Script for MPAS demonstration
ATM419/563 Fall 2024

* ---------- **preliminaries** ---------- *
* make a directory in your lab space called **MPASV8**, and move into it
* copy **$LAB/MPASV8/* .**
* execute **sh make_mpas_links.sh**

* ---------- **init_atmosphere** ----------*
• namelist.init_atmosphere and streams.init_atmosphere are **pre-configured**
• The file x1.10242.static.nc is supplied

sbatch -p burst-daes submit_init [should run very fast]
tail -f log.init_atmosphere.0000.out
[look for
`Error messages = 0`
`Critical error messages = 0`]
• creates x1.10242.init.nc

* ---------- **atmosphere** ----------*
• namelist.atmosphere and streams.atmosphere are **pre-configured**

sbatch -p burst-daes submit_mpas [should take ~2 min]
tail -f log.atmosphere.0000.out
[look for
`Error messages = 0`
`Critical error messages = 0`]
• creates history*, diag*, and restart* files

* ---------- **post-processing** ----------*
• target_domain file is pre-configured to focus on eastern U.S.
• make sure the "latlon.nc" file is **removed** if it exists

convert_mpas history.1993-03-15_00.00.00.nc

• creates latlon.nc

• launch ARCC jupyterlab, using batch or burst-daes resources
• execute notebook plot_mpas_latlon.ipynb
• execute notebook plot_mpas_uxarray.ipynb

* ---------- **visualizing the domain** ----------*
• The NCL script mpas-a_mesh.ncl makes a plot of the grid mesh. See slides 22-23.