

Coupling terrestrial and marine datasets for coastal hazard assessment and risk reduction in changing environments - A EUR-OPA Major Hazards Agreement Project

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The European and Mediterranean Major Hazards Agreement (EUR-OPA) of the Council of Europe is a platform for cooperation between European and Southern Mediterranean countries in relation to na-tech risks. The main objectives are to provide closer cooperation among member states in order to ensure better prevention and protection in case of disasters and to develop new methodologies and tools for risk management.

This contribution outlines the aims and perspectives of a research project funded within this framework. The project, managed by the Euro-Mediterranean Centre on Insular Coastal Dynamics (ICoD) in collaboration with the European Centre on Geomorphological Hazards (CERG), is aiming at linking and integrating terrestrial and marine datasets along the coastlines of Malta and Lower Normandy (France). The investigations carried out so far have contributed to the reconstruction of coastal geomorphological evolution and to a better definition of the kinematics of active landslides that determine risk situations.

The study areas show different morphoclimatic and tectonic setting, but have both been subject to significant changes in sea level since the LGM, when the sea level was some 120-130 metres lower than present. Previous research carried out in the frame of the CERG 2009-11 Project "Coastline at risk: methods for multihazard assessment" has shown that several landslides along the coastlines of Normandy and Malta are likely to extend well below the sea level and therefore coupling subaerial and submarine datasets is likely to provideuseful information for their hazard assesement.

The Project is expected to deliver an original contribution and new directives for risk reduction in coastal areas taking into account historical and possible future climate changes by means of the application of a multidisciplinary approach aiming at the recognition of landforms which are presently under the sea level, but which were emerged in very recent geological periods