

NetCDF

What a NetCDF file?

How can you use a NetCDF file?

...

Examples in using a NetCDF file.

Useful Links

Overview

What is a NetCDF file? NetCDF is a set of software libraries and self-describing, machine-independent data formats that support the creation, access, and sharing of array-oriented scientific data. NetCDF was developed and is maintained at Unidata. Unidata provides data and software tools for use in geoscience education and research. Unidata is part of the University Corporation for Atmospheric Research (UCAR) Community Programs (UCP). Unidata is funded primarily by the National Science Foundation. The NetCDF homepage may be found at <http://www.unidata.ucar.edu/software/netcdf/>. The NetCDF source-code is hosted at GitHub, and may be found directly at <http://github.com/Unidata/netcdf-c>.

info taken from: <https://docs.unidata.ucar.edu/netcdf-c/current/>

How you can use a NetCDF file: 3 ways to convert to csv

Python Script

Examples of code are at:

<https://confluence.ecmwf.int/display/CKB/How+to+convert+NetCDF+to+CSV>

Panoply

Download from NASA website.

You must have Java 9 to use.

<https://www.giss.nasa.gov/tools/panoply/download/>

Info from this came from:

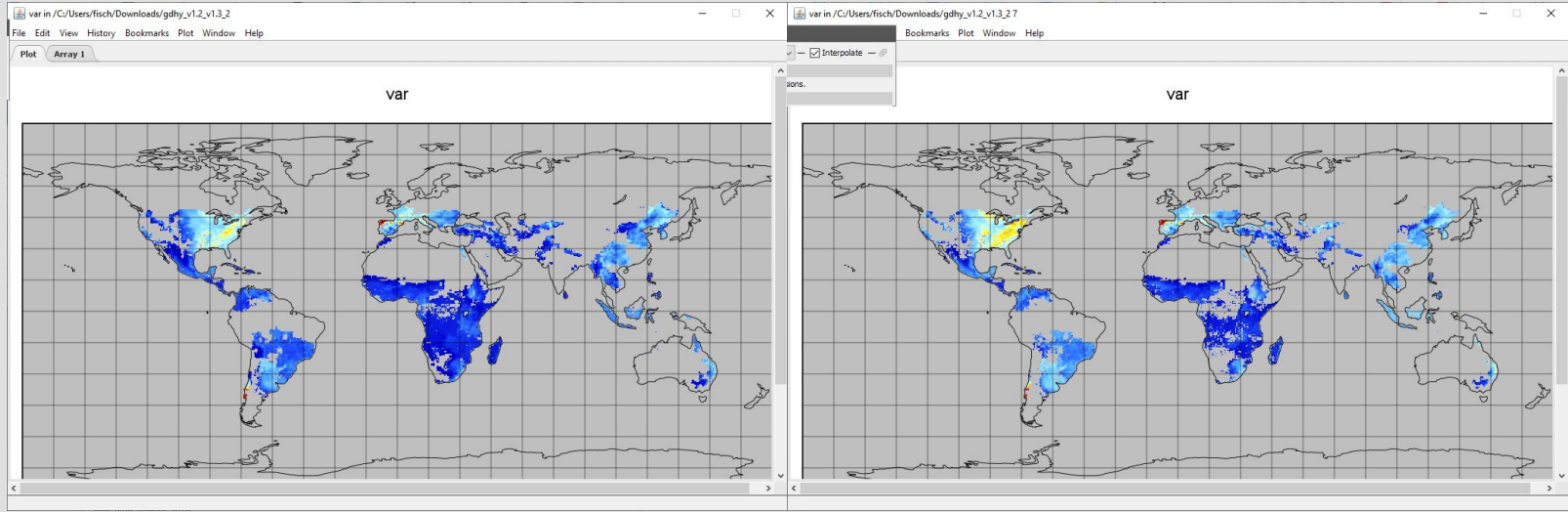
<https://confluence.ecmwf.int/display/CKB/How+to+convert+NetCDF+to+CSV>

netcdf4excel

Instructions can be found:

<https://confluence.ecmwf.int/display/CKB/How+to+convert+NetCDF+to+CSV>

Maize Panoply plot examples

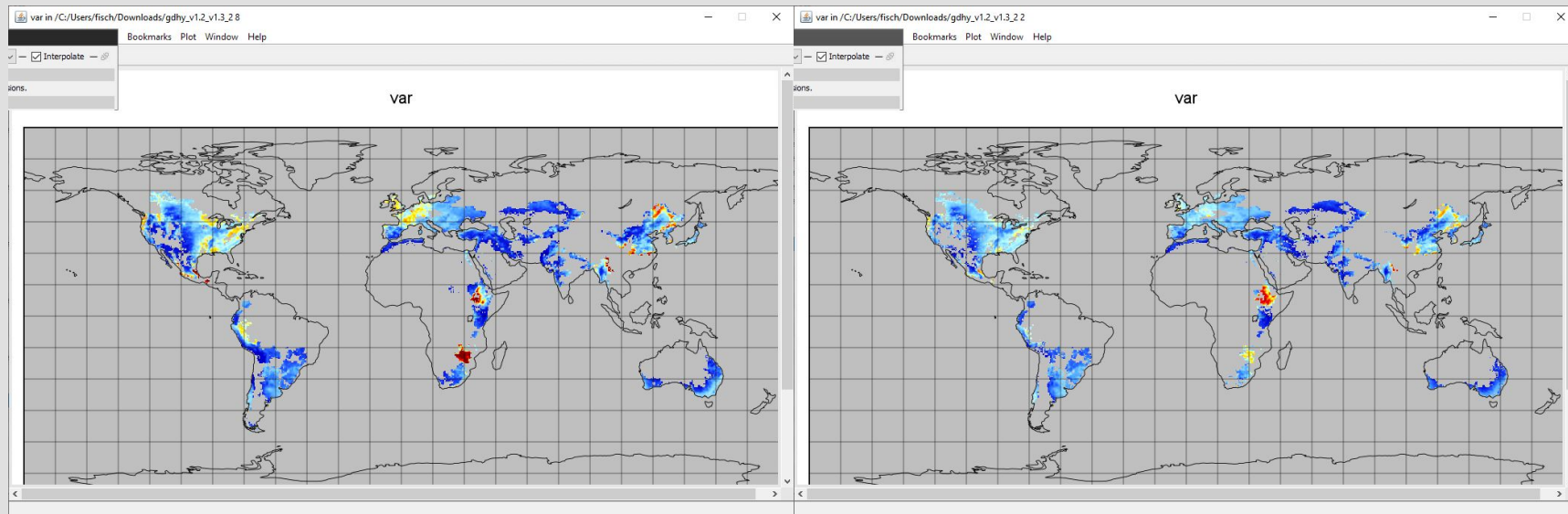


1999

2016

Data set from: [lizumi, Toshichika](https://doi.org/10.1594/PANGAEA.909132) (2019): Global dataset of historical yields v1.2 and v1.3 aligned version. *PANGAEA*, <https://doi.org/10.1594/PANGAEA.909132>

Wheat Panoply plot Examples

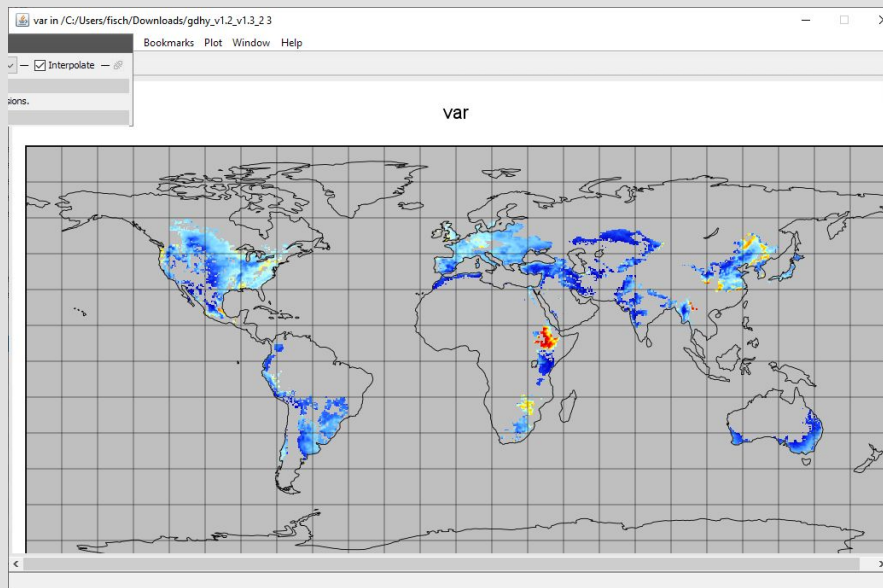


1999

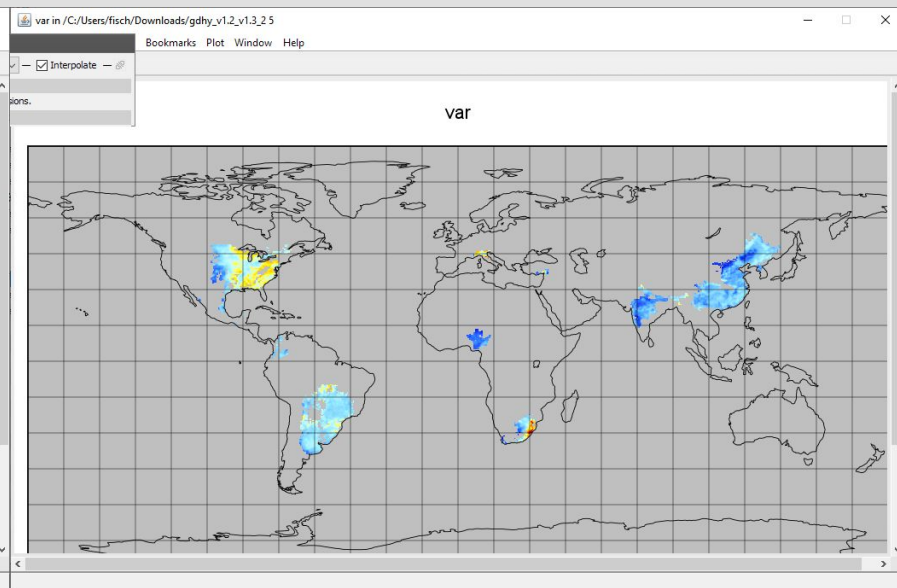
2016

Data set from: [Iizumi, Toshichika \(2019\): Global dataset of historical yields v1.2 and v1.3 aligned version. PANGAEA, <https://doi.org/10.1594/PANGAEA.909132>](#)

Soybean Panoply plot examples



1999



2016

Data set from: [lizumi, Toshichika](#) (2019): Global dataset of historical yields v1.2 and v1.3 aligned version.
PANGAEA, <https://doi.org/10.1594/PANGAEA.909132>

Links and Examples

Really good video that explains NetCDF files and shows examples of how to visualize the data

<https://www.youtube.com/watch?v=XqoetylQAIY>

Interesting basic understanding of how a NetCDF works

<https://www.youtube.com/watch?v=UvNBnjiTXa0>

An hour plus long video that shows some Jupyter Notebook examples with code

NetCDF Why and How: Creating Publication Quality NetCDF Datasets

<https://www.youtube.com/watch?v=7YYTXa4qyfo>

For R: <https://cirrus.ucsd.edu/~pierce/ncdf/>

<https://www.r-bloggers.com/2016/08/a-netcdf-4-in-r-cheatsheet/>

NetCDF4 info: <https://unidata.github.io/netcdf4-python/#reading-data-from-a-multi-file-netcdf-dataset>

https://www.guillaumedueymes.com/courses/tutorial_python_netcdf/3-cartopy_library/

More Links

NASA's info on NetCDF:

<https://earthdata.nasa.gov/esdis/esco/standards-and-references/netcdf-classic>

Python code examples:

<https://www.earthinversion.com/utilities/reading-NetCDF4-data-in-python/#reading-and-analyzing-netcdf-data-with-the-help-of-xarray>

<https://towardsdatascience.com/read-netcdf-data-with-python-901f7ff61648>

<https://medium.com/analytics-vidhya/how-to-read-and-visualize-netcdf-nc-geospatial-files-using-python-6c2ac8907c7c>

Converting to CSV: <https://stackoverflow.com/questions/44359869/convert-netcdf-file-to-csv-or-text-using-python>

For Visual Studio:

<https://docs.unidata.ucar.edu/netcdf-c/current/winbin.html>

<https://www.unidata.ucar.edu/software/netcdf/examples/files.html>

NetCDFExcel

<https://github.com/NetCDF4Excel/project/wiki/Functionnalities>