

**NW Shelf Operational Oceanographic System NOOS  
Annual Summary 2005**

This document collates the one-page summary contributions from the NOOS partners to the Annual Meeting 2005, with overview of the partner's activities in operational oceanography and their particular engagement with NOOS activities and projects, including future plans.

This (December 2005) is the first NOOS annual meeting for which such a summary has been requested, and this document is not a complete record, since contribution of the annual summary is voluntary.

More information on NOOS can be found from [www.noos.cc](http://www.noos.cc)

Martin Holt  
Chair, NOOS steering group  
13 January 2006

## NOOS annual report 2005 BSH report

<b>Country</b>	Germany
<b>Institution</b>	BSH (Federal Maritime and Hydrographic Agency)
<b>Observations Status and new initiatives</b>	<ul style="list-style-type: none"> <li>• MARNET :</li> <li>• 9 Stations in North and Baltic Sea (4/5)</li> <li>• observation of temperature (1,3,6,10,15,20,25,30,35m depth)</li> <li>• observation of salinity (6,30m depth)</li> <li>• observation of oxygen (6,30m depth)</li> <li>• observation of nutrients on 3 stations in 6m depth</li> <li>• observation of currents at 3 stations</li> <li>• observation of sea state at 5 stations</li> <li>• observation of meteorology parameters</li> </ul>
<b>Modelling Status and new initiatives</b>	<p>operational:</p> <ul style="list-style-type: none"> <li>• baroclinic 3dim. circulation model (BSHcmod) using 3 nested grids (24 n.m., 6 n.m., 1 n.m.), 3 day forecasts</li> <li>• barotropic 2dim. storm surge model (BSHsmod) using 2 nested grids (24 n.m., 6 n.m.), 3 1/2 day forecasts</li> <li>• Eulerian and Lagrangian dispersion models (BSHdmod) for different substances</li> </ul> <p>pre-operational:</p> <ul style="list-style-type: none"> <li>• Eulerian SPM transport model (BSHdmod.E)</li> </ul> <p>under development:</p> <ul style="list-style-type: none"> <li>• new version of BSHcmod using 3 nested grids (12 n.m., 3 n.m., 0.5 n.m.) + new vertical coordinate system</li> <li>• coupled circulation and wave model</li> <li>• new model for ice dynamics</li> <li>• ecological model for North Sea (ECOHAM2)</li> </ul>
<b>Dissemination Status and new initiatives</b>	<p>MARNET data on ftp server  measured water levels and wave data on ftp server  computed water levels and wave data on ftp server  computed transports in North Sea and North Sea/Baltic transition area on ftp server  (presentation in NOOS web pages)</p>
<b>Relevant national projects</b>	<p>MUSE (extreme storm surges in German Bight)  MUSTOK (extreme storm surges in Baltic Sea, start: 01.01.2006)  FINO</p>
<b>Relevant International projects</b>	<p>ODON  PAPA  MarCoast</p>
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS transport exchange (lead agency)</li> <li>• Cooperation with DMI and SMHI on 3d circulation models</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS drift project</li> <li>• Participation in NOOS river runoff project</li> <li>• Further Development of NOOS transport exchange</li> <li>• Cooperation with DMI and SMHI on 3d circulation model development (as part of 3D forecast project)</li> </ul>
<b>Additional information</b>	

# NOOS annual report 2005

## POL report

<b>Country</b>	UK
<b>Institution</b>	POL website: <a href="http://www.pol.ac.uk">www.pol.ac.uk</a>
<b>Observations Status and new initiatives</b>	<p>Networks:</p> <ul style="list-style-type: none"> <li>• Liverpool Bay Coastal Observatory</li> <li>• National Tide Gauge Network</li> <li>• ...</li> </ul>
<b>Modelling Status and new initiatives</b>	<p>operational:</p> <ul style="list-style-type: none"> <li>• POLCOMS models (AMM, MRCS-ERSEM, IRS) run at UK Met Office</li> </ul> <p>pre-operational:</p> <ul style="list-style-type: none"> <li>• AMM, IRS run on POL cluster</li> </ul> <p>under development:</p> <ul style="list-style-type: none"> <li>• IRS-WAM, IRS-ERSEM-WAM, LBay on POL cluster</li> <li>• Exploring suitability of unstructured grid models (TELEMAC, QUODDY, ICOM) for shelf seas use.</li> </ul>
<b>Dissemination Status and new initiatives</b>	<p>Coastal Observatory data on website (<a href="http://cobs.pol.ac.uk">http://cobs.pol.ac.uk</a>)</p> <p>UK tide gauge Network on website (<a href="http://www.pol.ac.uk/ntslf/networks.html">www.pol.ac.uk/ntslf/networks.html</a>)</p>
<b>Relevant national projects</b>	<p>POL science plan 2001-2007 (including 40y NW shelf hindcast)</p> <p>NCOF</p>
<b>Relevant International projects</b>	<p>ODON</p> <p>MERSEA</p> <p>FERRYBOX</p> <p>Planning for ECOOP – leading WP7 system development</p> <p>Likely MARCOAST extension projects on WQ/HAB</p>
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• NOOS group participation</li> <li>• Participation in NOOS surge forecast and water level exchange (via MetOffice)</li> <li>• Participation in NOOS transport exchange (planned via MetOffice)</li> <li>• Cooperation with PML/MetOffice on 3d circulation-ecosystem models</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• NOOS group participation</li> <li>• Participation in NOOS surge forecast and water level exchange (via MetOffice)</li> <li>• Participation in NOOS drift project (via MetOffice)</li> <li>• Participation in NOOS river runoff project</li> <li>• Further Development of NOOS transport exchange (via MetOffice)</li> <li>• Cooperation with PML/MetOffice on 3d circulation-wave-ecosystem models</li> </ul>

## NOOS annual report 2005: DMI report

<b>Country</b>	Denmark
<b>Institution</b>	DMI website: <a href="http://www.dmi.dk">http://www.dmi.dk</a> , <a href="http://ocean.dmi.dk">http://ocean.dmi.dk</a>
<b>Observations Status and new initiatives</b>	<u>Remote sensing</u> Comparison of altimetry wave height and DMI wave forecast for every 6months, results shown on <a href="http://ocean.dmi.dk/waves/verify/satellite/sat_valid.html">http://ocean.dmi.dk/waves/verify/satellite/sat_valid.html</a> . <u>Observation system design (ODON)</u> A buoy array optimal design has been carried out for North Sea, optimal buoy locations for different purposes are obtained
<b>Modelling Status and new initiatives</b>	<u>Operational:</u> <ul style="list-style-type: none"> <li>• DMI BSHcmod V2.2 is up and running, with improved surge boundary condition</li> <li>• DMI HYCOM operational for North Atlantic of 0.5° resolution and nested subdomains for Norwegian shelf, waters around Ireland and Norwegian Shelf og 0.1° resolution.</li> </ul> <u>Under development:</u> <ul style="list-style-type: none"> <li>• DMI BSHcmod V3, including improved open boundary conditions, vertical mixing, vertical coupling, SST assimilation, optimised model code and higher horizontal resolution (3nm for the Baltic-North Sea and 0.5nm for Danish waters)</li> <li>• T/S assimilation with Ensemble Kalman Filter implemented and tested</li> <li>• HYCOM atmospheric radiation forcing tested. Regional climate simulation for Greenland Waters.</li> </ul>
<b>Dissemination Status and new initiatives</b>	<ul style="list-style-type: none"> <li>• Measured and forecasted water level data on ftp site</li> <li>• Hourly animations of DMI forecasts on <a href="http://ocean.dmi.dk">http://ocean.dmi.dk</a></li> <li>• Host NOOS website</li> </ul>
<b>Relevant national projects</b>	<u>New initiatives:</u> <ul style="list-style-type: none"> <li>• Climate change impact study on Danish waters – PhD program</li> <li>• WERADAN(Wave Energy Resource Assessment in Danish Waters: now and future) – Coordinator, WAM-HIRLAM coupling study</li> </ul>
<b>Relevant International projects</b>	<u>On-going</u> <ul style="list-style-type: none"> <li>• ODON (will finish at the end of Dec. 2005)</li> <li>• PAPA (finished at the end of Oct. 2005)</li> </ul> <u>New initiatives:</u> <ul style="list-style-type: none"> <li>• ECOOP – Coordinator, WPI leader; for FP6 4<sup>th</sup> call IP, in evaluation</li> <li>• BOSS4GMES – Participant, on negotiation</li> <li>• YEOS (Yellow Sea Observation and forecasting System) – Coordinator, for FP6 4<sup>th</sup> call SSA, in evaluation</li> </ul>
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• Participate NOOS steering group</li> <li>• Develop ECOOP draft proposal</li> <li>• Participate and coordinate NOOS surge forecast and water level exchange</li> <li>• Participate NOOS 3D modelling project <ul style="list-style-type: none"> <li>○ implement and test dynamic boundary condition for DMI BSHcmod by using Met.no and Met.O model output as OBC)</li> <li>○ Cooperation with BSH and SMHI on 3d circulation models</li> </ul> </li> <li>• Host and update NOOS website</li> <li>• Promote BOOS-NOOS cooperation</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• Participate NOOS steering group participation</li> <li>• Participate and coordinate NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS drift project</li> <li>• Participation in NOOS river runoff project</li> <li>• Further Development of NOOS transport exchange</li> <li>• Participate NOOS 3D modelling project <ul style="list-style-type: none"> <li>○ implement and test dynamic boundary condition for DMI BSHcmod by using Met.no and Met.O model output as OBC)</li> <li>○ Cooperation with BSH and SMHI on 3d circulation models</li> </ul> </li> <li>• Host and update NOOS website</li> <li>•</li> </ul>

**Other issues**Re-organisation:

original DMI Centre for Marine Forecasting has now expanded into a DMI Centre of Ocean and Ice by including DMI ice mapping/remote sensing group. Now the research/service of DMI COI covers operational forecasting of Baltic-North Sea-N Atlantic, ocean Climate change and remote sensing. Currently COI has 29 employees, among them 24 are in open-ended employment.

**NOOS annual report 2005**  
**RIKZ report**

<b>Country</b>	Netherlands
<b>Institution</b>	RIKZ website:
<b>Observations Status and new initiatives</b>	<p>Networks:</p> <ul style="list-style-type: none"> <li>• New offshore production platforms are used for wave monitoring (Mining Law)</li> <li>• Real time data exchange from FTP into North sea monitoring distribution network</li> <li>• Ferrybox line Rotterdam-bergen</li> </ul>
<b>Modelling Status and new initiatives</b>	<p>operational:</p> <ul style="list-style-type: none"> <li>• Maintenance contract on operational models (HW&amp;SW support, geographic input, version control, helpdesk,</li> <li>• Preoperational continuous evaluation and testing (Hydro meteo services)</li> </ul> <p>pre-operational:</p> <ul style="list-style-type: none"> <li>• Dutch Sea-delta model output available through Monitoring network distribution www.northsea.org</li> </ul> <p>under development:</p> <ul style="list-style-type: none"> <li>• Integration of Dutch nested coastal models (Sea-Delta) into one coastal model (increased spatial resolution)</li> <li>• development next generation storm surge 2 way coupling at high resolution</li> </ul>
<b>Dissemination Status and new initiatives</b>	<p>sealevel data on ftp server computed waterlevels, currents, temp, salinity available through WEB-access (MATROOS)- public internet 1<sup>st</sup> Q2006</p>
<b>Relevant national projects</b>	Dutch oceanographic data committee implementing National infrastructure (NODC-I)
<b>Relevant International projects</b>	<p>SeadataNet partner (efficient data management system) EU-IP project just started GMES-MarCoast (HAB and oil spill detection and drift forecasting services) RIKZ signed SLA with service providers Ferrybox new line from Rotterdam to Bergen (N) starting in 2006 ECOOP- WP2 and WP6 ENCORA - leading coastal network of networks ICZM starting in febr 2006</p>
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• NOOS steering group participation</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Raising national awareness of transport observation and forecast</li> <li>• Bilateral UK MetOffice back up facility</li> <li>•</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• NOOS steering group participation</li> <li>• Responsible for implementing NOOS-monitoring as follow up of SeaNet</li> <li>• Participation in NOOS surge forecast and water level,wave exchange</li> <li>• Promotion dutch platform in io 2006 london 21-23 march combined with oil spill Stack holders analysis in noos</li> </ul>

**NOOS annual report 2005**  
**SMHI report**

<b>Country</b>	Sweden
<b>Institution</b>	SMHI <span style="float: right;">website: <a href="http://www.smhi.se">www.smhi.se</a></span>
<b>Observations Status and new initiatives</b>	Networks: <ul style="list-style-type: none"> <li>• 2 real time buoys (current, salinity etc)</li> <li>• 5 wave buoys (incl SST)</li> </ul>
<b>Modelling Status and new initiatives</b>	operational: <ul style="list-style-type: none"> <li>• HIROMB 1nm with data assimilation 2D and 3D (ocean model)</li> <li>• SWAN (wave model)</li> </ul> pre-operational: <ul style="list-style-type: none"> <li>• HIROMB/SCOBI 3D (coupled hydrodynamic and ecological model)</li> </ul> under development: <ul style="list-style-type: none"> <li>• WAM (wave model)</li> <li>• New data assimilation</li> </ul>
<b>Dissemination Status and new initiatives</b>	HIROMB model data on ftp server HIROMB and wave model data on SMHI WEB site (OceanWeb) Real-time observations on ftp server
<b>Relevant national projects</b>	
<b>Relevant International projects</b>	ODON PAPA IRIS EMAPS BONSAI DAMOCLES SEPRISE POLARVIEW SEAMOCS (Marie Curie) Planning for ECOOP
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• Participation in NOOS</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Model data exchange with met.no</li> <li>• Cooperation with DMI and BSH on 3d circulation models</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• Participation in NOOS</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS drift project</li> <li>• Participation in NOOS river runoff project</li> <li>• Participation in NOOS transport exchange</li> <li>• Cooperation with BSHd DMI 3d circulation model development (as part of 3D forecast project)</li> </ul>



**NOOS annual report 2005**  
**MUMM report**

<b>Country</b>	Belgium
<b>Institution</b>	MUMM website: <a href="http://mumm.ac.be">http://mumm.ac.be</a>
<b>Observations Status and new initiatives</b>	Networks: none
<b>Modelling Status and new initiatives</b>	operational: <ul style="list-style-type: none"> <li>• 2D tide and storm surge model for the North West European Continental shelf.</li> <li>• 3D tide, wind and density (T&amp;S) model for the North Sea.</li> <li>• 3D tide and wind model for the Belgian Coastal waters</li> <li>• Surface drift model for the North Sea and Belgian Coastal Waters</li> <li>• Wave model for the North Sea and Belgian Coastal Waters</li> </ul> pre-operational: <ul style="list-style-type: none"> <li>• 3D tide, wind and density model (T&amp;S) for the Belgian Coastal Waters</li> <li>• 3D tide, wind and density model (T&amp;S) for the Scheldt Estuary</li> </ul> under development: <ul style="list-style-type: none"> <li>• 3D coupled physical-biochemical model for the Southern Bight of the North Sea</li> </ul>
<b>Dissemination Status and new initiatives</b>	<ul style="list-style-type: none"> <li>• computed water levels on ftp server</li> </ul>
<b>Relevant national projects</b>	<ul style="list-style-type: none"> <li>• AMORE-2: advanced modelling and research on eutrophication.</li> </ul>
<b>Relevant International projects</b>	ODON DITTY
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• NOOS meeting group participation</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS river runoff project</li> <li>• Proposal for a NOOS drift project (lead agency)</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• NOOS meeting group participation</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS drift project (lead agency)</li> <li>• Participation in NOOS river runoff project</li> <li>• Participation in NOOS transport exchange project</li> <li>• Cooperation with UKMO on 3d circulation model development (as part of 3D forecast project)</li> </ul>

## NOOS annual report 2005 met.no report

<b>Country</b>	Norway
<b>Institution</b>	met.no                      website: <a href="http://met.no">http://met.no</a>
<b>Observations Status and new initiatives</b>	<p><u>Networks:</u></p> <ul style="list-style-type: none"> <li>• met.no has access to all metocean observations available over GTS, including ARGO, VOS.</li> <li>• met.no hosts the high latitude OSI-SAF of EUMETSAT, supplying operational SST and SSI maps derived from satellite.</li> <li>• met.no makes no in situ oceanographic observations.</li> <li>• met.no will develop operational hi-res (2km) SST analyses for NW Shelf, available from mid-2006 (MERSEA activity).</li> </ul>
<b>Modelling Status and new initiatives</b>	<p><u>Operational:</u></p> <ul style="list-style-type: none"> <li>• MIPOM surge forecast, Norway, 20km, daily to +60 hrs</li> <li>• MIPOM 3D ocean forecast, Nordic Seas, 20km, daily to +60 hrs</li> <li>• MIPOM/NORWECOM 3D coupled ocean-ecosystem forecast, n. North Sea, nested 20-4km, daily to +168 hrs</li> <li>• MIPOM 3D ocean forecast, Oslofjord, 300m, daily to +60 hrs</li> <li>• WAM Nordic Seas, 50km, 4 times daily to +60 hrs</li> <li>• WAM-EC Nordic Seas, 50km, daily to +168 hrs</li> <li>• WAM North Sea, 8km, daily to +60 hrs</li> </ul> <p><u>Pre-operational:</u></p> <ul style="list-style-type: none"> <li>• MIPOM 3D ocean forecast, Nordic Seas, 4km, daily to +60 hrs</li> <li>• MIPOM 3D coupled ocean-ice forecast, Atlantic-Arctic, 20km, daily to +240 hrs</li> <li>• MIPOM/NORWECOM 3D coupled ocean-ecosystem forecast, Skagerrak, nested 20-4km, SMHI &amp; FOAM OBC, daily to +60 hrs</li> <li>• MIPOM 3D ocean forecast, Skagerrak, 1.5km, daily to +60 hrs</li> <li>• MIPOM 3D ocean forecast, w. Norway, 200m, daily to +24 hrs</li> </ul> <p><u>Under development:</u></p> <ul style="list-style-type: none"> <li>• MIPOM/NORWECOM 3D ocean-ecosystem-ice forecast, Nordic Seas, 4km</li> <li>• HYCOM – ROMS – MIPOM comparison for Norwegian shelf</li> <li>• WAM Nordic Seas, 20km, with currents effects</li> <li>• MIPOM surge with momentum flux from WAM</li> </ul>
<b>Dissemination Status and new initiatives</b>	<ul style="list-style-type: none"> <li>• Measured water levels on ftp server (SKSK, NOOS activity)</li> <li>• Forecast water levels on ftp server (NOOS activity)</li> <li>• 2005: Ocean forecast webpage (in Norwegian) <a href="http://met.no/kyst_og_hav/havvarsel.html">http://met.no/kyst_og_hav/havvarsel.html</a></li> <li>• 2005: MONCOZE POMS v2 preoperational <a href="http://moncozecloudy.oslo.dnmi.no">http://moncozecloudy.oslo.dnmi.no</a></li> </ul>
<b>Relevant national projects</b>	<ul style="list-style-type: none"> <li>• MONCOZE (NE North Sea ecosystem monitoring, 2001-2005, NFR)</li> <li>• MONBASE-PP (Barents Sea ecosystem monitoring, 2005-2006, internal)</li> <li>• UNISOF (Assimilation of in situ obs, 2003-2006, NFR)</li> </ul>
<b>Relevant International projects</b>	<ul style="list-style-type: none"> <li>• MERSEA IP</li> <li>• DISMAR (ended 31.10.2005)</li> <li>• ECOOP (IP proposal) - leading Task 2.5, NOOS-in-WP5, Task 10.2</li> <li>• InterRisk (STREP proposal) - leading WP 410 and 3 subtasks</li> </ul>
<b>Other major events</b>	<ul style="list-style-type: none"> <li>• HF Coastal Radar meeting at met.no 22.06.2005. Agencies from N, DK and S discussed possibilities and requirements for Skagerrak/Kattegat observatory.</li> </ul>
<b>NOOS activities in 2005</b>	<ul style="list-style-type: none"> <li>• NOOS steering group participation</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Cooperation with Met.O, SMHI and DMI on water level and 3D circulation modelling</li> <li>• Startup of NOOS River Runoff project (lead agency)</li> </ul>
<b>Planned NOOS contribution in 2006</b>	<ul style="list-style-type: none"> <li>• NOOS steering group participation</li> <li>• Participation in NOOS surge forecast and water level exchange</li> <li>• Participation in NOOS drift project</li> <li>• Participation in NOOS river runoff project</li> <li>• Participation in NOOS transport exchange</li> <li>• Cooperation with Met.O and SMHI on 3D circulation modelling (as part of 3D forecast project)</li> </ul>