

Memorandum of Agreement

Among the

**DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION**

**National Weather Service,
National Environmental Satellite, Data, and Information Service,
and
Office of Oceanic and Atmospheric Research**

And the

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Earth Science Division

And the

DEPARTMENT OF THE NAVY

**Oceanographer and Navigator of the Navy
and
Naval Research Laboratory**

And the

DEPARTMENT OF THE AIR FORCE

Air Force Director of Weather

Regarding the

Joint Center for Satellite Data Assimilation

I. Purpose

This Memorandum of Agreement (MOA) between the Department of Commerce’s National Oceanic and Atmospheric Administration (DOC/NOAA) National Weather Service (NWS), National Environmental Satellite, Data, and Information Service (NESDIS), and Office of Oceanic and Atmospheric Research (OAR); the National Aeronautics and Space Administration (NASA) Earth Science Division; the Department of the Navy (USN) Oceanographer and Navigator of the Navy, Naval Research Laboratory (NRL); and the Department of the Air Force (DAF) Director of Weather (A3W), (hereafter “the Parties”), establishes the responsibilities of each agency for the Joint Center for Satellite Data Assimilation (JCSDA) (see Figure 1).

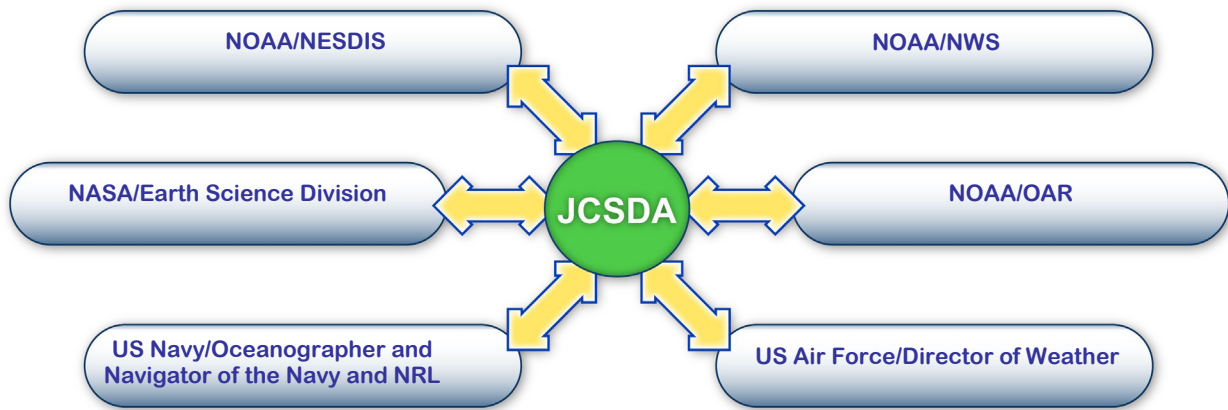


Figure 1. JCSDA Partner Organizations

II. Authorities

The Parties enter this agreement pursuant to the National Aeronautics and Space Act of 1958, as amended, 51 U.S.C. § 20113(e), and other authorities, including 15 U.S.C. § 313, 49 U.S.C. § 44720, 33 U.S.C. § 883d, 33 U.S.C. § 883j, 10 U.S.C. § 2358, 51 U.S.C. § 50703, and DoDI 4000.19.

III. Background

The JCSDA was established by NASA and NOAA in July 2001. The Department of the Navy and the Department of the Air Force were subsequently added as full partners by 2002. In 2005, a NASA Earth Science – NOAA Joint Working Group (JWG) on Research and Operations was established to “identify near-term NASA Earth-Sun System research capabilities that can be transitioned to support NOAA operational use, and to identify NOAA operational capabilities to support NASA research activities.” During the existence of the JWG, the JCSDA considered its recommendations in preparing its program plans. In the future, the JCSDA will consider carefully recommendations from the Committee for Operational Processing Centers (COPC), which was created to forge closer collaboration among the U.S. operational prediction centers. Each agency bears the expense of its own participation. The JCSDA operates as an interagency

coordination mechanism with respect to the agencies individual satellite data assimilation efforts. The JCSDA agencies work together to coordinate their respective satellite data assimilation efforts, including research on satellite data assimilation, to meet their individual agencies' needs, thereby leveraging their resources and minimizing duplication of effort where possible.

The mission of the JCSDA is:

To accelerate and improve the quantitative use of research and operational satellite data in weather, ocean, climate, and environmental analysis and prediction systems.

The objectives of the JCSDA are to:

- *Optimize the utilization of current and future satellite data in environmental analysis and prediction (numerical weather, climate, oceanographic, and space weather);*
- *Effect the transition of maturing research and development results into the operational environments;*
- *Reduce the average time required to implement the use of satellite data in operations following the launch of a new instrument;*
- *Assess the impacts of data from advanced satellite sensors and relevant in situ observing systems on operational analysis and prediction;*
- *Contribute to the planning of future observing systems and develop tools for effective integration of future satellite observations into environmental models;*
- *Adapt, implement, and develop the scientific algorithms needed to assimilate data from the advanced satellite sensors;*
- *Advance common numerical weather prediction models and data assimilation infrastructure;*
- *Develop and implement a community radiative transfer model for satellite data assimilation.*

IV. Responsibilities of the Parties

The JCSDA organizational structure is schematically illustrated in Figure 2.

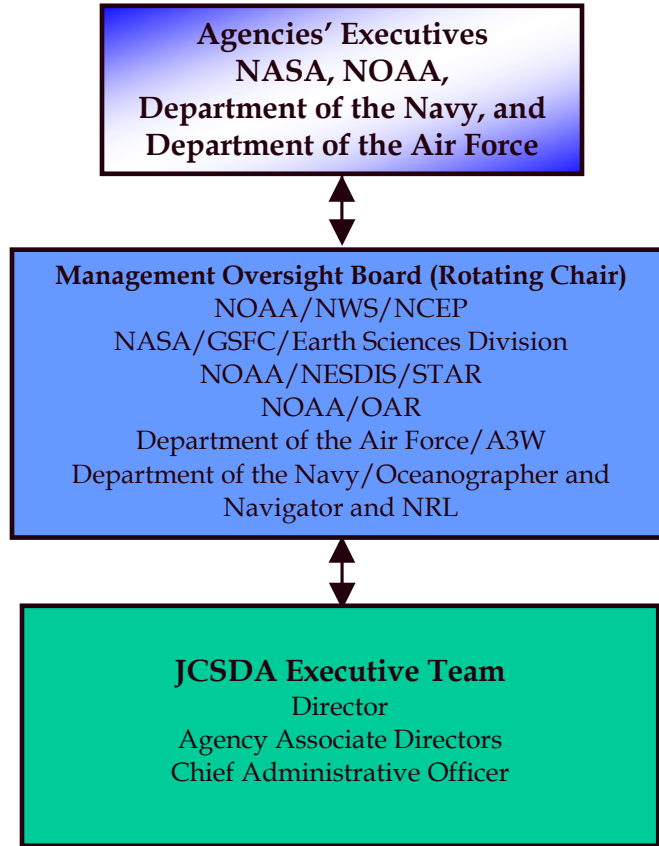


Figure 2. The JCSDA Organizational Chart - NCEP denotes the National Centers for Environmental Prediction, GSFC the Goddard Space Flight Center, STAR the Center for Satellite Applications and Research, and NRL the Naval Research Laboratory.

The Parties are participating in JCSDA to further their respective satellite data assimilation efforts. The responsibilities of the Parties specifically include:

- Leveraging research on satellite data assimilation within their respective agencies to achieve the JCSDA objectives and avoid duplication of effort where possible; and
- Contributing to the JCSDA Federally Funded Opportunity (FFO), at their discretion and where legally authorized, to draw on the satellite data assimilation expertise in the broader scientific community. (Funds transfers for the JCSDA FFO will be covered under a separate agreement.)

The Partners retain budget execution authority for funds expended on JCSDA activities within their respective agencies and agree to rotate the Chair of the Management Oversight Board.

The Agencies' Executives, designated by the respective agencies depicted in Figure 1, provide the authority for the operation of the JCSDA and appoint the members of a Management Oversight Board (MOB), who are senior leaders of their respective organizations. The MOB members are chosen for their understanding of the breadth and scope of the technical work of the JCSDA. The MOB has the following responsibilities:

- Reports on an annual basis to their respective Agencies' executives concerning the operation of the JCSDA, including recommendations on the budget and priorities related to the observing systems planned for use in the operational systems;
- Facilitates and sustains cooperation among the sponsoring organizations/institutions;
- Reviews and approves the policies, research, operational themes, and priorities of the JCSDA;
- Reviews and approves the JCSDA Annual Operating Plan (AOP) and modifications thereto;
- Reviews and approves the content of the FFO.

The JCSDA Executive Team consists of the JCSDA Director, the Agency Associate Directors, and the Chief Administrative Officer (CAO.) The JCSDA Director is appointed by the MOB for an initial period of three years, with the possibility of renewal. The Associate Directors are appointed by the respective agencies with concurrence by the MOB, and the CAO is appointed by the NWS with concurrence by the MOB. The JCSDA Executive Team has the following responsibilities:

- Oversees the data assimilation coordination for the JCSDA to ensure optimize the use of resources among the participating agencies;
- Reports progress on the research and operations transition efforts to the MOB, at a minimum, twice per year;
- Develops and justifies the content of the FFO to the MOB and reviews the letters of intent and proposals submitted;
- Provides for an exchange of data assimilation algorithms, datasets, and lessons learned among the Partners;
- Oversees delivery of scientific results and associated computer codes in appropriate form for transition to operational use;
- Participates in outreach and professional activities that support and promote the JCSDA, such as conferences and symposium presentations.

The JCSDA also has a number of scientific personnel and support staff that represent the participating members of the distributed organization and are critical to its success.

DOC/NOAA has provided a centralized location for JCSDA administrative resources. The Parties agree to jointly evaluate the human and IT resources needed to meet JCSDA goals, although this agreement implies no monetary obligation to support such resources.

V. Period of Agreement and Modification/Termination of this Agreement

This agreement will become effective when signed by the Parties. The agreement will terminate five years from the date of the final signature, but may be amended at any time by written consent of the Parties. The Parties will review the agreement annually to determine whether it should be renewed, revised, or terminated. Any of the Parties may terminate their participation in this agreement by providing ninety (90) day written notice to the others. This agreement may be modified as mutually agreed in writing by the Parties.

VI. Other Provisions

This agreement is intended to institutionalize the mutual understanding and intent of the Parties. The agreement does not provide for or authorize the transfer of funds or transfer of in-kind services, but funding may be authorized under the terms of implementing agreements. The Parties agree to assume liability for their own risks associated with all activities undertaken in this MOA or related Interagency Agreements. The agencies' participation in JCSDA is subject to the availability of appropriated funds.

Nothing herein is intended to conflict with current agency directives. If the terms of this agreement are inconsistent with existing directives of any agency entering into this agreement, then those portions of the agreement which are determined to be inconsistent shall be invalid; but the remaining terms and conditions not affected by the inconsistency shall remain in full force and effect. At first opportunity for review of this agreement, all necessary changes will be accomplished by either an amendment to this agreement or by entering into a new agreement, whichever is deemed most appropriate and expedient to the interest of all parties.

Should disagreement arise on the interpretation of the provisions of this agreement, or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each party and presented to the other parties for consideration. If agreement on interpretation is not reached within thirty (30) days, the parties shall forward the written presentation on the disagreement to respective higher officials for resolution.

Pursuant to Section 841(d) of the NASA Transition Authorization Act of 2017, Public Law 115-10 (the "NTAA"), NASA is obligated to publicly disclose copies of all agreements conducted pursuant to NASA's 51 U.S.C. §20113(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that, if this IAA is entered into pursuant to NASA's 51 U.S.C. §20113(e) authority, this IAA will be disclosed, without redaction, in accordance with the NTAA.

In witness whereof, the parties do hereby execute this Agreement

Dr. Stephen M. Volz
Assistant Administrator for Satellite and Information Services
National Oceanic and Atmospheric Administration
Date

Dr. Louis W. Uccellini
Assistant Administrator for Weather Services
National Oceanic and Atmospheric Administration
Date

Mr. Craig N. McLean
Assistant Administrator for Oceanic and Atmospheric Research
National Oceanic and Atmospheric Administration
Date

Dr. Karen St. Germain
Director, Earth Science Division
National Aeronautics and Space Administration
Date

Dr. Christopher Ekstrom
Technical Director to the
Oceanographer and Navigator of the Navy
Department of the Navy
Date

Dr. Douglas G. Todoroff
Associate Director of Research,
Ocean and Atmospheric Science and Technology Directorate
U.S. Naval Research Laboratory
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Date

Col. Gary B. Kubat
Acting Director of Weather
Air Force Deputy to NOAA
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