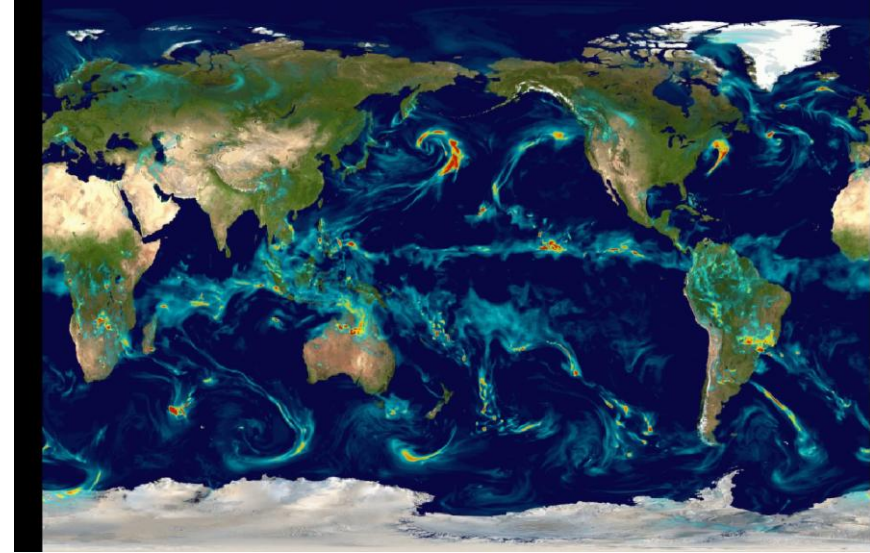


Finite Volume Cubed Sphere for GEOS-5/-6 W. Putman, M. Suarez, S.J. Lin

- ✓ Cubed-Sphere dynamical core
- ✓ Non-hydrostatic capability
- ✓ Coupled to GEOS-5 physics
- ✓ Adjoint for 4D-var implementation of GEOS ADAS

2009: $1/4^\circ$ (C360) & $1/8^\circ$ (C720) model
initialized with $1/4^\circ$ YOTC system
some very limited experiments at C1440

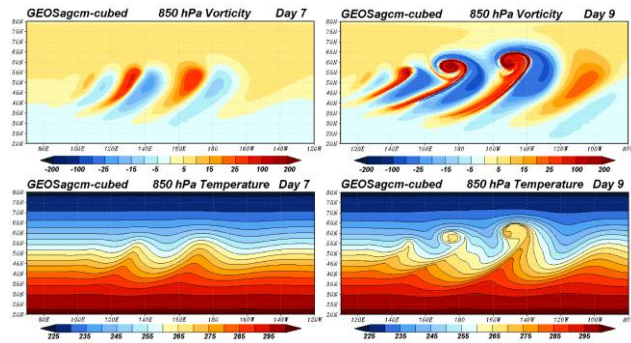


- ✓ Interagency collaboration on infrastructure challenges: running on 10's of thousands of processors, I/O bottlenecks, etc.
 - GEOS-5cs ported to NAS/Pleiades and ORNL/Jaguar
 - Joint endeavor with NOAA/GFDL, DOE/ORNL/LLNL, NSF/NCAR
 - GEOS-5 – WRF interactions (W.-K. Tao) to formulate GEOS-6 physics

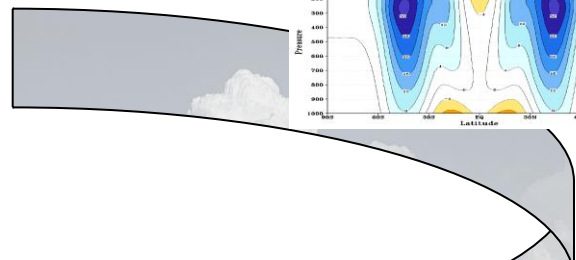
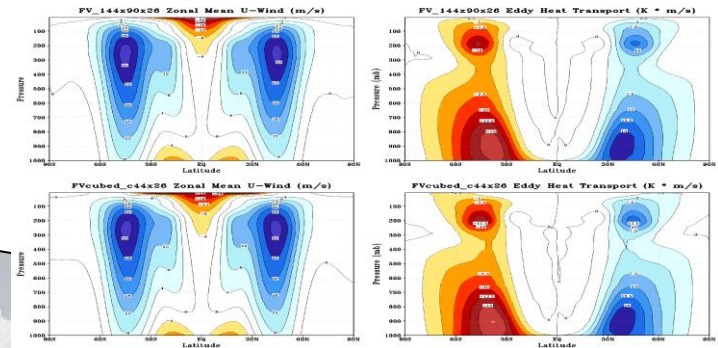
Cubed Sphere Implementation

W Putman

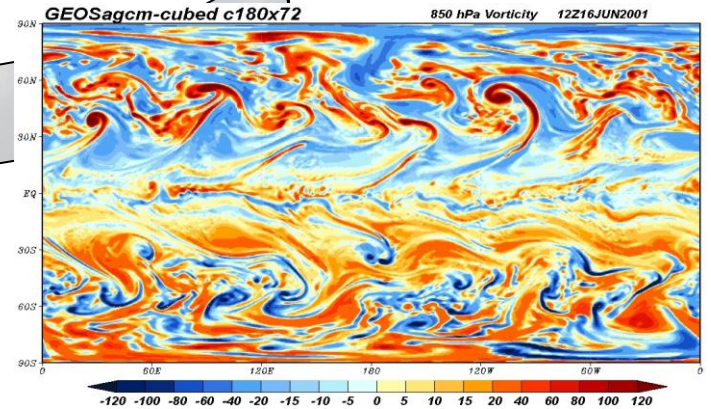
Idealized waves



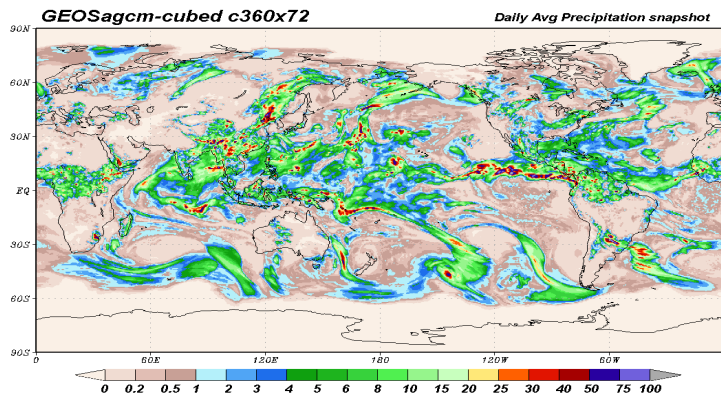
Held-Suarez



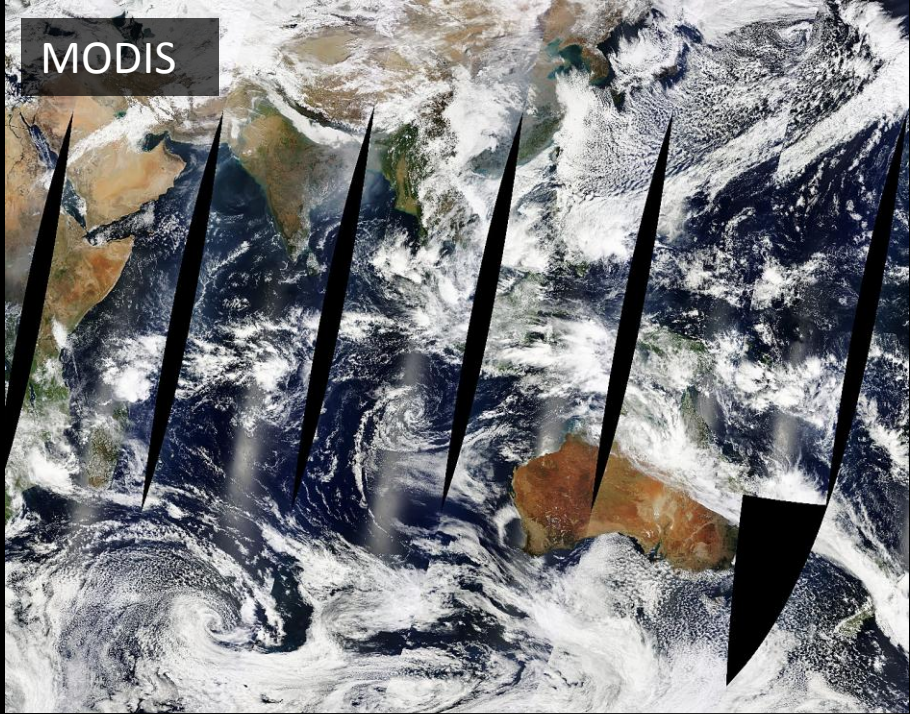
Aqua Planet



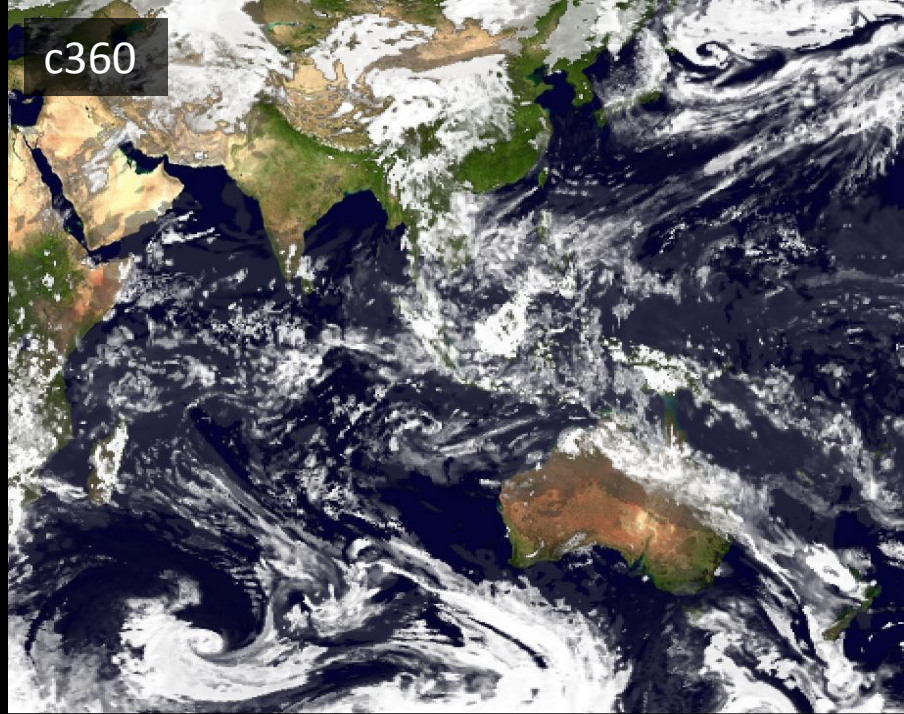
GEOS-5



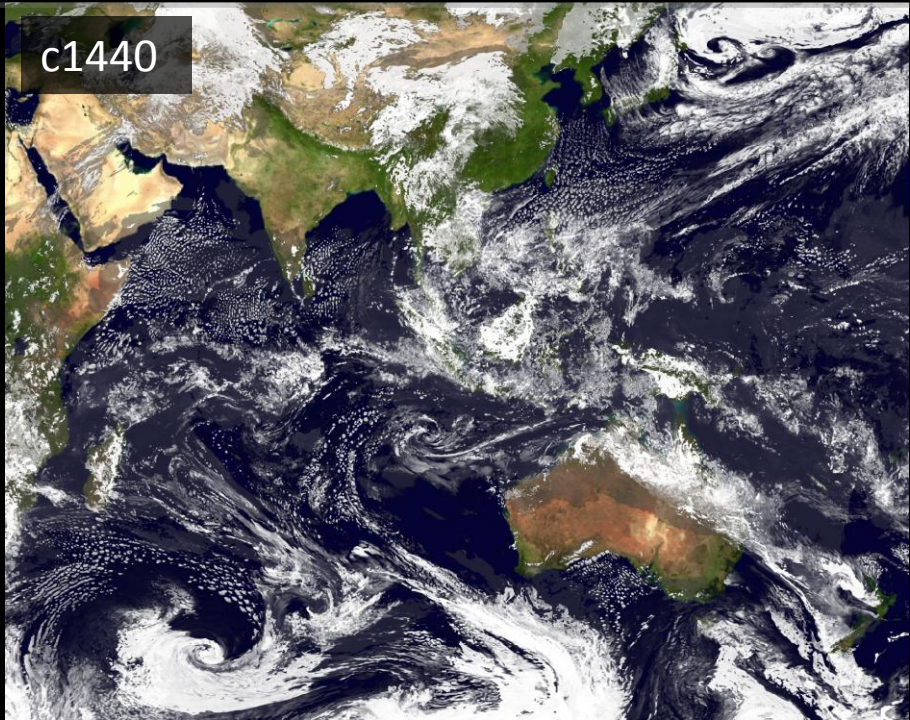
MODIS



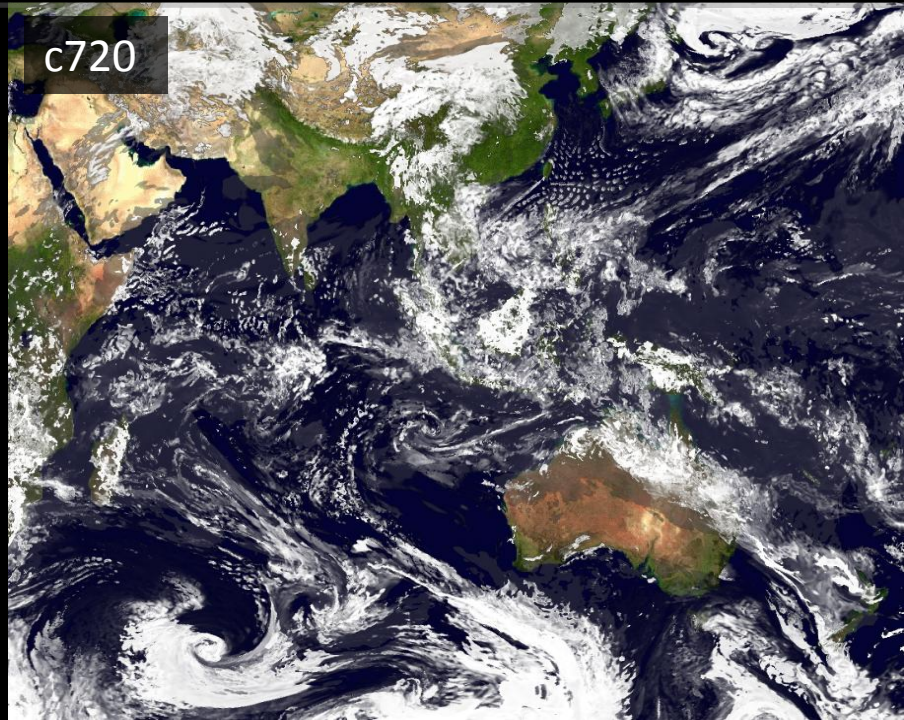
c360



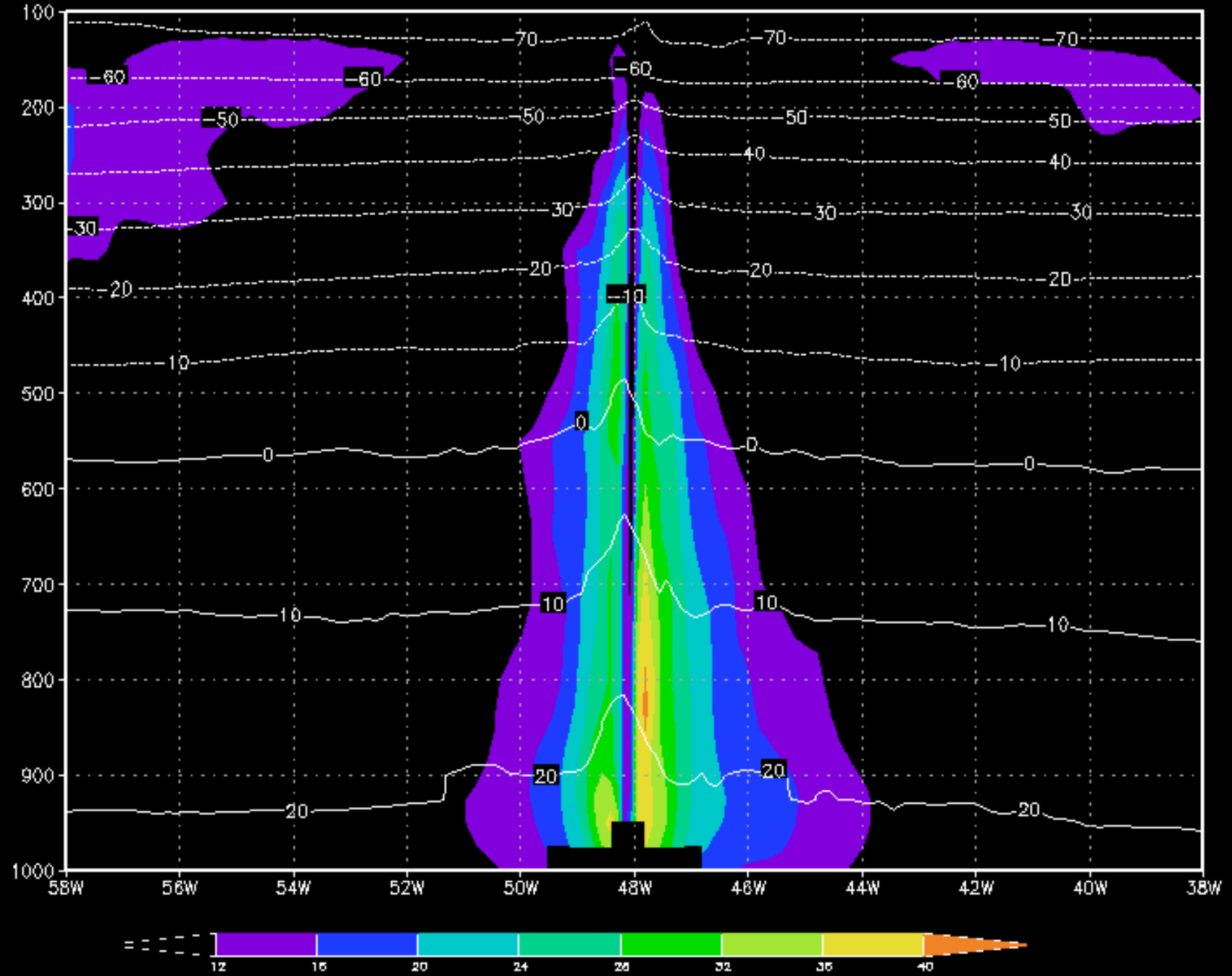
c1440



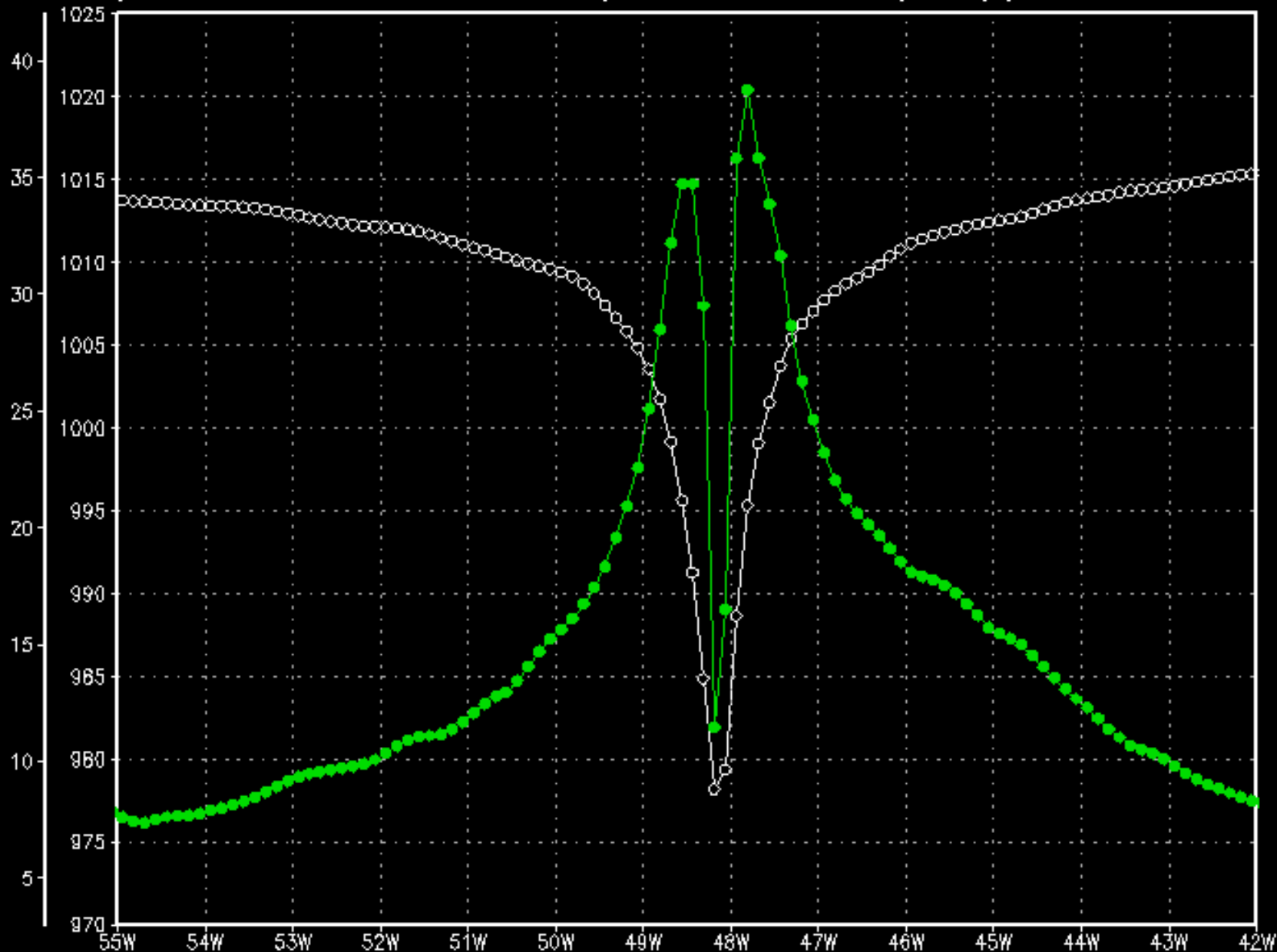
c720



8dayFc c720 in00z12Sep ver00z20Sep Helene 23.2N



8day c720 fc Init00z12Sep Ver00z20Sep slp/925hPa wind



Possibilities for YOTC:

Coordinate high resolution (C1440) simulation/forecast period with NICAM?

Issue – output!

the computational bottleneck

Is there a minimal set of desired output products?