

Syntax Problem #9

Objectives

1. Practice writing Python code and using comments.
2. Use xarray for reading data.
3. Use basic contour plotting in Matplotlib.

Problem

1. Write a Python program that reads in NCEP-NCAR Reanalysis 1991-2020 long-term mean (LTM) of the Visible Beam Downwrd Solar Flux (variable name **vbdsf**) from a remote server using xarray.
2. Plot the LTM flux for the month of March (time index 2) with contours every 20 W/m². Call the image **sunshine_<username>.png**.

File is located at:

https://psl.noaa.gov/thredds/dodsC/Datasets/ncep.reanalysis/Monthlies/surface_gauss/vbdsf.sfc.mon.ltm.1991-2020.nc

Notes:

- 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 understands what is being produced without seeing the assignment.
- Name the program **syntax9_<username>.py** and place a copy in `/share/share/syntax_problems/`.