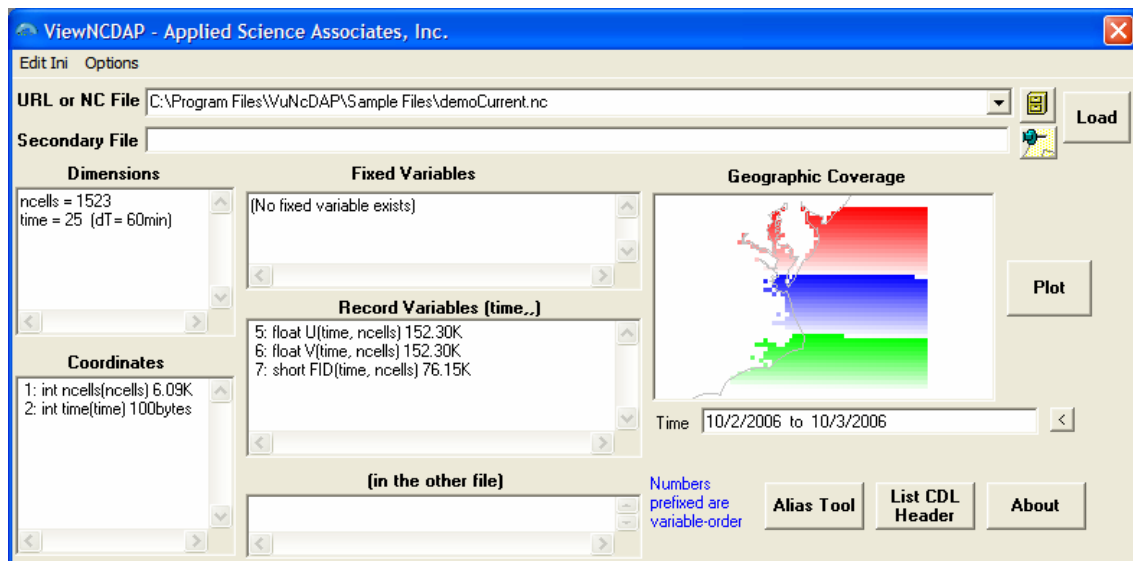




# ASA ViewNcDap Guide

July 2007



ASA's ViewNcDap is a research-based tool that allows a user to visualize 4 dimensional NetCDF and OPeNDAP data. The ViewNcDap application is a standalone application that runs as a Windows EXE.

The application is used to visualize a variety of time-varying geospatial scientific data in a simple map framework. The system should not be considered a GIS system, but is used to quickly preview a variety of data on a simple map. Data may also be filtered and saved to a local NC file.

Due to the wide variety of NC files and how scientists describe the data, not all classes of NetCDF data and OpenDAP data may be viewed with ViewNcDap; some samples are included of NetCDF data that shows how scalar and vector data may be visualized.

ViewNcDap provides support primarily for CF compliant data, and some intelligence is included to try to recognize classes of data for visualization. However, tools are included so the user can provide alias information for variables so data that is not CF-compliant may be viewed.

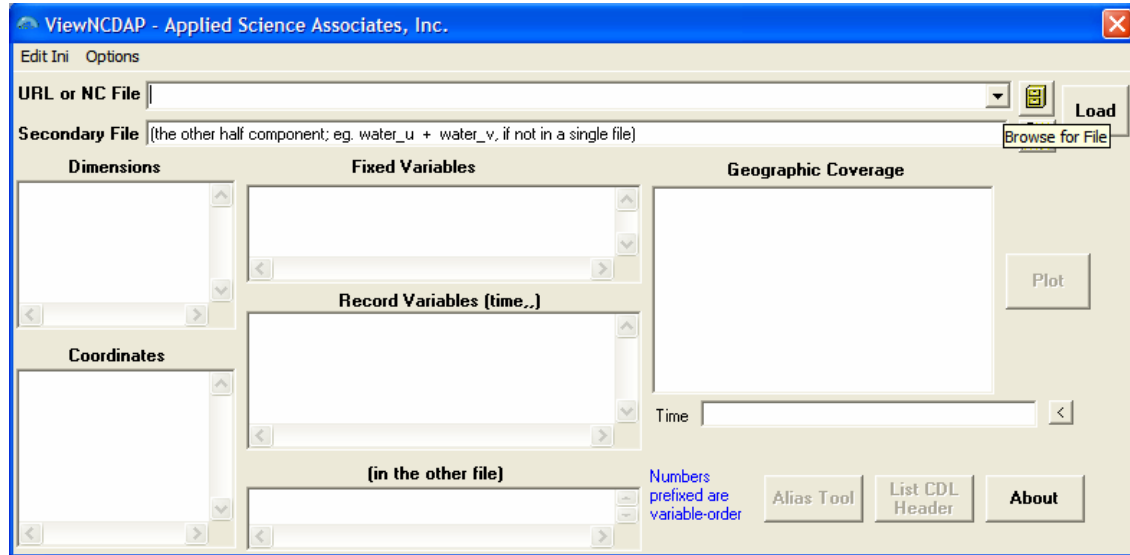
This guide provides examples on using this application to look at sample data included with the installation as well as a suggested OPeNDAP site. The sample data includes model data of ocean currents that is stored in NetCDF file format as an example of time-varying data. Also included is an example of an OPeNDAP URL.

ViewNcDap is made available for free download and use. No maintenance or technical support is provided, but comments and suggestions may be sent to [support@asascience.com](mailto:support@asascience.com).


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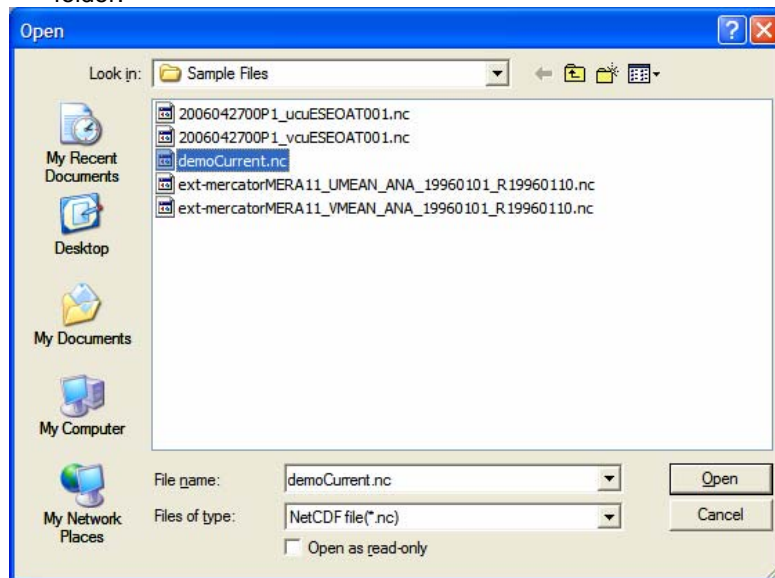
## Getting Started in with ViewNcDap

1. Initiate the application by clicking on the program in the Start Menu → Programs → ViewNcDap.
2. The application starts with the following interface:

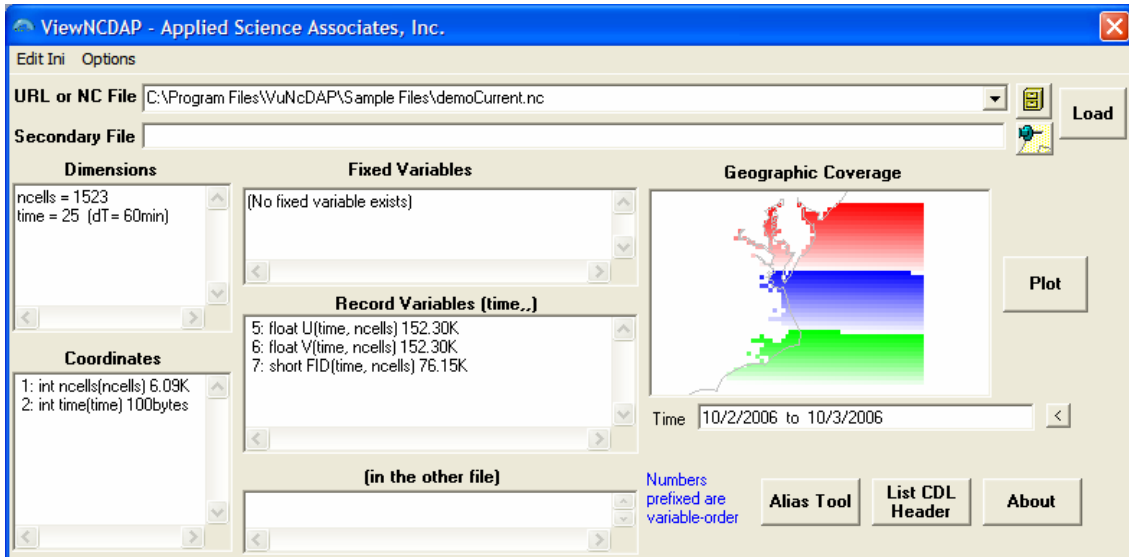


## View a single NetCDF File

1. Use the BROWSE button  on the top right of the interface to navigate to a data source to display in the GIS output panel. Select the demoCurrent.nc file included in the sample data folder.

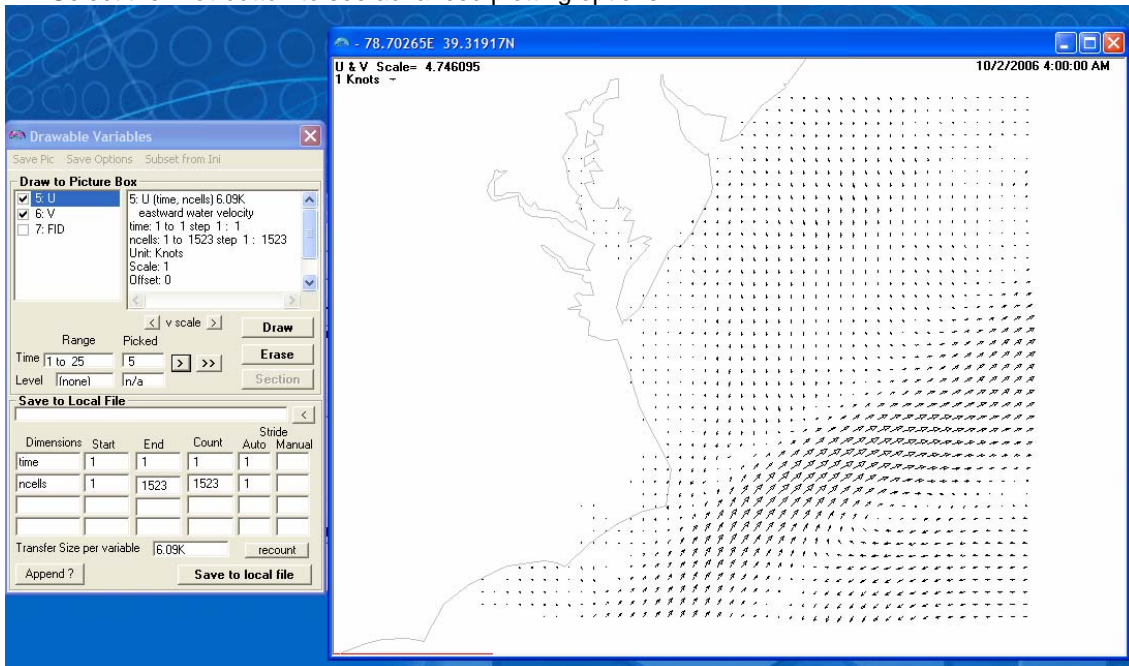


2. Click the LOAD button
3. The application will parse the data file and intelligently load the form with relevant variables.



The Geographic Coverage frame will show a preview of the data.


Select the **Plot** button to see advanced plotting options:

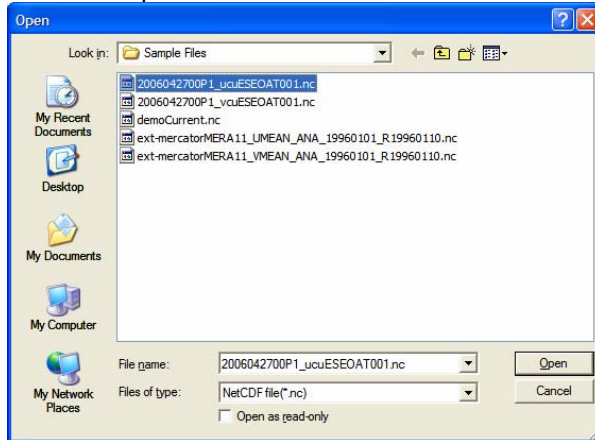


The **Drawable Variables** window allows the user to select the variable to be drawn and also filter gridded data. Use the **Draw** button to display data on the map window when changes are made. If the data has a time component, the user can step through **>**, or animate in time **>>**.

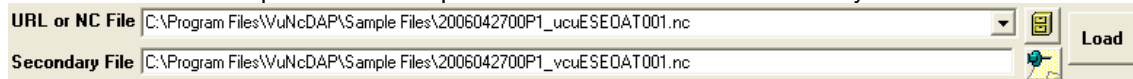
Use the **Save to Local File** to save data to a local NetCDF file.

## Viewing 2 NetCDF Files

1. In many cases, data is stored in 2 files, such as U and V components. ViewNCDap allows the user to select 2 companion files.
2. Use the BROWSE button  on the top right of the interface to navigate to a data source to display in the GIS output panel. Select the 2006042700P1\_ucuESEOAT001.nc file included in the sample data folder.

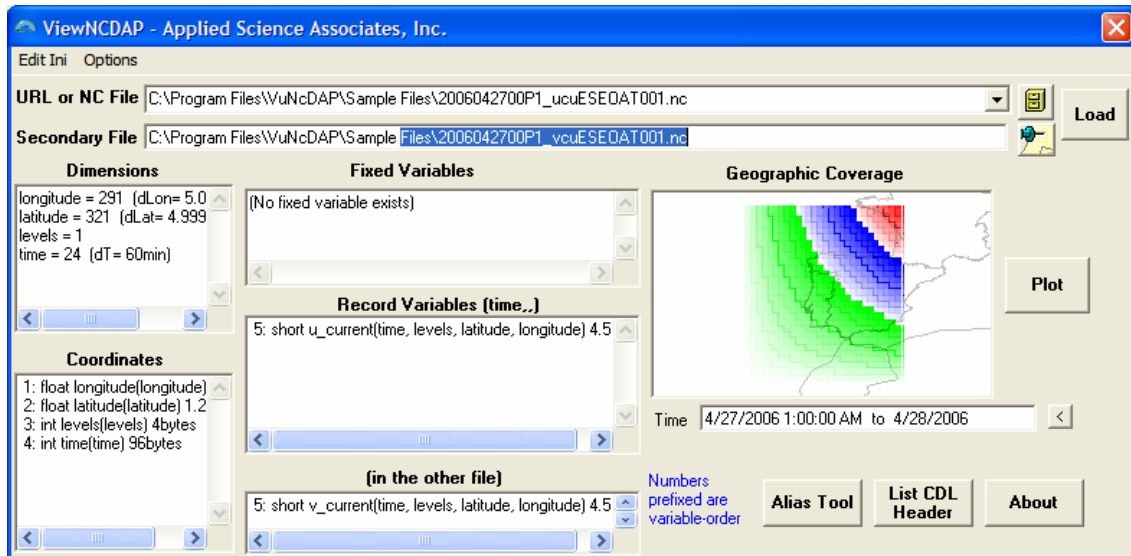


3. Then click the paste button to paste this filename into the Secondary file field.



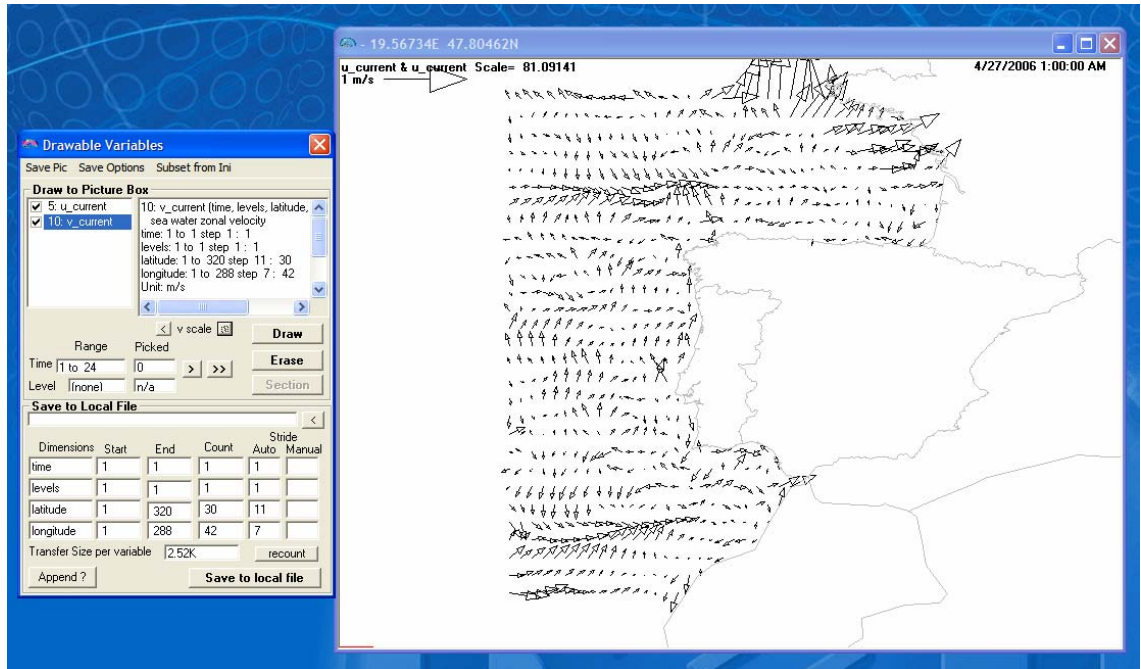
Edit the secondary file name 2006042700P1\_ucuESEOAT001.nc, by changing the **u** to a **v** 2006042700P1\_vcuESEOAT001.nc.

Click the Load button.



And the system recognizes that the U component is in file 1 and the V component is in file 2.

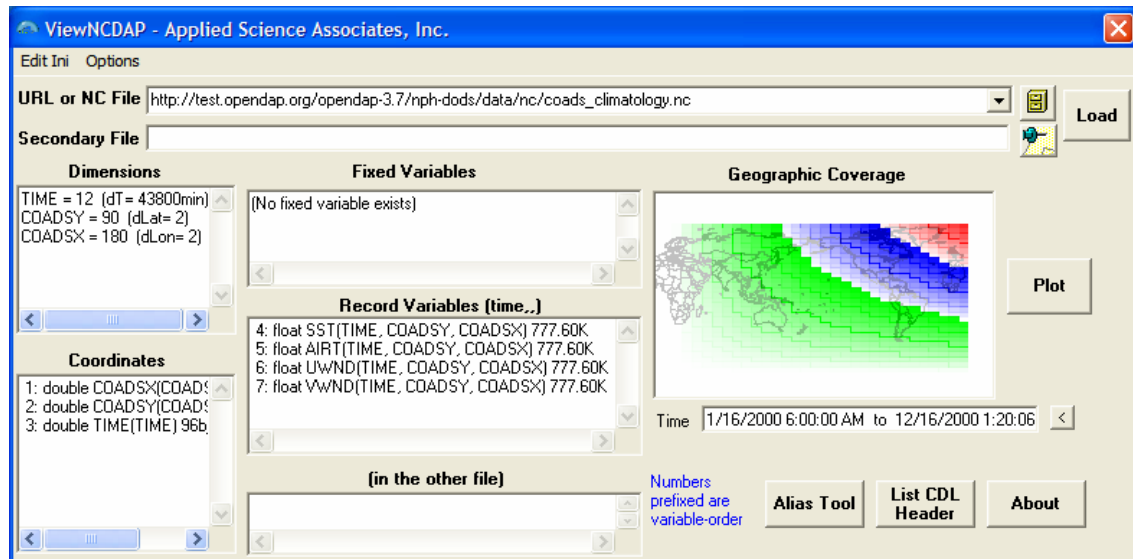
4. Click the Plot button to see the data.



Select the u and c components and click Draw. Use the V Scale buttons to increase the vector size.

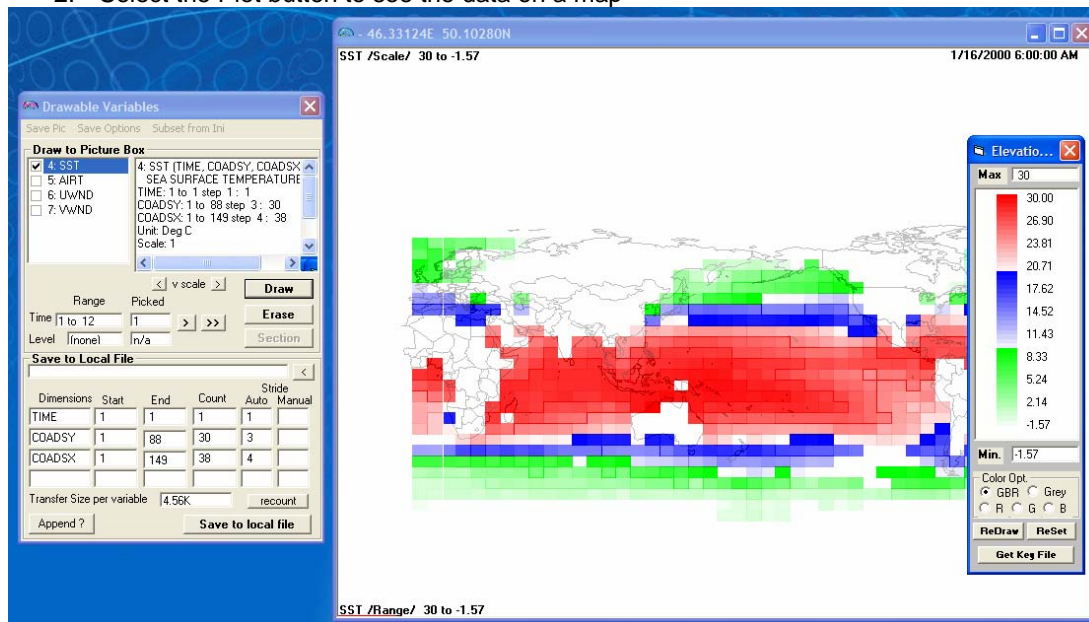
## Viewing Data from an OpenDAP Server

1. To view data from an OpenDap server, enter the URL into URL field. Below is an example:  
[http://test.opendap.org/opendap-3.7/nph-dods/data/nc/coads\\_climatology.nc](http://test.opendap.org/opendap-3.7/nph-dods/data/nc/coads_climatology.nc)



It may take a few seconds after the Load button is clicked to connect to the server and show a preview of the data.

2. Select the Plot button to see the data on a map



Select the SST parameter to plot the sea surface temperature. Click the Draw button if any changes are made to the display options. You can zoom around the map:

**Zoom in :** Drag a zoom window on the map

**Zoom out :** Double click on the map

**Interrogate data :** Right click on map

## Additional ReadMe Information

NetCDF / OPeNDAP viewer prototype: VuNcDAP.exe

### VuNcDAP.exe will do:

- Display header info (equivalent to CDL)
- Display geographic and time coverage, if readable.
- View a scalar item and single pair of vector components
- Subset a scalar item and single pair of vector components into a local nc file

### Installation:

Install package.

Run VuNcDAP.exe.

Depending on location of the executable, paths must be recorded in VuNcDAP.ini file. On initial attempt, program asks paths of,


1. Base coastline
2. Notepad.exe (or equivalent)
3. Initial sample NC file

### Default paths for these are (or see/edit manually VuNcDAP.ini);

- |                                |                                 |
|--------------------------------|---------------------------------|
| 1. Base coastline              | >app.Path & "\\world.bdm"       |
| 2. Notepad.exe (or equivalent) | > winnt\system32                |
| 3. Initial sample NC file      | > app.Path & "\\demoCurrent.nc" |

### Controls:

**Load** Loads a single file. "Browse" triggers the Command dialog to look for a file in local path  
For URL, you must paste into the load area

**Load** Loads a pair of files that contains only one of the vector components each. Paste  
command  will copy text of URL or NC file to **Secondary File**, then edit file name  
to make a pair.

When the loading is successful, coordinate variable (lon/lat) will be displayed in the  
preview pane with Green/Blue/Red color-wise as indexes increases.

**ALIAS** Allows the user to customize the assignment of parameter names that do not respond to the  
application's integrated intelligence.

### List CDL Header

List dimension, variables, attributes in CDL format (using NotePad.exe or another text reader)

**Plot** Individual item may be viewed in a spatially windowed /sub-sampled manner  
Items selected can be saved in a local .NC file