

Projects closely related to E3SM

SciDAC4 (2017-)

- Price et al: Prospect: ice-sheet and sea-level modeling

<https://climatemodeling.science.energy.gov/projects/probabilistic-sea-level-projections-ice-sheet-and-earth-system-models>

- Turner et al: Sea-ice for high-resolution global simulation

<https://climatemodeling.science.energy.gov/projects/new-discrete-element-sea-ice-model-earth-system-modeling>

- Bosler et al: Next-generation atmospheric dycore development

<https://climatemodeling.science.energy.gov/projects/non-hydrostatic-dynamics-multi-moment-characteristic-discontinuous-galerkin-nh-mmcdg>

- Wan et al: Atmospheric physics convergence

<https://climatemodeling.science.energy.gov/projects/assessing-and-improving-numerical-solution-atmospheric-physics-e3sm>

- Ricciuto et al: Land-atmosphere uncertainties and observation optimization

<https://climatemodeling.science.energy.gov/projects/optimization-sensor-networks-improving-climate-model-predictions>

- Jones et al, CANGA: Next-generation coupling

<https://climatemodeling.science.energy.gov/projects/coupling-approaches-next-generation-architectures-canga-0>

E3SM-FOA1482 partner projects (2015-2018)

- Randall et al: Quasi-3D MMF atmospheric model

<https://climatemodeling.science.energy.gov/projects/implementation-quasi-3d-multiscale-modeling-framework-acme>

- Mlawer et al: Improving performance of RRTMG

<https://climatemodeling.science.energy.gov/projects/improved-efficiency-and-coupling-radiation-code-acme-earth-system-model>

- Zeng et al: Process coupling improvements for E3SM

<https://climatemodeling.science.energy.gov/projects/improving-interface-processes-doeacme-model>

- Zhang et al: Estuary model for E3SM

<https://climatemodeling.science.energy.gov/projects/improving-tide-estuary-representation-mpas-ocean-0>

- Jain et al: Dynamic land-use treatment for E3SM

<https://climatemodeling.science.energy.gov/projects/investigating-impacts-changes-land-cover-and-land-management-climate-using-acme>

- Mahowald et al: Iron – Potassium – Nitrogen couplings across land-atmosphere-ocean BGC

<https://climatemodeling.science.energy.gov/projects/fire-dust-air-and-water-improving-aerosol-biogeochemistry-interactions-acme>

- Hess et al: Nitrogen and agriculture in the coupled Earth system

<https://climatemodeling.science.energy.gov/projects/agricultural-impacts-nitrogen-cycling-climate-and-air-pollution>

- Moore et al:

Climate Model Development and Validation (2016-2017)

- Salinger et al., CMDV - Software Modernization

<https://climatemodeling.science.energy.gov/projects/cmdv-sm-global-climate-model-software-modernization-surge>

- Golaz et al., CMDV-RRM: Atmosphere modeling with regional refinement

<https://climatemodeling.science.energy.gov/projects/cmdv-rrm>

- Ghan et al., CMDV- MCS: Atmosphere model improvements to study Mesoscale Convective Systems

<https://climatemodeling.science.energy.gov/projects/cmdv-mcs>

- Romps et al., CMDV-CM4: Boundary layer cloud model improvements

<https://climatemodeling.science.energy.gov/presentations/cmdv-cm4-presentation>

- CMDV-Land

Others:

- ECP: Exascale computing project

<https://climatemodeling.science.energy.gov/projects/cloud-resolving-climate-modeling-earths-water-cycle>

- Long et al: MARBL – portable Ocean BGC model

<https://climatemodeling.science.energy.gov/projects/marbl-marine-biogeochemistry-library>

- Ngee-Tropics

<http://ngee-tropics.lbl.gov/>

- Ngee-Arctic

<https://ngee-arctic.ornl.gov/>

SciDAC3 (2011-2016)

- Collins et al, Multiscale: Atmospheric multi-scale modeling

<https://climatemodeling.science.energy.gov/projects/multiscale-accurate-efficient-and-scale-aware-models-earth-system>

- Price et al, PISCEES: Ice sheet development

<https://climatemodeling.science.energy.gov/projects/predicting-ice-sheet-and-climate-evolution-extreme-scales-piscees>

- Taylor et al: Non-hydrostatic atmospheric model

<https://climatemodeling.science.energy.gov/projects/non-hydrostatic-variable-resolution-atmospheric-model-acme>

- Jones et al, LEAP: Efficient tracer-transport algorithms for atmosphere and ocean

<https://climatemodeling.science.energy.gov/projects/launching-extreme-scale-acme-prototype-transport-leap-t>