

Introduction to NOOS activities

Sébastien Legrand & Henning Wehde
NOOS co-chairs

BOOS annual meeting 2018, EuroGOOS, Brussel, Belgium
22nd of May 2018

Contents

1. What is NOOS?
2. Overview of NOOS services
Long-term achievements of NOOS WGs
and other national and EU projects
3. Challenges for the next few years

What's NOOS?



NW Shelf Operational Oceanographic System

<http://noos.eurogoos.eu/>

What's NOOS?



NOOS is a network of 23 governmental agencies and research institutions

- From the 9 countries bordering the NWS
- Active in operational oceanography
- Willing to operate real-time operational data, products and services
- For the whole NWS and its Atlantic margin

NOOS motu:

Coordination, cooperation and co-production

- **[overall objective]** To develop and implement on-line operational marine data and information services.
- **[Obs]** To integrate national observing networks in order to give a reliable description of the actual marine condition of the European North West Shelf (NWS) area, including physical, sedimentological, and ecosystem variables.
- **[Data]** To establish a marine database from which time series and statistical analyses can be obtained, including trends and changes in the marine environment, and the economic, environmental, and social impacts.
- **[Models]** To provide analysis, forecasts, and model-based products describing the marine conditions.
- **[Added-value products]** To collaborate with national and multinational agencies in the NWS area to maximise the efficiency of the ocean observing system, and to optimize the value of the marine information products.

Overview of NOOS services

Outcomes of active collaborations for 17+ years
in NOOS working groups and other projects

NOOS data portal

Integrating the national observing networks



Back office work to





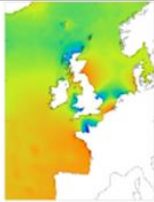



NW Shelf Operational Oceanographic System

<http://noos.eurogoos.eu/>

NOOS modelling activities

both benefit and contribute to CMEMS NWS-MFC

- NOOS continuous efforts in operational models
 - physics, waves & BGC
 - forecast, hindcast & re-analysis
- NWS-MFC operated by a consortium built around Met Office, BSH, PML and NOC

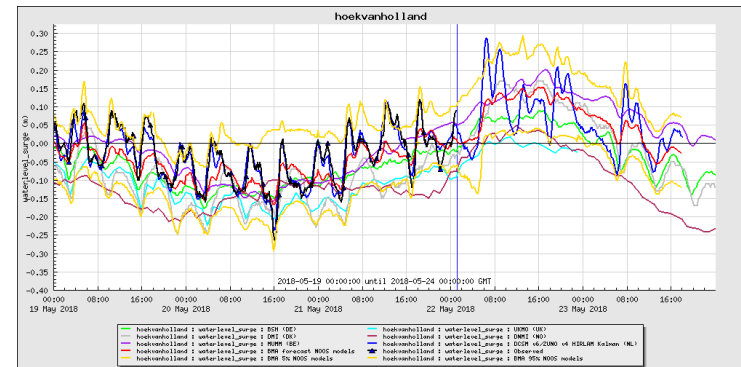
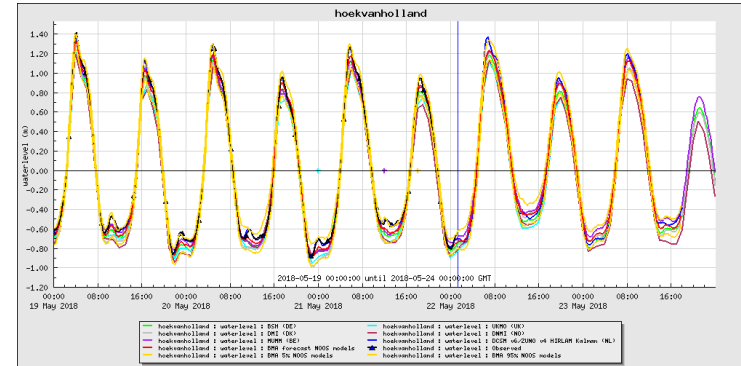
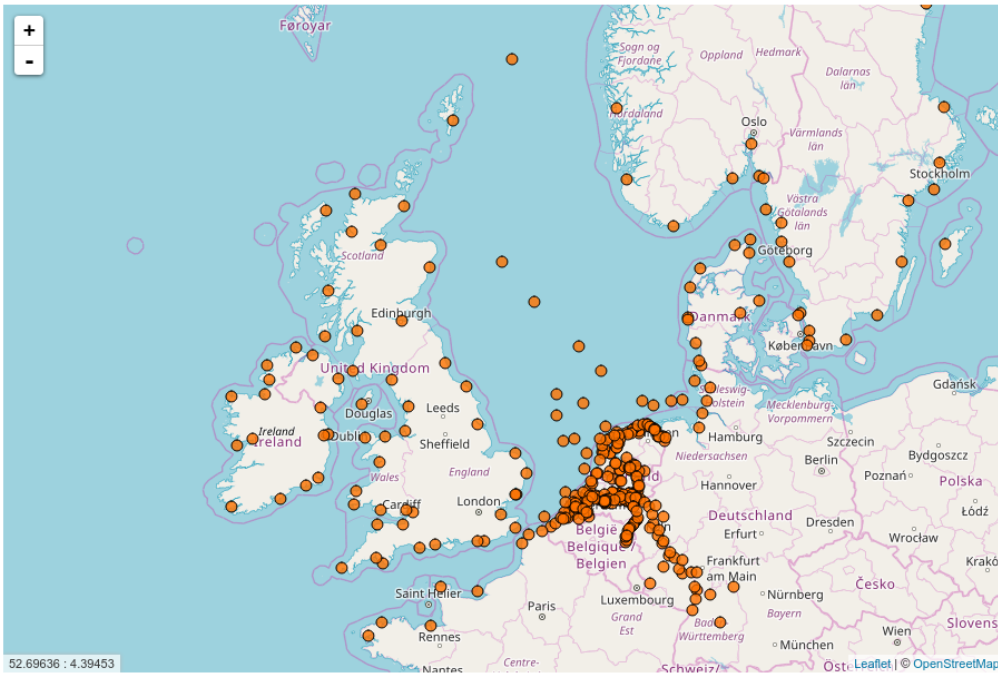
NORTHWESTSHELF_REANALYSIS_BIO_004_011							
ATLANTIC-EL METOFFICE (NORTHWESTSHELF_REANALYSIS_PHYS_004_009						
MODEL	ATLANTIC-EL (1985-2014)	NORTHWESTSHELF_ANALYSIS_FORECAST_BIO_004_002_B					
CHL PHYC O2	MODEL	ATLANTIC - E FORECAST	NORTHWESTSHELF_ANALYSIS_FORECAST_WAV_004_012				
0.067 degree x	T bottomT S U	MODEL	ATLANTIC - E				
From 1985-01-	0.067 degree x	CHL PHYC O2	MODEL	NORTHWESTSHELF_ANALYSIS_FORECAST_PHYS_004_001_B			
monthly-mean,	From 1985-01-	0.07 degree x	SWH MWP VM	ATLANTIC - EUROPEAN NORTH WEST SHELF - OCEAN PHYSICS ANALYSIS AND FORECAST			
MORE INFO 	monthly-mean,	From 2011-07-	0.067 degree x	MODEL	• ● ● X	NWS	
	MORE INFO 	daily-mean	From 2014-04-	T bottomT S SSH UV MLD			
		MORE INFO 	hourly-instanta	0.067 degree x 0.111 degree (24 depth levels)			
				From 2014-04-01 to Present			
				daily-mean, hourly-instantaneous			
				MORE INFO 	ADD TO CART 	WMS	Sub-setting

Sea level and storm surge

Integration of observation and multi-models ensemble forecast

Water level (fc)

Location set: **NOOS-WATERLEVELS** From: 2018-05-19 00:00:00 To: 2018-05-24 00:00:00



NEW

stations covering the whole NWS coastlines

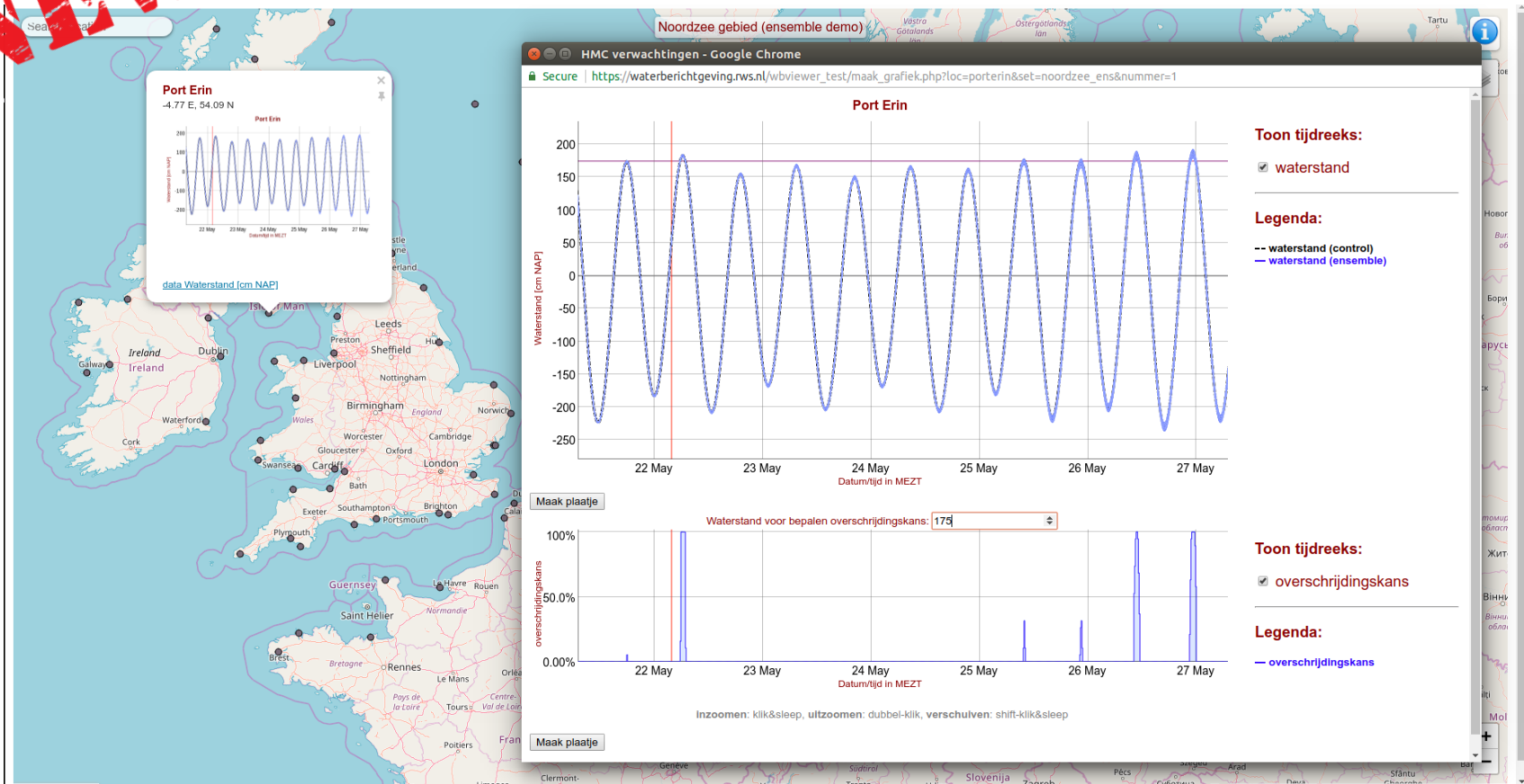


NW Shelf Operational Oceanographic System

<http://noos.eurogoos.eu/>

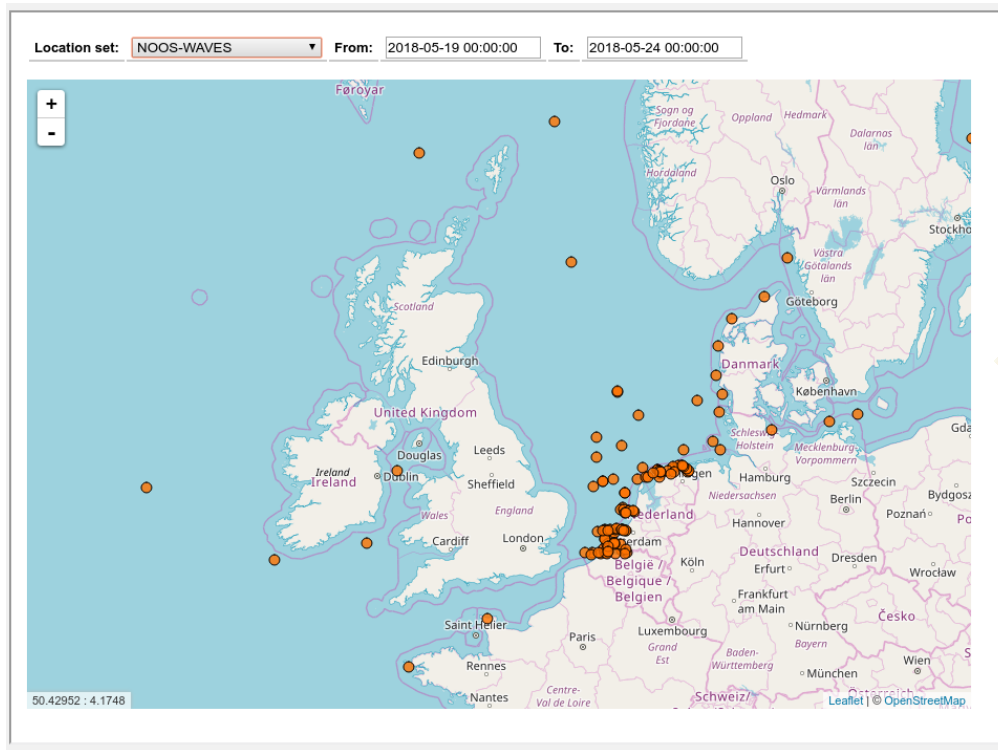
Sea level and storm surge Ensemble modelling (RWS)

NEW

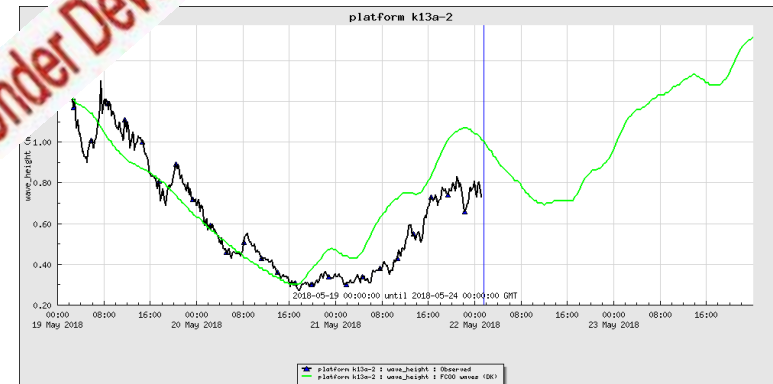


Waves

Integration of observation and multi-models ensemble forecast



Under Development



Assessing the variability of Mass, heat and salt transport

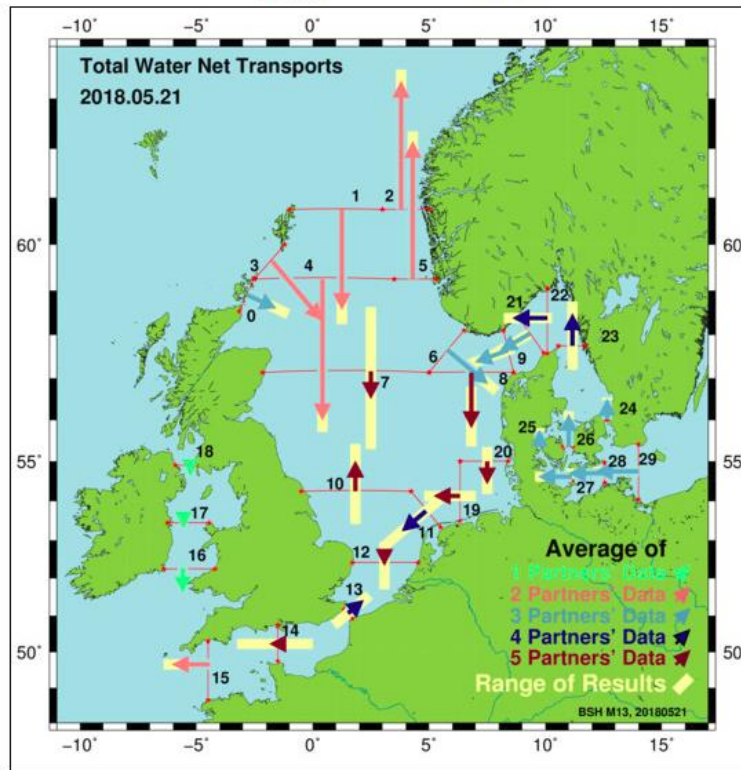
North Sea Transports



Computed Water Transports (Average Results of the BSH, OD Nature, DMI, MetOffice and FCOO Circulation Models)

Total

[Surface](#)



Current Charts and Transects

21. May 2018
20. May 2018
19. May 2018
18. May 2018
17. May 2018
16. May 2018
15. May 2018

time series of 5 partners' data

Online Archive:

(Type a Date)

20180521

submit

Overview

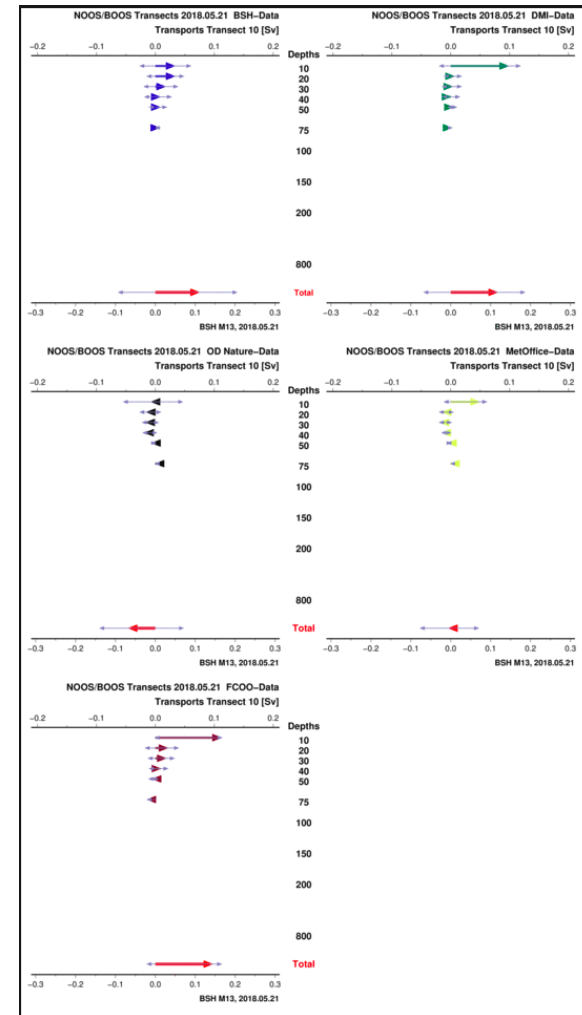
BSH

OD Nature

DMI

MetOffice

FCOO



NW Shelf Operational Oceanographic System

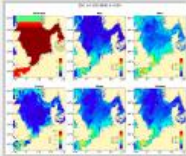
<http://noos.eurogoos.eu/>

Multi-models ensemble forecast (MME)

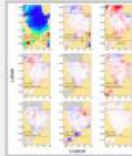


Currents and Transports

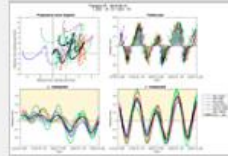
Surface Currents



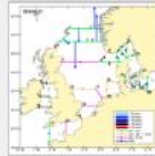
SSC Difference



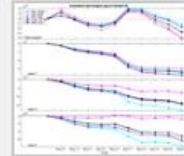
PVD of Currents



Water Transports

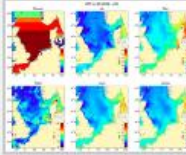


Salt Transports

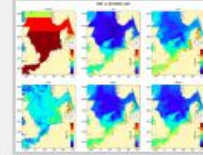


Temperature

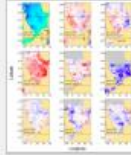
Surface



Bottom



SST Difference

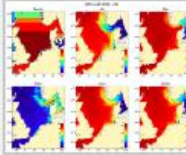


SBT Difference

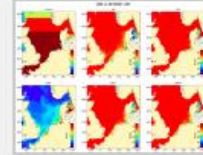


Salinity

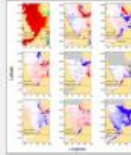
Surface



Bottom



SSS Difference

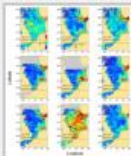


SBS Difference



Monthly Validation

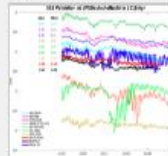
SST satellites



Temperature



Salinity



Warning System

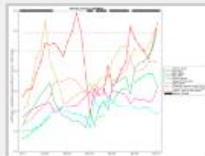
SST



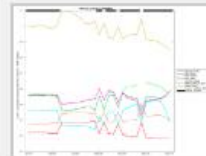
SSS



SBT



SBS



Multi-Models ensemble of multi-years products (2002-2012)

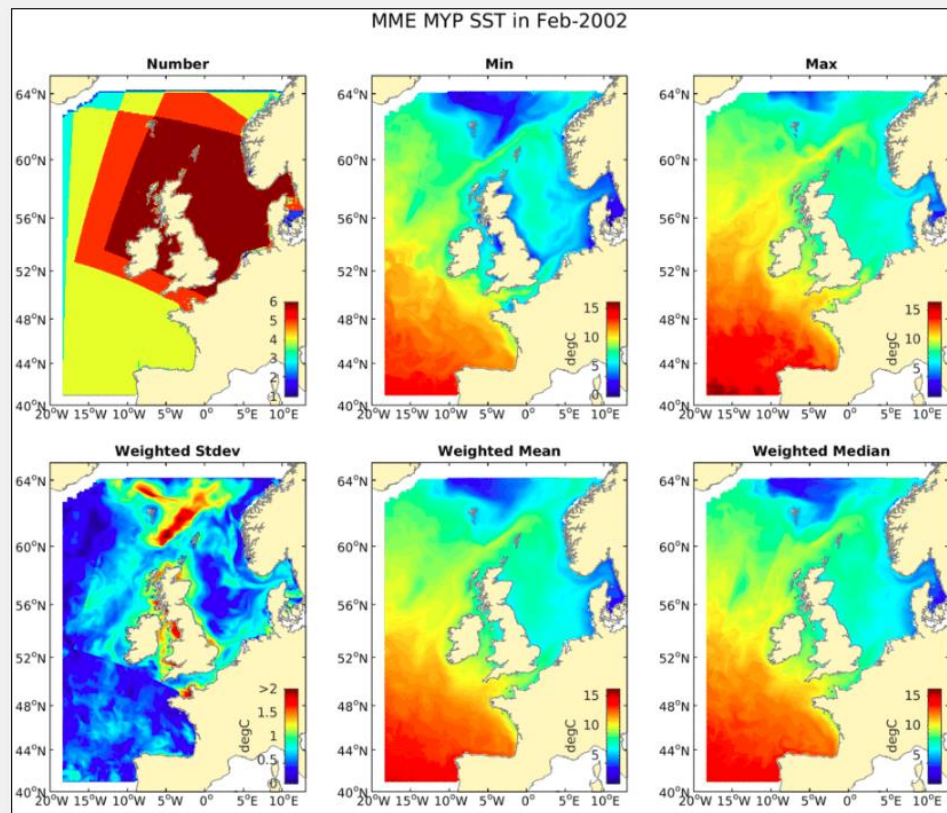
NEW

Multi Model Ensemble of Multi Year Products

Sea Surface Temperature

2002 February ?

Overview [Multi Year Products](#)



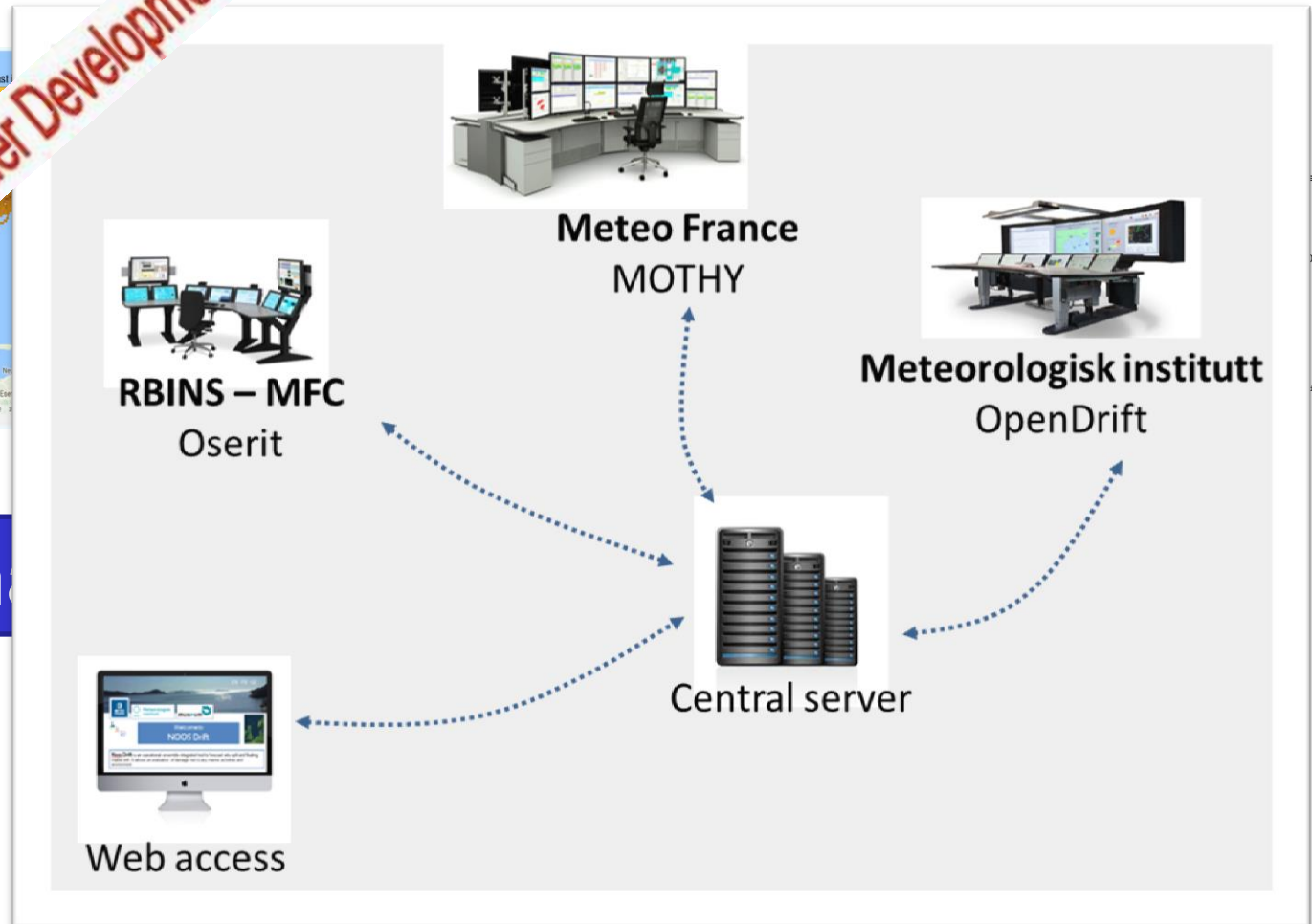
NOOS-Drift (CMEMS DEM4-Lot 5, May 2018 - Nov 2019)

multi-models ensemble system to assess and improve drift forecast accuracy



Under Development

These models



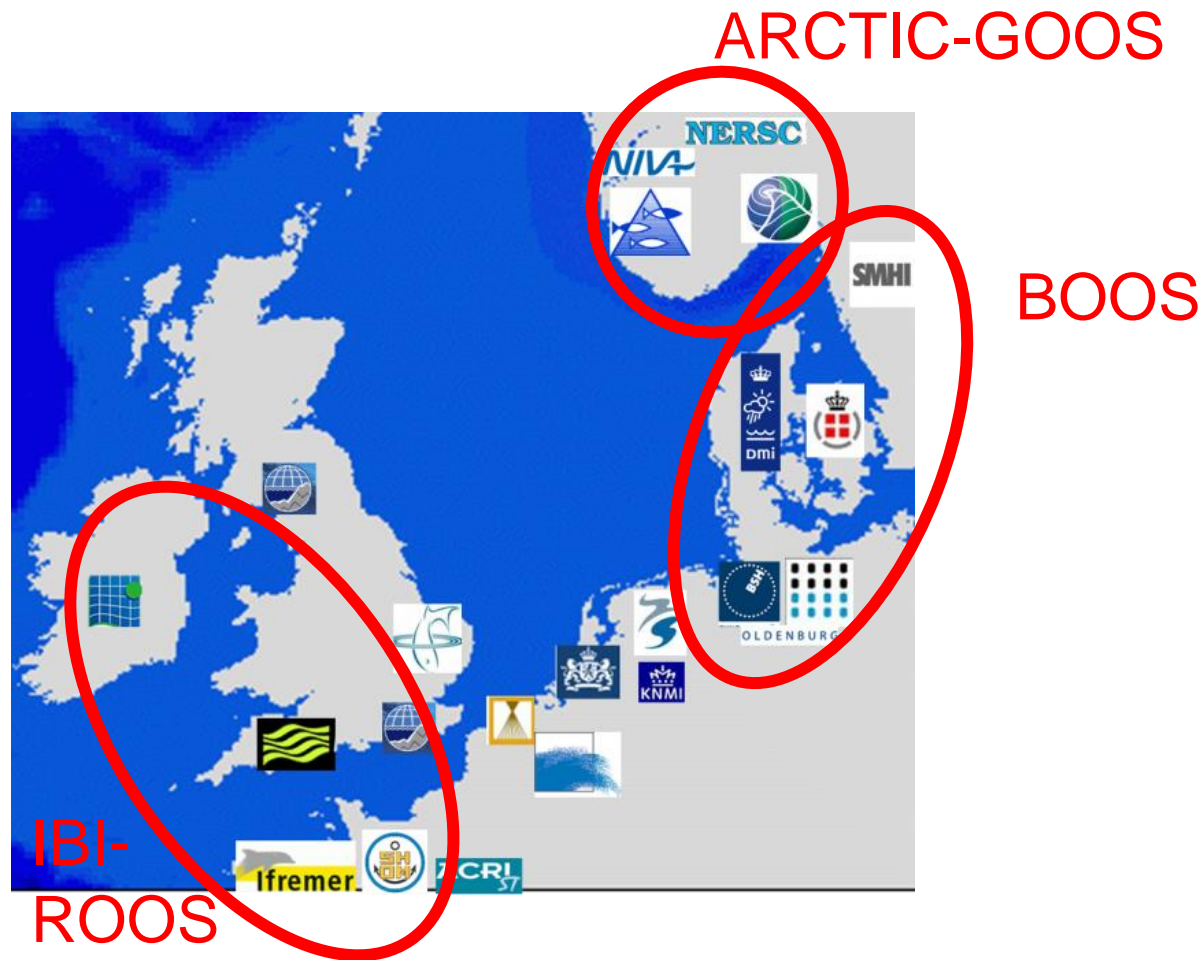
NW Shelf Operational Oceanographic System

<http://noos.eurogoos.eu/>

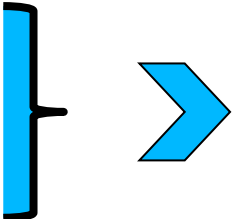

Challenges for the next few years

Collaboration with the neighboring ROOSes

Collaboration with EuroGOOS Task Teams and WGs



Strengthening the connections with our stakeholders

- Ourselves,
National institutes that serve our national users
 - ICES
 - OSPAR
- 
- Enforce ecosystem approach
(NOOS main driver for future? - MSFD)
- Bonn Agreement
 - EMSA
 - DG-ECHO
-  Maritime safety
- JRC Be sure they don't duplicate what we are doing
 - ... **Disadvantage : no equivalent to BONUS programs**

Conclusion

NOOS and BOOS are twin ROOSes

NOOS focusses on long-term services,
historically on maritime safety but we are moving
towards ecosystems

NOOS and BOOS already share several WGs (MME,...)

NOOS is willing to enforces new collaboration with
neighboring ROOSes