



Exercise 1

Register as a new user at [MyOcean.eu](https://myocean.eu)



OCEAN MONITORING AND FORECASTING

Providing PRODUCTS and SERVICES for all marine applications

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ACCESS TO PRODUCTS

Search and download your datasets!

[FIRST VISIT ?](#)

Select your:

AREA

PARAMETERS

TIME COVERAGE

OBSERVATIONS/MODELS

PDF CATALOGUE

OBSERVATIONS OVERVIEW

ONLINE CATALOGUE

MODELS OVERVIEW

- ▶ GLOBAL OCEAN
- ▶ ARCTIC OCEAN
- ▶ BALTIC SEA
- ▶ EUROPEAN NORTH WEST SHELF SEAS
- ▶ IBERIA-BISCAY-IRELAND REGIONAL SEAS
- ▶ MEDITERRANEAN SEA
- ▶ BLACK SEA

2015
13
APR

LATEST NEWS FLASH

MyOcean:2625
BALTICSEA_ANALYSIS_FORECA
missing files
In Progress...

[ALL NEWS FLASH](#)

4.915

MYOCEAN SUBSCRIBERS

2,000,000

TRANSACTIONS (NB OF

-5 WEEKS

TO GO BEFORE

10 TB

TERABYTES DOWNLOADED



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ANY QUESTION?

Get help from the Service Desk



<http://www.myocean.eu/web/56-user-registration-form.php>

Help to register?

- Online Tutorials:

<http://www.myocean.eu/web/95-online-tutorials.php?item=2103>

or

- MyOcean Service Desk:

servicedesk@myocean.eu.org

USER REGISTRATION FORM

SLA - MYOCEAN SERVICE LEVEL AGREEMENT

Please read the [Service Commitments and Licence](#), which is an integral part of the MyOcean Service Level Agreement (SLA) and outlines the level and range of service MyOcean supplies to the user.

Please fill in this form, sign it (by ticking) and return it to the MyOcean Service Desk if you wish to reach MyOcean products.

Section 1 - Registration

1.1 Contact details

First Name	<input type="text" value="Thomas"/>
Family Name	<input type="text" value="Hammarklint"/>
Organisation	<input type="text" value="SMHI"/> <i>(if you are not affiliated to any organisation please fill in "None")</i>
Organisation website	<input type="text" value="www.smhi.se"/>
Address line 1	<input type="text"/>  This field is mandatory
Address line 2	<input type="text"/>



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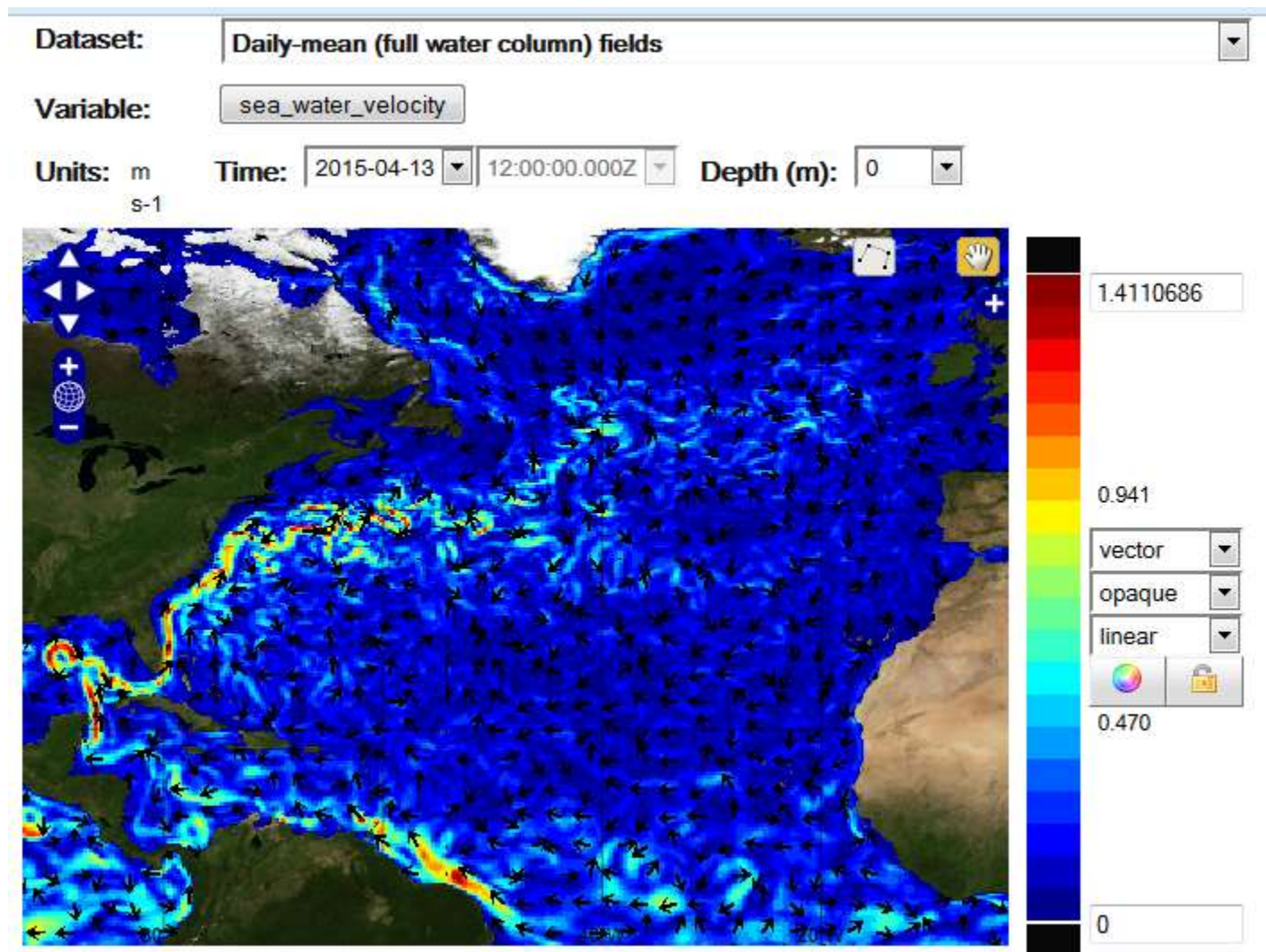


Exercise 2

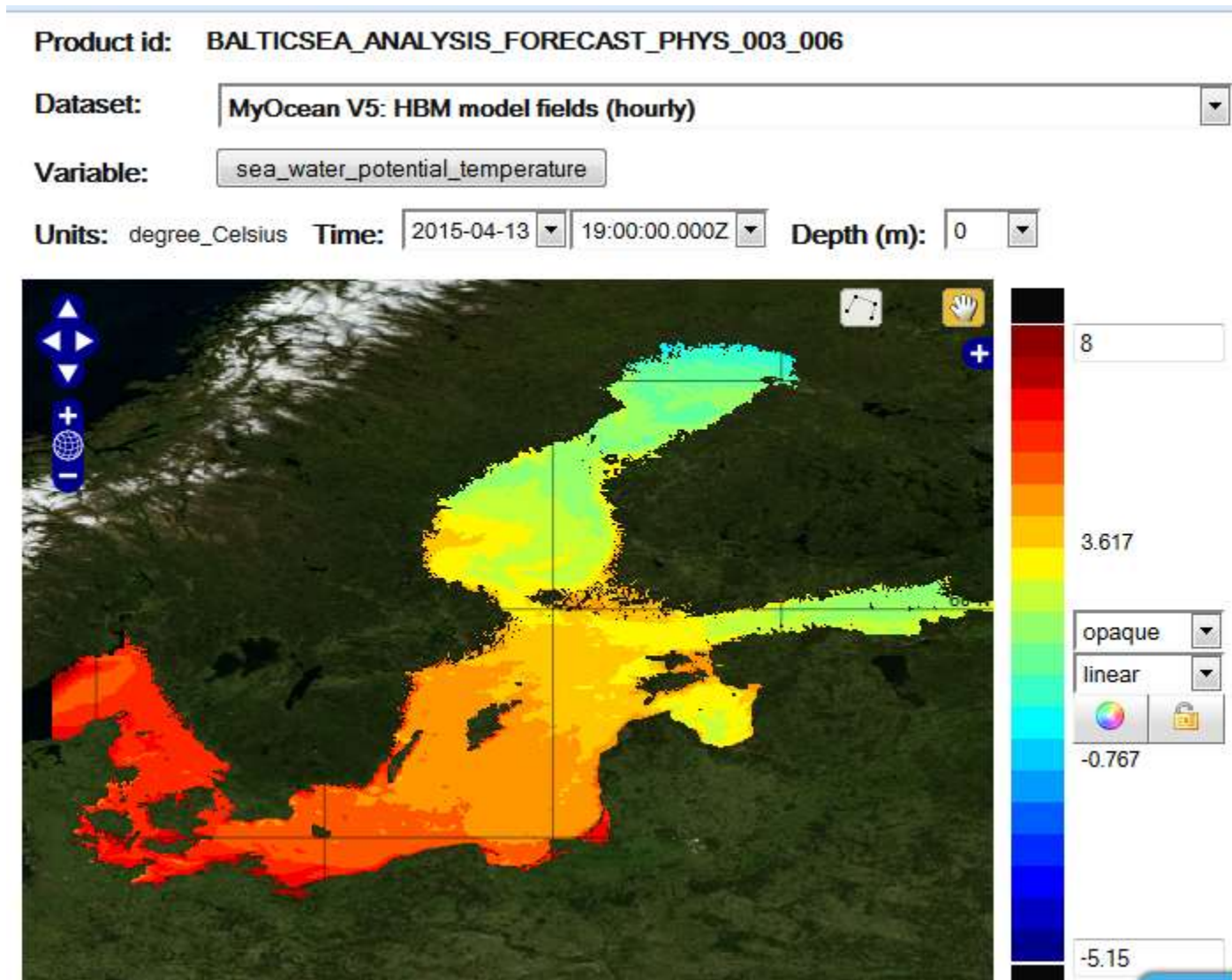
View products

No need to register

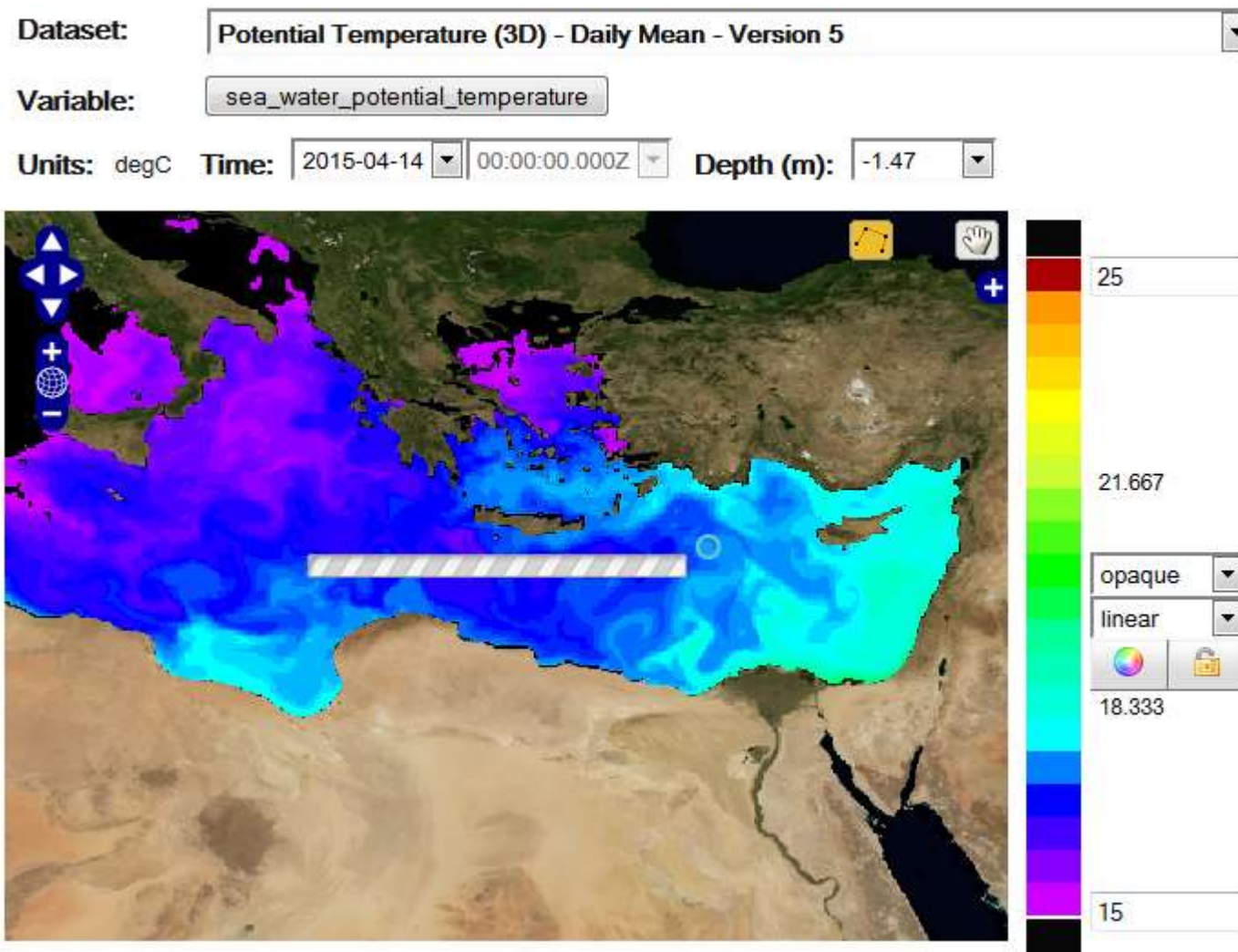
Forecasted Ocean Current Global Ocean (Atlantic)



Forecasted Sea Surface Temperature Baltic Sea



Forecasted Sea Surface Temperature Med Sea





Exercise 3

Download and Visualization
In-situ observations

- Go to the myocean.eu website and find recently observed sea level in Stockholm
- Stockholm is located in the Baltic Sea
- Relevant information

Baltic Oceanographic Stations:

<http://www.boos.org/index.php?id=158>

(open in Chrome or FireFox)

MyOcean - Ocean monitoring and forecasting - Mozilla Firefox

Arkiv Redigera Visa Histgrik Bokmärken Verktyg Hjälp

MyOcean - Ocean monitoring and forec... +

www.myocean.eu

Google

myOcean

OCEAN MONITORING AND FORECASTING

Providing PRODUCTS and SERVICES for all marine applications

INTRANET ACCESS

Search terms OK

SHORT-CUT TO SERVICES

REGISTER NOW

ONLINE TUTORIALS

COLLABORATIVE FORUM

LATEST NEWS FLASH

MyOcean:2625
BALTICSEA_ANALYSIS_FORECA
missing files
In Progress...

ALL NEWS FLASH

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13
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ACCESS TO PRODUCTS

Search and download your datasets!

SELECT YOUR:

AREA

- GLOBAL OCEAN
- ARCTIC OCEAN
- BALTIC SEA
- EUROPEAN NORTH WEST SHELF SEAS
- IBERIA-BISCAY-IRELAND REGIONAL SEAS
- MEDITERRANEAN SEA
- BLACK SEA

PARAMETERS

TIME COVERAGE

OBSERVATIONS/MODELS

PDF CATALOGUE

OBSERVATIONS OVERVIEW

ONLINE CATALOGUE

MODELS OVERVIEW

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-5 WEEKS TO GO BEFORE

10 TB TERABYTES DOWNLOADED

ANY QUESTION?

Get help from the Service Desk

www.myocean.eu/web/69-my-ocean-interactive-catalogue.php?option=com_csw&task=results&simplesearch=ok&advancedsearch-geographical_area[]=advancedsearch-geographical_area-baltic-sea

Co-funded by the Horizon 2020 Erasmus+ Programme

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SV 20:25 2015-04-13

MyOcean interactive catalogue - MyOcean - Mozilla Firefox

ArkivRedigeraVisaHistorikBokmärkenVerktygHjälp

MyOcean interactive catalogue - MyOce...+

www.myocean.eu/web/69-my-ocean-interactive-catalogue.php?option=com_csw&task=results&simplesearch=ok&advancedsearch-geographical_area[]=advancedse

Google

ONLINE CATALOGUE

CATALOGUE PDF

FIRST VISIT ?

MY CART0

☒ All time coverages

☐ Forecast Products (2)

☐ Near Real Time Products (17)

☐ Multi Year Products (9)

☐ Time Invariant Products (2)

OBSERVATIONS/MODELS

☒ All observations/models

☐ Models (6)

☐ Satellite Observations (20)

☐ In Situ Observations (2)

GRID TYPE

☒ All grid types

☐ Gridded (23)

☐ Along swath (3)

☐ Discrete (2)

TIME SPAN

☒ All time span

☐ 0-5 Years (15)

☐ 5-10 Years (3)

BALTIC SEA PHYSICS REANALYSIS FROM SMHI (1989-2013)

[Numerical-model](#), [Currents](#), [Sea-ice](#), [Sea-level](#), [Temperature](#), [Salinity](#), [Multi-year](#), [Baltic-sea](#)

For the Baltic Sea, we provide three different Reanalysis products for the physical condition in the Baltic Sea. The purpose of having several Baltic reanalysis products is to estimate the accuracy of a Baltic reanalysis by using different data assimilation methods and model codes.

The 3 different products provided are:
BALTICSEA_REANALYSIS_PHYS_003_004
BALTICSEA_REANALYSIS_PHYS_003_005
BALTICSEA_REANALYSIS_PHYS_003_008.

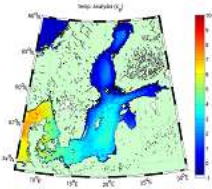
This reanalysis BALTICSEA_REANALYSIS_PHYS_003_008 for the Baltic Sea was produced in 2014 at SMHI with the circulation model HIROMB (High-Resolution Operational Model for the Baltic). The data assimilation scheme used was an Ensemble 3D-Var data assimilation scheme.

The product provides data on a 3 nautical miles grid (5.5 km) for the physical conditions in the Baltic Sea for the period 1989 – 2013.

The product provides three different datasets:

- Surface fields with hourly instantaneous data

BALTICSEA_REANALYSIS_PHYS_003_008



MORE INFO

ADD TO CART

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MyOcean interactive catalogue - MyOcean - Mozilla Firefox

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MyOcean interactive catalogue - MyOce...+

www.myocean.eu/web/69-myocean-interactive-catalogue.php?option=com_csw&task=results&simplesearch=ok&advancedsearch-geographical_area[]=advancedse

Google

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CATALOGUE PDF

FIRST VISIT ?

MY CART0

YOUR SEARCH?

NEW SEARCH

AREA

☐ All areas

☐ Global Ocean (0)

☐ Arctic Ocean (0)

☒ Baltic Sea (2)

☐ European North-West Shelf Seas (0)

☐ Iberia-Biscay-Ireland Regional Seas (0)

☐ Mediterranean Sea (0)

☐ Black Sea (0)

PARAMETER

☒ All parameters

☐ Ocean Temperature (2)

☐ Ocean Salinity (2)

☐ Ocean Currents (1)

☐ Sea Ice (0)

Found 2 products matching your criteria.

KEYWORD SEARCH

SEARCH

BALTIC SEA- IN SITU NEAR REAL TIME OBSERVATIONS

In-situ-observation, Ocean-chlorophyll, Ocean-chemistry, Sea-level, Salinity, Temperature, Currents, Near-real-time, Baltic-sea

INSITU_BAL_NRT_OBSERVATIONS_013_032



MORE INFO

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BALTIC- IN-SITU OBSERVATIONS YEARLY DELIVERY IN DELAYED MODE (1990-2013)

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Opemicus

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2015-04-13

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ArkivRedigeraVisaHistorikBokmärkenVerktygHjälp

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www.myocean.eu/web/69-myoc...insitu_bal_nrt_observations_013_032

Google

ONLINE CATALOGUE

CATALOGUE PDF

FIRST VISIT ?

MY CART 0

BALTIC SEA- IN SITU NEAR REAL TIME OBSERVATIONS

Metadata provided by MYOCEAN
Credits: myocean



BACK TO SEARCH

ADD TO CART

VIEW PRODUCT

DOWNLOAD PRODUCT

INFORMATIONPDFXML

DOCUMENTATION

SERVICES

PRODUCT IDENTIFIERINSITU_BAL_NRT_OBSERVATIONS_013_032

OVERVIEW

For the Baltic Sea- The In Situ Thematic Assembly Centre (INS TAC) integrates near real-time in situ observation data. These data are collected from the BOOS members and complemented by the observation collected by the Global INS TAC in the area. The data are quality controlled using automated procedures. It is updated continuously and provides observations with 24-48 hours from acquisition in average

VARIABLES

mass_concentration_of_chlorophyll_a_in_sea_water

FULL OVERVIEW

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Opemnicus

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ANY QUESTION?

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SV 20:29 2015-04-13

Not received any login yet?

Login: fix03workshop

Password: fix03workshop



MyOcean DATA ACCESS

[BACK TO SEARCH](#)[MY CART](#)

INSITU_BAL_NRT_OBSER
VATIONS_013_032

MyOcean DATA ACCESS

Fill your login/password and click on LOGIN to download data.

USERNAME

PASSWORD

If you are not registered yet click on REGISTER

Thank you for using MyOcean products



MyOcean DATA ACCESS

[BACK TO SEARCH](#)[MY CART](#)

INSITU_BAL_NRT_OBSER
VATIONS_013_032



DOWNLOAD

[« BACK TO DATASET SELECTION](#)

MYOCEAN FTP

Filtering is not applicable for "FTP Access" (no criteria taken into account).
You can connect to the FTP server with your MyOcean credentials to select dataset files.

[FTP ACCESS](#)

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ANY QUESTION?
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BOOS Data Portal structure

Index för ftp://myocean.smhi.se/Core/INSITU_BAL_NRT_OBSERVATIONS_013_032/

 [Gå upp till en högre katalognivå](#)

Namn	Storlek	Senast ändrad	
 MYO_KPI_DB.txt	950 KB	2015-04-13	20:36:00
 MYO_PARAMETERS.txt	70 KB	2015-04-13	19:08:00
 MYO_STATIONS_BOOS.txt	131 KB	2015-04-13	19:08:00
 history		2013-02-04	00:00:00
 index_history.txt	210 KB	2015-04-13	20:36:00
 index_latest.txt	930 KB	2015-04-13	20:36:00
 index_monthly.txt	1681 KB	2015-04-13	20:36:00
 kpi		2015-04-01	08:38:00
 latest		2015-04-13	07:07:00
 monthly		2013-05-20	00:00:00
 myo_index_platform.txt	125 KB	2015-04-13	20:36:00
 quid		2014-08-21	00:00:00

myo_index_platform.txt

```
# Title : in-situ platforms catalog
# Description : catalogue of available in-situ platforms
# Project : MyOcean
# Format : 1.0
# Date of update : 201504132036
#
platform_code,creation_date,update_date,wmo_platform_code,data_source,institution,parameter,last_latitude_observation,last_longitude_observation,last_date_observation
06GA,2013-08-14T11:39:13Z,2015-04-13T20:19:54Z,,BO,BSH,TEMP PSAL,53.675,3.3498,2015-04-13T20:19:54Z
06JX,2013-08-14T11:40:37Z,2015-04-13T20:19:55Z,,BO,BSH,TEMP PSAL,54.0067,9.8753,2015-04-13T20:19:55Z
ARH160003,2015-03-02T01:42:45Z,2015-04-13T20:19:56Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.1444,10.6088,2015-04-13T20:19:56Z
ARH170001,2015-03-02T01:42:45Z,2015-04-13T20:19:56Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.2577,10.3987,2015-04-13T20:19:56Z
ARH170002,2015-03-02T01:42:47Z,2015-04-13T20:19:57Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.2427,10.3687,2015-04-13T20:19:57Z
ARH170004,2015-03-02T01:42:48Z,2015-04-13T20:19:58Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.1827,10.2954,2015-04-13T20:19:58Z
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ARH170117,2015-03-02T01:43:01Z,2015-04-13T20:20:03Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.0442,10.3913,2015-04-13T20:20:03Z
ARH170118,2015-03-02T01:43:02Z,2015-04-13T20:20:03Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.1022,10.3047,2015-04-13T20:20:03Z
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ARH250034,2015-03-02T01:43:15Z,2015-04-13T20:20:12Z,,BO,DMU,PSAL TEMP CPHL DEPH SVEL TURB PRES LGHT DOX1,56.0232,10.2496,2015-04-13T20:20:12Z
Aarhus,2015-01-11T01:16:56Z,2015-04-13T20:06:57Z,,BO,DMI,DEPH SLEV,56.1500,10.2167,2015-04-13T20:06:57Z
Ale,2015-03-02T01:31:40Z,2015-04-13T20:18:06Z,,BO,SMHI,WSPD TEMP DEPH RELH ATEM WDIR ATMP,65.5697,22.1724,2015-04-13T20:18:06Z
Althagen,2015-01-11T01:16:57Z,2015-04-13T20:06:57Z,,BO,BSH,DEPH SLEV,54.3769,12.4194,2015-04-13T20:06:57Z
ArgosUWS,2015-03-02T01:12:28Z,2015-04-13T20:29:08Z,,BO,SMHI,PSAL TEMP DEPH CPHL,54.3353,-999.0000,2015-04-13T20:29:08Z
Arkona,2015-04-13T19:09:06Z,2015-04-13T20:18:17Z,66021,BO,Fed. Maritime and Hydrographic Agency - Dept. Oceanography,DEPH EWCT NSCT HCSP
HCDT,54.883333,13.866667,2015-04-13T20:18:17Z
```

Download

- Download the following file:

[BO_LATEST_TS_MO_Stockholm_20150413.nc](#)

Visualization

[BO_LATEST_TS_MO_Stockholm_20150413.nc](#)

- Open the file with ncBrowse or ODV:

<http://www.epic.noaa.gov/java/ncBrowse>

<http://odv.awi.de/>

- Plot sea level as function of time
- Some parameter names (MyOcean names):
time=TIME, depth=DEPH, sealevel=SLEV,
water temperature=TEMP, salinity=PSAL, etc.

The motu-client-python

- Useful to read nc-files

- Download:

<http://sourceforge.net/projects/cls-motu>

- Direct Download of products using motu:

<http://www.myocean.eu/web/34-products-and-services-faq.php?item=1681>



Exercise 4

Quality of the data
In-situ observations

Inspect the quality

- Use the tool ncBrowse or ODV to read the file
- Look at the quality flags
- You can also use Python or Matlab to read nc-files



Exercise 5

Present data in Google Earth

Compare forecasting data with HF radar data in Google Earth

- Export forecasted current velocity data from the Skagerack area (Baltic MFC) at myocean.eu

Time: 2015-04-14 18:00 UTC

- Import the kmz-file to Google Earth
- Import HF radar data (kmz-file) from Google Drive

- Relevant information:

http://www.smhi.se/hfa_coord/BOOS/HFradar.html

<http://www.boos.org/index.php?id=158>