Welcome!

Please join us for the next ATOC Colloquium on **Friday, October 4** from **11:00 AM–12:00 PM,** which will be held in **SEEC S228 and simulcast over Zoom**. This week's colloquium features **Dr. Allison Michaeles (Northern Illinois University).** Please join us for conversation beginning at 10:45 AM and stay for lunch afterwards.

Evaluation of a Novel High-Resolution Climate-Scale Simulation using the Model for Prediction Across Scales – Atmosphere (MPAS-A)

We present simulations representative of the historical climate using the high-resolution (15 km) global Model for Prediction Across Scales – Atmosphere (MPAS-A) version 7.0. Our simulations include prescribed sea surface temperatures and sea ice that are updated daily using the 0.05° Operational Sea Surface Temperature and Ice Analysis (OSTIA) over the 30-year simulation period (i.e., 1 October 1989 – 30 September 2019). To our knowledge, this is one of very few long-running, high-resolution, climate-scale MPAS-A simulations to date. We find that MPAS-A reasonably captures large-scale atmospheric features and their variability in the Northern and Southern Hemispheres, including maritime sea-level pressure systems, such as the subtropical highs, upper-tropospheric flow regimes, and precipitation patterns. MPAS-A is also able to replicate interannual variability in atmospheric patterns (e.g., NAO). For tropical cyclone (TC) representation, initial results indicate that MPAS-A effectively captures TC characteristics such as seasonality, location, and intensity in the Northern and Southern Hemispheres. Our results demonstrate the utility of MPAS-A for investigating climate-scale phenomena at spatial resolutions generally unachievable by GCMs. Furthermore, we demonstrate the applicability of these model simulations for future studies examining effects of climate change on various high-impact weather systems in a model-relative framework.

Location: SEEC S228 & Zoom
Zoom:
https://cuboulder.zoom.us/j/96503809060

Password: ATOC

About the ATOC Colloquium

The Department of Atmospheric and Oceanic Sciences (ATOC) Colloquium is typically held **every other Friday** from **11:00 AM–Noon**. Colloquia alternate between the following formats: (A) Full-length talk by a faculty member or invited speaker, (B) Three conference-length talks by graduate students. If you would like to nominate a speaker (including self), please email the ATOC Colloquium Committee Chair, Prof. Jianghanyang (Ben) Li (Jianghanyang.li@colorado.edu). Please visit www.colorado.edu/atoc/colloquium for further details.