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1  Script for Supercell thunderstorm demonstration
2  ATM419/563 Spring 2024
3
4  This demo runs the WRF idealized splitting supercell storm case
5
6  * ----- setup [slide 3] ----- *
7  * move to your lab space
8      $ lab
9
10 * make a directory in your lab space called SUPERCELL, and move into it
11     $ mkdir SUPERCELL
12     $ cd SUPERCELL
13
14 * copy this SETUP.TAR file to your SUPERCELL directory [the space and dot are
15 important]
16     $ cp $LAB/SUPERCELL/SETUP.TAR .
17
18 * unpack the tar file.
19     $ tar -xvf SETUP.TAR
20
21 * this unpacks these files into your directory: make_all_links.sh, namelist.input,
22 input_sounding, read_wrfinput.py, submit_wrf, plot_SUPERCELL.ipynb
23
24 * ----- initialize and run [slide 10] ----- *
25
26 * this script sets up the model environment
27     $ sh make_all_links.sh
28
29 * the program ideal.exe constructs the model initial condition
30     $ srun ideal.exe
31
32 * typing 'trsl' displays the contents of the file rsl.out.0000 as ideal.exe runs, or the
33 tail of the file if execution has completed. Type CTRL-c to break out.
34     $ trsl
35
36 * inspect the model vertical coordinate. 'dopython' invokes a more modern python
37 install. The read_wrfinput.py script reads wrfinput_d01 and displays model
38 coordinate. See slide 11
39     $ dopython
40     $ python read_wrfinput.py wrfinput_d01
41
42 * submit the WRF job to the batch system
43     $ sbatch submit_wrf
44
45 * check on your job
46     $ myjobs

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47 * typing 'trsl' displays the contents of the file rsl.out.0000 as ideal.exe runs, or the
48 tail of the file if execution has completed. **Look for SUCCESS COMPLETE WRF.**
49 **Type CTRL-c to break out.**
50 \$ trsl
51
52 * ----- visualize output [slide 34+] ----- *
53
54 * from your web browser, go to this link:
55 <https://jupyterlab.its.albany.edu/>
56
57 → if presented with a drop-down menu, select "**batch 1 core, 4 GB, 8 hours**"
58
59 * you may start in your home directory. If so,
60 → click the LAB link
61 → click on SUPERCELL folder
62 → launch plot_SUPERCELL.ipynb
63
64 * if you see this error, you can either ignore it or run 1st cell again:
65
66 ERROR 1: PROJ: proj_create_from_database: Open of
67 /network/rit/lab/snowclus/anaconda3_2021/envs/nov22/share/proj failed
68
69 • **remember to go to File menu and select Close and Halt to finish demo**
70
71 If you need to reinitialize your Jupyterhub server, do this:
72 Go to File menu > Hub Control Panel
73 On the page that opens, select Stop My Server
74 Then close your windows and log into <https://jupyterlab.its.albany.edu/>
75 again