

CGD SEMINAR



DATE: Tuesday, 21 February 2017

TIME: 11 a.m.

LOCATION: NCAR, 1850 Table Mesa Drive
Mesa Lab, Main Seminar Room

TITLE: The quasi-biennial oscillation (QBO):
Past, present, and the future

SPEAKER: Jadwiga (Yaga) Richter, NCAR/CGD

ABSTRACT:

The quasi-biennial oscillation (QBO) is the primary mode of variability of the tropical lower stratosphere. The QBO has been observed for over 50 years, showing easterly and westerly wind regimes alternating with a period of 28 months on average - until year 2016. In 2016, a QBO interruption occurred, with an unprecedented formation of an easterly jet within the westerly QBO phase. Although the basic driving mechanism for the QBO has been understood for many years, only a handful of contemporary GCMs can reproduce it. Simulations of the QBO over the last 50 years, as well results of efforts to model the present QBO interruption using the newly developed 110-level Whole Atmosphere Community Climate Model (WACCM) will be presented. As the QBO is driven by a combination of upward propagating equatorial planetary waves and small-scale gravity waves, it is tightly linked to the tropospheric climate. Possible changes to the QBO in a warming climate and under various climate engineering scenarios will be explored.

Live webcast: <http://www.fin.ucar.edu/it/mms/ml-live.htm>

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