

CGD SEMINAR



DATE: Tuesday, 8 November 2016

TIME: 11 a.m.

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

TITLE: When does the land surface matter?
Surface-Convection Feedbacks and
Models

SPEAKER: Ahmed Tawfik, NCAR/CGD

ABSTRACT:

This talk explores how surface properties influence convection, and in particular convective initiation. The specific questions are when, where, and how surface states can either promote or suppress convection, and result in either a positive or negative feedback. The debate in the literature surrounding the surface-convection interactions is first presented and then a new approach (referred to as the heated condensation framework; HCF) for quantifying the processes that would lead to either a positive or negative feedback is outlined. The feedbacks present in observations and reanalysis are shown and the difficulty of applying the same analysis framework to CESM is described. It will be argued in this talk that the lack of process similarity between the model and observations makes it difficult to judge fidelity surface-convection feedbacks in the model. In an effort to realign this process representation, the HCF is used as a convective trigger in the model and is applied in several different ways including a strategy for capturing sub-grid convective initiation.

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

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