

CGD SEMINAR



DATE: Tuesday, 31 January 2017

TIME: 11 a.m.

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

TITLE: Detecting the influence of the Hadley circulation on Atlantic hurricanes through OLR

SPEAKER: Kristopher Karnauskas, CU Boulder

ABSTRACT:

The climatology of outgoing longwave radiation (OLR) over Africa is characterized by a tripole structure associated with the ITCZ and adjacent regions of descent embedded within the global Hadley circulation. Previous analyses of the interannual variability of this tripole structure in OLR have implicated a role for the Hadley circulation over the African/eastern Atlantic region in modulating Atlantic seasonal hurricane activity. Indeed, the meridional structure of OLR over Africa is a strong predictor of annual hurricanes in the Atlantic basin due to its robust, highly detectable signal and mechanistic linkages to several features influencing tropical cyclogenesis including the ITCZ, African easterly jet, easterly waves, and more generally the vigor of the Hadley circulation just upstream of the main development region. More recently, it has been shown that observed trends in the OLR field over Africa during the satellite era are a predicted regional response to global radiative forcing. The observed and simulated trend projects strongly onto the OLR mode associated with active hurricane seasons and is predicted by GCMs to continue through the 21st century with implications for future hurricane frequency.

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

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