



Project

Product User Manual

Reference: MYO-WP14-SIW-FMI-SEAICE-BALTIC-PUM

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GLOSSARY AND ABBREVIATIONS

NetCDF	Network Common Data Form
CF	Climate Forecast (convention for NetCDF)
PC	Production Center
PU	Production Unit
ftp	File transfer protocol, method of file transfer
OpenDAP	Open-Source Project for a Network Data Access Protocol. Protocol to download subset of data from a n-dimensional gridded dataset (ie: 4 dimensions: lon-lat,depth,time)

I INTRODUCTION

This guide describes the Baltic Sea ice data product files from FMI, what data services are available to access them, and how to use the files and services.

The `ice_thic_baltic` product is a gridded ice thickness based on the digitized FMI ice charts produced by the ice analysts. It is produced daily in the afternoon, describing the ice situation of 14:00 EET. The nominal resolution is about 1km.

The `ice_conc_baltic` product is a gridded ice concentration based on the digitized FMI ice charts produced by the ice analysts. It is produced daily in the afternoon, describing the ice situation of 14:00 EET. The nominal resolution is about 1km.

The `ice_conc_qual_baltic` product is a gridded ice product quality based on the age of the SAR data used for making ice charts. It is produced daily in the afternoon, describing the situation at 14:00 EET. The nominal resolution is about 1km.

The `ice_thicness_baltic` product is a gridded ice thickness based on the digitized FMI ice charts refined by SAR. It is produced after reception of a Sar image either from Envisat ASAR or Radarsat-2. The nominal resolution is about 500m.

The `ice_drift_baltic` product is a gridded ice motion based on the SAR data produced of two overlapping SAR images with a time difference less than or equal to two days. It is produced twice a day if suitable SAR image pairs after the previous production have appeared. SAR images are either from Envisat ASAR or Radarsat-2. Nominal resolution about 800m.

II DESCRIPTION OF THE PRODUCT LINE

II.1 General Information

Product Lines	ice_conc_baltic
Geographical coverage	Baltic Sea
Variables	Ice concentration (%)
Analysis	Yes
Forecast	No
Available time series	From 1 January 2010 – on going
Temporal resolution	day
Target delivery time	Daily
Delivery mechanism	Delivered to met.no by ftp
Horizontal resolution	1km
Number of vertical levels	1
Format	Netcdf CF1.4

Product Lines	ice_thic_baltic
Geographical coverage	Baltic Sea
Variables	Ice thickness (cm)
Analysis	yes
Forecast	No
Available time series	From 1 January 2010 – on going
Temporal resolution	1 day
Target delivery time	Daily
Delivery mechanism	Delivered to met.no by ftp
Horizontal resolution	1km
Number of vertical levels	1
Format	Netcdf CF1.4

Product Lines	ice_thickness_baltic
Geographical coverage	Baltic Sea
Variables	Ice thickness (cm)
Analysis	No
Forecast	No
Available time series	From 1 January 2011 – on going
Temporal resolution	Depending on SAR data
Target delivery time	After each SAR reception
Delivery mechanism	Delivered to met.no by ftp
Horizontal resolution	500m
Number of vertical levels	1
Format	Netcdf CF1.4

Product Lines	ice_drift_baltic
Geographical coverage	Baltic Sea
Variables	Displacement in X and Y
Analysis	No
Forecast	No
Available time series	From 1 January 2011 – on going
Temporal resolution	Depending on SAR data
Target delivery time	Twice daily
Delivery mechanism	Delivered to met.no by ftp
Horizontal resolution	800m
Number of vertical levels	1
Format	Netcdf CF1.4

Product Lines	ice_conc_qual_baltic
Geographical coverage	Baltic Sea
Variables	Quality index 1-5
Analysis	No
Forecast	No
Available time series	From 1 January 2011 – on going
Temporal resolution	1 Day
Target delivery time	Daily
Delivery mechanism	Delivered to met.no by ftp
Horizontal resolution	1km
Number of vertical levels	1
Format	Netcdf CF1.4

Detailed information on the systems and products are on MyOcean web site: www.myocean.eu .

II.2 Details of datasets

ice_drift_baltic		
DATASETS	VARIABLES AND UNIT or GEOGRAPHICAL COVERAGE	NAME OF VARIABLES IN THE NETCDF FILE or DOMAIN AREA
ice_drift_baltic	Sea ice drift [m]	"sea_ice_x_displacement"
ice_drift_baltic	Sea ice drift [m]	"sea_ice_y_displacement"
ice_drift_baltic	Estimate quality [%]	"ice_drift_quality"

Table 2: List of the datasets (column 1), of the variable for each dataset (column 2) and their names in the NetCDF files (column 3) for the SEAICE_GLO_SEAICE_L4_NRT_OBSERVATIONS_011_006

II.3 Details of variables

VARIABLES	UNITS	NAME OF VARIABLES IN NETCDF FILE
ice_thic_baltic	Ice thickness [cm]	
ice_conc_baltic	Ice concentration [%]	
ice_thickness_baltic	Ice thickness [cm]	"sea_ice_thickness"

Table 3 : list of variables of the product/product line

III ADDITIONAL INFORMATION ABOUT PRODUCTS

III.1 Nomenclature of products

The nomenclature used for the SIW-FMI-SEAICE-BALTIC products is:

ice_prodname_baltic_time.nc

time:YYYYMMDDhhmmss

III.2 Grid and Geographical Projection Grid

The products covers the Baltic Sea.

The SAR-based products have an individual grid depending on the source SAR data. The ice chart grid based products have a fixed grid of 1223 (x) by 1445 (y) grid points, in latlong coordinate system. The upper left corner is (x,y)=(9.0,66.2) degrees, and the resolution is (dx,dy)=(0.018,0.009) degrees. The reference ellipsoid is WGS84.

III.3 Update Time

Near real time for the SAR ice thickness (about 20 minutes after the SAR has been received at FMI), for ice motion twice daily and for the ice chart based products daily.

III.4 Other information :

Iç **VALIDATION AND ASSESSMENT: QUALITY CONTROL DONE ON PRODUCTS**

Validation is performed twice each season, the validation reports are delivered as part of MyOcean.

§ DATA FORMAT

The data for the ice_thic_baltic and ice_conc_baltic are in ascii grids which are delivered to met.no and converted into netcdf (1.4) there. The other products are in netcdf (1.4) format.