

Syntax Problem #9

Objectives

1. Practice writing and running Python code
2. Use xarray for reading data
3. Basic contour plotting with Matplotlib

Due by the end of class.

Problem

1. Write a Python program that reads in NCEP-NCAR Reanalysis 1981-2010 long-term mean (LTM) of the Visible Beam Downward Solar Flux (variable name **vbdsf**) from a remote server using xarray. Plot the the LTM flux for the month of March (time index 2) with contours every 20 W/m².

https://psl.noaa.gov/thredds/dodsC/Datasets/ncep.reanalysis/Monthlies/surface_gauss/vbdsf.sfc.mon.ltm.1981-2010.nc

Notes:

- Call the image **sunshine.png**
- Make sure documentation (e.g., comment block and comments throughout code) is present in your source code
- Make output informative so that anyone running your program understand what is being produced without seeing the assignment.
- Name the program **syntax9_<username>.py** and place a copy in `/archive/courses/met330/syntax_problems`