Baltic-C Meta-data-set: Daily temperature, ice, salinity, oxygen and water age since AD1500

1.) General description of the data set:

The PROBE-Baltic model have been used to examine oxygen dynamics including hypoxia dynamics during paste 500 year. The study is described in Hansson and Gustafsson (2011). The description of reconstructed forcing fields is given in Hansson and Omstedt (2008). The modelling of river runoff is described in Hansson et al., (2010).

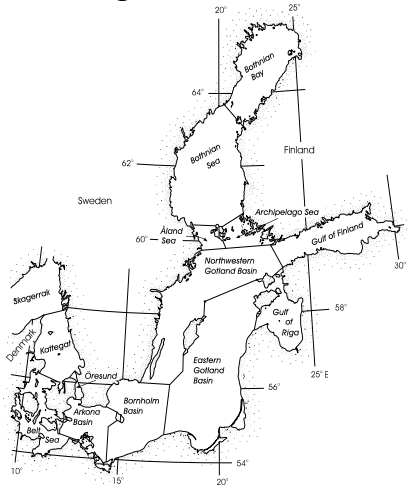

Figure 1. Division of the Baltic Sea into natural sub-basins and used in the PROBE-Baltic model (Omstedt and Axell, 2003).

2.) Created:

2009-09-03

3.) Last update:

2009-09-03

4.) Keywords:

Modelling Baltic Sea daily temperature, ice, salinity, oxygen and water age since AD1500

5.) Area:

Baltic Sea-Kattegat region

6.) Spatial extension:

13 sub-basins

7.) Spatial resolution:

8.) Time window:

1500-1995

9.) Temporal resolution:

3 hours, daily and monthly

10.) Data and arrays:

3.1 Calculated daily temperature, ice, salinity, oxygen and water age

Time series (from different sub-basins in the Baltic Sea) of surface and bottom temperatures (Ts, Tb), ice thickness (hi), ice concentration (Ai), surface and bottom salinity (Ss, Sb), surface and bottom oxygen concentration (Os, Ob) and water age at bottom (Age) have been calculated and are available as a number of files, see Table 1.The time resolution is one day. The surface properties refer to values at 1 m below the surface. The deep properties refer to values 1 m above model depth. These files are put into a compressed file under the name **PB ocean time series I Oxygen 1500-1995.zip** and have the size of 40 Mbite,

.

Table 1. Calculated data available in file **PB ocean time series I Oxygen 1500-1995.zip**

Sub-basin	Acronym	Model depth	Variables	File name
Kattegat	ka	100	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	ka_graph.dat
Öresund	or	30	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	or_graph.dat
Belt Sea	be	40	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	be_graph.dat
Arkona Basin	ar	50	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	ar_graph.dat
Bornholm Basin	bh	90	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	bh_graph.dat
E Gotland Basin	go	250	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	go_graph.dat
NW Gotland B.	nw	250	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	nw_graph.dat
Gulf of Riga	gr	50	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	gr_graph.dat
Gulf of Finland	gf	120	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	gf_graph.dat
Archipelago Sea	as	90	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	as_graph.dat
Åland Sea	al	220	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	al_graph.dat
Bothnian Sea	bs	155	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	bs_graph.dat
Bothnian Bay	bb	130	Ts, Tb, hi, Ai, Ss, Sb, Os, Ob, Age	bb_graph.dat

11.) Reference to other data sets:

12.) Data quality (degree of validation):

Hansson and Gustafsson (2011). Salinity and hypoxia in the Baltic Sea since AD 1500, in press.

Hansson, D., and A., Omstedt (2008). Modelling the Baltic Sea ocean climate on centennial time scales; Temperature and Sea Ice. Climate Dynamics 30(7-8), 763 - 778. DOI: 10.1007/s00382-007-0321-2.

Hansson, D., Eriksson, C., Omstedt, A., and D., Chen (2010). Reconstruction of river runoff to the Baltic Sea. Int. J. Climatol., DOI: 10.1002/joc.2097

Omstedt, A. and L., Axell (2003)
Modeling the variations of salinity and temperature in the large Gulfs of the Baltic Sea. Continental Shelf Research, 23, 265-294

13.) Where to find the data?

Through contact person

14.) Contact person:

Anders Omstedt
Anders.Omstedt@gvc.gu.se