

Terms of Reference for the Alaska Ocean Observing System Data Management Advisory Committee

Definition

These Terms of Reference describe the purpose, responsibilities, governance, terms of membership, and general and specific rules of order for the Alaska Ocean Observing System (AOOS) Data Management Advisory Committee (DMAC), hereafter referred to as “the committee”.

Purpose

The committee is advisory to the Executive Director and annually reports to the AOOS Board on the status of AOOS data management services, the AOOS Data Management Plan and the annual AOOS Data Management Work Plan. The status of data management services addresses the degree and quality of implementation of the following attributes: interoperability; open, easy access and discovery; reliable, sustained, efficient operations; effective user feedback; open design and standards process; and preservation of data and products. (Attributes are further elaborated below.)

Responsibilities

In general, the committee shall

1. Meet as may be necessary for consideration and discussion;
2. Provide advice to the Executive Director and her designees; and
3. Report annually to the AOOS Board.

Specifically, the committee shall

1. Conduct and assist in the conduct of inquiries on the status of data management as requested by the Executive Director and AOOS Board;
2. Periodically review the AOOS Data Management Plan;
3. Provide input into the Annual Data Management Work Plan for the data contractor, including data ingestion priorities and user feedback;

4. Engage and provide feedback on relevant IOOS national level activities; and
5. Communicate data needs and data management activities of constituent groups.

Governance

The governance of the AOOS DMAC operates within the context of the AOOS governance mechanism as defined by the AOOS Board and described in the AOOS Memorandum of Agreement and Standard Operating Procedures.

Terms of Membership

The AOOS DMAC consists of as many as fifteen (15) members selected from a cross section of agencies, institutions and user groups providing coastal and ocean data, information or products in the Alaska region. Eligible members are: 1) familiar with the technical aspect of data management and communication, 2) actively engaged in some aspect of coastal ocean observing systems in or around Alaska, or 3) principal end-users of data, products, and services from coastal ocean observing systems around Alaska.

Membership may include, but is not limited to, research institutions, non-governmental organizations, local government agencies or authorities, state agencies, federal agencies, and private industry.

AOOS DMAC members are appointed by, and serve at the pleasure of, the AOOS Board. A member who resigns is asked to submit a written resignation to the AOOS Board via the Executive Director as far in advance as possible. Resigning members are encouraged to suggest replacement members.

Rules of Order

General:

The AOOS DMAC operates under rules of order that are generally accepted for the operation of scientific and technical committees, which are summarized here. Committee meetings are conducted by a chair who serves at the pleasure of the committee. The committee will vote on the chair once every two years in the fall of odd years. A member may call for a vote on the matter of chairmanship at any time. The chair recognizes members wishing to speak. Members are encouraged to speak only when recognized by the chair; however, a member may respond to a question from another member, or clarify an earlier statement in response to another member's statement without going through the chair. When a decision or recommendation is to be made, it is offered in the form of a motion by any member of the committee, and seconded by any other member. The motion is then followed by discussion. The chair may call for the end of discussion at any time, but discussion will continue until no member wishes to speak to the subject further. At the end of the discussion, the chair will ask if anyone objects to the motion. Hearing any

objection, the chair calls for a vote. Motions are recorded in the meeting summary if no one objects or if a simple majority of members present vote in favor.

Specific:

- The AOOS DMAC determines the frequency and location of its regular meetings, which occur at least annually or at the request of the AOOS Board or Executive Director.
- Extraordinary meetings may be convened by the AOOS DMAC chair or at the request of any four AOOS DMAC members.
- A quorum for any AOOS DMAC meeting is a simple majority of the currently appointed DMAC members.
- The committee, in its discretion, may invite observers or other relevant parties to attend committee meetings.
- At any meeting of the committee, any member unable to attend may designate to the Executive Director and chair an alternate. Each alternate exercises full powers of the member while serving in that capacity.
- The summary of each committee meeting, including action items, will be distributed to committee members and published on the AOOS website.

Support services provided by AOOS

Support services provided to the DMAC include establishing the meeting venue, developing the agenda in consultation with the chair and members, and recording and reporting meeting summaries, including action items. The AOOS Executive Director will work with the committee chair to ensure action items are followed up.

Definition of Attributes of Data Management Services

Interoperability: Data management services serves as a framework for interoperability among heterogeneous cooperating systems. The cooperating systems are free to evolve independently to address the needs of their target users. Software and standards needed to participate in data management activities are available directly to partners, or provided through commercial and non-commercial sources. Data management services are interoperable with systems outside of the marine community that manage atmospheric and terrestrial data.

Open, easy access and discovery: Data management services enable users from all over the globe to easily locate, access, and use the varied and distributed forms of marine data and their associated metadata and documentation in a variety of computer applications (e.g., geographic information systems and scientific analysis applications). Users are unencumbered by traditional barriers such as data formats, volumes, and distributed locations. Data management services integrate cooperating systems so that data discovery is seamless, and multiple versions are easily tracked. There is a “free market” of ocean sciences information, including officially sanctioned IOOS data sets, as well as data and products from other sources.

Reliable, sustained, efficient operations: Data management services provide high reliability with uninterrupted delivery of real-time data streams from measurement subsystems to operational modeling centers and users with time-critical requirements. It provides high reliability in the

delivery of computer-generated forecasts, estimates of state, and delayed-mode and real-time data to end-users. Data management services requires sufficient bandwidth and adequate carrying capacity to support large exchanges of raw data and model outputs among high-volume users. Data management services facilitates techniques that reduce the need for large data transfers, such as server-side subsetting and computation, to allow users with limited bandwidth to enjoy the benefits of AOOS. Feedback mechanisms are built into the technical design of data management services to ensure that problems are detected and rapidly addressed.

Effective user feedback: AOOS provides a continuous, vigorous outreach process addressing all levels of users of marine data, emphasizing the benefits of sharing data through AOOS, and helping to identify and remedy difficulties encountered by those who are sharing or accessing data. In addition, this process identifies and addresses changing user requirements that drive the development and growth of AOOS.

Open design and standards process: AOOS data management services commits to an open software design. All standards and protocol definitions are openly published so that participating organizations may create functioning data management components based on these specifications. The standards development process is open and inclusive, so that it fosters buy-in by all stakeholders. Existing information technology and scientific standards are used in preference to development of new solutions, wherever possible. The standards and protocols are of sufficient breadth and quality to guarantee interoperability of all observations and products. Institutions participating in AOOS ensure that the data they contribute comply with these standards and protocols.

Preservation of data and products: Irreplaceable observations, data products of lasting value, and associated metadata are archived for posterity in an efficient and automated manner.