

The Chesapeake Community Modeling Program Governance Rules

Some Definitions

Open source is a way to conduct research and distribute models, software, and data, making them available to the broad community of researchers, educators, resource managers and the educated public. In most cases this is achieved using the resources of the web. *Open Source* is the ultimate path for disclosure that makes testing of models, model assumptions, tools and algorithms available for scientific peer review, as well as legal, and public policy scrutiny. A variety of licensing schemes are used to protect the copyright of the authors.

A community model is an open source component (model, data, or tool) that is constructed or improved through the combined efforts of a “community” of individuals working together to help develop, debug, calibrate, document, run, and use the model. This community often includes both developers and users, who may be distributed among a number of different institutions, organizations, and geographic locations.

Community modeling is a process of supporting, linking and integrating community models, modules and data sets.

Mission

The goal of the CCMP is to develop a community modeling system of model code, databases, and documentation for all aspects of basin processes, including the airshed, the watershed and the estuary. Model code is to be distributed over the world-wide-web for use and revision.

The CCMP strives to

- Facilitate and integrate combined modeling and observational efforts in the Chesapeake Bay and its watershed;
- Promote free and open exchange of information, data, models, and results;
- Help document models, software and data and distribute them to the community;
- Develop a state-of-the-art modeling architecture that can help build an integrated system of models and data for research, management, and operational applications;
- Partner with related computational and scientific programs to eliminate duplication of effort and to leverage mutual progress;
- Connect with the user community, promoting stakeholder interaction and feedback among the modeling, research, and management communities; and
- Provide appropriate training for both the users and teaching communities.

The CCMP will help and encourage members in the development and maintenance of the computational system that will ensure the portability and interoperability of modules, document the computational efficiency of system code, and serve as a editor for documenting the clarity and consistency of models, model documentation, and interfaces. The CCMP will also offer air-land-water modeling technology to enhance and inform education in various organizations, including providing model code, documentation, and calibration/verification data or products of CCMP models to various stakeholders in the region. The CCMP will serve as a virtual repository or satellite site for model testbeds, field experiments, and critical data within the Watershed, for the purpose of continuous improvement of models and modeling tools.

Organization

The CCMP is a public, nonprofit, unincorporated, interstate association of parties interested in quantitative research and application related to the airshed, watershed, and estuary of the Chesapeake Bay. The CCMP is a cooperative program that represents coordinated efforts of many individuals in Federal, State, academic, and private organizations to develop all sorts of models and disseminate them through the open source domain.

A. Membership

Membership in CCMP is open to individuals and institutions interested in participating in any aspect of quantitative research or application related to the Chesapeake Bay.

Institutional Membership (InstM): Academic institutions, not-for-profit organizations, State and Federal labs, consultants, and other companies that have a major commitment to research and restoration related to the Chesapeake Bay with a particular emphasis on computational quantitative studies may join as an Institutional Member of the CCMP. The Office of the CCMP shall maintain a list of Member Institutions.

Individual Membership (IndM): Any individual with a particular emphasis on computational quantitative studies or the application of those results may join as an Individual Member of the CCMP.

CCMP members have full access to all CCMP resources and are expected to contribute to the open data and model sharing environment developed by the CCMP. Any Member may resign at any time by giving written notice to the Chairperson of the Steering Committee (SC) or to the CCMP Coordinator. Given sufficient cause, any Member may be removed by the affirmative vote of two-thirds of the entire SC.

The CCMP members define the scope and priorities of the CCMP. Any member can suggest an activity or product that CCMP should explore. The SC can discuss merits of the proposed action and move according to majority opinion. Any member can also request an electronic referendum to resolve a particular issue related to CCMP. Requests for a referendum are submitted to the CCMP office and CCMP Coordinator is responsible to submit it to the SC within one-week period. If the SC approves it the CCMP office will then stage a referendum on the issue. This SC decision can be overridden if the issue is supported by at least 1 Institutional Member or 10 other Individual Members in which case the referendum will still take place.

The referendum has the highest authority in CCMP. Through referendums and meetings, the Membership:

- Defines strategic areas for CCMP development;
- Decides on potential funding opportunities;
- Creates additional offices or special committees; and
- Nominates members to the CCMP Steering Committee.

B. Committees

Steering Committee

The CCMP is governed by a Steering Committee (SC). When needed, the Steering Committee can appoint Subcommittees, which provide input to the Steering Committee. *Ad hoc* groups and the Program Office also provide input to the Steering Committee.

The SC is responsible for executing decisions and actions brought forward by the members, subcommittees, advisory committee, and *ad hoc* committees; for making budgetary decisions;

and for ensuring program continuity, stability, and balance. The SC may assign tasks to Subcommittees as necessary.

The SC consists of eleven voting members and ex-officio non-voting members. The voting members include the officers (Chair, Chair-elect, Vice Chair, Secretary), the CRC Executive Director, the CCMP coordinator, and five regular SC members.

The SC members are nominated by the CCMP members, and elected for a two-year term beginning and terminating at the conclusion of the bi-annual Membership meeting. The CRC Executive Director, and CCMP coordinator are permanent members. SC members can be reappointed for more than one term.

The SC members are empowered to set policy and make decisions concerning the administrative and scientific aspects of the Program.

The Steering Committee:

- Decides on CCMP priorities and major efforts;
- Solicits SC nominations from the Members;
- Elects new SC members;
- Develops the business plan;
- Approves the annual science plan, the annual reports, the management plan, budget, partner membership, and other day-to-day issues that arise in the running of the CCMP;
- Ensures that the objectives of the program are met;
- Develops the Operational Procedures, to be approved by a Membership referendum;
- Confirms CCMP membership;
- Defines the CCMP Coordinator responsibilities and position description;
- With the CCMP Coordinator recused, reviews the CCMP office performance and makes suggestions for improvement, including recommendations for Coordinator salary increases, continuation, or termination.

Excluding the CCMP Coordinator and the CRC Director, SC members rotate on a bi-annual basis to the positions of Chair, Chair-elect, and Past Chair. Past Chair can be re-elected as Chair-elect. If elected to office, SC member terms are automatically renewed until their office term is ended and till the next bi-annual Membership meeting.

CCMP officers serve without honoraria. If, for any reason, the Chair is unable to carry out the duties of that office, the Past Chair acts in that capacity until the Chair can resume duties or until the term of office is completed. If neither the Chair nor the Past Chair is able to complete the term of the Chair, then the Chair-elect assumes the duties of the Chair until the SC chooses a Chair to complete the term.

The Chair prepares the meeting agendas and presides at the bi-annual meetings of the CCMP Membership. The Chair also assists in the development of the agenda for the annual budget discussions, following the procedures and strategies of the CCMP Business Plan. With SC majority rule, the Chair has the authority to establish and dissolve *ad hoc* workgroups as necessary. With SC input, the Chair appoints the chair of an *ad hoc* workgroup, makes recommendations for workgroup members, and establishes a timeline for the workgroup. The Chair, in consultation with members of the SC, may delegate certain duties to other members of the SC and perform such duties as usually pertain to this office.

Advisory Committee

Membership in the Advisory Committee is by appointment, but input from non-members is welcome. The Advisory Committee is responsible for short-term and long-term financial

planning, and provides the SC with budgetary recommendations, including allocations for quality management and quality assurance and activities to insure CCMP meets the obligations of the Business Plan. Representatives of all funding agencies, providing a minimum of 10 percent of the overall current CCMP year's budget, are invited to join the AC. The AC is chaired by the representative of the lead funding agency (NOAA at this time). If the lead funding agency representative is unable to serve, then the chair position will be held by a representative of the second lead funding agency.

Ad hoc and Working Subcommittees

With majority support of the SC, the SC Chair has the authority to establish and dissolve *ad hoc* committees as necessary. Upon establishment of an *ad hoc* committee, the Chair will provide a timeframe for which the committee will operate. The Chair will appoint a chair of the *ad hoc* committee and assist in the selection of members. An *ad hoc* committee provides input to the SC on matters relevant to its designated charge.

C. The CCMP Program Office

The CCMP Program Office is responsible for assisting with program management and administering CCMP operations. The Program Office is located at the Chesapeake Research Consortium office.

The Program Office is organized into three primary functions: Model and Data Integration, Management and Meetings, and Publications and Training. The Program Office carries out these primary functions with the technical and administrative guidance of the SC.

The CCMP Coordinator has administrative responsibility for all Program Office activities. Specifically, the CCMP Coordinator:

- Conducts day-by-day activities of CCMP;
- Oversees the CCMP website and newsletter;
- Provides means of communication between SC members and CCMP members at large;
- Coordinates CCMP RFP responses and distributes relevant modeling RFPs to CCMP members;
- Seeks and secures access to open source datasets, model code, documentation, and calibration/verification data;
- Oversees development and transfer of CCMP data, models, or products to users in the basin (application);
- Interacts with other organizations and communities and represents CCMP to other parties; and
- Presents the Program Office budgetary requests for SC review and approval;

The Program Coordinator serves on the CCMP Steering Committee as a voting member, except for evaluations of office activities or the conduct or productivity of the Coordinator.

D. Meetings

Attendance at CCMP electronic meetings or at CCMP scientific symposium confers membership in the CCMP.

On a bi-annual basis, the membership meets at the general Membership meeting during the CCMP Symposium. At the Symposium, any CCMP member can request a vote on any issue. Those present at the general meeting constitute a quorum for voting purposes.

Between CCMP Symposia, referendums and meetings are conducted electronically over wikis, blogs or other web-based means. At electronic referendums or meetings of the membership, a quorum constitutes 30% of the registered Members. If the quorum is not achieved the vote is repeated. In this case a simple majority of voted members carries the issue.

In all cases, if a quorum is achieved, decisions are made by a simple majority of the votes cast.

Anyone with interest in CCMP is welcome to attend and participate in CCMP committee meetings and scientific symposia. While it is preferred that members physically attend the meetings, members may participate via email, phone, or other electronic means apart from the meetings, as available.

Bi-Annual Scientific Symposium

The Symposium has two purposes.

The first purpose is to have the membership meet and discuss any organizational issues relevant to the CCMP. The meeting addresses issues and needs of the Program in a general meeting as well as in subcommittee, Advisory, and Steering Committee sessions. The general meeting has the highest authority for CCMP.

The second purpose is to provide a forum for all CCMP users (researchers, policy makers, and developers of new models) to showcase their work and to display and demonstrate new methods and equipment. The symposium is organized by the Program Office. The CCMP coordinator selects a theme or topic to focus the presentations. Presentations are a mix of oral talks and posters with opportunities for participants to meet and have informal discussions during the symposium.

Steering Committee Meetings

The SC meets as needed but ideally semi-annually. Additional discussions and motions may be approved electronically. One of these meetings must take place in person at the Bi-Annual Symposium. Actions of the SC require approval by a simple majority of the voting members physically present at a meeting or of those responding electronically, by telephone, or by mail. The Program Office provides a Recorder at all SC meetings. The Recorder collates, disseminates, and archives a written record of all actions. The record of all meetings and non-confidential discussions conducted by the SC is made accessible to all CCMP members.

F. Amendments and Parliamentary Authority

These Governance Rules are enacted and may be amended as appropriate by a simple majority of all voting members of the Steering Committee. The Rules as well as future amendments have to be approved by the Membership Referendum that will be organized by the office once the Rules are approved by the SC.

A version of the parliamentary writings of General Henry M. Roberts approved by the CCMP shall govern the CCMP in all instances not covered by this Governance Handbook.

This document supersedes all previous documents and guidelines.

Approved by the CCMP Steering Committee _____, 2008.

Annex

Background

Acting in response to the 1999 STAC review of the Chesapeake Bay Program, the Chesapeake Research Consortium (CRC) convened a small group of Bay area scientists at Linden House, Champlain, VA on June 26, 2000 to discuss the need for a new Chesapeake Bay modeling initiative. The group (H. Ducklow and H. Wang, VIMS; E. Hoffman and A. Valle-Levinson, CCPO-ODU; W. Boicourt, HPL-CEES; D. Breitburg, ANSERC; and G. Smith, JHU) crafted a short, formal manifesto, which stated in part:

“We believe there is urgent scientific need for a new, research-based, long-term program of integrated observations and modeling of estuarine circulation, nutrient dynamics, plankton ecology, benthic ecology, living resources, and sediment dynamics... Although the Bay research community represents a significant expertise in estuarine science, it has not yet availed itself of the modern, cooperative, community-shared style to advance the modeling art... A vigorous initiative is needed to provide the scientific foundation for the next generation of coupled estuarine circulation/ecology models, which in turn is needed to support water quality managers and decision makers in the public policy sphere, and a wide spectrum of research and educational activities. The Chesapeake Research Consortium is an ideal mechanism for coordinating and providing focus for this multi-state, multi-institutional effort.” (Linden Group 2000).

The group also identified a list of key principles to guide the initiative they envisioned:

- Models should be open source and supported by a substantial user community.
- Models should have institutional homes.
- Data integration, prediction, and uncertainty quantification are essential aspects of the modeling process.
- Modeling activity should be integrated into the educational mission of the CRC institutions.
- Models should incorporate modern algorithms as well as physical/biological parameterizations.

The Linden House document was presented to the CRC Retreat at Airlie House, VA on July 26, 2000. CRC accepted the proposal for a new Chesapeake Bay modeling initiative and commissioned a more comprehensive statement (CRC 2000), which was accepted and signed at the CRC meeting on December 18, 2000. This agreement committed the CRC institutions to supporting a new modeling effort and charged them with seeking and assigning the resources necessary to improve models and make them accessible and to implement the observing systems which would provide new data for model assimilation and validation. After that, the CRC and the modeling community have been engaged in identifying scientific, personnel, institutional, and financial resources for the modeling effort. This latter process culminated in a large workshop, which was held April 5-7, 2002. Following the Workshop, a Steering committee was formed and officially charged with drafting an implementation plan.