Responsibilities / Duties of the Community Earth System Model (CESM) Working Group (WG) Cochairs and Liaisons

30 September 2022

Cochair

The following is a list of activities that a cochair may be responsible for. Some of the duties may be accomplished by other members of the WG. If a WG does not have a science and / or software engineer liaison, some of their responsibilities may need to be performed by the WG cochairs.

- Leads the WG's efforts / activities in coordination with all the other cochairs of the WG;

- Interacts and collaborates extensively with the university community and partner institutions;

- Provides scientific direction to the WG and the CESM Project;

- Sets the priorities of the WG, with input from the community;

- Participates in / leads creation of new CESM and component model versions; related coupled simulations; or other community projects such as large ensembles;

- Frequently communicates with the CESM Chief Scientist and informs the Scientific Steering Committee (SSC) on WG-related efforts and activities;

- Leads and oversees development of component models, design and analysis of numerical experiments and integrations, and the dissemination of results;

- Leads and participates in creation of model documentation and user's guides in collaboration with other members of the WG;

- Advocates for the WG and the CESM Project;

- Organizes all the WG meetings, setting the agenda and discussion items;

- Organizes / leads WG's contributions to the CESM computational resources proposals;

- Provides input to various CESM documents when requested;

- Oversees the tasks of the WG's science and software engineer liaisons;

- Participates in CESM cochairs meetings;

- Participates / helps with CESM tutorials;

- Coordinates / works with the Software Engineering WG on standardizing approaches to cross-WG activities, such as postprocessing, diagnostics, and I/O.

- Internal (NCAR) cochairs are responsible with day-to-day activities of the WG.

Science Liaison

The following is a list of activities that a science liaison may be responsible for. A liaison is expected to be responsible for a subset of these activities in person, depending on the highest priority needs determined by the WG. Some of the duties may be accomplished by other members of the WG.

- Serves as the primary science point of contact / support for the WG, assisting the WG community with their science-related questions and interacting extensively with the university community and partner institutions;

- Helps with day-to-day coordination of the WG activities in close consultation with the WG cochairs and Software Engineer liaison;

- Participates in WG activities, including development of CESM component models, design and analysis of numerical experiments, overseeing and performing integrations, managing relevant input, output, and comparative datasets, and facilitating the dissemination of results;

- Leads and participates in creation of model documentation and user's guides in collaboration with other members of the WG;

- Participates in creation of new CESM and component model versions and related component and coupled simulations;

- Helps with / leads running fully-coupled simulations and their analysis;

- Maintains existing post-processing tools and develops new ones as needed;

- Documents experimental and diagnostics procedures;

- Organizes and maintains a comprehensive database of simulation output and analysis;

- Helps with updates and maintenance of the WG web page;

- Participates in / leads parts of WG meetings;

- Participates / helps with CESM tutorials.

Software Engineer (SE) Liaison

The following is a list of activities that a SE liaison may be responsible for. A liaison is expected to be responsible for a subset of these activities in person, depending on the highest priority needs determined by the WG in coordination with the Software Engineering Working Group. Some of the duties may be accomplished by other SEs associated with the WG.

- Serves as the primary Software Engineer point of contact / support for the WG, assisting the WG community with their SE-related questions, including via the CESM forums, and interacting extensively with the university community and partner institutions;

- Supports implementations of new numerical algorithms and parameterizations, engaging the university community and providing support for algorithmic and parameterization development, conducting code reviews and performing final integration steps;

- Helps with day-to-day coordination of the WG activities in close consultation with the WG cochairs and science liaison;

- Participates in WG activities, including development and maintenance of CESM component models, writing and modifying component model and infrastructure code, maintaining a test suite for the component model, fixing software bugs, identifying port and performance issues and reworking code to improve performance, including on new platforms;

- Helps with design of numerical experiments and analysis tools, performing integrations, managing simulation database, relevant input, output, and comparative datasets, and facilitating the dissemination of results;

- Supports design and development of the necessary CESM infrastructure;

- Works with other CESM WGs to address issues related to interfacing a component model to other component models;

- Participates in design of relevant workflows;

- Applies industry best practices in software development;

- Participates in creation of new CESM versions and related coupled simulations;

- Helps with running simulations; helps with resolving SE-related problems encountered during running the simulations;

- Helps with maintenance of existing post-processing tools and development of new ones as needed;

- Writes and maintains documentation for users and developers, including experimental and diagnostics procedures, in collaboration with other members of the WG;

- Provides technical training to scientists (and others) through written materials and presentations;

- Works with the WG cochairs on standardizing approaches to cross-WG activities, such as postprocessing, diagnostics, and I/O;

- Updates and maintains the WG web site;

- Participates in WG meetings;

- Participates in CESM Software Engineering Group (CSEG) meetings;
- Participates / helps with CESM tutorials.