

ANNEX I: Data Systems Committee (DSC) Terms of Reference

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1. Introduction

The NSF Ocean Observatories Initiative Facility Board (OOIFB) established the Data Systems Committee (DSC) to help ensure timely and reliable access to high-quality OOI data.

2. Purpose

The DSC evaluates and recommends improvements to the data services policies and practices of the OOI Facility that will lead to more efficient and effective scientific use of OOI data. The DSC communicates its recommendations to the OOIFB. While there are numerous, and synergistic interactions between the DSC and the OOI Facility, the DSC does not directly task the OOI Facility, nor does the OOI Facility task the DSC. The DSC provides critical reviews of data systems and cyberinfrastructure plans, identifies short-term priorities, and suggests longer-term strategic actions on an ongoing basis through the OOIFB.

3. Organization / Membership

The DSC is composed of nine relevant subject matter experts, which includes the Chair and an Associate Chair. The members of the committee are drawn primarily from academia to reflect the interests of scientists, but membership may also include representatives from the government or private sector who can provide key advice about events and conditions that could affect the program. Typically, two representatives of the OOI Marine Implementing Organizations (MIOs) are also included as members. Conflicts will not necessarily preclude participation, in particular when the required expertise of any potential member outweighs any such conflict.

- a. **Chair** - The DSC Chair represents the committee in all matters deemed necessary in the interest of the committee. The Chair presides over the committee meetings. Unless the Chair is already a member of the OOIFB, the Chair participates in OOIFB meetings as a non-voting member. The Chair cannot be an employee of an OOI MIO.
- b. **Chair-Elect**- The DSC Chair-Elect is elected six months to a year before the current DSC Chair rotates off the committee. Normally, the Chair-elect will come from the DSC. The duties of the Chair-Elect shall include preparing to assume the office of Chair under the schedule set forth in section 3.a.
- c. **Ex-officio members**: Ex-officio (non-voting) representation on DSC will include the:
 - i. OOIFB Chair and Chair-Elect
 - ii. OOI Data Delivery Manager or equivalent OOI person.

- d. **Liaisons** - Representatives of the OOI Cyberinfrastructure (CI) team are asked to participate as liaisons as needed. They are non-voting.
- e. **Appointment Process** - Applications/nominations for membership (non-OOI MIO member positions) on the DSC and for the DSC Chair, Chair-Elect, and Associate Chair are reviewed and voted on by the standing DSC members. An open nomination process (including self-nominations) with outreach in the public domain is employed. The standing DSC selects one nominee for each open position and forwards the nomination to the OOIFB Chair. The OOIFB Chair, with the endorsement of the OOIFB, shall appoint the DSC members and Chair(s) from the nominations put forward by DSC. All appointments are made in collaboration with NSF.

The OOI Program Management Office (PMO) appoints up to two representatives of the OOI MIOs to serve as non-voting members of the DSC. The PMO can make replacement appointments of the MIO representatives at will.

5. **Term Lengths** – The DSC Chair and members are appointed with terms of staggered rotation. The Chair and members may serve up to two consecutive 3-year terms.

The OOI MIO appointments to the DSC have no designated term limits. Appointment lengths for these positions are determined by the OOI PMO.

6. **Unexpired Terms** - A vacancy appointment shall be for the remainder of the unexpired term of the vacancy, and an individual so appointed may subsequently be appointed for two full 3-year terms if the remainder of the unexpired term is less than 1.5 years.

4. Objectives

The objectives of the committee may include, but are not limited to, the following:

- Keeping abreast of the current state of the OOI cyberinfrastructure and data services with the goal of helping to promote maximum scientific use of OOI data. These efforts are informed by the FAIR Guiding Principles for scientific data management and stewardship, such that data are:
 - a) Findable
 - b) Accessible
 - c) Interoperable
 - d) Reusable

Further information on the FAIR Guiding Principles for scientific data management and stewardship can be found at <https://www.go-fair.org/fair-principles/>

- Encouraging the use of best practices, standards, and naming conventions established by the oceanographic community, including standards such as COARDS and CF conventions, as well as standard data access platforms such as ERDDAP.
- Engaging with the user community through meetings, surveys, and other means, to gauge user needs regarding OOI data systems, and to facilitate the promotion of a positive user experience that includes in part:

- a) Data systems that are reliable, inclusive, and easy to navigate
 - b) Data that include well-organized and informative metadata
 - c) The use of well-defined QC procedures (and flags)
 - d) Documentation and user training information (e.g., code examples, cookbooks, tutorials)
 - e) Implementation of best practices for data security, disaster recovery, and version control
- Staying current on potential new modes of data service and access, data analysis methodologies, and related technologies that facilitate the use of OOI data through engagement with the broader data science community, and promoting best practices by the OOI as such technologies emerge and develop.
 - Engaging with the OOI PMO and MIOs in constructive interactions, subject to the limitations described above, regarding the priorities and plans of the OOI cyberinfrastructure groups.
 - Making recommendations for data products, usage metrics, and improving the user experience on the OOI Data Explorer as well as other data service systems employed by the OOI.

5. Meetings/Reports

The DSC convenes at least once annually. The DSC may convene meetings (in-person or virtual) as appropriate. Minutes and reports are posted on an OOIFB-supported website.

A quorum for the DSC meetings (in-person and web/phone) requires a minimum of five members, at most, one being a representative from the OOI MIO. The DSC will operate via consensus of the voting members present, provided a quorum is represented. Such consensus need not be unanimous, as defined. When consensus cannot be reached in a timely manner the Chair may call for a vote. Simple majority rules apply. In the case of a tie, the Chair is the deciding vote.

Reports of DSC meetings, activities, and recommendations are made to the OOIFB. The DSC provides an annual report to the OOIFB on February 1 of each year.

6. Document History

- July 25, 2018 - OOIFB adopts the DDCI Terms of Reference as Annex I.
- Annex I revised on October 30, 2018 – DDCI Membership is updated.
- Annex I revised on January 28, 2021 – The OOIFB endorses the DSC Terms of Reference.
- Annex I is replaced with the DSC Terms of Reference.
- Annex I revised on December 11, 2023 - The DSC Chair, Associate Chair and Chair-Elect positions and appointment process are clarified. DSC purpose is updated, and quorum defined.