PGB ANL Temperature

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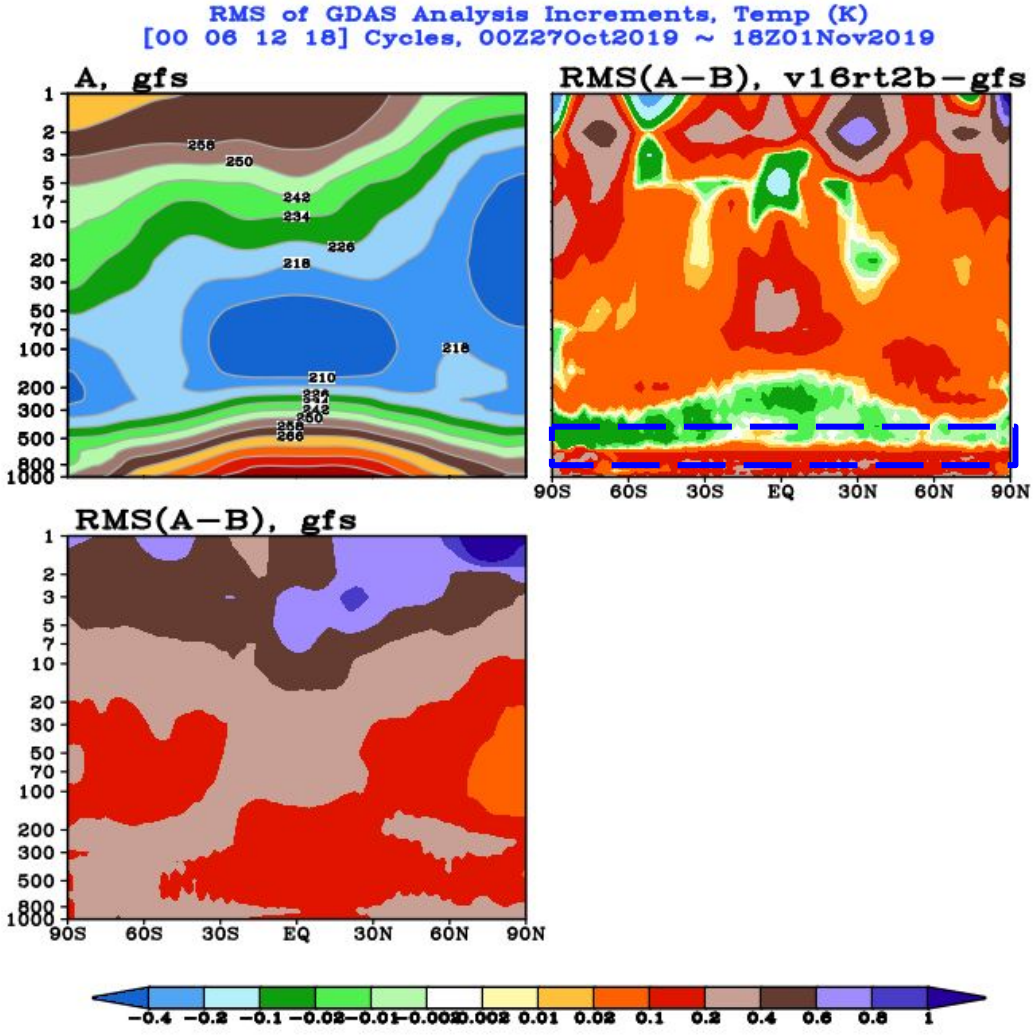
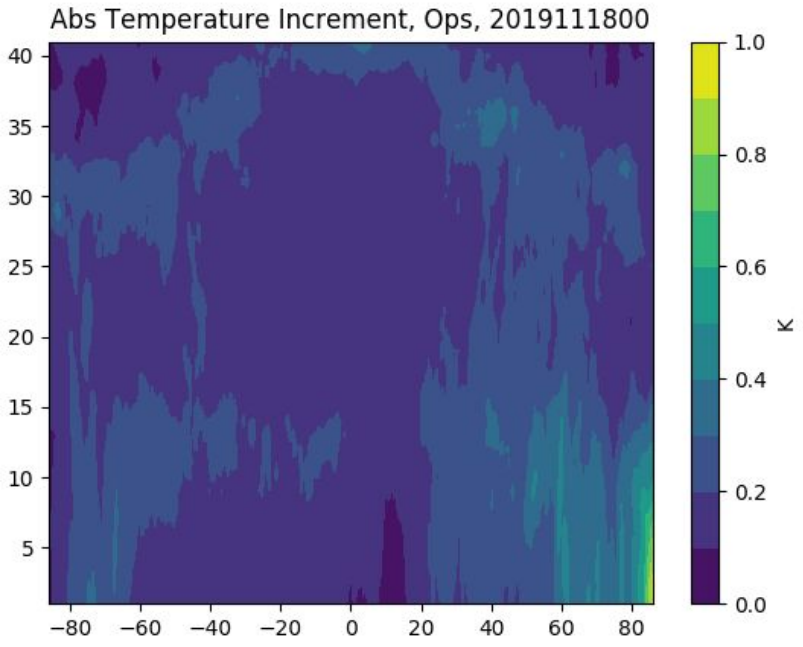
Motivation

- VSDB for v16rt2 showed an odd feature in the RMS of the analysis increments.
- There is an apparently solid band in the cross section.
- Is this present in the GSI increments? The PGB files? A bug in the new calc_analysis utility?
- The following slides will examine the zonal mean of the absolute value of the increments for different files.



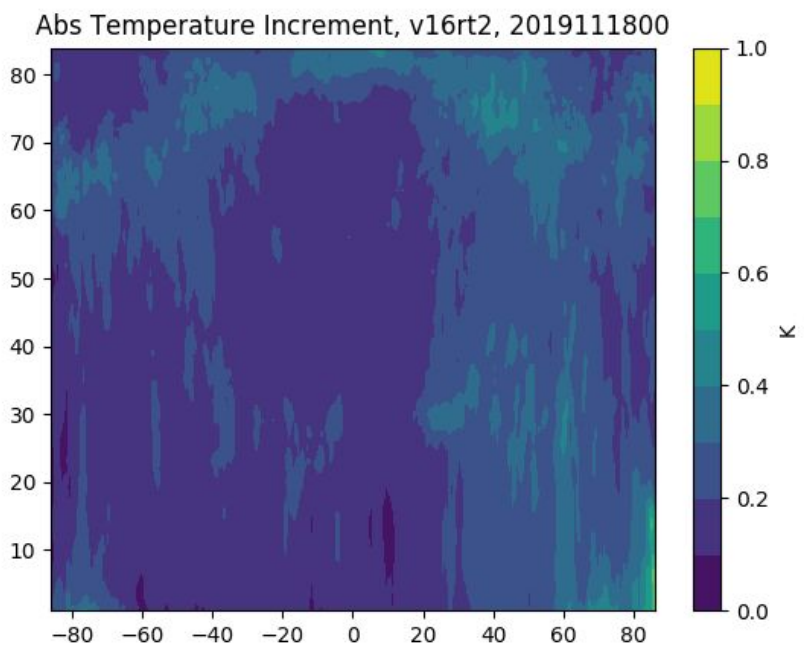
Comparing NetCDF Increments

gdas.t00z.atminc.nc



Operations

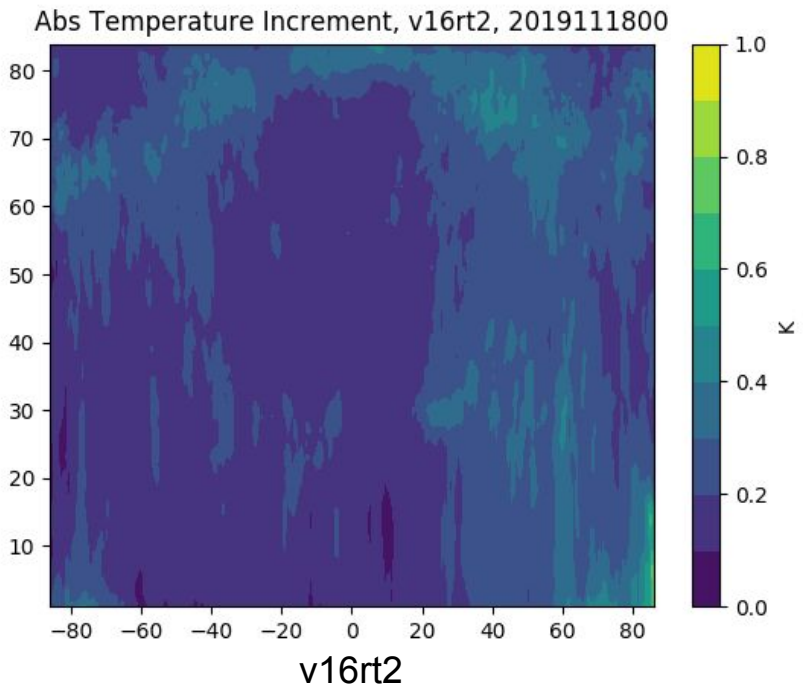
gdas.t00z.atminc.nc



v16rt2

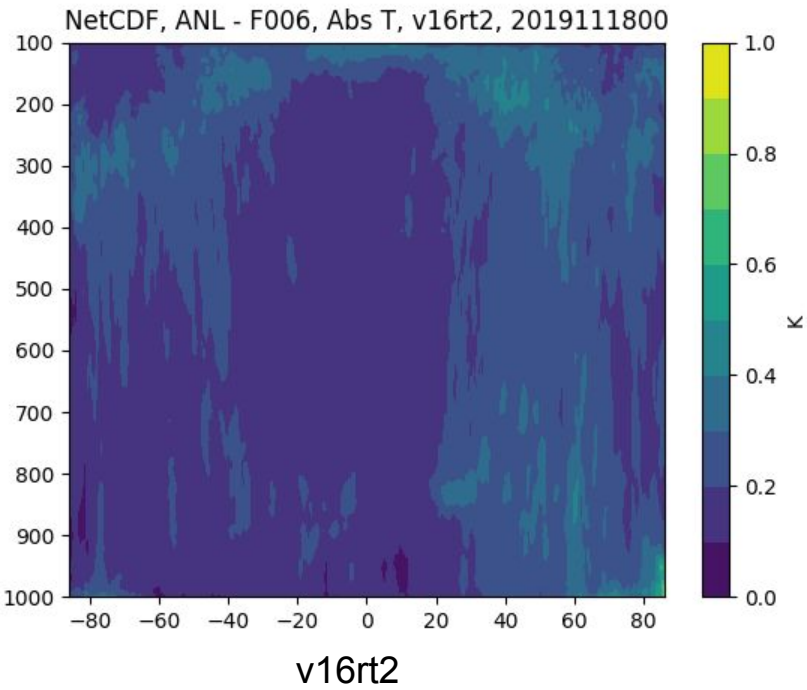
Comparing NetCDF Model Output

gdas.t00z.atminc.nc



v16rt2

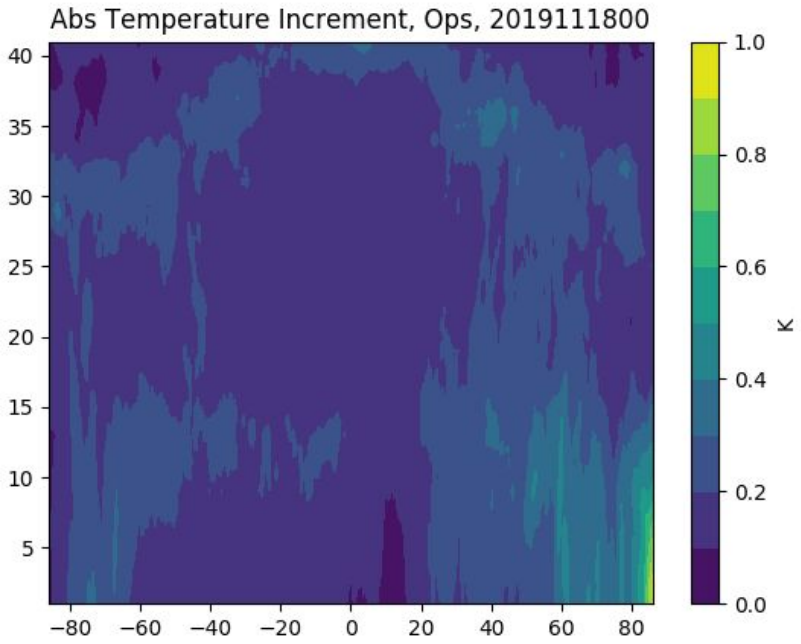
gdas.t00z.atmanl.nc - gdas.t18z.atmf006.nc



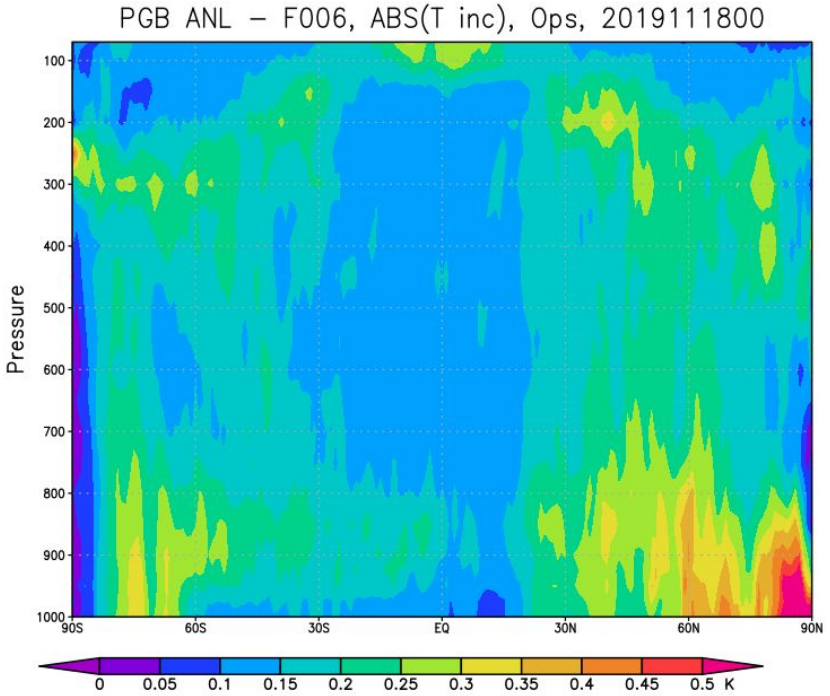
v16rt2

Comparing Operations Increments

gdas.t00z.atminc.nc

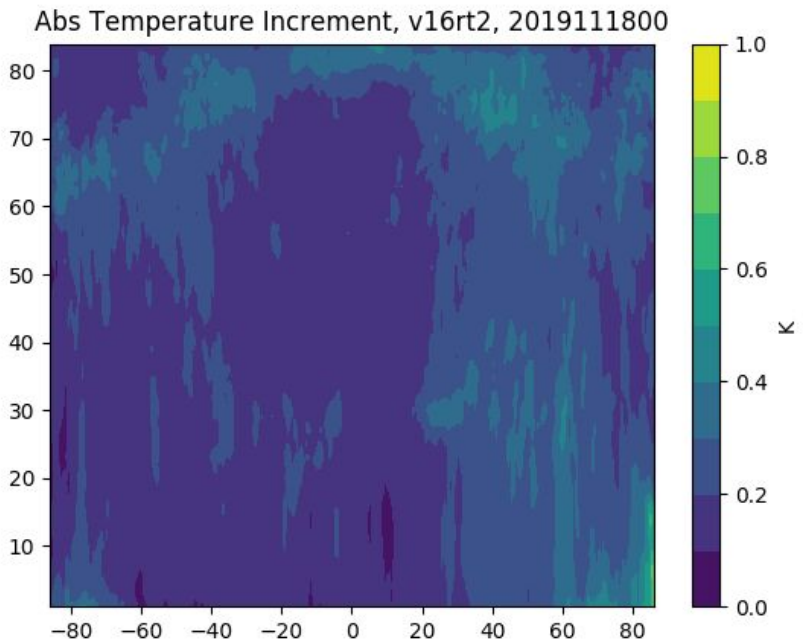


gdas.t00z.pgrb2.1p00.anl - gdas.t18z.pgrb2.1p00.f006

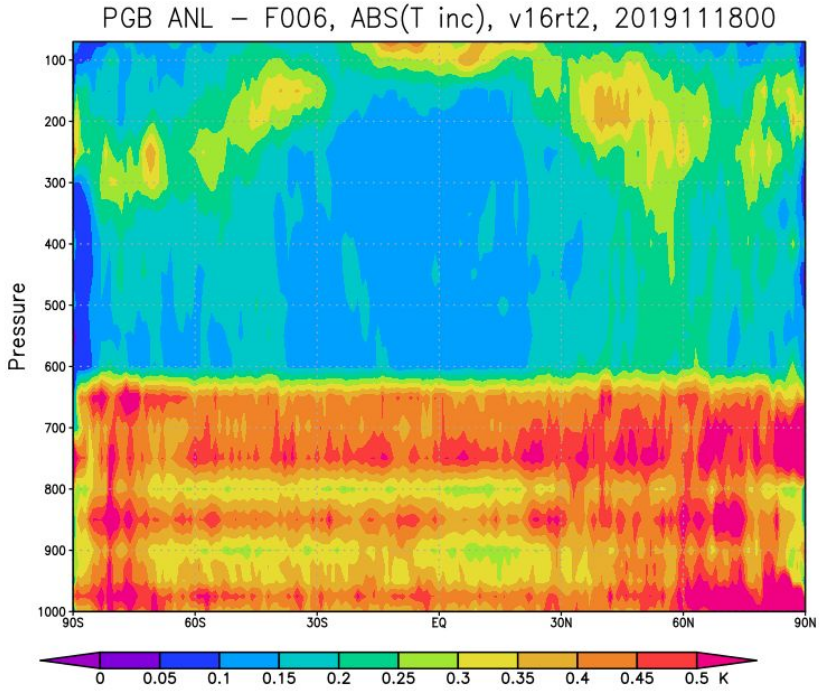


Comparing v16rt2 Increments

gdas.t00z.atminc.nc

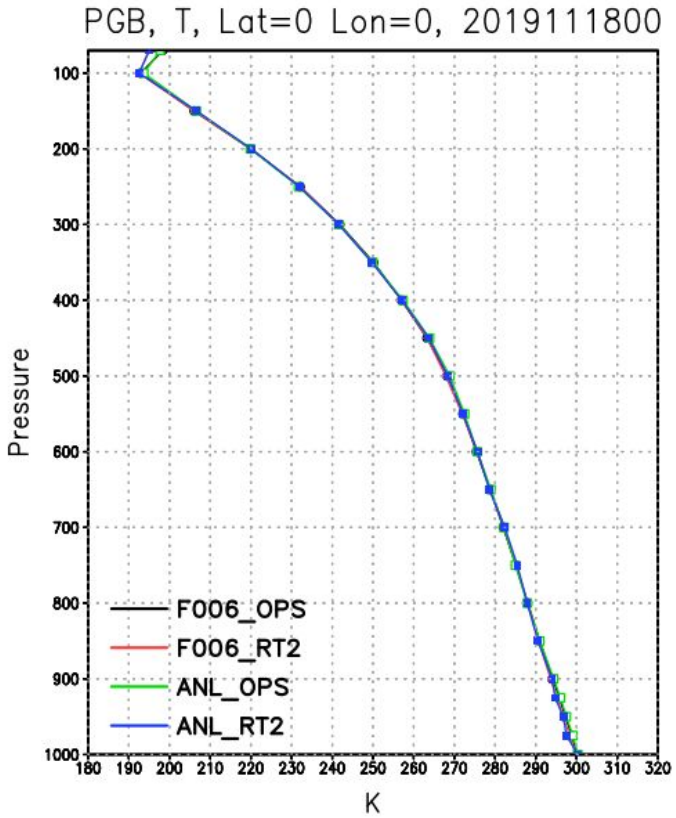


gdas.t00z.pgrb2.1p00.anl - gdas.t18z.pgrb2.1p00.f006



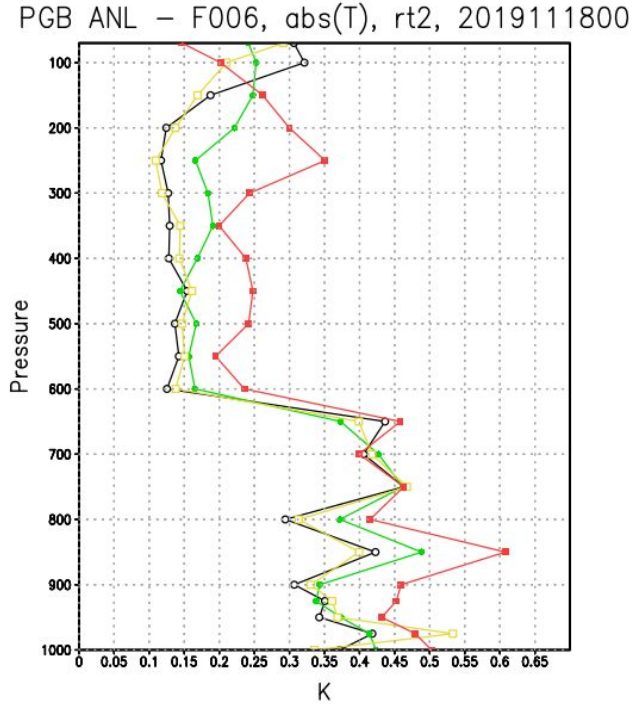
PBL ANL Temperature Profile

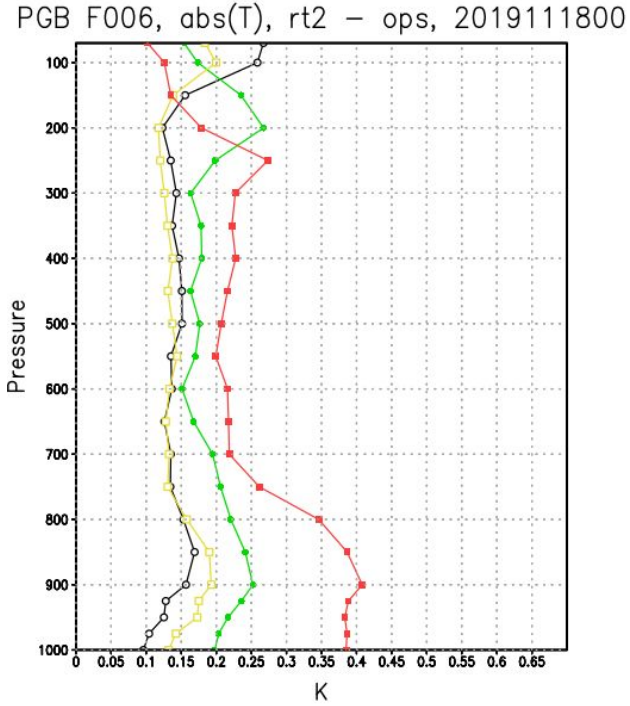
- The profile does not show a major problem with the temperature.
- Cannot tell if the problem is in ANL or F006 from this figure.

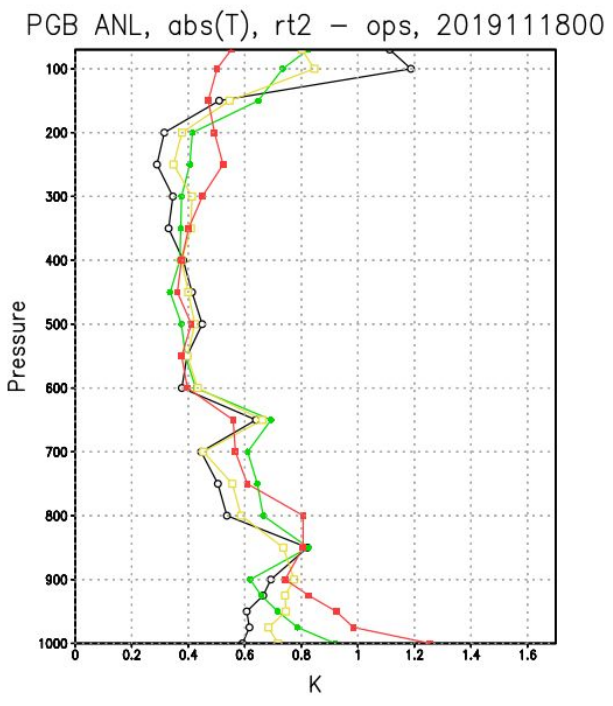


PBG Difference Profiles

- *Each profile is for a different latitude.*
- *There is a discontinuity at 600 mb for the first and third figures, pointing to an issue with PGB ANL for v16rt2.*

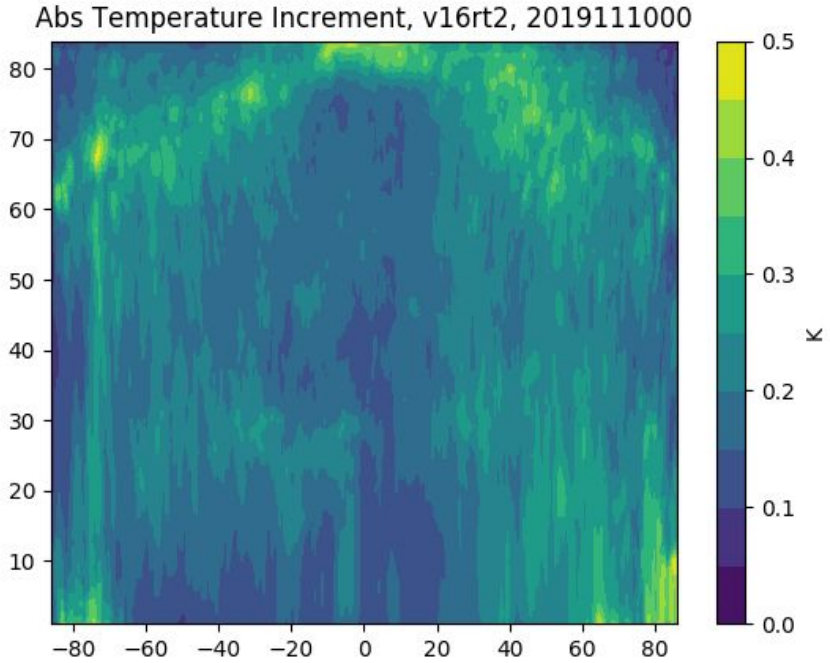




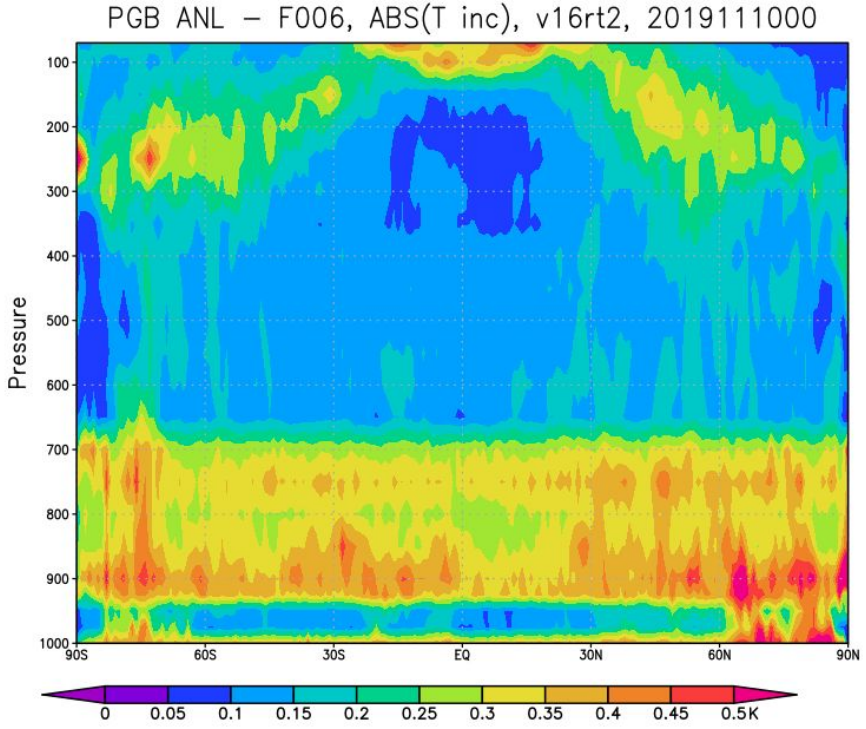


An Older Cycle before netCDF I/O

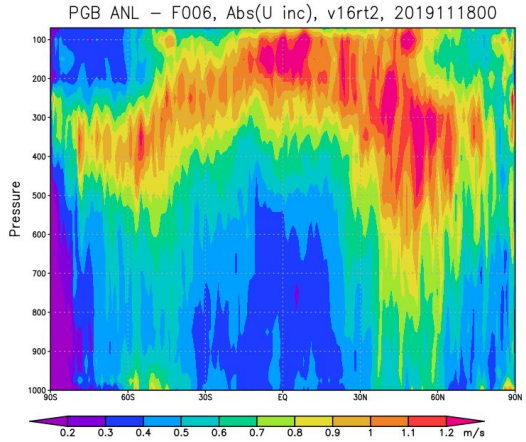
gdas.t00z.atminc.nc

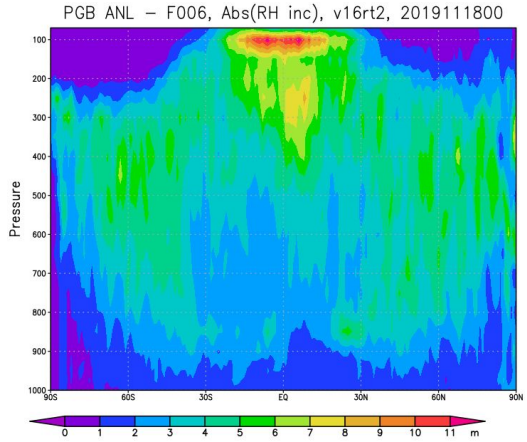


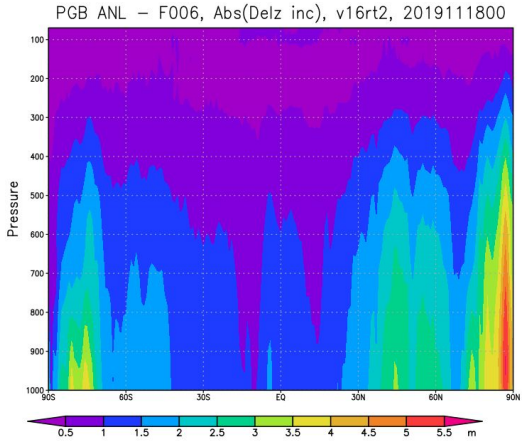
gdas.t00z.pgrb2.1p00.anl - gdas.t18z.pgrb2.1p00.f006

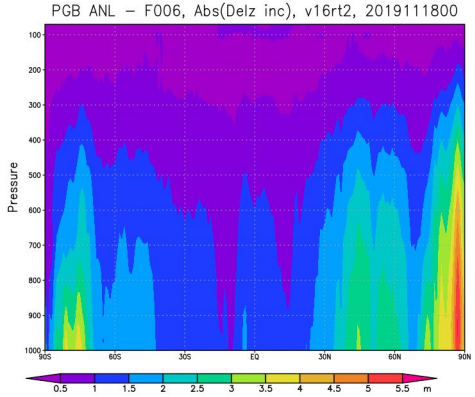


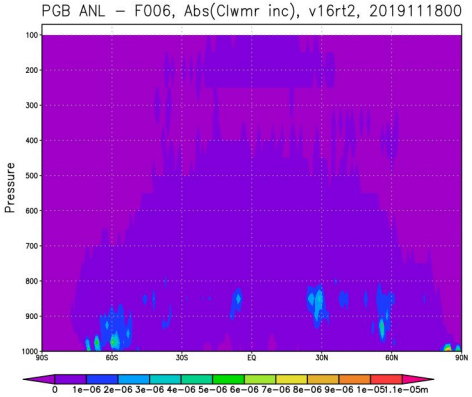
Other Variables, v16rt2





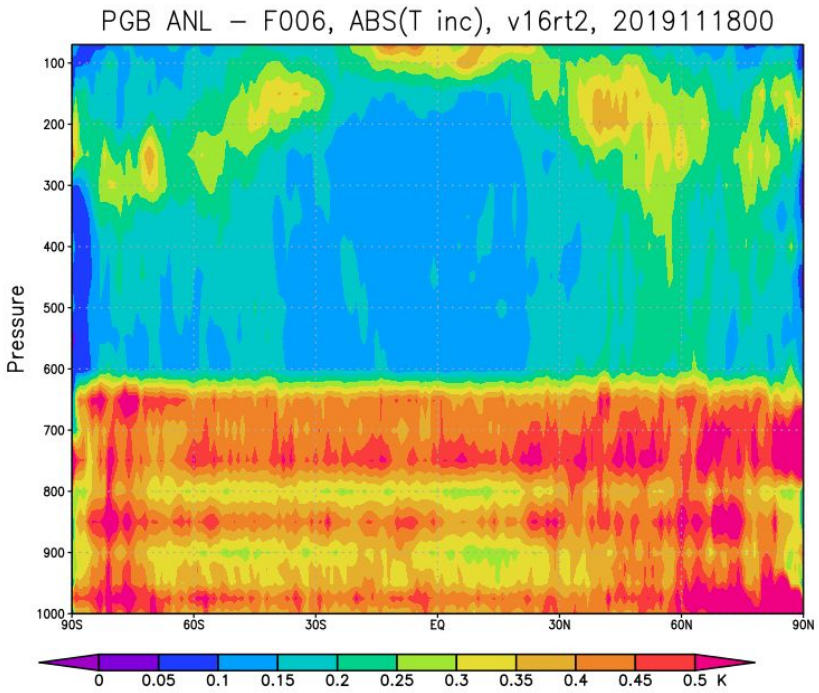




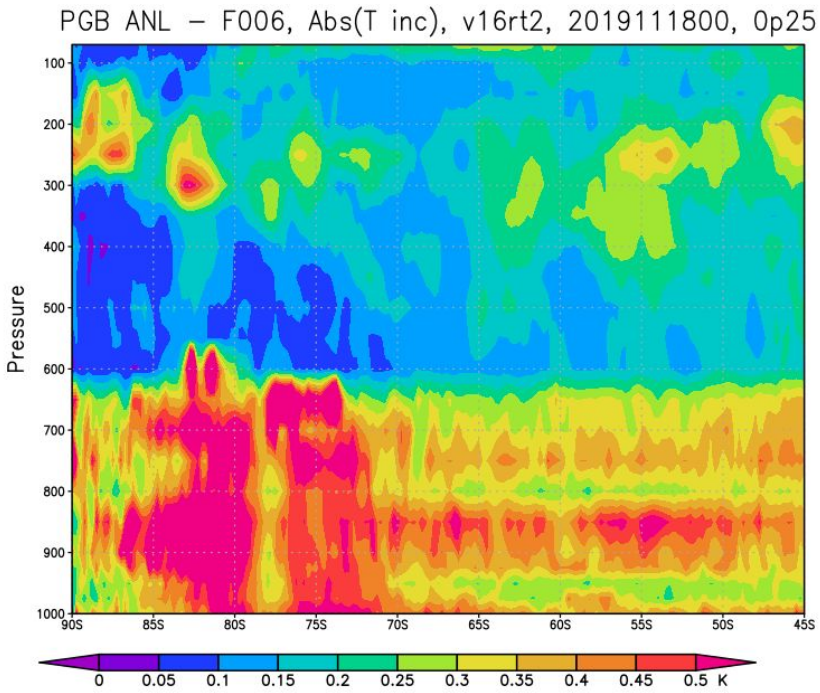


Different PGB Resolution

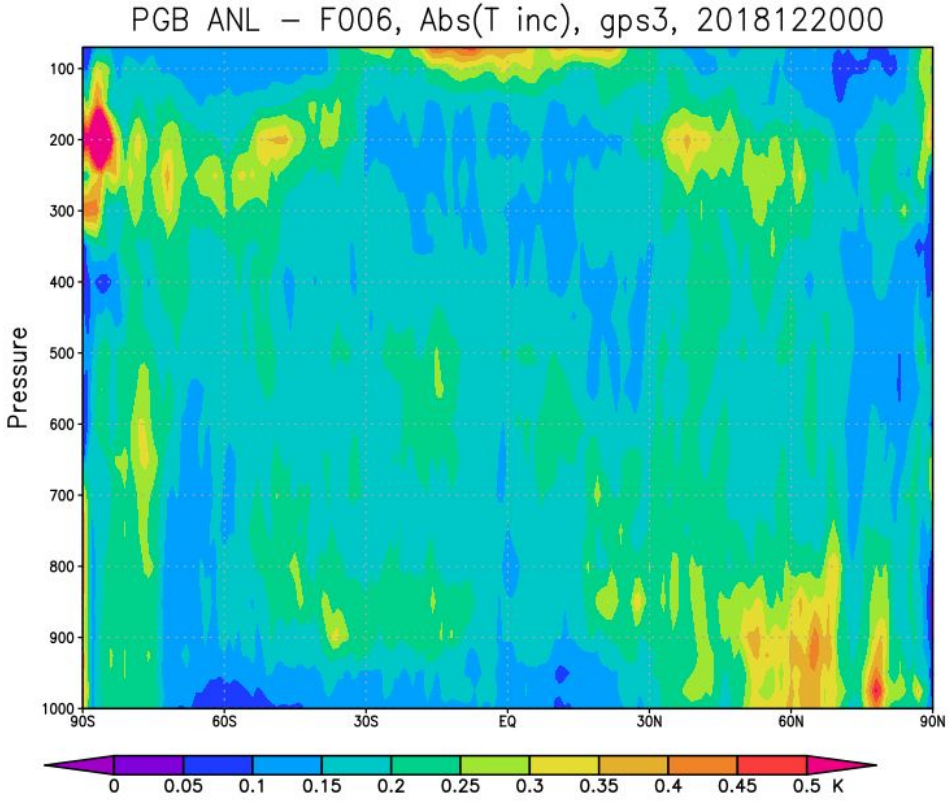
gdas.t00z.pgrb2.1p00.anl - gdas.t18z.pgrb2.1p00.f006



gdas.t00z.pgrb2.0p25.anl - gdas.t18z.pgrb2.0p25.f006



C384/C192 L127 Experiment (Summer 2019)



Summary

- There is a banding structure below 600 mb in the PGB ANL files for temperature.
- The difference in temperature is a few tenths K.
- NEMS I/O vs NetCDF I/O does not appear to impact this.
- Older L127 experiments from the summer do not show this feature.