



SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

WP8 and WP9 developments

Data-Interpolating Variational Analysis (Diva) developments

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2nd Plenary Meeting, 26-27 September 2013, Lucca (Italy)

Diva related tools

Diva: base tool (command line), 2D analysis

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Godiva: automatic repetition of 2D analysis

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OceanBrowser: visualisation tool of 4D NetCDF files

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Diva: base tool (command line), 2D analysis

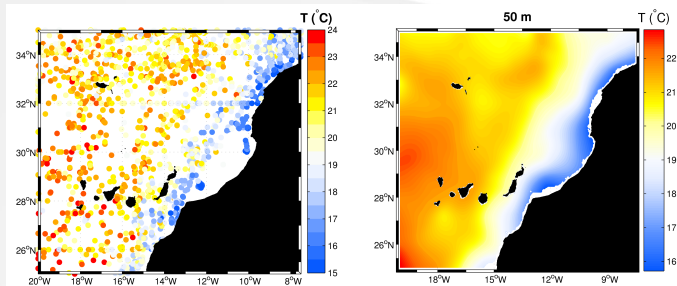
Godiva: automatic repetition of 2D analysis

Diva-on-web: 2D analysis with your data on our server

OceanBrowser: visualisation tool of 4D NetCDF files

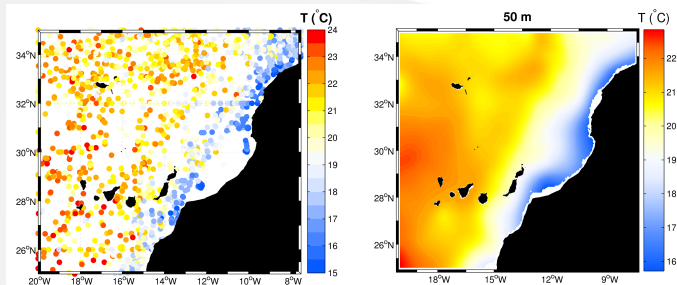
divand: multi-dimension analysis (lon, lat, time, depth)

Diva: an advanced interpolation method for ocean data



Method: minimize cost function (observations, smoothness, physics)

Diva: an advanced interpolation method for ocean data

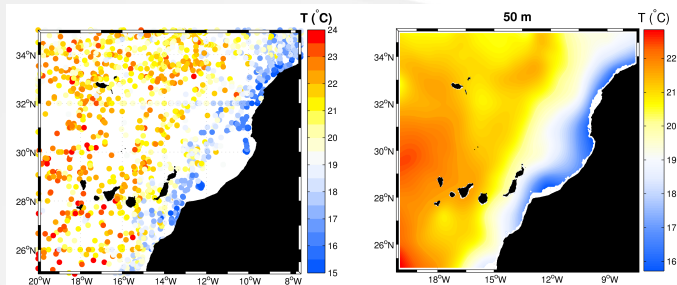


Solver: finite-elements

Numerical efficiency

Domain geometry taken into account

Diva: an advanced interpolation method for ocean data



Implementation: Fortran + bash scripts

Easy adapted for automatic loop

Runs under Linux, Mac-OS & Windows (+ Cygwin)

Diva developments: summary

- Modernisation of the code structure.

OK

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- Support for observations in NetCDF format

OK

In progress

Test with altimetry data (AVISO) using nco tool box
Future test with World Ocean Database NetCDF files

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- Multivariate approach OK

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- Modernisation of the code structure. OK
- Support for observations in NetCDF format In progress
- Multivariate approach OK
- Non-Gaussian distributed variables OK
- 4-dimensional generalisation OK: divand
- Spatially correlated observations errors In progress

Preliminary results available
on-going developments, see afternoon presentation

Diva-on-web & OceanBrowser developments: summary

OceanBrowser:

- Inclusion of external WMS layers

OK

Diva-on-web & OceanBrowser developments: summary

OceanBrowser:

- Inclusion of external WMS layers
- Show locations of CDIs used in an analysis

OK

In progress

Diva-on-web & OceanBrowser developments: summary

OceanBrowser:

- Inclusion of external WMS layers OK
- Show locations of CDIs used in an analysis In progress
- Download animations of horizontal/vertical sections OK

Diva-on-web & OceanBrowser developments: summary

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- Inclusion of external WMS layers OK
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Diva-on-web:

- Inclusion of additional metadata in the NetCDF file produced in the analysis OK

Diva-on-web & OceanBrowser developments: summary

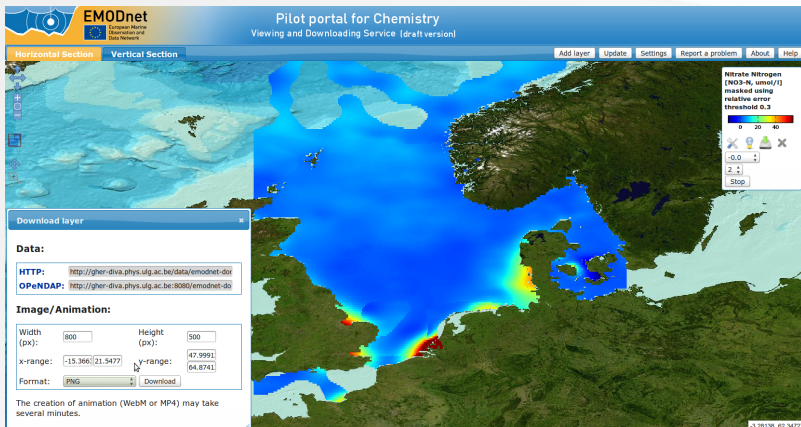
OceanBrowser:

- Inclusion of external WMS layers OK
- Show locations of CDIs used in an analysis In progress
- Download animations of horizontal/vertical sections OK

Diva-on-web:

- Inclusion of additional metadata in the NetCDF file produced in the analysis OK
- Advection constraint In progress

Diva-on-web & OceanBrowser developments: Animation download (mp4 or webm format)



EMODnet
European Marine Observation and Data Network

Pilot portal for Chemistry
Viewing and Downloading Service (draft version)

Horizontal Section Vertical Section Add layer Update Settings Report a problem About Help

Nitrate Nitrogen
[NO₃-N, umol/l]
masked using
relative error
threshold 0.3

0 20 40

X Y Z X

-0.0

2

Stop

Download layer

Data:

HTTP: <http://gher-diva.phys.uig.ac.be/data/emodnet-dor>

OPeNDAP: <http://gher-diva.phys.uig.ac.be:8080/emodnet-dor>

Image/Animation:

Width (px): Height (px):

x-range: y-range:

Format:

The creation of animation (WebM or MP4) may take several minutes.

-3.28138, 62.34727

Diva-on-web & OceanBrowser developments: NetCDF metadata

Upload Grid **Analysis** Statistics Download Link or embed Report a problem Help

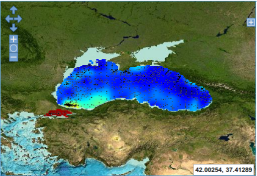
Analysis with Diva

Correlation length [deg]:
 Signal to noise ratio:

Quality of the fit (0: bad 1: good):
 0.871251

Optional parameters

Maximum rel. error (from 0 to 1):



Download

Analysis:

- NetCDF file (.nc)
- Octave or Matlab (.mat)
- Google Earth (.kml)
- Image Format:

Bathymetry:

- NetCDF file (.nc)

NetCDF Metadata

Variable name:

Units:

Standard name:

Long name:

Title:


Institution:

Source:

References:

Comment:

You may leave non-applicable fields empty. Variable can only contain letters (a-z and A-Z), digits, hypens (-) and underscores (_). Other fields are limited to the 7-bit ASCII characters (in particular no umlaut or accents).



Deliverables

No.	Object	Delivery date
D9.9	Updated versions and documentation	M 12, 24, 36, 44
D9.10	Report on multi-dimensional analysis and spatially correlated observations errors	M 24
D9.11	New version Diva-on-web: meta-data + advection constraint	M 24
D9.12	New version Diva-OceanBrowser: interact with CDI records	M 24

Diva workshop

Where? STARESO station (ULg), Calvi, FRANCE

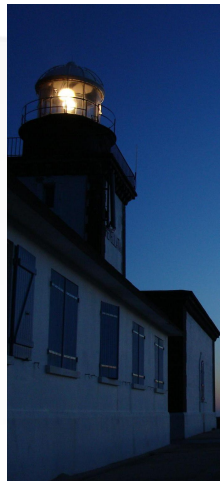
When? **Monday** 4 (arrival) – **Friday** 8 (departure)
November 2013

Who? SeaDataNet / EMODnet partners, all levels

What? Installation, test cases, 2D, 3D, 4D, ...

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More details: [http://modb.oce.ulg.ac.be/mediawiki/index.php/
Diva_workshop_2013_Stareso](http://modb.oce.ulg.ac.be/mediawiki/index.php/Diva_workshop_2013_Stareso)





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Thank you

More information
this afternoon.