

SATELLITES

Global Precipitation Measurement Mission

**Memorandum of Understanding
Between the
UNITED STATES OF AMERICA
and the EUROPEAN ORGANIZATION FOR THE
EXPLOITATION OF METEOROLOGICAL
SATELLITES**

Signed at Darmstadt and Washington
June 28 and July 26, 2013



NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89—497, approved July 8, 1966
(80 Stat. 271; 1 U.S.C. 113)—

“. . .the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof.”

**EUROPEAN ORGANIZATION FOR THE EXPLOITATION OF
METEOROLOGICAL SATELLITES**

Satellites: Global Precipitation Measurement Mission

*Memorandum of understanding signed at Darmstadt and
Washington June 28 and July 26, 2013;
Entered into force July 26, 2013.*

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
OF THE UNITED STATES OF AMERICA
AND THE
EUROPEAN ORGANISATION FOR THE EXPLOITATION OF
METEOROLOGICAL SATELLITES
FOR COOPERATION ON
THE GLOBAL PRECIPITATION MEASUREMENT MISSION

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Preamble

The National Aeronautics and Space Administration (hereinafter referred to as "NASA"), an agency of the United States Government, and as represented by its Administrator;

and

The European Organisation for the Exploitation of Meteorological Satellites (hereinafter referred to as "EUMETSAT"), established by the Convention which entered into force on June 19, 1986, as amended by the Amending Protocol which entered into force on November 19, 2000, and as represented by its Director-General;

Hereinafter jointly referred to as the "Parties":

Recalling the success of NASA in research and development on a variety of environmental programs;

Noting the anticipated contribution of the Global Precipitation Measurement (GPM) mission, currently under development by NASA and the Japan Aerospace Exploration Agency (JAXA), to sustaining and enhancing an accurate and timely global precipitation data record essential for understanding the integrated weather/climate/ecological system, managing freshwater resources, and monitoring and predicting high-impact natural hazard events;

Noting that the GPM mission is an international satellite mission currently composed of a GPM Core Observatory provided by NASA and JAXA, Global Change Observation Mission-Water 1 (GCOM-W1) data provided by JAXA, Megha-Tropiques data provided by the Indian Space Research Organisation (ISRO) and the Centre National d'Études Spatiales (CNES) of France, and data provided by other NASA research satellites and U.S. operational meteorological satellites including the Tropical Rainfall Measuring Mission (TRMM), Suomi National Polar-orbiting Partnership (Suomi NPP), Polar Operational Environmental Satellites (POES), the Defense Meteorological Satellite Program (DMSP), the Joint Polar Satellite System (JPSS);

Taking into account the requirement for satellite global precipitation observations expressed by the World Meteorological Organization (WMO), the Integrated Global Observing Strategy Partnership (IGOS-P), and the Group on Earth Observations (GEO);

Recalling that the primary objective of EUMETSAT is to establish, maintain and exploit European systems of operational meteorological satellites, taking into account as much as possible the recommendations of the WMO, and that a further objective of EUMETSAT is to contribute to the operational monitoring of the climate and the detection of global climatic changes;

Noting that EUMETSAT is operating the first and second generation series of Meteosat geostationary meteorological satellites and the Metop series of polar-orbiting satellites as part of the EUMETSAT Polar System;

Noting that the EUMETSAT Member States adopted Resolution EUM/C/69/10/Res.1 on the Meteosat Third Generation (MTG) Programme on 25 February 2011, which establishes the next generation of Meteosat satellites carrying a Flexible Combined Imager (FCI) instrument, to be available for launch in late 2016;

Noting that EUMETSAT is currently in the planning process of a EUMETSAT Polar System Second Generation (EPS-SG) Programme and that its Member States adopted Resolution EUM/C/75/12/Res. I on 31 January 2012 regarding the scope of the EPS-SG space segment, which includes a Microwave Imager Instrument (MWI) for precipitation measuring;

Noting the relevance of the MWI instrument to the future of the GPM mission and the Committee on Earth Observing Satellite's (CEOS) Precipitation Constellation;

Noting that the data from EUMETSAT's satellites will strengthen the GPM constellation and the quality and timeliness of GPM data products;

Noting that data from the GPM mission will assist EUMETSAT in meeting its user and mission requirements and in fulfilling its strategic goals;

Noting that a partnership between NASA and EUMETSAT in the GPM mission will benefit these organizations in terms of data sharing, scientific collaborations on satellite inter-calibration, precipitation retrieval algorithm development, and ground validation; and

Desiring to engage in satellite and ground validation data exchanges and related activities associated with the GPM mission;

Have agreed as follows:

Article I - Purpose

The purpose of this Memorandum of Understanding (hereinafter referred to as the "MOU") is to make EUMETSAT a GPM Partner, and to set forth the respective responsibilities of the Parties and the terms and conditions under which they have agreed to cooperate on the GPM Mission.

Article II – Definitions

As used in this MOU, the following terms have the specified meanings:

1. "All Instrument Level 1 Data" are the Level 1 brightness temperature data from the GPM Core Observatory, GCOM-W1, and all other GPM Partners' microwave sensors. All Instrument Level 1 Data will also include Level 1 data of the EUMETSAT Data in recognition of EUMETSAT becoming a GPM Partner through this MOU.

2. "EUMETSAT Data" consist of all calibrated and geolocated Level 1 data and higher level data products declared as "essential" in accordance with WMO Resolution 40 (Cg-XII) from the Spinning Enhanced Visible and Infrared Imager (SEVIRI) instrument of the Meteosat Second Generation (MSG) satellites and from the Microwave Humidity Sounder (MHS) instrument of the first generation of Metop satellites.
3. "GPM Data" consist of Level 1C inter-calibrated radiometer data, Level 2 dual-frequency precipitation radar reflectivity data, and all other Level 2 and higher GPM standard data products as defined by the NASA-JAXA Joint Precipitation Measurement Missions (PMM) Science Team.
4. "GPM Mission" comprises the GPM Core Observatory provided by NASA and JAXA, Global Change Observation Mission-Water 1 (GCOM-W1) data provided by JAXA, Megha-Tropiques data provided by the Indian Space Research Organisation (ISRO) and the Centre National d'Études Spatiales (CNES) of France, and all other space and ground segment components provided by these GPM Partners as well as possible future GPM Partners.
5. "GPM Participant" is a cooperating entity of a GPM Partner in the framework of GPM-related activities and is designated as such by the aforesaid GPM Partner. The current GPM Participants are the Ocean & Atmospheric Science Directorate of the Naval Research Laboratory (NRL) for NASA, the Japan Meteorological Agency (JMA) for JAXA, the Centre National de la Recherche Scientifique (CNRS) and Météo-France for CNES, and the Indian National Centre for Medium Range Forecasting (NCMRWF), Indian Institute of Tropical Meteorology (IITM), Indian Meteorological Department (IMD) and Indian National Centre for Ocean Information Services (INCOIS) for ISRO.
6. "GPM Partner" means NASA, JAXA and a country, intergovernmental organization or agency with a space segment (i.e., GPM Core Observatory or constellation satellite) that contributes to the international GPM effort in accordance with an agreement signed with NASA or JAXA and is jointly recognized by NASA and JAXA. Prior to the conclusion of this MOU, the GPM Partners were NASA, JAXA, CNES and ISRO.
7. "NASA Data Products" consist of GPM products generated by NASA in addition to GPM Data and of Tropical Rainfall Measuring Mission (TRMM) data.
8. "Related Entity":
 - a. For the purpose of this MOU means:
 - i. A contractor or subcontractor of a Party at any tier;
 - ii. A grantee or any other cooperating entity or investigator of a Party at any tier; or
 - iii. A contractor or subcontractor of a grantee or any other cooperating entity or investigator of a Party at any tier.

Article X - Financial Arrangements

Each Party will bear the costs of discharging its respective responsibilities, including travel and subsistence of personnel and transportation of all equipment and other items for which it is responsible.

The Parties' obligations under this MOU are subject to the availability of appropriated funds. Should either Party encounter budgetary problems that may affect the activities to be carried out under this MOU, the Party encountering the problems will notify and consult with the other Party as soon as possible.

Article XI - Transfer of Goods and Technical Data

The Parties are obligated to transfer only those technical data (including software) and goods necessary to fulfill their respective responsibilities under this MOU, in accordance with the following provisions, notwithstanding any other provisions of this MOU:

1. All activities under this MOU will be carried out in accordance with the Parties' applicable laws and regulations, including those laws and regulations pertaining to export control.
2. The transfer of technical data for the purpose of discharging the Parties' responsibilities with regard to interface, integration, and safety will normally be made without restriction, except as required by paragraph 1, above.
3. All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions.
 - a. In the event a Party or its Related Entity finds it necessary to transfer such goods or data, for which protection is to be maintained, such goods will be specifically identified and such data will be marked.
 - b. The identification for such goods and the marking on such data will indicate that the goods and data will be used by the receiving Party and its Related Entities only for the purposes of fulfilling the receiving Party's or Related Entities' responsibilities under this MOU, and that such goods and data will not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Party.
 - c. The receiving Party and its Related Entities will abide by the terms of the notice and protect any such goods and data from unauthorized use and disclosure.
 - d. The Parties to this MOU will cause their Related Entities to be bound by the provisions of this Article through contractual mechanisms or equivalent measures.

4. All goods exchanged in the performance of this MOU will be used by the receiving Party or Related Entity exclusively for the purposes of the MOU. Upon completion of the activities under this MOU, the receiving Party or Related Entity will return or otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this MOU, as directed by the furnishing Party or Related Entity.

Article XII - Liability and Risk of Loss

1. Each Party hereby waives any claim against the other Party, employees of the other Party, the other Party's Related Entities or employees of the other Party's Related Entities for any injury to, or death of, the waiving Party's employees or the employees of its Related Entities, or for damage to, or loss of, the waiving Party's property or the property of its Related Entities arising from or related to activities conducted under this MOU, whether such injury, death, damage, or loss arises through negligence or otherwise, except in the case of willful misconduct.
2. Each Party further agrees to extend this cross-waiver to its Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Party, Related Entities of the other Party, and employees of the other Party or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this MOU. Additionally, each Party will require that their Related Entities extend this cross-waiver to their Related Entities by requiring them, by contract or otherwise, to waive all claims against the other Party, Related Entities of the other Party, and employees of the other Party or of its Related Entities for injury, death, damage, or loss arising from or related to activities conducted under this MOU.

Article XIII - Intellectual Property Rights

1. Nothing in this MOU will be construed as granting, either expressly or by implication, to the other Party any rights to, or interest in, any inventions or works of a Party or its Related Entities made prior to the entry into force of, or outside the scope of, this MOU, including any patents (or similar forms of protection in any country) corresponding to such inventions or any copyrights corresponding to such works.
2. Any rights to, or interest in, any invention or work made in the performance of this MOU solely by one Party or any of its Related Entities, including any patents (or similar forms of protection in any country) corresponding to such invention or any copyright corresponding to such work, will be owned by such Party or Related Entity. Allocation of rights to, or interest in, such invention or work between such Party and its Related Entities will be determined by applicable laws, rules, regulations, and contractual obligations.
3. It is not anticipated that there will be any joint inventions made in the performance of this MOU. Nevertheless, in the event that an invention is jointly made by the Parties in the performance of this MOU, the Parties will, in good faith, consult and agree within 30 calendar days as to:

- a. The allocation of rights to, or interest in, such joint invention, including any patents (or similar forms of protection in any country) corresponding to such joint invention;
 - b. The responsibilities, costs, and actions to be taken to establish and maintain patents (or similar forms of protection in any country) for each such joint invention; and
 - c. The terms and conditions of any license or other rights to be exchanged between the Parties or granted by one Party to the other Party.
4. For any jointly authored work by the Parties, should the Parties decide to register the copyright in such work, they will, in good faith, consult and agree as to the responsibilities, costs, and actions to be taken to register copyrights and maintain copyright protection (in any country).
 5. Subject to the provisions of Article XI (Transfer of Goods and Technical Data) and Article XIV (Release of Results and Public Information) of this MOU, each Party will have an irrevocable royalty-free right to reproduce, prepare derivative works, distribute, and present publicly, and authorize others to do so on its behalf, any copyrighted work resulting from activities undertaken in the performance of this MOU for its own purposes, regardless of whether the work was created solely by, or on behalf of, the other Party or jointly with the other Party.

Article XIV - Release of Results and Public Information

1. The Parties retain the right to release public information regarding their own activities under this MOU. The Parties will coordinate with each other in advance concerning releasing to the public information that relates to the other Party's responsibilities or performance under this MOU.
2. The Parties will ensure that the analysed results obtained from the GPM Data will be made available to the general scientific community through publication in appropriate journals or presentations at scientific conferences as soon as possible and consistent with good scientific practices. Such publications will credit the NASA/JAXA GPM Mission and the GPM Partners. In the event that reports or publications are copyrighted, all GPM Partners will be granted a royalty-free right under the copyright to reproduce, use, and distribute such copyrighted work for their own purposes by the copyright holder.
3. The Parties acknowledge that the following data or information does not constitute public information and that such data or information will not be included in any publication or presentation by a Party under this section without the other Party's prior written permission:

- a. Data furnished by the other Party in accordance with the Transfer of Goods and Technical Data section of this MOU which is identified as export-controlled or proprietary; or
- b. Information about an invention of the other Party before an application for a patent (or similar form of protection in any country) corresponding to such invention has been filed covering the same, or a decision not to file has been made.

Article XV - Exchange of Personnel and Access to Facilities

1. To facilitate implementation of the activities conducted under this MOU, the Parties may support the exchange of a limited number of personnel (including contractors and subcontractors) from each Party, at an appropriate time and under conditions mutually agreed between the Parties. In the event of such an exchange, the Parties will provide necessary office space and administrative support at the host location. Salary and all other expenses will be borne by the employing Party of the personnel throughout the duration of their assignment.
2. Access by the Parties to each other's facilities or property, or to each other's Information Technology (IT) systems or applications, is contingent upon compliance with each other's respective security and safety policies and guidelines including, but not limited to: standards on badging, credentials, and facility and IT system application/access.

Article XVI - Customs Clearance and Movement of Goods

1. In accordance with its laws and regulations, each Party will facilitate free customs clearance and waiver of all applicable customs duties and taxes for goods necessary for the implementation of this MOU. In the event that any customs duties or taxes of any kind are nonetheless levied on such equipment and related goods, such customs duties or taxes will be borne by the Party of the country levying such customs duties or taxes.
2. In accordance with its laws and regulations, each of the Parties will also facilitate the movement of goods as necessary to comply with this MOU.

Article XVII - Ownership of Equipment

Unless otherwise agreed in writing, each Party will retain ownership of all equipment, including the goods, hardware, software, and associated technical data, it provides to the other Party under the terms of this MOU, without prejudice to any individual rights of ownership of the Party's respective Related Entities. To the extent feasible and recognizing that equipment sent into space or integrated into the other Party's equipment cannot be returned, each Party agrees to return the other Party's equipment in its possession at the conclusion of activities under this MOU.

Article XVIII – Provision for Future Cooperation

The Parties will consider working together, as appropriate, on a long-term basis on the GPM Mission.

If the GPM Mission is still operational at the time that data from the FCI instrument of EUMETSAT's future MTG satellites and from the MWI instrument of EUMETSAT's planned Metop-Second Generation (Metop-SG) satellites become available, EUMETSAT Data may be expanded to include such data, in accordance with the related data policies to be adopted by the EUMETSAT Member States and subject to a separate exchange of letters between the Parties.

Article XIX - Consultation and Dispute Resolution

Disputes relating to this MOU will be resolved exclusively by the Parties.

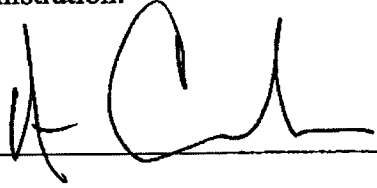
The Parties agree to consult promptly with each other on all issues involving interpretation or implementation of this MOU. Such issues will first be referred to the NASA and EUMETSAT Points-of-Contact. If they are unable to come to an agreement, then the dispute will be referred to the representatives of each Party identified in the Preamble of this MOU, or their designees, for joint resolution.

Article XX – Entry Into Force, Duration, Amendment, and Termination

1. This MOU will enter into force upon the date of the final signature and will remain in force for a period of seven years. It may be amended and extended by written agreement of the Parties. The MOU may be terminated by either Party by notifying the other Party in writing twelve (12) months in advance. In the event of such termination, the Parties will consult with each other to minimize the negative effects of such a termination on the GPM Mission.
2. Termination or expiration of this MOU will not affect the Parties' continuing obligations under Articles VIII (Data Distribution), XI (Transfer of Goods and Technical Data), XII (Liability and Risk of Loss), XIII (Intellectual Property Rights) and XIV (Release of Results and Public Information).

Done in two originals in the English language.

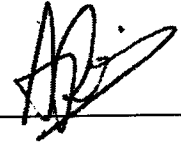
For the National Aeronautics and Space
Administration:



Place: WASHINGTON

Date: JULY 26, 2013

For the European Organisation for the
Exploitation of Meteorological Satellites:



Place: Darmstadt

Date: 28 June 2013