Advanced Study Program Seminar

Global Manifestations and Consequences of the Solar Semidiurnal Tide in Earth's Atmosphere

Jeffrey M. Forbes

University of Colorado

In this talk I will provide a perspective on the global manifestations and consequences of the solar semidiurnal tide in Earth's atmosphere. Topics to be addressed include tide/mean-wind interactions; production of non-Sun-synchronous tides due to latent heating associated with deep tropical convection, and by nonlinear interaction between sun-synchronous tides and stationary planetary waves; tidal modulation by planetary-wave oscillations at quasi-2-day and -10-day periods and related effects in the thermosphere-ionosphere system; modification of the zonal mean circulation due to momentum deposition by dissipating tides; and analogies with the solar semidiurnal tide in Mars' atmosphere. Experimental and modeling evidence for all of the above phenomena will be presented, so as to provide an appreciation for the pervasiveness of semidiurnal tidal effects from the surface to the ionosphere-thermosphere system.

Wednesday, February 13th at 11 am.

Foothills Lab Building 2, Room 1022 (Auditorium)

Tea and coffee served before the seminar