PBL single column model (SCM) demonstration (Spring 2024)

• preliminaries

• Make a directory called SCM in your lab space, move into it, and copy into it:

    cp $LAB/SCM_snow/run_WRF_SCM_snow.ipynb .

• In ARCC Jupyterlab, spawn a process on Snow, NOT BATCH

  → if you are NOT given the drop-down menu

    • go to File > Hub Control Panel, then select Stop My Server

    • then select Start My Server when it appears

  • Select “Snow 4 cores 32 GB 8 hours” (the smallest amount of resources on offer)

  • Move to your SCM directory and launch the notebook

• Part 1: running SCM with the YSU PBL scheme

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* In this part, we are all running the same configuration, consisting of the YSU PBL scheme (bl_pbl_physics = 1) and the standard Monin-Obukhov surface layer scheme (sf_sfclay_physics = 1)

* In Cell #2 there is an opportunity to change your name and the name of your simulation. This will be used in Part 2.

* Execute the notebook and observe the results this physics combination produces.

• Part 2: contributing to PBL/surface layer class ensemble

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* You will be assigned a unique physics configuration
* Edit Cell #2 for your surname and simulation name
* Edit Cell #4 for your assigned configuration
* Copy the *png files that are named with your surname to $LAB/SCM_ensemble/

• FINISHING UP YOUR JUPYTERLAB SESSION

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* Make sure you halt your notebook execution.
* I also strongly recommend stopping your server (File > Hub Control Panel)