

TIDI Observations of Diurnal and Semi-diurnal tides

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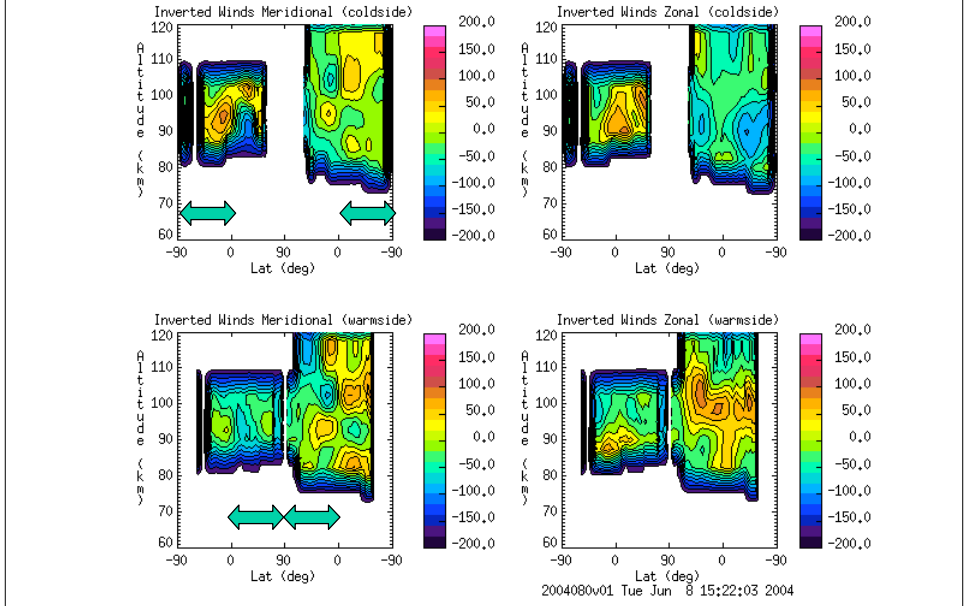
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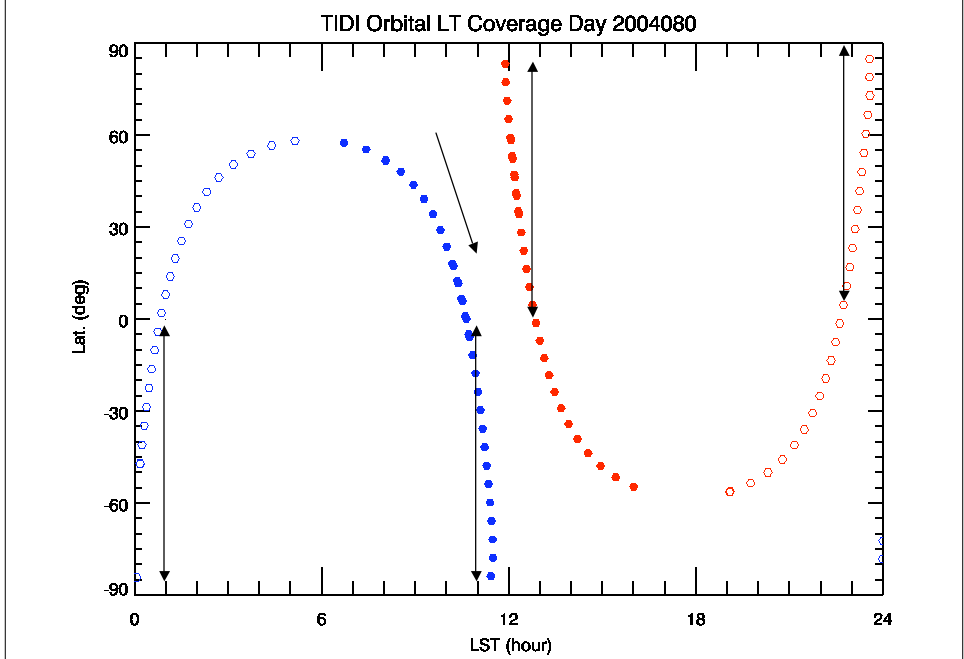
Overview

- Daily zonally averaged neutral winds
- Measurement Tracks
- Multi-day TIDI data set from 2004 79-142, which covers 24 hour local time
- Meridional wind profiles at different latitudes
- Least square fit results for diurnal and semi-diurnal tides
- GSWM model results
- Comparison with Maui Meteor Radar results
- Summary

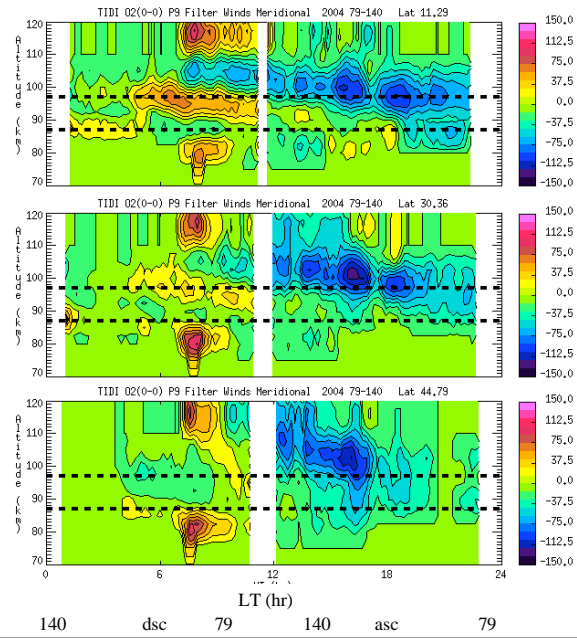
Daily Zonally Averaged Neutral Winds 2004080



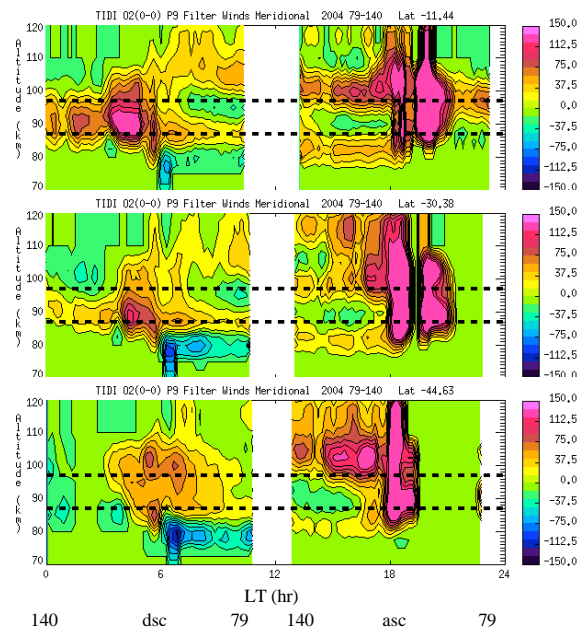
TIDI Measurement Tracks



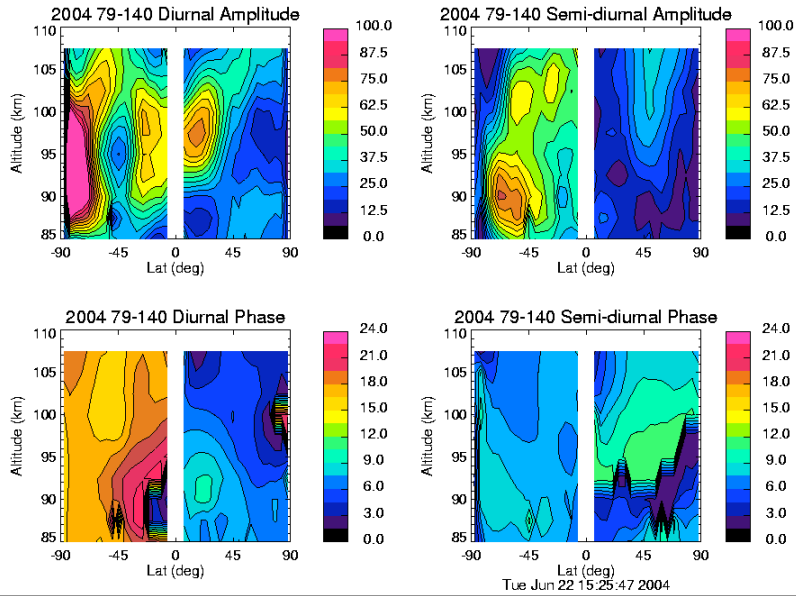
Northern Hemisphere Meridional Wind



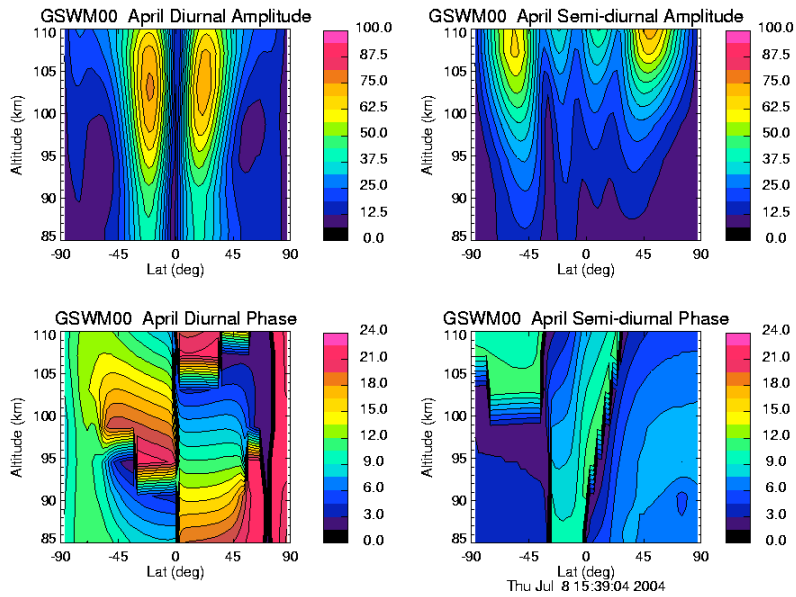
Southern Hemisphere Meridional Winds



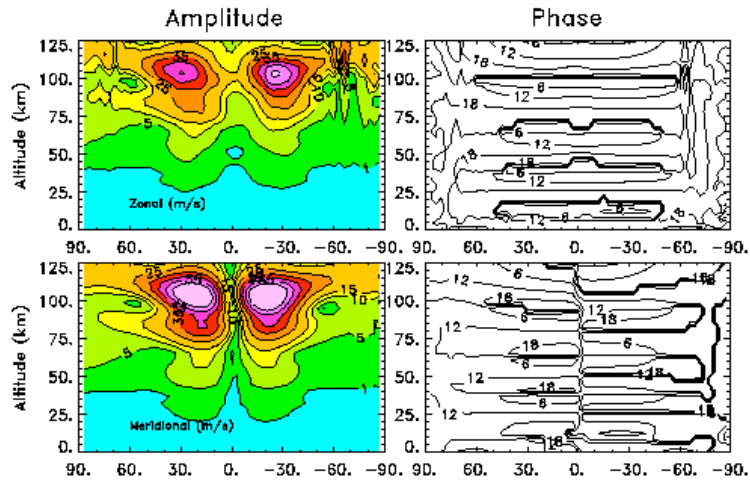
Diurnal and Semi-Diurnal Tide Amplitudes and Phase (from Least Squares Fit)



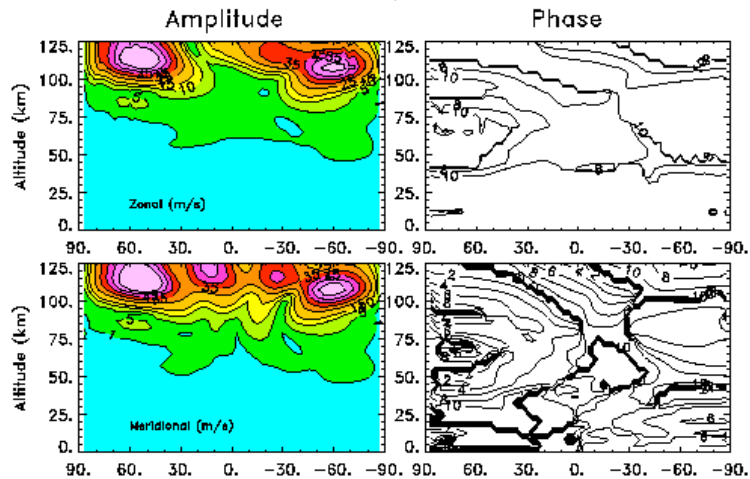
GSWM00 Output for April



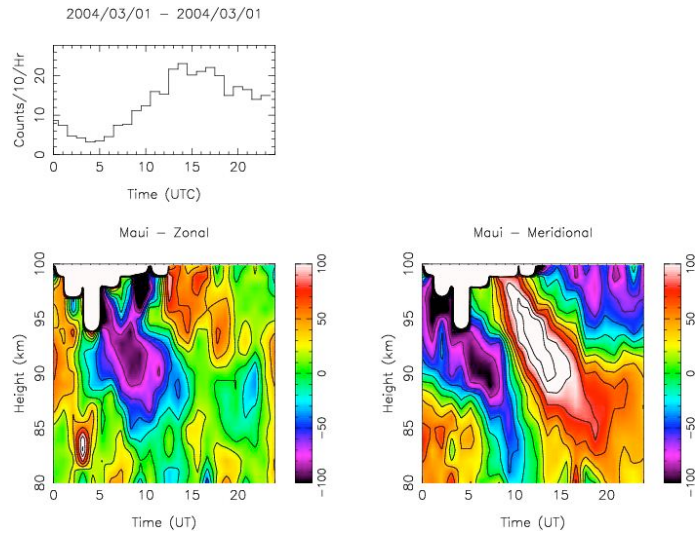
GSWM Diurnal Tide Amplitude and Phase for Vernal Equinox



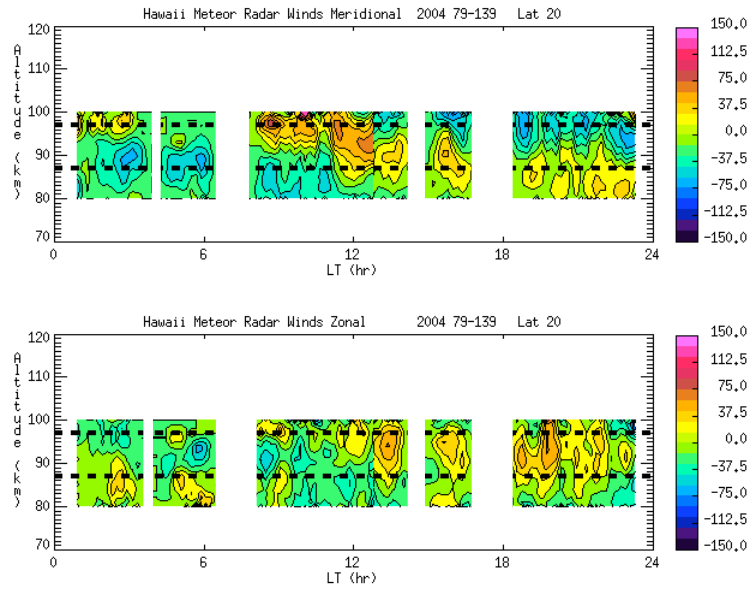
GSWM Semi-Diurnal Tide Amplitude and Phase for Vernal Equinox



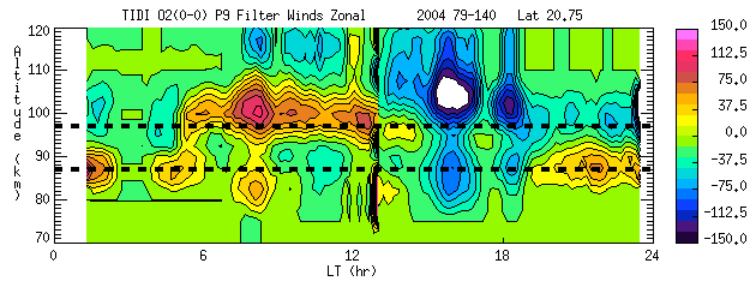
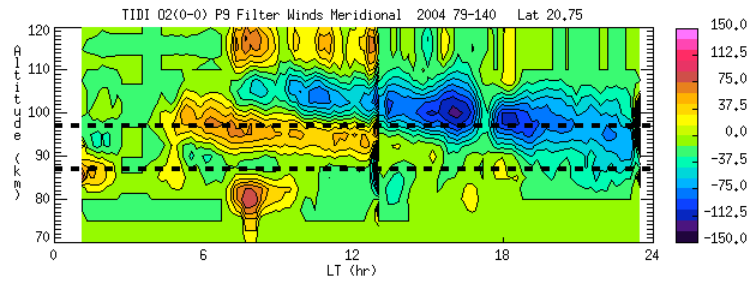
Daily Summary Plot of Maui Meteor radar data



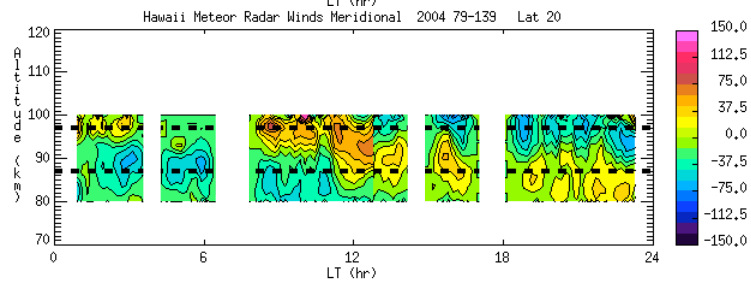
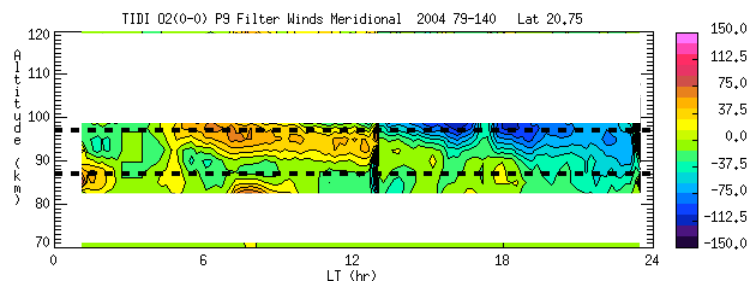
Maui Meteor Radar 79-139 2004



TIDI Neutral Winds Over Maui 79-139 2004



TIDI and Maui Meteor Radar Comparison



Summary

- TIDI meridional neutral wind data show clear signs of the diurnal and semi-diurnal tides.
- The diurnal tide at low latitudes was gradually replaced by the semi-diurnal tide at mid-latitudes.
- The diurnal tide has a vertical wavelength close to 20 km.
- The TIDI diurnal tide peaks at about 97 km
- The GSWM diurnal tide is smaller in amplitude and longer in vertical wavelength (~ 25 km)
- The GSWM diurnal tide peaks above 100 km.
- Comparison with the Maui Meteor radar data show better agreement for the meridional winds for the zonal winds.