Baltic Operational Oceanographic System

Regional activities

Status report and what is going on?

Split

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SMHI Oceanographic Stations

Historical data: tide gauges (1774-), lightships/hydstn (1860-1972), monitoring cruises (1893-), lighthouses/wave buoys (1978-2004), buoys (2001-), ferryboxes (2009-), present (2014) …


1774

1860


1886


1893


1978

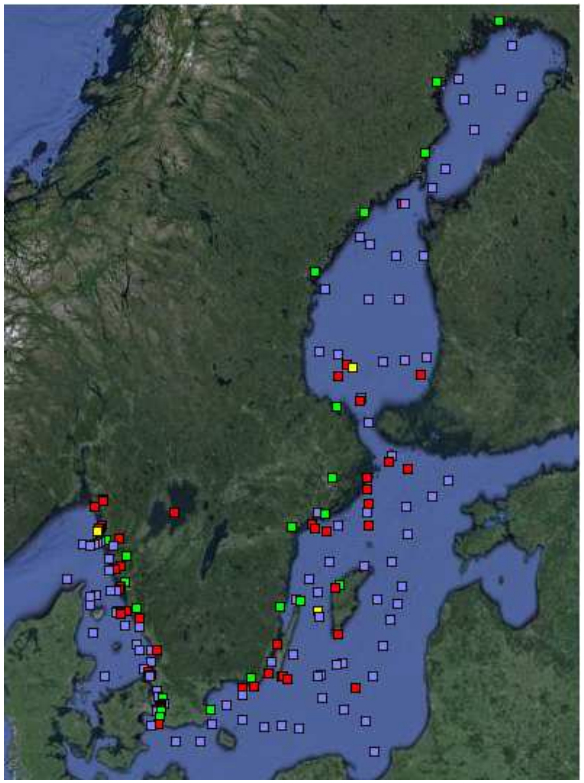

2001

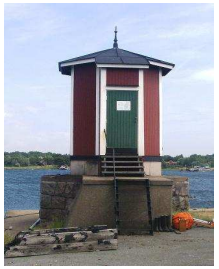

2009


2014

Year

Present station network





23 Tide gauges (1886-)
+2 mobile stations (2014-)
+1 new station at Onsala (2014-)

4 Moored buoys (2001-)
+6 coastal buoys (2014-)

1 Ferrybox (2009-)
>100 Fixed Monitoring stations (1978-)

50 Tide gauges (1774-2013)
23 Lightships/hydstn (1860-1972)
23 Lighthouses/buoys (1978-2004)
5 Moored buoys (2001-2013)
3 Ferryboxes (2009-2013)

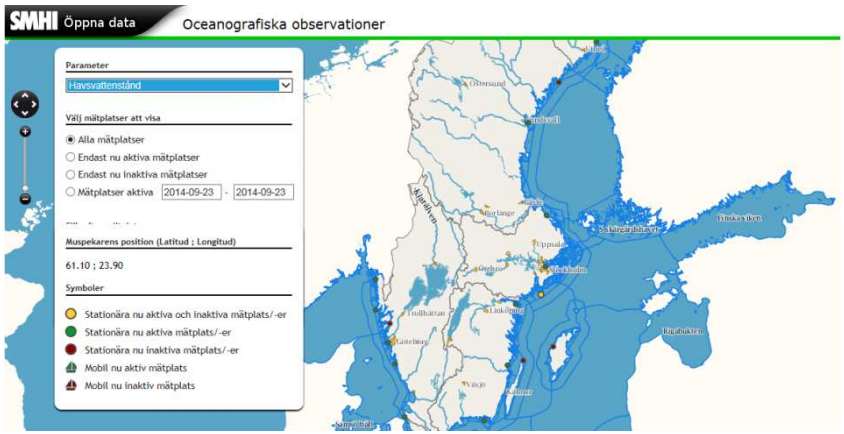
SMHI Data exchange

Programme	Data host	Frequency	Resolution	Media	Parameters
GLOSS	VLIZ	Hourly	HiRes	FTP	Sealevel
www.smhi.se	SMHI	Hourly	Hour	www	All parameters*
www.boos.org	DMI/SMHI	Hourly	Hour	www	”
BOOS/NOOS	SMHI	Hourly	Hour	FTP	”
MYOCEAN	SMHI	Daily	Hour	FTP	”
EMODNET	SMHI	Daily	Hour	FTP	”
SEADATANET	SMHI	Yearly	Hour	www	”
PSMSL	NOC	Yearly	Month	Mail	Sealevel

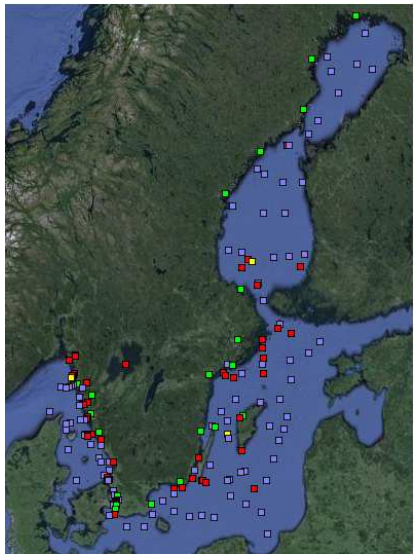
* Sealevel, T, S, waves, currents, oxygen, chlorophyll-fluorescence, turbidity, …

Oceanographic data from SMHI are now open and freely available

www.smhi.se/en/services/Open-data



Delayed mode data from fixed stations to SeaDataNet

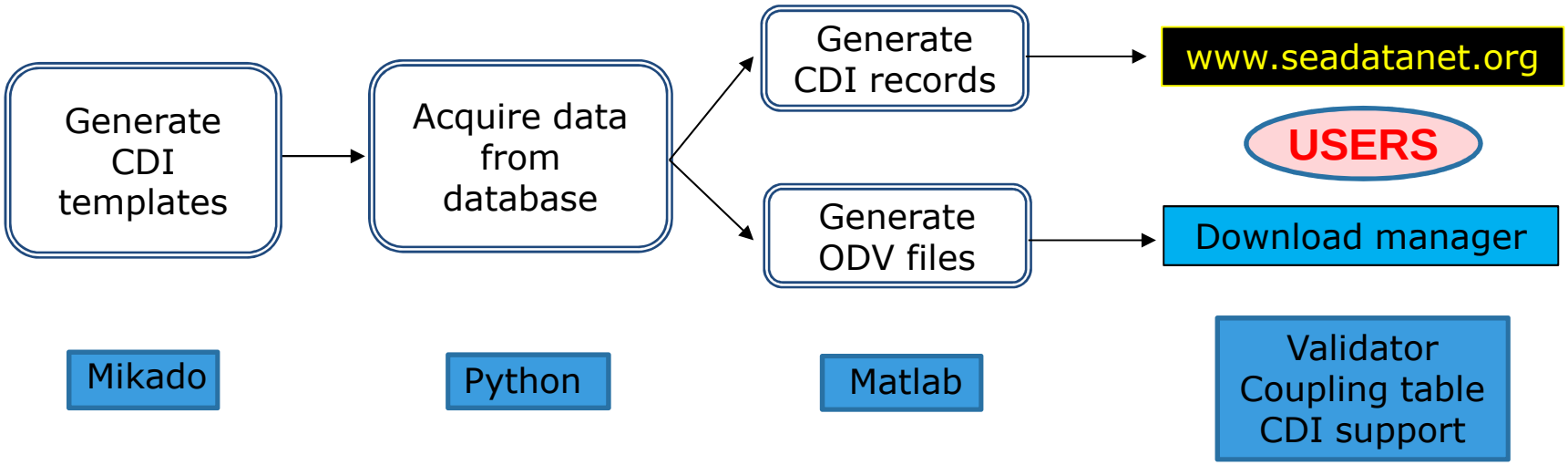


Data delivered by platform type

lightship	945 yearly files	1860-1972	14 Lightships, 9 hydstn
mooring	1385 yearly files	1886-2013	23 Tide gauges, 9 buoys
vessel	new monthly files	2009-2013	4 Ferryboxes

+30 yearly files every year

Yearly routine how to upload data to SeaDataNet

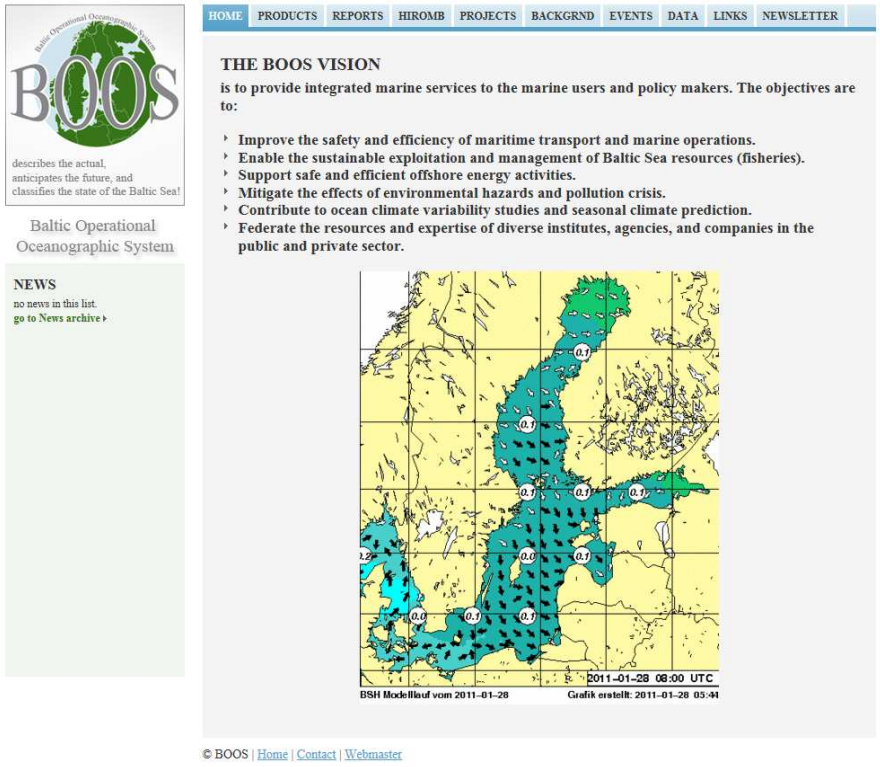


BOOS Community

Baltic Operational Oceanographic System

“The aim of BOOS is to provide integrated marine services to the marine users and policy makers and to improve the safety and efficiency of maritime transport and marine operations”

www.boos.org



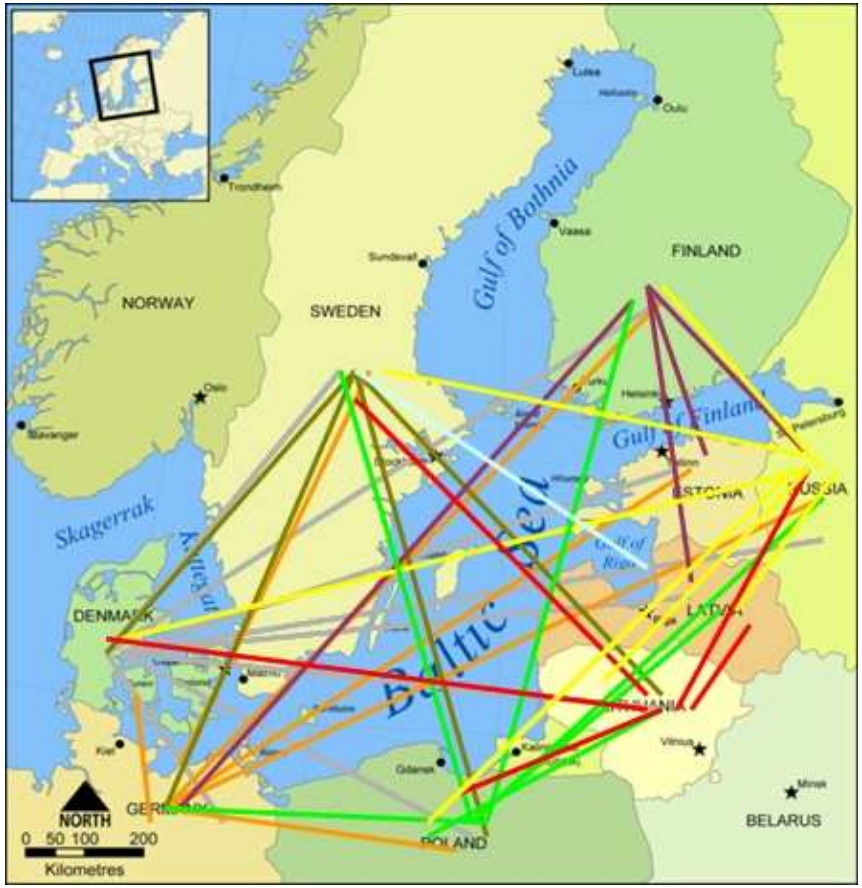
Observation activities

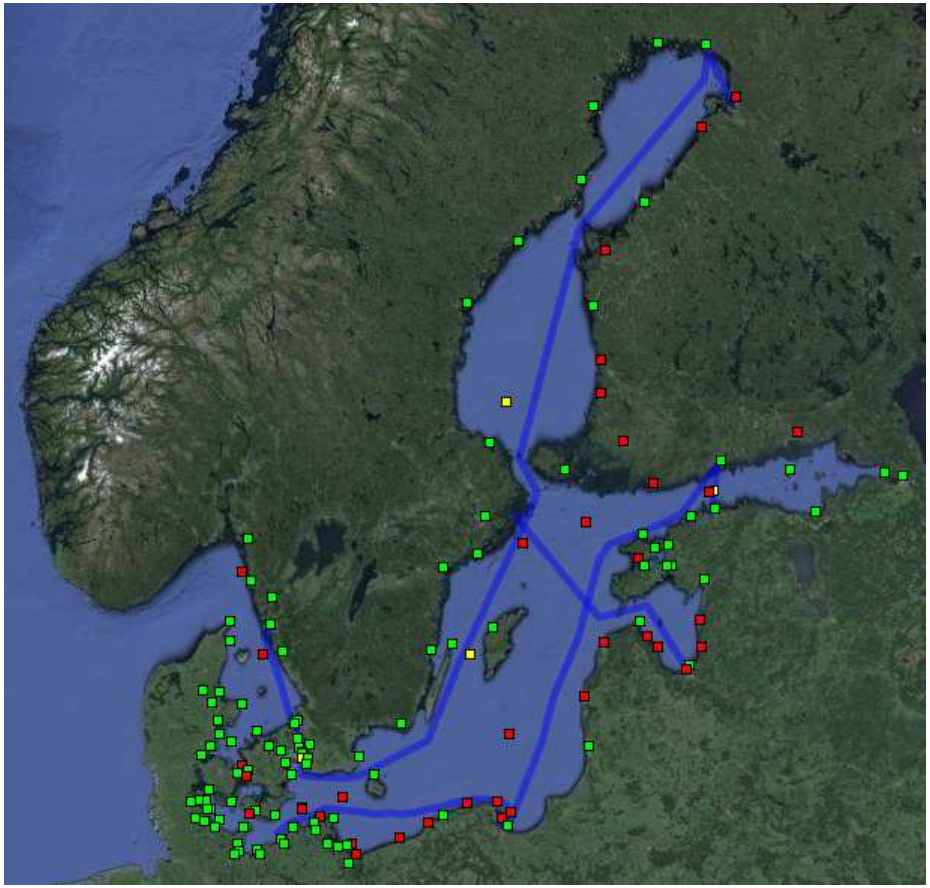
- Observation products
- BOOS Data exchange
- BOOS Data Portal
- MyOcean WP15 In-situ TAC
- EMODnet Physics II
- Common vertical reference datum for sea level in the Baltic Sea

BOOS Data exchange

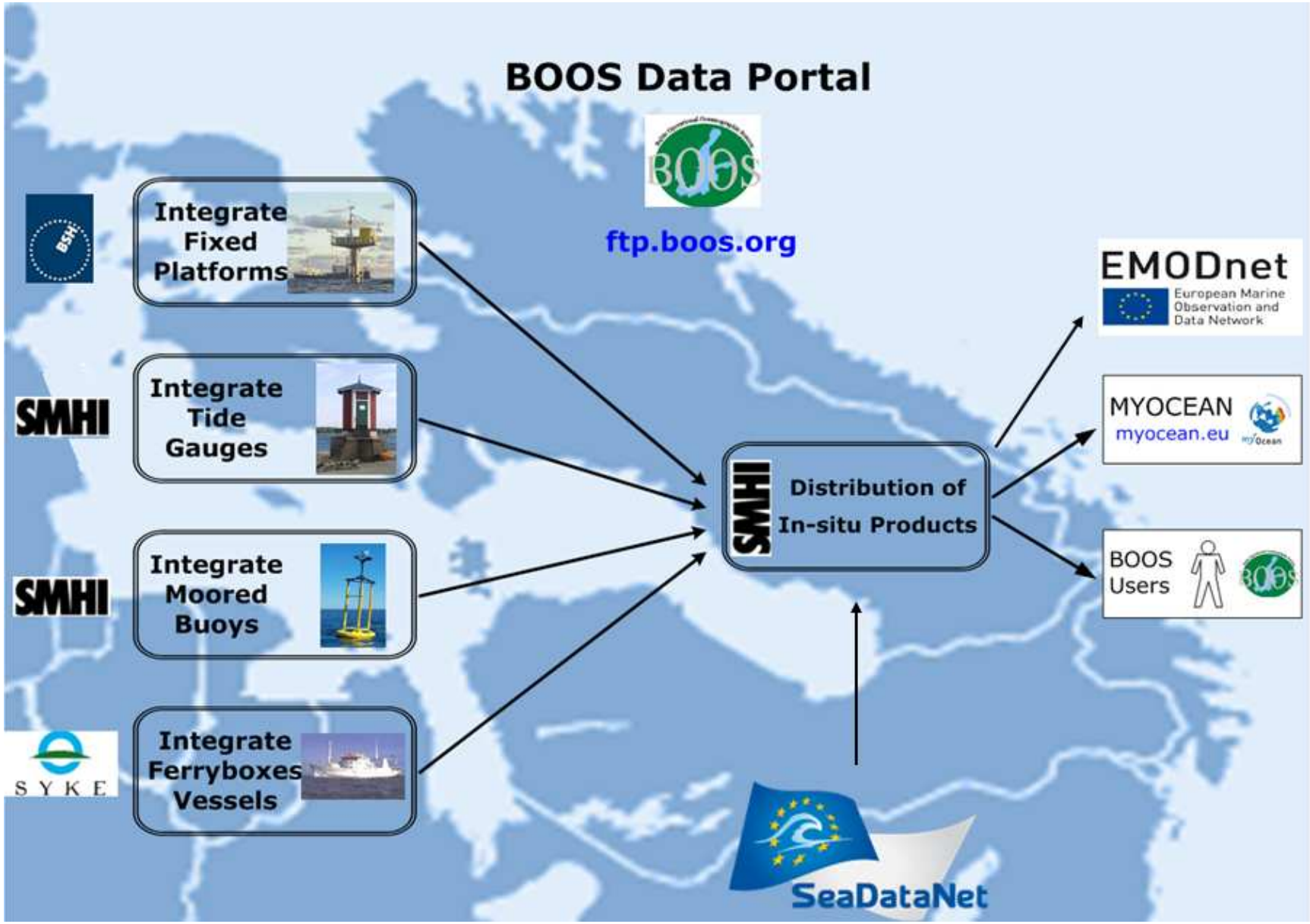
Exchange of in-situ data from 20 institutes since 2003

Projects: Papa, MERSEA, Seprise, ECOOP, MYOCEAN, EMODnet Physics …



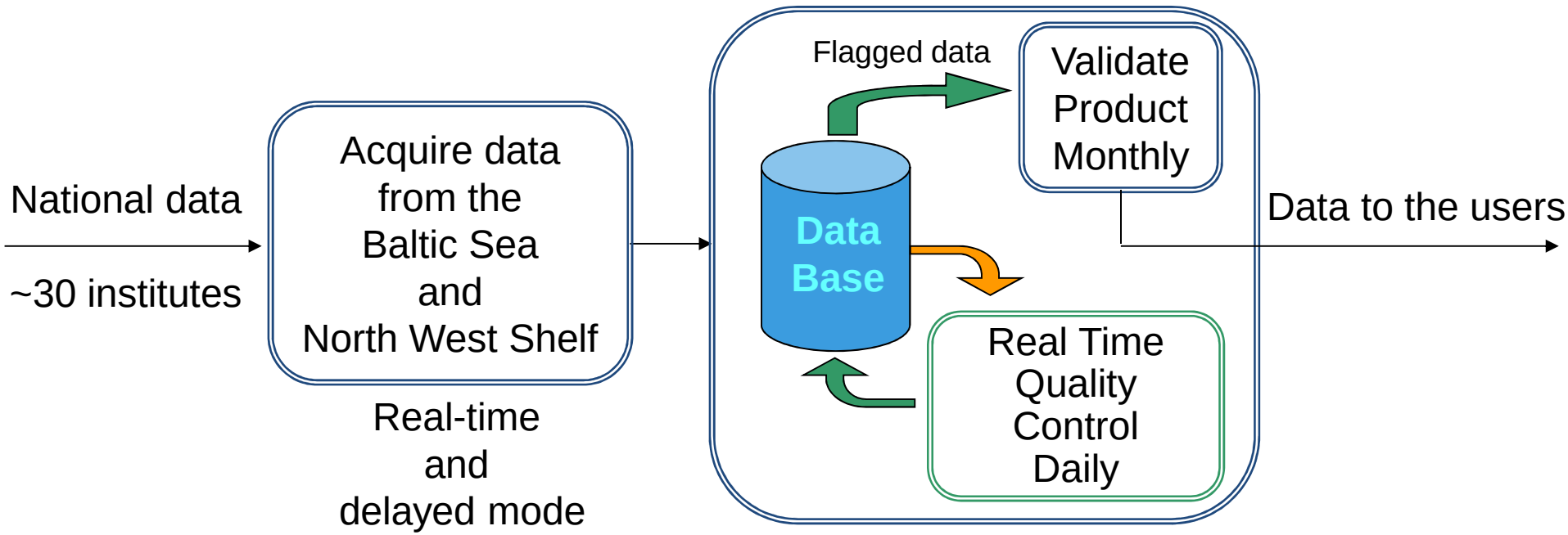


BOOS Data Portal



Schematic data flow

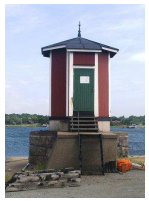
SMHI acquires real-time data from
>300 oceanographic stations
in the Baltic Sea and North West Shelf



BOOS Data Portal

ftp.boos.org

10 Fixed platforms

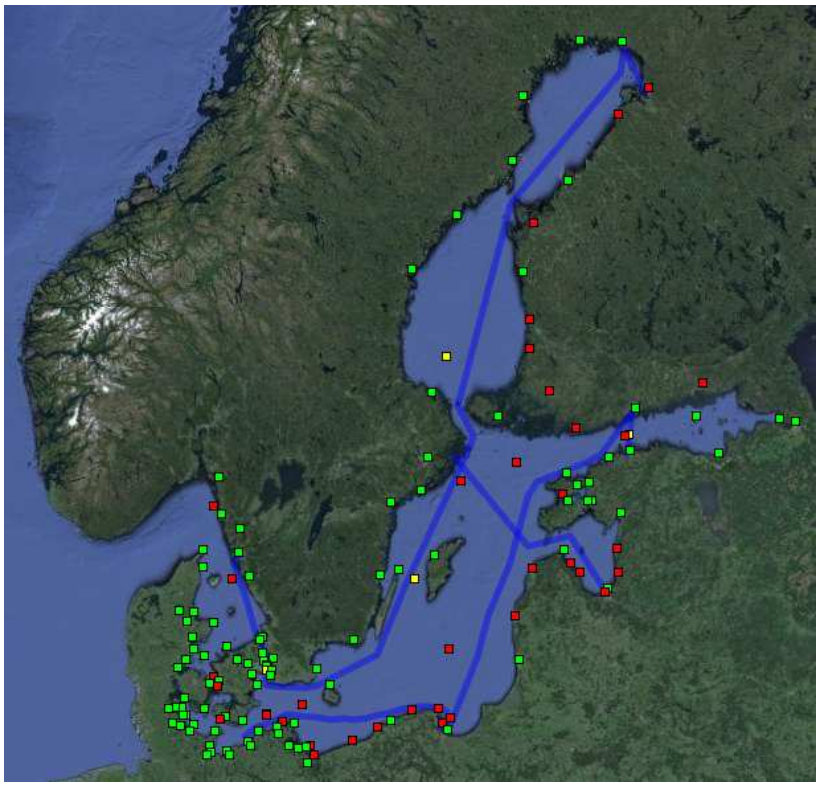


100 Tide gauges

10 Moored buoys

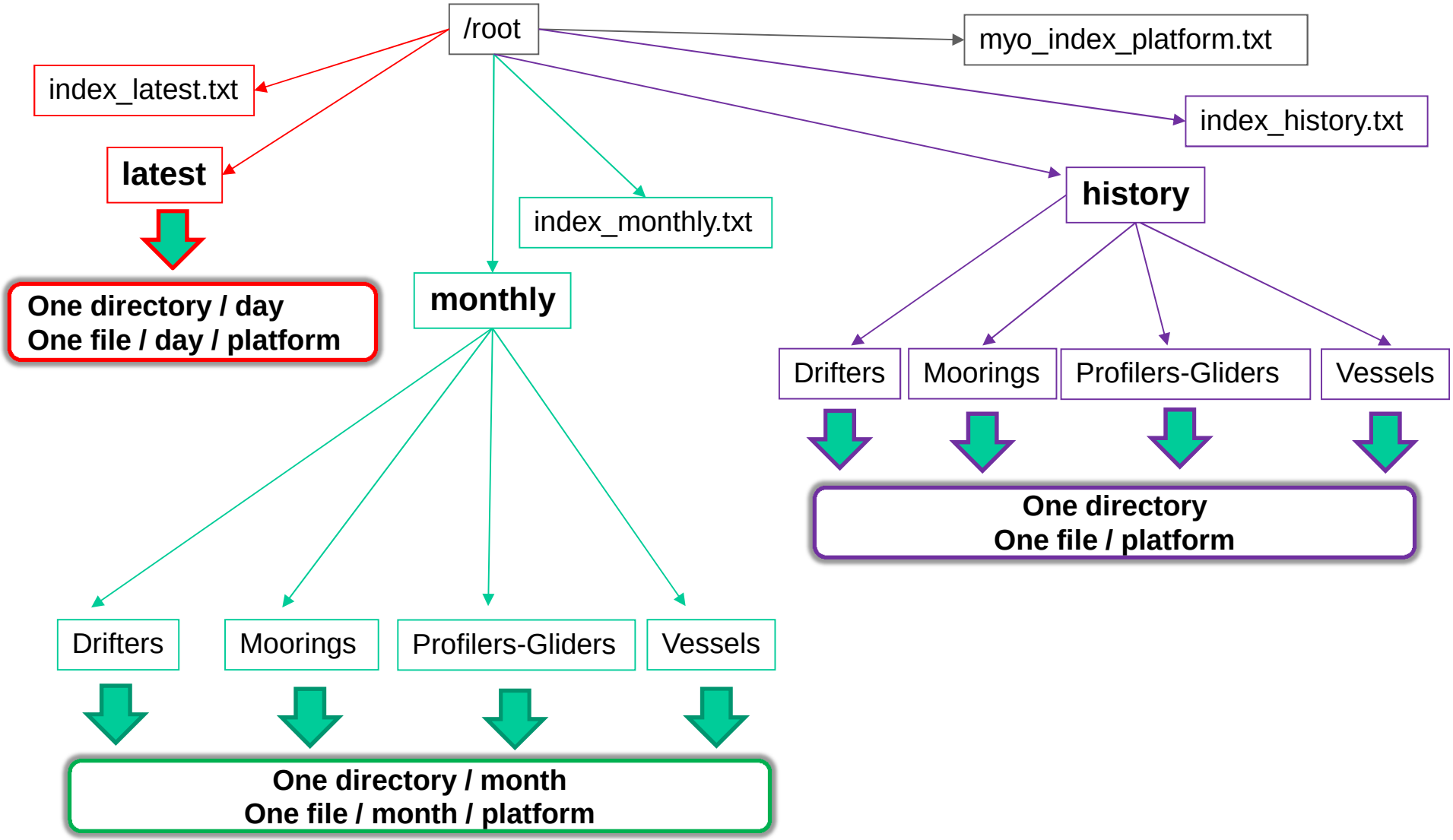
4 Ferrybox-lines

>800 Fixed monitoring stations



[BOOS Oceanographic Stations]

BOOS Data Portal structure



Historical data sets

Historical stations in the BOOS Data Portal Sept 2014 (including 1st delivery from SDN)

Data set	Time period	#	Provider	Comment
Swedish TS data	1990-2014 NRT	103	SMHI,SMF	QCed data from NODC
Danish TS data	1990-2010	432	DMU and other	Through SDN and Web
German TS data	2001-2012	20	BSH	Qced from NODC
German TS data	2006-2010	137	IOW	Through SDN
Polish TS data	NEXT DELIVERY	-	IOPAS	"
Polish TS data	BY NEGOTIATION	-	IMGW	"
Lithuanian TS data	2004-2009	19	EPA	"
Latvian TS data	2005-2007	60	LHEI	"
Estonian TS data	1992-2004	33	MSI	"
Russian TS data	NEXT DELIVERY	-	RAS,RIHMI,RUMS	"
Finnish TS data	1990-2008	16	SYKE/FMI	"
Swedish buoy data	2001-2013	9	SMHI	QCed data from NODC
German buoy data	1985-2013	7	BSH	"
Danish buoy data	2001-2011	3	DMI	Aggregated NRT data
Finnish buoy data	2005-2012	1	FMI	"
Swedish sea level	1990-2013	23	SMHI	QCed data from NODC
Danish sea level	1990-2013	30	DMI	"
Sea level/other countries	2005-2013	50	BSH,IMWM,EPA,LEGMA,MSI,FMI,MSI,NWAHEM	Aggregated NRT data
Swedish Ferrybox	2009-2013	3	SMHI	QCed data from NODC
Finnish Ferrybox	1992-2008	1	SYKE	" (only water samples)
Finnish Ferrybox	2009-2013	1	SYKE	Aggregated NRT data
Estonian Ferrybox	2008-2013	3	MSI	"

Overview BOOS Projectplan

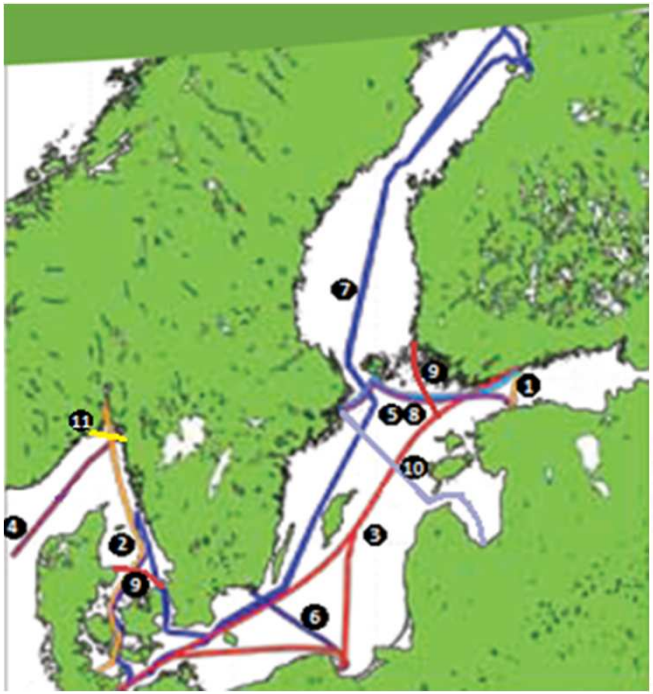
Institute	Activities	Person months
SMHI	**1. Lead and coordination** 1.1 Lead the work in the Baltic 1.2 Represent BOOS in EMODnet Physics	**1**
SMHI	**2. Dissemination** 2.1 Integrate data from the BOOS Production Units (PU) 2.2 Harmonization of platform names, common vocabularies etc. 2.3 Improve routines to avoid duplication of data	**1**
SMHI	**3. Development of the BOOS Data Portal** 3.1 Improve the readiness and functionalities 3.2 Prepare the system for new data types; gliders, HF radars etc.	**1**
	4. Integrate* additional data to the BOOS Data Portal	**5**
SMHI	4.1 Integrate data from additional Moorings	1
SMHI	4.2 Integrate data from additional Tide gauges	1
SYKE	4.3 Integrate data from additional Ferryboxes	1
MSI	4.4 Integrate data from Profilers and Gliders	1
MSI	4.5 Integrate Moorings and Tide gauges from Estonia http://on-line.msi.ttu.ee/metoc/	¾
IOPAS	4.6 Integrate temperature data from one station in Sopot	¼

* Integrate means to acquire, quality control and distribute data to SMHI who disseminates the data into the BOOS Data Portal and hence to EMODnet Physics, MyOcean and/or other projects and programs.

www.emodnet-physics.eu

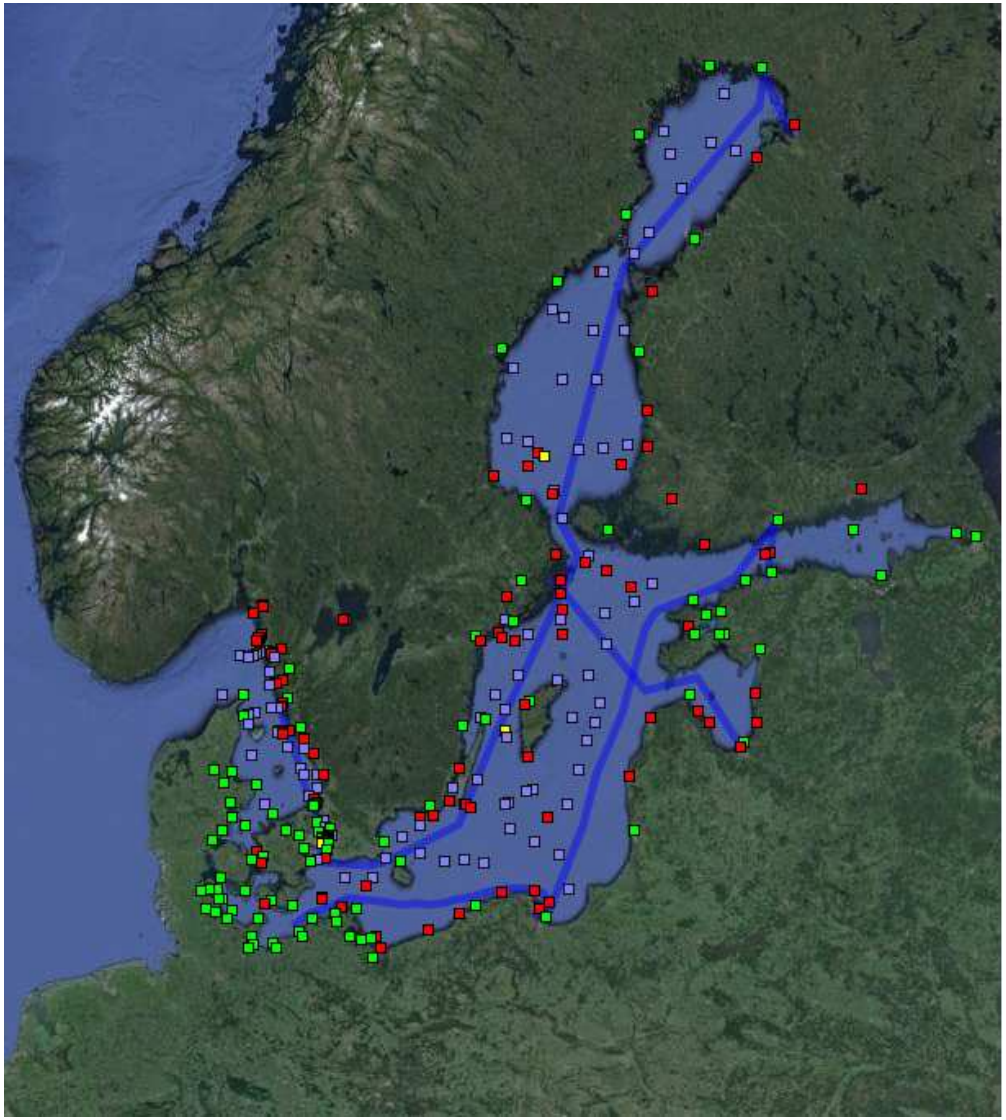
BOOS Data Inventory

Ferryboxes in the Baltic Sea (Sep 2014)



Number	Vessel	Route	Operator	Production Unit
1	~~Silja Europa~~	Tallinn-Helsinki	MSI	SMHI
2	Color Fantasy	Oslo-Kiel	NIVA	
3	FinnMaid	Helsinki-Lübeck-Gdynia-Helsinki	SYKE	SYKE
4	Lysbris	Hamburg-Immingham-Halden	NIVA/HZG	
5	Silja Serenade	Helsinki-Mariehamn-Stockholm	SYKE	
6	Stena Spirit	Gdynia-Karlskrona	IMWM-PIB	
7	TransPaper	Göteborg-Oulu-Kemi-Lübeck-Göteborg	SMHI/SYKE	SMHI
8	Victoria	Tallinn-Mariehamn-Stockholm	UT	
9	FinnSea	Århus-Turku-(Helsinki)	SYKE	
10	M/S Romantika	Stockholm-Riga	MSI	SMHI
11	Oslofjord	Sandefjord-Strömstad	NIVA	

Integration of additional data



+ Monitoring data through SeaDataNet

Sweden
- 23 Lightships/hydstn (SMHI) 1860-1972
- 23 Lighthouses/buoys (SMHI) 1978-2004
- 5 Moored buoys (SMHI) 2001-2013
- 60 Tide gauges (SMHI,SMA) 1886-now

Denmark
- 10 Tide gauges (KDI)
- 3 TS/Current-stations (DMI) 2011-now

Germany
- 10 Tide gauges (WSA)

Poland
- 1 SST station (IOPAS) Done
- 7 Tide gauges (IMWM)

Latvia
- 7 Tide gauges (LEGMA)

Estonia
- 5 Moored buoys (MSI,EMHI)
- 5 Tide gauges (MSI,EMHI)

Finland
- 7 Ferryboxes (SYKE) 2009-now
- 4 Moored buoys (FMI)
- 7 Tide gauges (FMI)

Norway (NOOS)
- 23 Tide gauges (NHS) 1990-now

Thanks for your attention!