

## A Nonhydrostatic Spectral-Element Dynamical-Core in CAM-SE.

Hall.D

We have implemented a nonhydrostatic atmospheric dynamical-core in the CAM-SE/HOMME framework based on the Laprise '92 formulation of the compressible Euler equations in hybrid pressure-terrain vertical coordinates. This upgrade is important to enable CAM-SE and the CESM climate model to utilize ultra-high resolution meshes surpassing the hydrostatic limit of 10 km per grid-cell. In this talk we will present the nonhydrostatic model and examine its performance on the DCMIP model inter-comparison tests. Then we will look at the model's parallel scaling properties and discuss the path forward for this new technology.