

Laser Bathymetry

1. Three year project on Laser Bathymetry

Although former tests of the use of laser bathymetry several years ago haven't led to sufficient results, the technological developments like full waveform analysis, higher resolution and single colour laser lead to the decision for Germany to accomplish an in-depth investigation of the usability of this surveying technique in the western Baltic.

The project started in 2012 and will end in 2014. The project is a cooperation of the BSH with the Leibnitz University in Hannover as a contractor.

2. The goals of the project

The main goals are

- To derive clear and detailed figures of the quality depending on a.o.:
 - o visibility
 - o topography
 - o sea floor conditions
 - o time of year
 - o weather conditions
 - o influence of operating altitude
- To what extend objects can be detected
- What are the maximum and minimum depth
- Whether a coastline can be derived
- To do a market survey
- How expensive is such a survey

Finally, to identify the areas in which that technology can be used economically, especially in cooperation with other agencies.

3. The current status

A test site has been decided on. A first flight took place in November 2012, where the system Riegl VQ-820G was used. Two more flights are scheduled for September 2013 and spring 2014 with probably different sub-contractors and a variety of systems.

4. Preliminary results

The current findings are premature and can only give some hints.

The Secchi depths measured in that area were 5-6 meters. A good resolution has been obtained down to this depth (5 points/m²), much less points from 5 to 10 meters.

Costs: depending much on the shape and size of the area, flight altitude and availability, in our case: roughly 300 to 350 €/km².

It is a too early stage of the project to derive accuracy information from the data; it seems to be very difficult to detect objects on the sea floor.

Anyway, for the investigated Western Baltic Laser bathymetry can only be a supplement to the ship based hydrographic surveys in very shallow areas, where vessel operations are especially difficult.

The Commission is invited to

- take note of the report;
-