R. (1989) "Pericolosità e rischio vulcanico: stato dell'arte e prospettive" G.N.V.- C.N.R. Boll. 1989, 631-647.

ITALIAN CIVIL PROTECTION WEB SITE: http://www.protezionecivile.it/index.php (visited on August 29, 2003)