



An Overview of the European Space Agency Storm Surge Project

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Storm surges associated with strong low pressure tropical and extra-tropical weather systems often cause significant loss of life and damage to property with large economic costs. In areas where there is a significant tidal range, storm surges are particularly damaging when they occur at the time of a high tide because extreme water levels can be reached causing significant flooding. For example, cyclone Xynthia during 26–28 February 2010 caused a powerful storm surge topped by waves up to 7.5 m high killing over 50 people in France. Coastal inundation forecasting and warning systems depend on the crosscutting cooperation of different scientific disciplines and user communities. An integrated approach to storm surge, wave, sea-level and flood forecasting offers an optimal strategy for building improved operational forecasts and warnings capability for coastal inundation.

The ESA Storm Surge Project aims to increase global user uptake of advanced information products from ESA's Earth Observation missions by developing, demonstrating and validating innovative techniques for improving storm surge applications including modelling, forecasting and hind-casting, development of effect-oriented products and user driven tools covering both tropical and extra-tropical storm surge events. The project supports the Intergovernmental Oceanographic Commission (IOC) of UNESCO project on "Enhancing regional capabilities for Coastal Hazards Forecasting and Data Portal Systems", and the World Meteorological Organization (WMO) implementation of a comprehensive Storm Surge Watch Schemes (SSWS). The ESA Storm Surge project addresses user requirements discussed at a dedicated User Consultation Meeting held in Venice in September 2009 and many users have signed letters of commitment to the project. New users are welcome to submit their requirements and join the project user community. This presentation provides a review of the ESA Storm Surge Project requirements status and outlook.