Perplex7 and using Matlab Online to convert GRIDONE_2D.nc to GRIDONE_2D.mat

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Introduction

Chapter 3 on page 3 of the Perplex7-Manual.pdf manual describes how to convert the file "GEBCO_2D.nc" from netCDF format to a MAT-file as it is read in by Perplex7. The Matlab script "GRIDONEnc2mat.m" is available for this purpose. On Github (https://github.com/rohardt/Perplex7-EXE) you can find a compiled version (GRIDONEnc2mat_Installer_web.exe) if you don't have a Matlab license. Here is another way if you are using the standalone version of Perplex7 and to run the Matlab source code of "GRIDONEnc2mat.m" directly without needing a Matlab license.

Matlab Connector

Matlab Online uses the "MATLAB Drive" directory in the cloud. Without Matlab license user have a limit of 5GB on the Matlab Drive. This is sufficient for the application described here. With the help of "Matlab Connector", data and your own Matlab programs can be easily transferred from the local PC to the "MATLAB Drive" directory. To do this, Matlab Connector must be installed on the PC, on the Mathworks website search for: "Matlab Connector". During installation, a directory of the local PC is specified (e.g. C:\Gerd\Matlab_Drive), which is then synchronized with the Matlab Drive, when running Matlab Online via web browser.
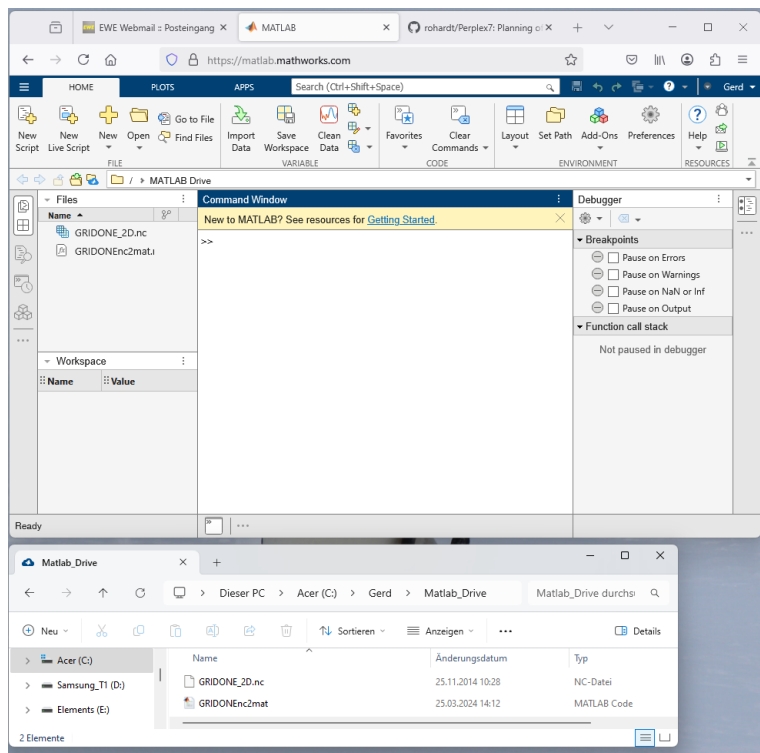
Convert GEBCO_2D.nc to GEBCO_2D.mat

Step 1: Download GEBCO One Minute Grid from https://www.gebco.net/data_and_products/historical_data_sets/#gebco_one, unzip the ZIP file and save GRIDONE_2D.nc in folder e.g. C:\Gerd\Matlab_Drive.

Step 2: Download GRIDONEnc2mat.m from https://github.com/rohardt/Perplex7 and save it in folder e.g. C:\Gerd\Matlab_Drive.
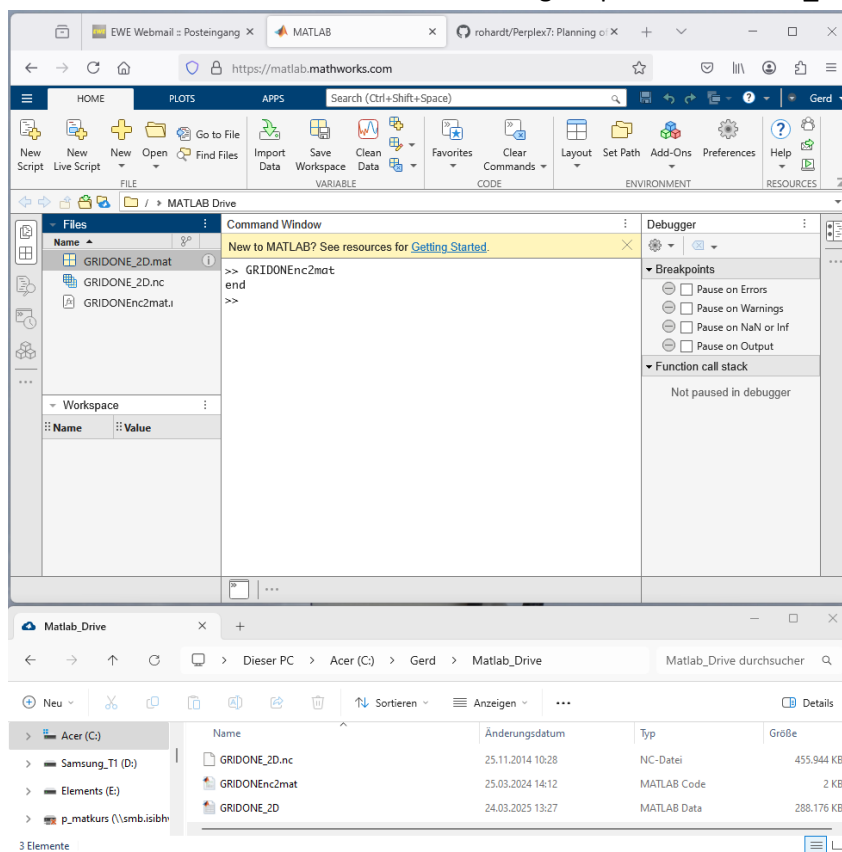
When executing **Matlab Online** "Matlab Connect" synchronizes e.g. C:\Gerd\Matlab_Drive directly with "MATLAB Drive", the working directory of Matlab Online.

With Matlab Connector all files in the local foldes are available in Matlab Online.

Step 3: Run GRIDONEnc2mat

Drag and drop Run GRIDONEnc2mat.m from Files Window into Command Window. Select a path, in this case the MATLAB Drive and press [ok]. Format conversion netCDF into MAT takes a few seconds and another few minutes to find the resulting output file GRIDONE_2D.mat in the local folder too.

GRIDONE_2D for Perplex7.exe

Finally, GRIDONE_2D.mat can be moved from the directory C:\Gerd\Matlab_Drive to the directory C:\Perplex7\application\Dataset, where it is required for Perplex7.exe.