



Earth observation facilities for supporting the coastal management

Coastal zones represent the centre of very complex natural processes on which interactions between land, sea and atmosphere occur. Moreover, coastal zones are the most densely populated areas and therefore are heavily sensitive to the human activities.

The complex components and processes that take place in the coastal areas require the definition of a system for environmental protection and risk management. An operative system needs to be designed taking into account the following four action phases to:

- increase territory and process understanding;
- offer an useful environmental control;
- support actions for an effective prevision;
- provide a rapid and operative support during extreme events and disasters.

In the last years, remote sensing has provided products with a thematic accuracy and useful spatial and temporal resolutions in order to meet the user requirements in the coastal zone. Research activities outline the improvements in the methodologies for providing valuable products for coastal applications such as coastal erosion assessment, water pollution detection, fluvial plumes characterization, etc. At present, research activities are based on an integrated approach considering available space segment, in situ data and models outputs.

We present the most relevant activities related to the use of remote sensing data for developing new applications which can better contribute and support the integrated coastal areas management and the risk monitoring.

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