2026: Inf 1-year roadmap

Major Goal	Epics	Start Date	Due Date
Support E3SM model development	Make sure PRs are integrated timely. Keep testing dashboard green. Keep supported machine configurations up-to-date	Jan 2026	Dec 2026
Support E3SM infrastructure software	Fix bugs as reported and generally maintain SCORPIO, coupler, run_e3sm script	Jan 2026	Dec 2026
Support E3SM analysis and diagnostics tools	Fix bugs as reported and generally maintain e3sm_diags, NCO, IICE, MPAS-analysis, zppy, mache, e3sm_unified, evv, livvkit, xCDAT e3sm_data_doc, PACE,	Jan 2026	Dec 2026
Support published data	Fix bad data as reported. Fix bugs and generally maintain data publication software: e3sm_to_cmip, data_state_machine	Jan 2026	Dec 2026
Monitor Performance	Refresh benchmarks for I/O, production cases. Maintain performance test suites.	Jan 2026	Dec 2026
Extend test suite	MVK for Sea Ice	Jan 2026	May 2026
	Shorten MVK test	Jun 2026	Oct 2026
	Add more cases to github PR testing	Jul 2026	Aug 2026
Publish new simulation data	Publish v3 large ensemble to ESGF	Jan 2026	Apr 2026
	Publish v3 HR, BluePulse	Sep 2026	Dec 2026
Convert driver/coupler to MOAB	Port nlmaps, budgets, histaux from driver-mct. Test performance. Make default	Jan 2026	May 2026

Finish implementation of code review process	Develop new templates for PRs Prototype scripts to postprocess water, carbon energy stats in logs and make plots Develop infrastructure to run and archive Reference simulations. Continue work on simulation viewer (See SimBoard below)	Jan 2026	Dec 2026
Develop a simulation viewer/tracker (SimBoard)	Deliver a publicly accessible, stable release of SimBoard with baseline Browse, Details, and Compare functionality.	Jan 2026	Dec 2026
	Automate ingestion of core simulation metadata and deploy as a production pipeline at NERSC and other sites.	Jan 2026	Apr 2026
	Design and implement core infrastructure for diagnostics metadata and provenance tracking to enable future integration.	May 2026	Aug 2026
	Ensure the platform is secure and sustainable through hardened deployment, authentication, logging, and documentation.	Sep 2026	Dec 2026
Develop asynchronous I/O capability and additional output options.	Finish Async I/O in SCORPIO	Jan 2026	Aug 2026
	Improve HDF5 output performance of SCORPIO	Jan 2026	Jun 2026
	Improve Zarr support in SCORPIO (with nczarr)	Aug 2026	Sep 2026
	Explore SCORPIO ADIOS features: async with staging	Nov 2026	Dec 2026
Increase capability, resilience and performance of CIME Case Control System (collab with CESM)	Fix short term archiving for EAMxx (history and restart)	Aug 2026	Oct 2026
	Refactor Official API (simplify calling CIME from python scripts/external packages)	Jan 2026	Dec 2026
	Improve CCS's hang detection/resiliency	Jul 2026	Aug 2026
	Parallelize check_input_data	Jun 2026	Jul 2026
	Revive long-term archive job using zstash	Oct 2026	Dec 2026

Integrate new diagnostics from science groups and other projects.	zppy: Finish integrating PCMDI's metrics. E3SM Diags: Establish obs data workflow for sasonal to decadal simulations. Add more tropical variability diags [SciDAC-QBO]	Jan 2026	Dec 2026
	MPAS-Analysis: Porting to Polaris, add customizable climatology maps and more fields. Summarize MPAS-analysis for land and sea-ice in zppy	Jan 2026	Dec 2026
	Begin developing ensemble analysis	Jul 2026	Dec 2026
Make misc E3SM improvements for v4	Increase CF-compliance of output. Use constants uniformly	Jun 2026	Dec 2026
Increase performance of analysis software	Increase performance of xcdat for high-res data; Add task parallelism to MPAS-Analysis	Mar 2026	Dec 2026
Improve documentation/ integration of land-ice analysis software	Document zppy interface for LIVVkit	Jan 2026	Sept 2026
	Make LIVVkit callable from zppy	Jan 2026	May 2026
Improve zstash globus and high-res support	Finish globus revamp. Support ne1024, ne256 simulations.	Jan 2026	Dec 2026
Begin development of AI and S2D workflow	Design and prototype a standardized, reproducible workflow (run + analysis) for S2D/AI (in collaboration with S2D and AI groups)	May 2026	Dec 2026
Scope agent-based AI system for E3SM development, execution, and analysis	Design and prototype an E3SM AI platform with core services (RAG-based knowledge base, MCP tools, and deployment infrastructure) to enable application-specific AI-assisted workflows.	May 2026	Dec 2026
Increase NCO support for netcdf expansions and mbtempest.	Support netcdf expansion pack (lossy codecs, etc.). Expose latest mbtempest algorithms through ncremap	Jan 2026	Dec 2026