

U.S. DEPARTMENT OF COMMERCE/ National Oceanic and Atmospheric Administration

OFCM



OFFICE OF THE FEDERAL COORDINATOR
FOR METEOROLOGICAL SERVICES
AND SUPPORTING RESEARCH

Environmental Satellite Data Annex

to the

Memorandum of Agreement
on

Data Acquisition, Processing, and Exchange



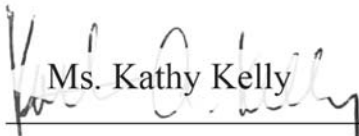
Prepared by:
The Joint Action Group
for Operational Data Acquisition
for Assimilation

October 2009

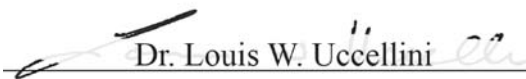
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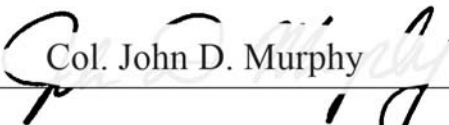
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1.0 INTRODUCTION

This Environmental Satellite Data Annex (ESDA) is subject to all provisions of the Data Acquisition, Processing, and Exchange (DAPE) Memorandum of Agreement (MOA). This annex facilitates cooperative acquisition, processing, and exchange activities among the participants for data derived from Department of Defense (DoD), Department of Commerce (DoC), National Aeronautics and Space Administration (NASA), and foreign environmental satellite systems.

2.0 SCOPE AND PURPOSE

The cooperative framework established by this annex enables the participants to achieve and implement the most cost-effective and efficient means of sharing environmental satellite data and products. This annex describes the cooperative processes and procedures for conducting environmental satellite data acquisition, processing and exchange operations between the Operational Processing Centers (OPCs) and it provides more detail to the structure and responsibilities that are promulgated in the DAPE MOA.

3.0 PARTICIPANTS

The three main Parties, as reflected in the DAPE MOA, are NOAA, the Department of the Navy and the Department of the Air Force. Within these organizations, the management and operation of environmental satellite data acquisition, processing and exchange are performed by the five participating Operational Processing Centers as follows:

- NOAA:
 - National Environmental Satellite, Data, and Information Service (NESDIS), Office of Satellite Data Processing and Distribution (OSDPD)
 - and National Weather Service (NWS)/National Centers for Environmental Prediction (NCEP)
- Navy: under the Commander, Naval Meteorology and Oceanography Command (CNMOC).
 - Fleet Numerical Meteorology and Oceanography Center (FNMOC)
 - and the Naval Oceanographic Office (NAVOCEANO)
- Air Force:
 - Air Force Weather Agency (AFWA).

The Joint Center for Satellite Data Assimilation (JCSDA), being a partnership between the three main parties (NOAA, Navy, Air Force) in addition to NASA, is also an active participant in data acquisition requirements and processing.

4.0 ROLES AND RESPONSIBILITIES

4.1 Program Council/ National Operational Processing Centers (PC/NOPC)

The PC/NOPC oversees development and implementation of the ESDA under the provisions of the PC/NOPC Charter and the DAPE/MOA.

4.2 Committee for Operational Processing Centers (COPC)

The COPC, consisting of the directors of the OPCs, approves and implements the ESDA under the provisions of the Federal Plan for Cooperative Support and Backup among Operational Processing Centers, the COPC Terms of Reference, and the DAPE MOA.

4.3 Working Group for Cooperative Support and Back-up (WG/CSAB)

The WG/CSAB provides oversight of normal, ongoing operations described in this annex, resolves problems/issues raised by Joint Action Group for Operational Data Acquisition for Assimilation (JAG/ODAA), and implements direction received from the COPC under the provisions of the Federal Plan for Cooperative Support and Backup, the WG/CSAB Terms of Reference, and the DAPE MOA. The CSAB also:

- Ensures that the ESDA is prepared and maintained.
- Approves technical references to this annex.

The NESDIS member of the WG/CSAB prepares and coordinates funding estimates for environmental satellite data exchange as described in paragraph 4.8 below.

4.4 Joint Action Group for Operational Data Acquisition for Assimilation (JAG/ODAA)

The JAG/ODAA, under the provisions of the JAG/ODAA Terms of Reference and the DAPE MOA, is responsible for coordination and implementation of cooperative strategies as tasked by the WG/CSAB. Key responsibilities include:

- Preparing and maintaining ESDA documentation.
- Coordinating satellite data day-to-day operations, common procedures, and the implementation of approved changes and improvements.
- Communicating interagency matters (independently and through the processes and proceedings of the JAG/ODAA).
- Coordinating the technical and administrative aspects of data exchange.

4.5 Joint Action Group for Centralized Communication Management (JAG/CCM)

The JAG/CCM, under the provisions of the JAG/CCM Terms of Reference and the DAPE MOA, is responsible for coordination of communications issues between the OPCs. Key responsibilities include:

- Monitoring the effectiveness of communications.
- Capacity planning.
- Forward projection of capability needs.

4.6 Joint Action Group for Operational Community Modeling (JAG/OCM)

The JAG/OCM, under the provisions of the JAG/OCM Terms of Reference and the DAPE MOA, is responsible for coordination of modeling issues between the OPCs. Key responsibilities include:

- Coordinate and document the operational community modeling requirements related to model acquisition; configuration and implementation; data collection, processing, and assimilation
- Software standards and documentation
- Development, archival and dissemination of centralized model-generated meteorological and oceanographic products
- Coordinate with the JCSDA for operational transitions of new satellite data assimilation methods

4.7 Administration.

Support contractor(s) may be hired to assist with support documentation and the performance of technical duties related to the exchange of data described in this annex. NOAA/NESDIS will issue the support contract, serve as the lead contract administrator for Support Documentation, and coordinate the contracting efforts. NOAA/NESDIS/OSDPD will act as the focal point for technical services, preparing and maintaining technical references, and operation of jointly procured services located at NOAA/NESDIS/OSDPD.

4.8 Funding

Funding agreement provisions are specified in the DAPE MOA. Requests for funding and cost sharing recommendations will be submitted annually, as described in paragraph 4.3, to the COPC for approval. Funding requirements consist of shared costs for services including human resources needed to maintain, document, and facilitate the exchange of scientific data, products and related information. Specific annual funding information is reflected in **Appendix A** of this document and includes a 5-year budget projection.

5.0 PROCESSES AND PROCEDURES

5.1 Environmental Satellite Data Technical Reference (TR-1)

TR-1 is the primary technical reference for this annex. It contains a master list of the data, products, and services transmitted by each OPC. It describes the allocation of data products and services, data formats, and communications specifications. It is maintained and routinely updated by NOAA/NESDIS/OSDPD for official use only.

5.2 Standards.

Successful environmental satellite data acquisition, processing, and exchange activities among the OPCs relies on cooperation and collaboration. OPCs have both common and unique missions and capabilities and they contribute unique products and services to partners and users. These products and services are subject to change based on OPC mission and operational requirements. Users of these products and services rely upon long-term, assured capability and quality. To achieve these standards, each OPC will strive to meet the following goals:

- Provide products and services in a timely manner and implement improvements to meet customer requirements.
- Participate in the development of data and products from future satellite systems (e.g., the National Polar-Orbiting Operational Environmental Satellite System (NPOESS), NPOESS Preparatory Project (NPP), and foreign geostationary and polar-orbiting systems, etc.). The operational product expertise at each OPC is an invaluable capability to draw upon for successful exploitation of data from future satellite systems.
- Communicate requirements to the appropriate OPC
- Use OPC products, when feasible, to achieve efficient and cost effective customer support and avoid redundancies.
- Share necessary information about the processes and algorithms used to generate the products, when possible.
- Include other participants, when possible, in the development of new products or from new sensors (including in cal/val teams).

5.3 System and Data Product Interface Compatibility

The OPCs have diverse primary missions and internal data processing and communications systems that also support missions not related to this annex. Data and products will be exchanged via communications systems agreed to by the COPC and the OPCs will cooperate to achieve the most cost-effective means of sharing data and products. Systems interface compatibility shall be closely managed using generally accepted government and industry standards for configuration management (CM). The CM responsibilities for satellite data operations are as follows:

- The CSAB is charged with the responsibility to ensure that operational integrity, reliability of performance, and timeliness of data transfers are maintained.
- The JAG/CCM has purview for communications planning.

5.4 Data and Product Compatibility

The CSAB will charter and convene expert panels on an as required basis to review ESDA changes for technical and scientific merit and operational benefit and based on OPC recommendations. The COPC will approve panel charters and memberships.

5.5 Data Redistribution and Archiving

Use or exchange of near real-time data or products is subject to the provisions of this annex and other applicable agreements. Users of these data or products shall provide appropriate attribution of data sources. Responsibilities for data redistribution and archiving are as follows:

- NOAA/NESDIS and NCEP will respond to civilian user requests for data.
- AFWA, FNMOC, and NAVOCEANO will respond to military user requests for satellite data.
- The JAG/ODAA representative will be the focal point for product requirements and coordination.
- NOAA will archive data as agreed to by the participants to this Annex.

5.6 OPC Backup

Procedures for satellite data operations will be coordinated and documented as separate agreements between the OPCs on an as-required basis.

6.0 Legal Authority

6.1 NOAA/NESDIS and NOAA/NWS. NOAA/NESDIS and NOAA/NWS have authority to enter into this agreement under the Economy Act of 1932, which as amended, 31 U.S.C. § 1535, permits Federal Government agencies to purchase goods or services from other Federal Government agencies or other major organizational units within the same agency. An Economy Act purchase is permitted only if: (1) amounts for the purchase are actually available, (2) the purchase is in the best interest of the Government, (3) the ordered goods or services cannot be provided by contract from a commercial enterprise, *i.e.*, the private sector, as conveniently or cheaply as could be by the Government, and (4) the agency or unit to fill the order is able to provide or get by contract the ordered goods or services.

6.2 USAF. The USAF has authority to enter into this agreement under the Department of Defense Instruction 4000.19, Interservice and Intergovernmental Support.

6.3 USN. The USN has the authority to enter into this agreement under 10 USC Section 5013, Secretary of the Navy.

APPENDIX A

FIVE YEAR FUNDING PROJECTIONS

The following funding projections are for planning purposes only and are subject to change in accordance with the DAPE MOA provisions.

	FY09	FY10	FY11	FY12	FY13
Technical Services*	91.8K	94.6K	97.6K	100.7K	103.9K
Life cycle replacement of satellite operational (DAPE) Gateway Servers * **		59.4K			

* NOAA/NESDIS, Navy (CNMOC), and Air Force (AFWA) individual contribution

Technical Services include:

- Testing and implementation of new products; maintenance and trouble-shooting of data transfer problems among the OPCs; weekly reporting on the overall effectiveness of data transfers.
- Maintenance of technical reference documentation describing products and or formats to be delivered; configuration management tasks including updating and maintaining the technical references, tracking and updating action items as assigned by the JAG/ODAA, and maintaining frequent contacts with all partners to quickly resolve DOD/NOAA data processing or distribution issues.

** Cost based cost of P570 and P55A planned to be used to upgrade the system.

APPENDIX B

REFERENCES AND ACRONYM DEFINITIONS

B.1 References

Data Acquisition, Processing, and Exchange Memorandum of Agreement, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Program Council for National Operational Processing Centers Charter, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Federal Plan for Cooperative Support and Backup among Operational Processing Centers, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Committee for Operational Processing Centers Terms of Reference, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Working Group for Cooperative Support and Backup Terms of Reference, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Joint Action Group for Operational Data Acquisition for Assimilation Terms of Reference, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Joint Action Group for Centralized Communications Management Terms of Reference, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Joint Action Group for Operational Community Modeling Terms of Reference, available from the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM)

Joint Center for Satellite Data Assimilation Terms of Reference, available from the Joint Center for Satellite Data Assimilation (JCSDA)

Environmental Satellite Data Technical Reference 1 (TR-1), available from NOAA/NESDIS/OSDPD, for official use only.

B.2 Acronym Definitions

AFWA	Air Force Weather Agency
CM	Configuration Management
CNMOC	Commander, Naval Meteorology and Oceanography Command
COPC	Committee for Operational Processing Centers
DAPE	Data Acquisition, Processing, and Exchange
DoC	Department of Commerce
DoD	Department of Defense
ESDA	Environmental Satellite Data Annex
FNMOC	Fleet Numerical Meteorology and Oceanography Center
FY	Fiscal Year
JAG/CCM	Joint Action Group for Centralized Communication Management
JAG/OCM	Joint Action Group for Operational Community Modeling
JAG/ODAA	Joint Action Group for Operational Data Acquisition for Assimilation
JCSDA	Joint Center for Satellite Data Assimilation
K	Thousands
MOA	Memorandum of Agreement
NASA	National Aeronautics and Space Administration
NAVOCEAN O	Naval Oceanographic Office
NCEP	National Centers for Environmental Prediction
NESDIS	National Environmental Satellite, Data, and Information Service
NOAA	National Oceanic and Atmospheric Administration
NPOESS	National Polar-Orbiting Operational Environmental Satellite System
NPP	NPOESS Preparatory Project
NWS	National Weather Service
OFCM	Office of the Federal Coordinator for Meteorological Services and Supporting Research
OPC	Operational Processing Center
OSDPD	Office of Satellite Data Processing and Distribution
PC/NOPC	Program Council/National Operational Processing Centers
TR-1	Environmental Satellite Data Technical Reference (formerly known as the SPP POM). It is a technical reference document to the ESDA
WG/CSAB	Working Group for Cooperative Support and Backup