

# SEMINAR

## Gravity waves in the global 7-km GEOS-5 Nature Run

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Gravity waves are important drivers of atmospheric motion on both local and global-scales, from the upper troposphere to the thermosphere and ionosphere. However, most global climate models are too coarse to resolve the full spectrum of gravity waves and use gravity wave drag parameterizations to approximate the effects of gravity waves on the circulation. These parameterizations are a large source of uncertainty in models, in part because we do not yet have a global understanding of gravity wave properties and their sources from observations to constrain parameterizations. As computational power increases, atmospheric general circulation models are able to resolve smaller and smaller-scale waves, reducing, but not (yet) eliminating, the need for parameterizations. High-resolution models can also provide guidance for gravity wave drag parameterizations where observations are lacking through investigation of the modeled small-scale waves, their sources, and how they interact with the large-scale circulation. This talk will explore some of the aspects of the resolved small-scale waves in the global 7-km horizontal resolution Goddard Earth Observing System model (GEOS-5) Nature Run. In particular, the talk will focus on the wave driving of the quasi-biennial oscillation in the tropics and nonorographic gravity waves and sources related to convection and frontogenesis in the Southern Hemisphere winter.

**Monday, May 1, 2017, 3:30 p.m.**

Refreshments 3:15 p.m.

NCAR Foothills Laboratory

3450 Mitchell Lane, Boulder, CO 80301

FL2-1022, Large Auditorium

Live webcast: <http://ucarconnect.ucar.edu/live>

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