

2026: Atmosphere Group 1-year Roadmap

Jan 2026 - Dec 2026

Major Goal	Epics	Start Date	Due Date
v4.0: EAMxx ne256	Port Zhang-MacFarlane (ZM) deep convection to C++	Jan 2026	Jun 2026
v4.0	Evaluate and refine ZM at ne256 (13km)	Jan 2026	Sep 2026
v4.0	Port orographic scheme used in EAMv3.HR	Jul 2026	Oct 2026
v4.0	Enable transient (time-varying) forcings in EAMxx (Simple Prescribed Chemistry and update Simple Prescribed Aerosols)	Jan 2026	Oct 2026
v4.0	Evaluate and fix biases in EAMxx ne256	Jan 2026	Dec 2026
v4.0	Perform and analyze Perturbed Physics Ensembles of EAMxx	Jan 2026	Oct 2026
v4.0	Explore development versions of EAMxx and tune ne256 for v4.0	Apr 2026	Dec 2026
v4.0	Enable standard suite of diagnostics to work for EAMxx	Jan 2026	Jul 2026
v4.0	Produce diagnostic workflow for storms in EAMxx ne256	Apr 2026	Sept 2026
v4.0	Understand and improve stability issues of ne256 configuration	Jan 2026	Jul 2026
v4.0	Update vertical levels in EAMxx ne256	July 2026	Dec 2026
CONUS-200m	Create CONUS-200m, 400m, 800m input files	Jan 2026	Mar 2026
CONUS-200m	Add supersaturation-based cloud microphysics	Jan 2026	Jun 2026
CONUS-200m	Add horizontal turbulent diffusion	Jan 2026	Mar 2026

CONUS-200m	Update sponge layer at the top of the model	Jan 2026	Mar 2026
CONUS-200m	Conduct simulations at all resolutions	May 2026	Dec 2026
CONUS-200m	Code maintenance and performance for regionally-refined continental U.S. simulations	Jan 2026	Dec 2026
Showcasing Science	Write the SCREAM 3km decadal experiment paper	Jan 2026	May 2026
Showcasing Science	Write the SCREAM 3km Cess2 experiment paper	Jan 2026	Jun 2026
Showcasing Science	Participate in the EarthCARE-ORCESTRA Model Intercomparison Project (ECOMIP) simulations	Jan 2026	Mar 2026
Showcasing Science	Publish EAM papers documenting EAM model capabilities as well as science discovery and support E3SM, simulation campaigns, and support	Jan 2026	Dec 2026
EAMxx performance	Machines	Jan 2026	Dec 2026
EAMxx performance	Improve EAMxx performance and add single precision numerics in the model's dynamical core	Jan 2026	Dec 2026
EAMxx performance	Update diagnostic output in EAMxx	Jan 2026	Dec 2026
EAMxx usability	Documentation	Jun 2026	Dec 2026
Maintaining EAMxx+v3	Testing and Development Operations (DevOps)	Jan 2026	Dec 2026
Maintaining EAMxx+v3	Ongoing maintenance (bug fixes, machine support, etc.)	Jan 2026	Dec 2026
Maintaining EAMxx+v3	Ongoing review and integration of new code and features	Jan 2026	Dec 2026

Achieve EAMv4.X readiness for prognostic aerosol capability	Diagnose causes of aerosol-cloud interaction ACI biases & identify candidate solutions	Apr 2026	Dec 2026
EAMv4.X	Wet Aerosol wet removal improvements	Jan 2026	Dec 2026
EAMv4.X	Improve computational performance of the prognostic aerosol capability, i.e., the 4-mode Modar Aerosol Model in C++ (MAM4xx) and clean up code	Jan 2026	Jun 2026
EAMv4.X	Maintain MAM4xx code in E3SM (bug fixes, machine support, etc.)	Jul 2026	Dec 2026
EAMv4.X	Improve MAM4xx testing (add automated tests, develop performance testing dashboard)	Jan 2026	Jun 2026
EAMv4.X	Review and update aerosol surface couplings, including wind-driven dust emissions	Apr 2026	Dec 2026
EAMv4.X	Document MAM4xx	Jan 2026	Dec 2026