


<b>Infrastructure (short name)</b>	Coastal Observation System for Northern and Arctic Seas (COSYNA)	
<b>Installation (short name)</b>	Mobile Platforms - gliders (COSYNA_3 GLIDER)	
<b>Location</b>	North Sea	
<b>Legal name of organization</b>	Helmholtz-Zentrum Geesthacht, Institute of Coastal Research	
<b>Location of organization</b>	Geesthacht, Germany	
<b>Contact</b>	Lucas Merckelbach, lucas.merckelbach@hzg.de Institute of Coastal Research/Operational Systems Helmholtz-Zentrum Geesthacht Max Planck Str. 1, D-21502 Geesthacht, Germany Phone: +49 (0) 4152 87 1515 Fax: +49 (0) 4152 87 1525	
<b>Web site address</b>	<a href="http://www.hzg.de/institute/coastal_research/cosyna/011312/index_0011312.html">http://www.hzg.de/institute/coastal_research/cosyna/011312/index_0011312.html</a>	

<b>Description</b>
<p>COSYNA (Coastal Observation System for Northern and Arctic Seas) is an operational coastal monitoring, forecasting and information system for the North Sea. It is being developed by institutes of the German Marine Research Consortium (KDM) and collaborating institutions and is operated by the HZG Research Centre. The infrastructure represents an investment of 9 M €. It is build up in two phases over 6 years:</p> <p>COSYNA GLIDER is based on 2 Slocum gliders rated at 100 m water depth. The first glider was ready for deployment by the start of 2011, where as the second glider was delivered by March 2011. Since conditions in the German Bight, as opposed to normal oceanic conditions, pose additional challenges such as strong tidal currents, high shipping intensity and large density differences, three one-month deployments were aimed at assessing the practical feasibility of flying gliders and its constraints. At the time of writing the third mission is underway, however, the preliminary conclusion is that using gliders is feasible, provided that the region of operation excludes coastal waters of 10m and less, and (the crossing of) main shipping lanes. Following the completion the third glider mission, the experience gained will be evaluated and a schedule for 2012 will be formulated.</p>
<b>Service offered</b>
<p>HZG will give access to two gliders. The access will consist in planning and performing assisted glider missions on user demand.</p> <p>The support team consists of technicians and scientists who prepare the instrumentation, deploy the gliders and pre-process the data.</p> <p>It is noted that deployments of gliders in the German Bight require written permission from the responsible shipping authorities (WSA Tönning). Whether permission is granted or not is beyond the control of HZG, however, HZG can assist with or take care of the application process.</p>

The table below lists the instruments available per glider. Glider Sebastian is labelled (1), and glider Amadeus is labelled (2). The depth rating of the gliders is 100m. For North Sea conditions however, it means the whole water column can be sampled. Sample frequencies given are typical, but are user configurable (1Hz is maximum).

<b>Instrument</b>	<b>Measured Parameter(s)</b>	<b>Elevation/Depth</b>	<b>Sampling frequency</b>	<b>Frequency of data recovery</b>
<b>CTD (1&amp;2)</b>	<b>Conductivity, temperature, pressure</b>	<b>Full-depth range</b>	<b>0.5 Hz</b>	
<b>Optical backscatter (1)</b>	<b>Backscatter at 470, 532 and 660 nm</b>	<b>Full-depth range</b>	<b>Typical 0.125 Hz</b>	
<b>BBFLCD (1)</b>	<b>Optical backscatter (532 nm), Fluorescence and Coloured dissolved organic matter</b>	<b>Full-depth range</b>	<b>Typical 0.125 Hz</b>	
<b>FLNTU (2)</b>	<b>Fluorescence and turbidity</b>	<b>Full-depth range</b>	<b>Typical 0.125 Hz</b>	

### **Special owner rules**

HZG requires a proposal to be submitted for each requested glider operation. The proposal will be evaluated internally. The main criteria are availability of resources for requested period, feasibility and risk assessment.