# New satellite based e-services to serve the marine and coastal community

G.H.F.M. Hesselmans, C.J. Calkoen, and G.J. Wensink

ARGOSS, Advisory and Research Group on Geo Observation Systems and Services
PO Box 61, 8325 ZH Vollenhove, the Netherlands

E-mail: info@argoss.nl

Detailed information on wind, waves, currents and sea level is important for the analysis of ocean colour data and to support practical applications of these observations in for instance environmental assessment studies or for the planning of dredging activities.

Over the last few years new algorithms have been developed to assess information wind and waves out of multi sensor (wind scatterometer, SAR and Altimeter) satellite observations. Currently, at www.waveclimate.com satellite based wind (vector) and two-dimensional wave data are made available at a global scale. These data are all quality checked and through a web interface easily accessible and cover more than 17 years of observations. Interactively and user friendly, users can select a geographical area and can process the selected data online to generate value added products such as scatter diagrams and extreme conditions.

To provide information on tidal sea level and currents a service has been developed through www.tidal-info.com where a user can get worldwide sea level and currents, at an effective spatial resolution of around eight kilometres. The data are based on the integration of eight years satellite altimeter observations with approximately 7300 measurements of tidal stations
Users can interactively specify a location of interest, for which statistical tidal information or time series can be generated. Time series, for water level, flow velocity or flow direction, are computed at a ten-minute interval, starting from a user specified time/date, and cover a full tidal cycle of four weeks. Statistical information comprises histograms (water level and flow velocity) and scatter diagrams (e.g. flow velocity versus flow direction). All generated information can be viewed on screen and downloaded for further processing.

At the conference the scientific background of e-services will be presented and the practical use demonstrated. Examples will be given using wind data and how this information can be combined with ocean colour data to support offshore companies and coastal authorities.