

GOES-R Science and Demonstration Executive Board Charter

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This document serves as the Charter for the GOES-R Science and Demonstration Executive Board (SDEB). This Executive Board manages the Proving Ground demonstrations and the Risk Reduction science activities. Due to the focus of these activities towards operational need areas, three advisory groups, NWS Operational Advisory Team, the Technical Advisory Group and the Independent Advisory Committee, will provide guidance, technical assistance, and subject matter expertise about the proposed activities to the Executive Board. Signing of this Charter implies approval for the SDEB and related advisory groups identified in Appendices 1 - 3.

The GOES-R Proving Ground and Risk Reduction activities involve the National Weather Service and the GOES-R Program at this time. Authorizing signatures are listed below:

 11/5/12

Greg Mandt - GOES-R System Program Director

 12/20/2011

Al Powell - NOAA/NESDIS/Center for Satellite Applications and Research Director

 12/19/11

Don Berchoff - NOAA/NWS Office of Science and Technology Director

 12/15/11

David Caldwell - NOAA/NWS Office of Climate, Water, and Weather Services Director

INTRODUCTION

Two important GOES-R program activities intended to maximize the utility of satellite data include the GOES-R Proving Ground (PG) Program and GOES-R Risk Reduction (R3) Science Program. These activities exploit environmental data and capabilities in support of NOAA operations and will merge forming the GOES-R Science and Demonstration Activity. These two efforts are being combined to provide a consolidated management, advisory, and prioritization process aligned with current budget and operational priorities. A combined governance structure ensures a common approach is taken for both PG and R3 activities. This approach allows for the demonstration and rapid prototyping of the most promising GOES-R capabilities while allowing for risk-taking to achieve stretch goals and sustain core elements of long term development. The management of this combined activity will be carried out through the GOES-R Science and Demonstration Executive Board (SDEB). This charter describes the scope, objectives, membership, and approach for the SDEB.

Background

GOES-R Proving Ground

The PG Program consists of a broad set of field demonstration activities structured to gain early operations experience and promote developer-user interaction primarily¹ at NWS Weather Forecast Offices (WFOs) and NWS NCEP Centers. Developers include Government and NOAA Cooperative Institute (CI) scientists teamed with the NESDIS Center for Satellite Applications and Research (STAR). Due to the importance of these new capabilities, and the length of time required for planning, development, and acquisition of satellites; NOAA has undertaken early planning and demonstration activities to ensure timely and cost-effective integration of the future GOES capabilities. The GOES-R PG program will enable transition from research-to-operations with the principal focus on the forecaster in the AWIPS-II environment. It will be the primary resource to prepare for the exploitation of GOES-R data and information, develop training, gain real-world experience and provide product feedback by leveraging existing resources, and to evaluate product tailoring and decision aids.

GOES-R Risk Reduction

The GOES-R Risk Reduction (R3) activity entails science and development efforts aimed at greater utilization of the advanced capabilities of GOES-R. These R3 activities include advanced algorithm development, improved exploitation of GOES-R data in numerical weather prediction models, data assimilation, data fusion and integration, and

¹ Proving Ground operational demonstrations currently (and potentially in the future) are conducted at a subset of the 122 WFO's, 8 NCEP Centers, 13 River Forecast Centers, and 20 Center Weather Service Units within the NWS. There are also relatively small demonstrations conducted by the NESDIS Satellite Analysis Branch and by the Scientific and Technical Advisory Panel (STAP) with the Air Quality community.

development needed for GOES-R exploitation within the broader NOAA Weather Enterprise.

SCOPE

This charter defines the scope of the SDEB management activities. In the future, it is anticipated that the SDEB might include data exploitation activities within other major NOAA remote sensing programs.

OBJECTIVE

The objective of this charter is to describe the functions, roles, and responsibilities of the SDEB and related advisory groups.

Roles and Responsibilities

Science and Demonstration Executive Board

The SDEB will oversee the PG and R3 activities. This executive board is chaired by the GOES-R Program Senior Scientist and includes membership from NWS, NESDIS, and OAR. The SDEB manages the call for PG and R3 proposals, conducts a review of proposals received with the help of the NOAT and TAG, and grants project awards based on program funding levels. The SDEB will review project progress and determine their readiness. The SDEB Chair will make the final decision on project proposals based on recommendations from the Board. An operational advisory team composed of members from NWS operations and a technical advisory group composed of subject matter experts supports the SDEB activities and an independent advisory committee provides senior-level expertise for the various PG and R3 projects. The SDEB will be strictly NOAA personnel due to funding responsibilities.

Chair:

- GOES-R Senior Program Scientist (Primary GOES-R voting member)

Membership:

- 1 from NESDIS/GOES-R Program (Alternate GOES-R voting member)
- 1 from NWS/OCWWS
- 1 from NWS/OST
- 1 from NESDIS/STAR (Satellite Meteorology and Climatology Division Chief)
- 1 from NESDIS/STAR (Cooperative Research Program Manager)
- 1 from OAR

NWS Operational Advisory Team (NOAT)

The NOAT develops a yearly guidance memorandum that serves to guide the SDEB in making annual and multi-year program adjustments to ensure science development and demonstration activities are aligned with operational priorities. The NOAT may be called on by the SDEB to provide an operational perspective when the SDEB is reviewing proposals. See Appendix 1 for the NOAT Charter.

Chair:

- NWS SSD Chief

Membership:

- 6 Regional SSD Chiefs (plus one alternate per Region)
 - o Representing 6 Regional Directors of NWS Corporate Board
- 1 NCEP Science Representative (plus one alternate)
 - o Representing NCEP Director Corporate Board Position

Facilitators:

- 1 from NWS/OCWWS
- 1 from NWS/OST

Independent Advisory Committee (IAC)

The IAC is an external (non-NOAA) group of senior-level technical experts who are responsible for performing technical appraisals of the projects developed under the Science and Demonstration activity. Since the members all have high demands on their calendar, any particular meeting of the IAC may only involve a portion of the full membership. See Appendix 2 for the IAC Charter. Membership of the IAC will be carefully selected to meet the following criteria:

- Have no present involvement in GOES-R funded activities
- Are scientists and/or subject matter experts who possess extensive experience in the development, validation, implementation, and/or use of satellite-based Level-2 algorithms and products and applications
- Are recognized leaders in their field of expertise
- Represent a stakeholder

Technical Advisory Group (TAG)

The TAG may be called on by the SDEB and the NOAT to provide subject matter expertise during the proposal review process. The TAG is an advisory group to the Executive Board and does not hold voting privileges. See Appendix 3 for a TAG Charter and represented organizations. More than 1 member from an organization may be asked to contribute technical assistance.

- NESDIS/STAR - Advanced Satellite Products Branch
- NESDIS/STAR - Regional and Mesoscale Meteorology Branch
- NESDIS Office of Satellite and Product Operations
- National Ocean Service²
- National Marine Fisheries Service²
- JPSS Senior Program Scientist
- NASA Short-term Prediction and Research Transition
- Joint Center for Satellite Data Assimilation
- NWS/OCWWS/Training Division
- Additional subject matter experts as required

² The National Ocean Service and the National Marine Fisheries Service level of participation may become elevated to the SDEB in the future when these Line Offices become more involved in the Proving Ground activities.

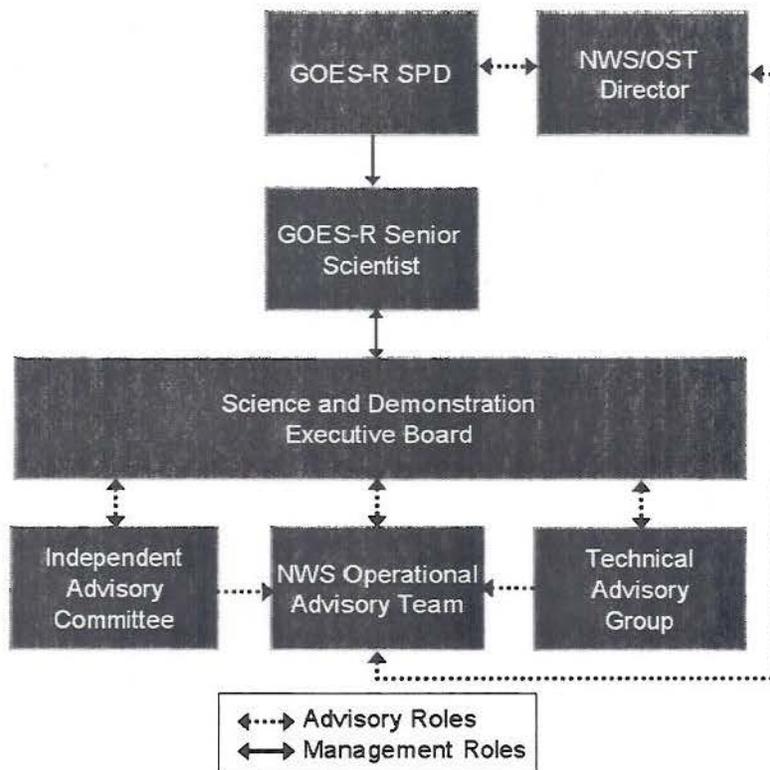


Figure 1. Science and Demonstration Executive Board Management and Advisory Structure

APPROACH

Policy and priority direction for the Science and Demonstration activities is provided by the NOAT, which meets at least once per year. The SDEB then formulates and initiates a call for new proposals for environmental data exploitation activities. The call is advertised among NOAA Cooperative Institutes as well as other government labs and academic institutions. The SDEB reviews proposals, ranks them for scientific quality and ability to meet call for proposal goals, and makes awards within the available resources. Decisions of the SDEB will be by consensus, with the SDEB Chair having final authority for decisions should a consensus decision not be reached.

The science and demonstration projects typically span from 1 to 3 years. The SDEB meets as necessary throughout the year to oversee individual project activities. Interim and final reports are required for all approved activities and are reviewed by the SDEB. It is expected that the focus of environmental data exploitation activities will evolve to include other remote sensing systems within NOAA as well as the integration of their data/products. As this happens, the SDEB membership will be expanded to include representatives from these other programs.

Science and Demonstration Activity - Relationship with NWS Operational Proving Ground.

The NWS Operational Proving Ground (PG), located at the NWS Training Center, is a key component to transitioning select Science and Demonstration products into NWS Operations. The NWS Operational PG provides the infrastructure to support the transfer of data and capabilities from research to operations. Science and Demonstration products that have been demonstrated, evaluated, and nominated as “promotable” by forecasters at various locations such as NOAA Testbeds, NWS Centers, NWS Weather Forecast Offices, etc. during a demonstration activity will be transitioned to the NWS Operational PG where they can be validated prior to being integrated into NWS operations. These products will be identified in the Science and Demonstration Final Report following each demonstration activity. The products that receive favorable evaluations and nominations for transition to operations will be reviewed by the SDEB who will recommend what goes into the NWS PG. After successful validation within the NWS PG, steps will be taken to transition those products into NWS operations.

Proposed Timeline

1. March: NOAT provides over-arching guidance on operational needs
2. May: Development organizations brief proposed projects to the SDEB, TAG, NOAT, and IAC
3. June: NOAT provides guidance on priorities of proposed projects
4. July: Letters of intent (LOI) are requested for suggested projects
5. Aug – Sep: The LOIs are reviewed by the executive board and a subset is asked to submit a full proposal.
6. Sep-Dec: Proposals are received and reviewed by a minimum of 3 reviewers. Reviewers include some combination of the executive board, TAG, NOAT, IAC, and external reviewers.
7. Jan: Final proposals selected for funding.

Appendix -1 NWS Operational Advisory Team Charter

The NOAT is an advisory group composed of the six regional SSD Chiefs (plus one alternate per region) and a representative from NCEP (plus an alternate). The Chair of the NOAT is a single SSD Chief from one of the regions and will serve as the focal point to the rest of the team. This group provides NWS guidance for the PG and R3 projects via annual memorandum identifying operational need areas and forecaster challenges. In addition to working with the SDEB, the NOAT advises the NWS OS&T Director on operational challenges and solutions. Primary membership is identified below:

Southern Region SSD Chief
Western Region SSD Chief
Eastern Region SSD Chief
AK Region SSD Chief
PAC Region SSD Chief
Central Region SSD Chief
NCEP Science Representative

Appendix- 2 Independent Advisory Committee (IAC) Charter

The IAC is an external (non-NOAA) group of senior-level technical experts who are responsible for performing technical appraisals of the projects developed under the Science and Demonstration activity. Since the members all have high demands on their calendar, any particular meeting of the IAC may only involve a portion of the full membership. Membership of the IAC will be carefully selected to meet the following criteria:

- Have no present involvement in GOES-R funded activities
- Are scientists and/or subject matter experts who possess extensive experience in the development, validation, implementation, and/or use of satellite-based Level-2 algorithms and products and applications
- Are recognized leaders in their field of expertise
- Represent a stakeholder

Appendix – 3 Technical Advisory Group Charter

The TAG is made up of subject matter experts from NOAA and NASA and strictly serves as an advisory group to the SDEB and the NOAT during the proposal review process. The TAG may be called upon to provide additional scientific and/or technical details of proposed projects and their benefit to NWS operations. Suggested advisory group organizations are listed below:

- NESDIS/STAR - Advanced Satellite Products Branch
- NESDIS/STAR - Regional and Mesoscale Meteorology Branch
- NESDIS Office of Satellite and Product Operations
- National Ocean Service
- National Marine Fisheries Service
- JPSS Acting Senior Program Scientist
- NASA Short-term Prediction and Research Transition
- Joint Center for Satellite Data Assimilation
- NWS/OCWWS/Training Division