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new runs of waccmx and tiegcm
3 messages

Ben Foster <foster@ucar.edu>   Thu, Jul 9, 2015 at 10:33 AM
To: "Stanley C. Solomon" <stans@ucar.edu>, Art Richmond <richmond@ucar.edu>, Joe McInerney
<joemci@ucar.edu>, Hanli Liu <liuh@ucar.edu>, Daniel Marsh <marsh@ucar.edu>, Chris Fischer
<fischer@ucar.edu>, Astrid Maute <maute@ucar.edu>, Gang Lu <ganglu@ucar.edu>

I have made 4 new 10-day runs of waccmx, with ne_sigmas=op+o2p+nop
used to calculate conductivities in iondrag.F90. No other changes,
i.e., no change to charge_fix or calls to charge_fix yet. As before, history
files are in dirs under /glade/p/hao/waccmx (files from the previous
runs have been removed). A quick look confirms that Hall conductivity
looks much better, as we saw in the "ne3ions" test run, but the O+ transport
results still look "late" wrt local time.

I have also made "equivalent" runs of tiegcm (altho these are 5-day
runs) for comparison w/ the waccmx runs. These files are in dirs
at the same location as the waccmx dirs, i.e., /glade/p/hao/waccmx.

There are .ps files with plots from the tiegcm runs in their respective
directories. I have not yet done any post-processing of the new waccmx
runs, but hopefully will get started on that later today.

Note that CISL is doing an "urgent GPFS upgrade" starting at 11 am
and again at 2 pm. They specified Geyser, Caldera and Pronghorn,
not yellowstone, so I'm assuming we should be ok with /glade/p/hao
accessed from ys, but if there are problems it may be because of this
work being done by cisl.

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Ben Foster <foster@ucar.edu>   Thu, Jul 9, 2015 at 2:08 PM
To: Wenbin Wang <wbwang@ucar.edu>

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Astrid Maute <maute@ucar.edu>   Thu, Jul 9, 2015 at 2:56 PM
To: Ben Foster <foster@ucar.edu>
Cc: "Stanley C. Solomon" <stans@ucar.edu>, Art Richmond <richmond@ucar.edu>, Joe McInerney
<joemci@ucar.edu>, Hanli Liu <liuh@ucar.edu>, Daniel Marsh <marsh@ucar.edu>, Chris Fischer
<fischer@ucar.edu>, Gang Lu <ganglu@ucar.edu>

Ben et al.,

thanks a lot for the simulations. I attach a few diagnostics which basically confirms that we still see similar things

as with the 2 day simulation:
* O+ goes to a minimum values quite often
* sometimes this minimum O+ is reflected in Ne (but not very strong)
* Pedersen conductivity can have kinks at night (profile view) maybe caused by sudden changes in Ne
* Vertical drift at the equator shows a preversal enhancement right before midnight. This is not realistic.
* The zonal wind does not show an obvious semidiurnal tide in the E-region (might be hidden in the variability?, but the amplitudes seem to be weak, also the zonal mean zonal wind at the equator in the E-region is weak, maybe an indication that the migrating tides are weak?

Astrid
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