

To: Members of De Kring
From: Water board Hoogheemraadschap Hollands Noorderkwartier (HHNK)
Subject: Template research proposal
Date: January 2014

Introduction

During the workshops in a 2-day meeting of coastal defences managers from UK, Germany, Denmark, Poland, Sweden and the Netherlands in October 2014, similarities and differences in coastal management approaches were discussed.

All coastal zones are shaped by a multitude of physical forces (waves, tide, wind, rain) that interact with processes influencing robustness, stability or integrity of coastal lines. While in some regions erosion is major issue, in other the effectiveness of sand nourishment is carefully evaluated. Extreme events during spring tide and storms prove a major shaping factor of the coastal system and climate change causes long term effects.

Coastal managers have in common the responsibility for managing and securing safety of coastlines and coastal defences around the North sea and East sea. Coastal managers are challenged to become more 'in control' by involved citizens and perform their tasks in a most efficient manner. This requires a better understanding of the coastal system and processes at work and more real-time insight in the current situation.

Application of ICT and sensing technology proves to be useful in many industrial sectors with similar aims for better control and efficiency. In coastal management sensing platforms using satellites, airplanes, drones or hand-held devices are currently not applied in full extent.

It is the scope of this project to define and execute pilots that contributed to better understanding of the coastal system through application of mobile monitoring technology and allowing accelerated knowledge exchange on a pan-European level.

Research location

- Give a short description and map overview of the coastal research location.
- What are location-specific issues and conditions.
- What is the information need.
- Motivate why this location is chosen with respect to previous points

Research question

- Give a description of the problem
- Describe the research question(s)
 - Mention key elements which are to be investigated
 - Does the research question include elements of added value or optimization?
 - Is the focus on enhancing monitoring, dike assessment, daily management, or a combination of those domains specified?

Research approach

- Describe the research approach. Eventually subdivide into steps;
- Describe:
 - How will the research question be answered?
 - Which elements must be monitored?
 - Specify the requirements of the information product foreseen?
 - How will the selection of technologies take place?
 - Express the foreseen added value of the selected technologies?
 - Is there certain information available to calibrate/validate the remote sensing measurements?

Future prospect

- Describe the future prospect of integrating the results of the pilot to optimize coastal management using asset management and/or monitoring/inspection?
- How can the pilot results be up-scaled region wide or for the long-term.