



Mesoscale Eddy Momentum Flux in a 7km Mesh Global Atmosphere Model

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A two-year global nonhydrostatic atmosphere simulation on a 7km mesh (G5NR from NASA's GEOS-5 model) is queried for one of its most unique strengths: What is the vertical momentum flux ($u'w'$ and $v'w'$) by explicit air motions in the mesoscale (7-444 km) scale range? After motivating this classic question, especially in light of the hypothesis that organized convection can act as an upscale energy transfer (via upgradient flux, a "negative viscosity"), we address it comprehensively with the data. A global climatology indicates that these mesoscale motions overall act as positive viscosity (damping the shear kinetic energy SKE), except perhaps for some grid points with steep topography. However, cases of positive SKE tendency are also seen. We drill down into full-resolution data for selected situations to expose the nature of the calculation and the phenomena involved. Cyclones in shear are especially prodigious in producing convection-momentum interactions, of both signs, through preferential sampling of non-average low-level momentum.

***Friday, 17 August 2018, 11:30AM**

Refreshments 11:15 AM

NCAR-Foothills Laboratory
3450 Mitchell Lane

***Please Note Special Day and Time**

Bldg. 2, Main Auditorium, Room 1022

This seminar will be webcast live at:

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