

Deliverable 6.3 Report on each workshop/event

Project title: WaterS

Funding Scheme: IAPP

Event name: Workshop "New tools & algorithms for coastal monitoring & planning"

Event No 7: (WP6, M3.2 and D6.3) Workshop on algorithms bottom vegetation mapping

Due Date according to Annex 1: M21 (February 2012)

Actual Delivery Date: 13.02.2012

Responsible partner and person: BG (Petra Philipson)

Participants and names: **WaterS:** BG: Petra Philipson, BG: Kerstin Stelzer **External collaborators:** Swedish Defence Research Agency (FOI): Michael Tulldahl, Tomas Chevalier, Heléne Hultgren, Hans-Åke Olsson, University of Tartu (UT): Tiit Kutser, Jonne Kotta, Ele Vahtmäe, Kristjan Herkül, Karolin Teeveer, Georg Martin **End user organisations:** Swedish Environmental Protection Agency: Cecilia Lindblad, Estonian Ministry of Environment: Silver Vahtra.

Event description

- a) Research programme contribution (WP3, T3.2, M3.2)

The objective of work package 3 is to summarize available information about atmospheric, coastal and bottom effects, which are specific for inland and near-coastal waters and to test and analyse correction methods. Task 3.2 concerns studies on methods for mapping bottom and coastal vegetation by their specific optical signature. Know-how on available remote sensing and other optical algorithms and methods, and thereby increase the reliability of the information about underwater vegetation, seafloor and water characteristics. Classification of shallow sea beds and analysis of spectral signatures of different benthic habitat was the focus of work for Katarina Eriksson (ESR1), BG, during her secondment to Tartu Observatory. In addition, BG is a partner in HISPARES - "*Spatial planning in archipelago waters by high spatial resolution remote sensing*". HISPARES is funded through the INTERREG IV A Programme, 2010-2012. A decision was therefore made to arrange a common workshop between WaterS and HISPARES and to also invite representatives from the potential end user community, such as local, regional and national monitoring authorities. A workshop called: "New tools & algorithms for coastal monitoring & planning" was arranged according to the WaterS schedule. Overview of results and possibilities for monitoring and planning of archipelagic waters based on satellite, LIDAR and airborne techniques were presented, with contributions from WaterS, HISPARES and other related work. The workshop program is included below.

Workshop PROGRAM

1230 - 1400 3 presentations 30 min each (incl disc)

- Modelling the spatial distribution of different ecosystem elements within the frame of HISPARES - Spatial planning in archipelago waters by high spatial resolution remote sensing (Jonne Kotta, UT)
- Benthic habitat classification results and forthcoming challenges (Ele Vahtmäe, UT)
- Classification using remote sensing data (Tomas Chevalier, FOI)

1400 - 1430 Coffee break

1430 - 1600 3 presentations 30 min each (incl disc)

- Relating remotely sensed heterogeneity to benthic diversity (Kristjan Herkül, UT)
- Seabed classification and depth estimation based on QB & WV-2 (Petra Philipson, BG)
- Overview of EMMA - Environmental Mapping and Monitoring with Airborne laser and digital images (Michael Tulldahl, FOI)

1600 - 1615 Short break

1615 - 1730 Open discussion and/or continuation of presentations.

- Atmospheric corrections
- Water and depth corrections
- Modelling
- Classification methods and use of field data

b) Knowledge transfer programme contribution (WP6, T6.1 WP/task/deliverable)

As defined in WP6 and contributing to T6.1, a workshop regarding algorithms bottom vegetation mapping was arranged and WaterS, as well as, related on-going projects were invited for presentations and discussions. Knowledge and information on achievements and results of the work done were presented, and general discussion on possibilities with respect to available data (e.g. spectral and spatial resolution) and natural prerequisites (e.g. transparency of the water, abundance and purity of species and morphological aspects of the monitored area) was of major interest. It can be concluded that high resolution data is required and that the limited transparency of water will, in many areas, severely limit the possibility to monitor shallow seabeds based on this technique.