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Drawing together approaches and experiences in the Italian coastal research: the new challenges of RITMARE Project

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The increasing awareness of the potential threats acting on the coastal regions, combined with the intense anthropic pressure and the broad variety of socio-economic drivers acting on these systems, bestowed progressively stronger emphasis to the development of sound planning and management policies.
The assessment and the formulation of plans for the response to coastal morphological vulnerability is a multidisciplinary challenge, in which different typology of information, approaches and scales need to be integrated and framed within a consistent dynamical description.
To this aim, within the RITMARE National Flagship Project, a specific research line on “Coastal Vulnerability to Erosion and Relative Sea level rise in climate change scenarios” was activated with reference to the Adriatic-Ionian region (Eastern Mediterranean Sea). The activities, supported by the Italian Ministry of University and Research 2016-18, move along three interconnected branches, namely:
1) Assessment of vulnerability to relative sea level rise in the Adriatic-Ionian region, in present conditions and in different climate change scenarios;
2) Development of high-resolution oceanographic modelling tools for the description of meteo-marine climate and sediment transport at different scales and rapid response intervention protocols for the evaluation of the impact of erosive events on sandy sediments;
3) Identification of possible geomorphological setting scenarios and definition of intervention strategies, with special care to the exploitment of marine sand as a strategic resource.
The work provides an overview of the strategy underlying the Research Line and present preliminary results and main achievements. Next steps will be aiming to pave the way towards a road map for an integrated observational and modelling approach for monitoring and managing the erosion and marine ingression risk throughout Italian coasts, striving to bridge the cultural and methodological gaps between the scientific and administrative sectors active in the coastal management field.