Project of Strategic Interest NEXTDATA

Deliverable 2.2.A :
Design and implementation of Subset Service for Mediterranean Reconstructio/Reanalysis

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I Abstract

This Deliverable reports the technical details on the development of the NEXTDATA Portal, focusing on the option to extract and download a spatial and/or temporal subset of individual variables.
The portal is currently running at INGV computational infrastructure at the following web address: http://medsearr.bo.ingv.it/.

II Introduction

Access to the NextData Reconstruction-Reanalysis (RR) collection of CF compliant netCDF files is available through a Thematic Real-time Environmental Distributed Data Services Data server (THREDDS). THREDDS allows users to find, access, and download data from a simple, hierarchical catalog within a Web browser or compatible client software.
Due to file sizes, it may be useful to undertake spatio-temporal subsetting and extract the time series of gridded data into a downloadable netCDF output file. Subsetting the data through THREDDS is one option available for users who don't need access to entire data set.

III NetCDF Subset Service Access

RR data can be accessed from the home page of the Portal, by clicking on Data Access tab.
This page contains a description of the available data and link to the THREDDS.
The associated THREDDS catalog page exposes aggregations of the available datasets (Figure 1) .

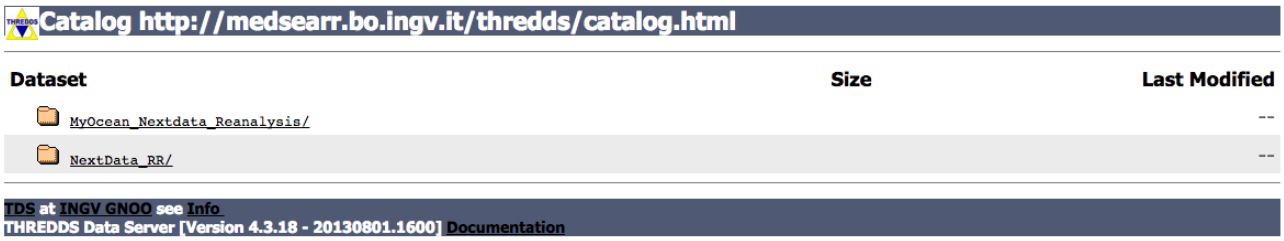

Figure 1: Available datasets on THREDDS.

It is possible to browse through the data catalog and select the dataset of interest. Once there, two options for data Access will be presented including NetcdfSubset, or NCSS.

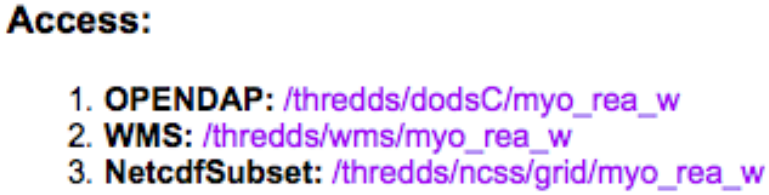

Figure 2:THREDDS data access options.

Clicking the NetcdfSubset link leads to the GUI web form for the NetCDF Subset Service (Figure 3).

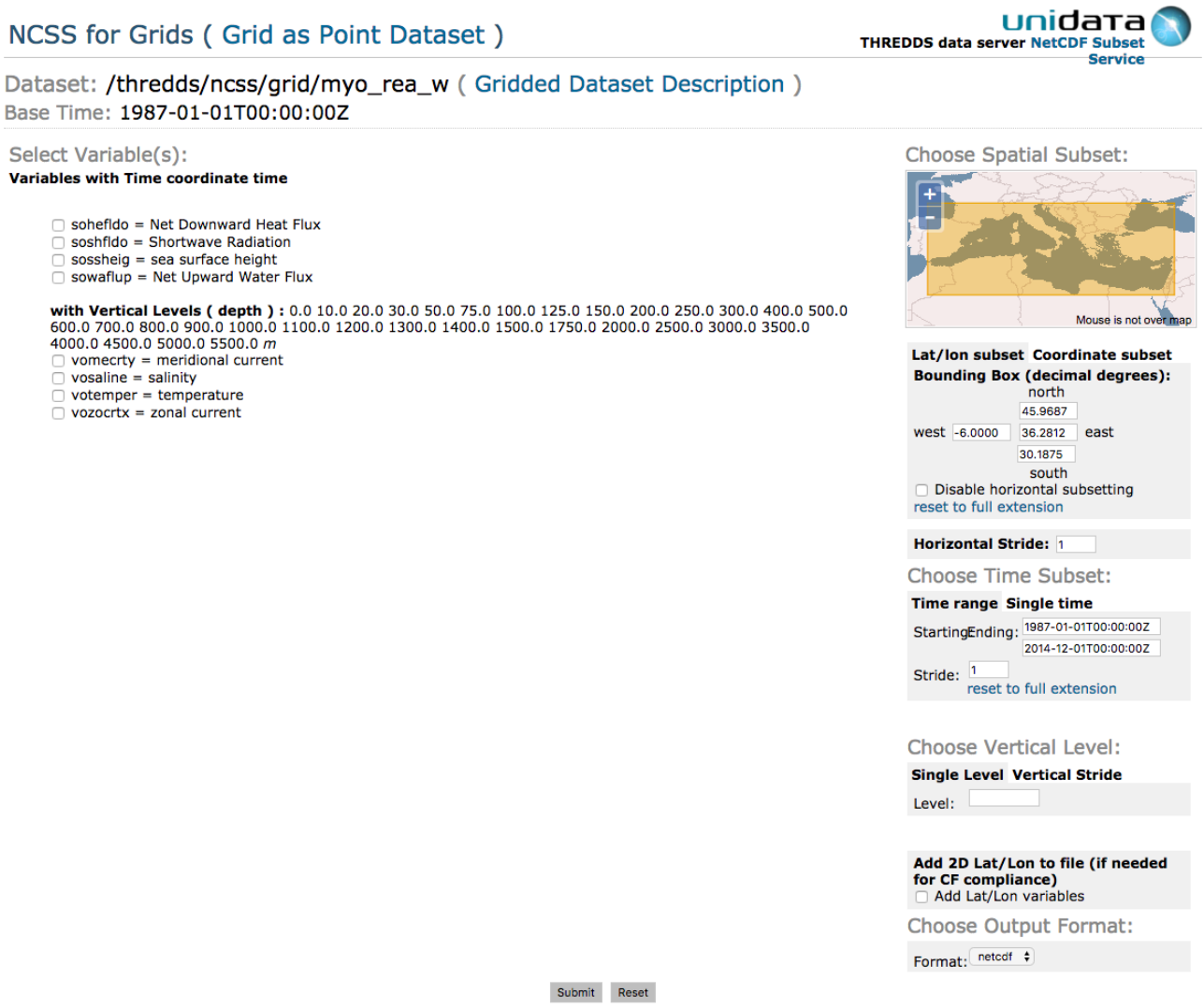

Figure 3: NCSS Gui.

On the GUI it is possible to:

- select variables
- enter the coordinate and time subset
- choose the output format. Netcdf-4 is recommended
- submit the request.

Once the request is processed, the resulting output file will be saved locally and will be ready to be analysed.

IV Download Size Limitations

The current NCSS has a size limit of about 4Gb for each subset request, so it's highly recommended to choose netCDF v4 data format, especially for large subsets, since the same subset data result will have a smaller size in netCDF v4 format.