


Infrastructure (short name)	Coastal Observation System for Northern and Arctic Seas (COSYNA)	
Installation (short name)	Fixed Stations - Piles (COSYNA_2 PILE)	
Location	North Sea	
Coordinates	53° 30.994' N 8° 11.293' E, 54° 47.65' N 8° 27.083' E	
Bottom depth	5 m	
Legal name of organization	HZG Research Centre	
Location of organization	Geesthacht, Germany	
Contact	Götz Flöser, goetz.floeser@hzg.de Institute of Coastal Research/Operational Systems Helmholtz-Zentrum Geesthacht Max Planck Str. 1, D-21502 Geesthacht, Germany Phone: +49 (0) 4152 87 2345 Fax: +49 (0) 4152 87 1525	
Web site address	http://www.cosyna.de and http://www.coastlab.org/	

Description
<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 built up in two phases over 6 years:</p> <p>COSYNA PILE is based on two shallow-water Wadden Sea piles. The piles are equipped with hydrographical and meteorological sensors and deliver the datasets every 10 minutes via mobile phone connection to the HZG database. The maintenance interval varies with the season: in autumn / winter, maintenance can be done once in three weeks, in spring / summer it is required to be done every five days. The piles can not resist sea ice, thus they must be removed during winter months December – February.</p>
Service offered
<p>HZG will give access to three wadden sea piles. The access will consist in hosting visitors for experiments and for installation of users' equipment on piles.</p> <p>The support team consists of technicians and scientists who prepare the instrumentation and take care of its installation and un-installation on the piles.</p>

Instruments/Sensors				
Instrument	Measured Parameter(s)	Elevation/Depth	Sampling frequency	Frequency of data recovery
Hydrographical sensors:				
ADCP	Current velocity, direction and backscatter intensity	1 m water depth	10 minutes	10 minutes
Optical backscatter sensor	Backscatter intensity, proxy for suspended matter concentration	1 m water depth	10 minutes	10 minutes
Temperature sensor	Water temperature	1 m water depth	10 minutes	10 minutes
Acoustic Doppler velocimeter	Current velocity, direction and backscatter intensity	1 m water depth	10 minutes	10 minutes
Optode	Oxygen saturation	1 m water depth	10 minutes	10 minutes
Conductometer	Electrical conductivity	1 m water depth	10 minutes	10 minutes
Fluorometer	Chlorophyll fluorescence	1 m water depth	10 minutes	10 minutes
PAR sensor	Photosynthetically active radiation	1 m water depth	10 minutes	10 minutes
Pressure sensor	Water pressure, proxy for water depth	1 m water depth	10 minutes	10 minutes
Meteorological sensors:				
Temperature sensor	Air temperature	5 m height	10 minutes	10 minutes
Anemometer	Wind speed and direction	5 m height	10 minutes	10 minutes
Pressure sensor	Air pressure	5 m height	10 minutes	10 minutes
Pyranometer	Solar radiation power	5 m height	10 minutes	10 minutes
Precipitation sensor	Precipitation	5 m height	10 minutes	10 minutes
Hygrometer	Relative humidity	5 m height	10 minutes	10 minutes
Additional services/data				
Other activities within the observatory COSYNA are linked to the FerryBox and glider activities.				
Special owner rules				
None				