Nicholas Davis

Anyone can be deceived by data analysis and statistics, even when they're done well. I design numerical modeling experiments to produce unambiguous and informative results that stand on their own, and use parallel programming to condense vast natural systems into their most elemental physics.

WORK EXPERIENCE

Scientist II (previously Scientist I)
National Center for Atmospheric Research 2019 - present

- Guides whole atmosphere model development, evaluation efforts with internal and external collaborators
- Manages research projects with interdisciplinary teams
- Coordinates postdoc hiring, community workshops, meetings
- Communicates with management, research community
- Develops and executes strategic plans
- Collaborates with international working groups, initiatives

Postdoctoral Research Associate
Cooperative Institute for Research in Env. Sci. 2017 - 2019

- Managed whole atmosphere modeling and evaluation
- Engaged broad expertise of lab members on key projects

Graduate Research Assistant
Colorado State University 2011-2017

- Developed new modeling tools and performed high-impact research to solve pressing scientific questions
- Collaborated with broader research community through international working groups, workshops

RECENT PROJECTS

Regionally-refined whole atmosphere simulations

- Lead 12 million core-hour project to tune, evaluate variable-resolution global model, generating over 1 PB of output
- Independently developed a massively-parallel, automated postprocessing workflow to transform 10 TB/day of data into immediately actionable results

Subseasonal-to-seasonal predictability

- Coordinated with forecasting team to development experimental forecasts to directly test hypotheses
- Developed efficient workflow using data structures
- Leveraged terabytes of hindcasts and forecasts to generate fundamental and applied scientific insights

CONTACT

nadavis@ucar.edu
nickdavis.space
Google Scholar

SKILLS

- MATLAB, Python, Fortran with OpenMP, bash, NCO, NCL, ChatGPT
- Numerical modeling
- Model evaluation, forecasting
- Massively parallel programming
- Informative visualization
- Hypothesis testing
- Linear and non-linear analysis
- Project management
- Proactively-designed research scopes that accelerate results into top scientific journals
- High-level communication with management, stakeholders, public

EDUCATION

Ph.D., 2013-2017
Atmospheric Science
Colorado State University

M.S., 2011-2013
Atmospheric Science
Colorado State University

B.S., 2007-2011
Atmospheric Science &
Applied Mathematics
Minor in Mathematics
University of Washington