MMM SEMINAR SERIES

Improving Representation of the Atmospheric Boundary Layer in Earth System Models: A Multifaceted Approach Using Theories, Observations, and Turbulence-Resolving Simulations

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The exchange of heat, moisture, and momentum between the surface and the atmosphere occurs primarily through the atmospheric boundary layer (ABL), where turbulent eddies of varying sizes play a critical role. The inherently multiscale nature of ABL turbulence presents distinct challenges for its representation in Earth system models (ESMs) across different resolution regimes—from general circulation models (GCMs) with fully parameterized turbulence, through the gray zone with partially resolved turbulence, to large-eddy simulations (LES). This talk examines how the unique challenges at each resolution have been addressed through a multifaceted effort using existing theories, observations, and turbulence-resolving simulations…Link to Full Abstract Here.

MONDAY, 11 August 2025, 11:00AM

Refreshments 10:45PM

Please also join colleagues for refreshments and informal discussion after the seminar until 12:30PM

NCAR-Foothills Laboratory, 3450 Mitchell Lane

FL2-1022, Large Seminar

Seminar will also be live webcast

https://sundog.ucar.edu/page/MMM

Participants may ask questions during the seminar via Slido.