

***Porto Venere, Cinque Terre and the Islands (Palmaria, Tino and Tinetto)***

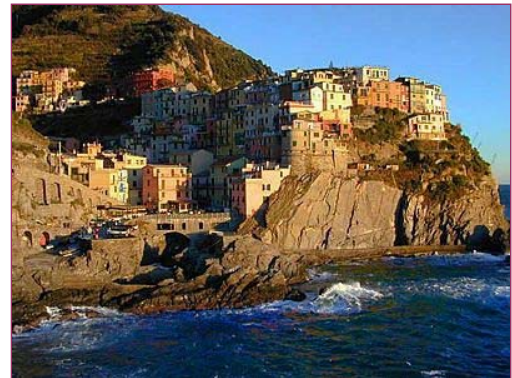
**Historical background - Engineering geological conditions and problems:**

The Ligurian coast between *Cinque Terre* and Porto Venere is a landscape of high scenic and cultural value. The form and the disposition of villages and the surrounding landscape, overcoming the disadvantages of a steep and broken terrain, encapsulate the continuous history of human settlement in this region over the past millennium.

Since all the Cinque Terre hamlets are built on promontories overlooking the sea, the main geological problems concern coastal dynamics and landslides.

The action of the sea on the rock cliffs (sandstones, limestones and slates) together with structural discontinuities and position of the substratum provoke the disintegration of brittle rocks.

Landslides are a consequence of both cliff undercutting by wave action (especially falls and overtoppings) and terrace cultivation (mainly slides). In this last case, mass movements occur as a consequence of lands neglect.



**Manarola** ([www.baranin.com](http://www.baranin.com))



**Porto Venere and the islands of Palmaria, Tino and Tinetto** ([www.portovenere.it](http://www.portovenere.it))

**Investigations and protection measures already realized:**

The ENEA Group realized investigations on coastal dynamics in the Porto Venere area including:

- Historical information;
- Geological and structural aspects of the area;
- Type of upheaval;
- Predisposing and triggering factors;
- Analysis of rock stability;
- Strategy of phenomena mitigation with low impact.



**The sunset on the gulf of Cinque Terre** ([www.baranin.com](http://www.baranin.com))

**Supplementary information:**

The Committee decided to inscribe this site because the eastern Ligurian Riviera between Cinque Terre and Portovenere is a cultural site of outstanding value, representing the harmonious interaction between people and nature to produce a landscape of exceptional scenic quality that illustrates a traditional way of life that has existed for a thousand years and continues to play an important socio-economic role in the life of the community.

**References on studies already done:**

CONSORZIO CIVITA – ROMA, ENEA (2002) “Linee guida per la salvaguardia dei Beni culturali dai rischi naturali” Progetto MURST.