

**AGREEMENT**

**FOR COOPERATION IN EARTH OBSERVATION AND EARTH SCIENCES**

**BETWEEN**

**THE UNITED STATES NATIONAL OCEANIC AND ATMOSPHERIC  
ADMINISTRATION**

**AND**

**THE INDIAN SPACE RESEARCH ORGANISATION**

The United States National Oceanic and Atmospheric Administration (NOAA) and the Indian Space Research Organisation (ISRO) (hereinafter referred to as “the Parties”),

**TAKING INTO ACCOUNT** their mutual interest in exploring the Earth and its oceans, land, and atmosphere through the application of space technology;

**EXPRESSING THEIR DESIRE** to develop the organizational basis and effective modes of bilateral interaction in the field of Earth observation and Earth sciences and to promote the development of partnership relations;

**CONVINCED** of the numerous benefits, especially in the field of economic and social development, global environmental issues, and advancement in scientific knowledge, which would accrue from the coordination of their efforts in this field;

**CONSIDERING** that future flights of U.S. and Indian satellites will improve global Earth observations and provide opportunities for further cooperation and coordination of observations;

**DESIRING** to build upon the mutual benefits and scientific advances attained under the Memorandum of Understanding between the Department of Space and the Department of Science and Technology of the Government of the Republic of India and the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration of the United States of America for Scientific Cooperation in the Areas of Earth and Atmospheric Sciences, signed on December 16, 1997 and amended on December 17, 2002 (the 1997 Memorandum of Understanding); and

**TAKING NOTE** of the Joint Statements made by the Prime Minister of India and the President of the United States of America on November 9, 2001, July 18, 2005, and March 2, 2006, encouraging the enhancement of civil space cooperation.

**HAVE AGREED AS FOLLOWS:**

**ARTICLE 1**  
**PURPOSE**

1. The purpose of the Agreement is to establish a framework between the Parties to enable the continued cooperation and coordination of activities and programs in Earth observation, operations, and research and applications in Earth sciences.
  
- 1.2 The broad objective of the cooperation is to enable mutual collaboration in satellite and *in situ* Earth observation missions, data sharing, research, ground system capabilities, and exchange of personnel and technical knowledge, on the basis of equality, reciprocity, and mutual benefit, to support the improvement, development and utilisation of Earth observations, research and applications for both Parties.

**ARTICLE 2**  
**DEFINITIONS**

For the purposes of this Agreement,

1. "Cooperating Entity" means any governmental agency or organization, or public or private university, formally associated with these government units in carrying out their programs, including researchers and contractors.
  
2. "Related Entity" means a contractor, subcontractor, cooperating entity or sponsored entity of either Party, at any tier.

**ARTICLE 3**  
**SCOPE**

Cooperation between the two Parties in the field of Earth observation and Earth sciences may include, but is not limited to:

- 3.1 Study and implementation of cooperative programmes in the applications of space technology in the field of Earth sciences;

- 3.2 Activities related to the development and use of techniques and applications of satellite-based data for monitoring of the Earth's near space environment, atmosphere, ocean and land;
- 3.3 Activities that support the implementation of programmes that facilitate improved and more frequent observation of the Earth;
- 3.4 Activities that support enhanced cooperation in timely sharing of information and data, including satellite and *in situ* data collection, compilation, and processing;
- 3.5 Activities to conduct coordinated demonstrations of the operational utility of near-real-time access to data from respective U.S. and Indian satellites and, where benefits are demonstrated, to implement the operational utilisation of such data on a sustained basis;
- 3.6 Activities that support the exchange and sharing of equipment or materials for data reception, processing, communications and networking;
- 3.7 Conduct of joint campaigns for calibration and validation of satellite instruments over mutually selected sites;
- 3.8 Use of space technology in support of management of natural hazards and disasters;
- 3.9 Study of the near Earth space environment and its impact on the Earth;
- 3.10 Organisation and conduct of joint workshops, meetings, and conferences;
- 3.11 Exchange of technical and scientific personnel designated to participate in the studies and joint task teams set up to examine specific issues;
- 3.12 Joint publication and presentation of scientific work relating to activities carried out under this Agreement;

- 3.13 Activities that support one or more international objectives, as identified in international fora in which NOAA and ISRO and their cooperating entities participate;
- 3.14 Promotion of awareness of space activities among the public; and
- 3.15 Other forms of scientific and technical cooperation as may be mutually agreed.

**ARTICLE 4**  
**RESPONSIBILITIES OF THE PARTIES**

- 4.1 The Parties shall be responsible for coordinating and engaging with other organizational entities in their own countries, as appropriate and necessary, for the completion of the tasks designated pursuant to this Agreement.
- 4.2 Each Party will provide staff, facilities, and other support necessary for implementation of projects as mutually determined by the Parties. Such support shall be subject to the availability of appropriated or allocated funds and personnel and shall be in accordance with the laws and regulations of its respective country.
- 4.3 These responsibilities may include:
  - 1. Management and coordination of activities undertaken under the auspices of this Agreement; and
  - 2. Designation of appropriate officials to manage and coordinate joint activities.

**ARTICLE 5**  
**IMPLEMENTING ARRANGEMENTS**

- 5.1 Separate Implementing Arrangements may be concluded between the Parties, and their cooperating entities, when appropriate, on specific activities to be undertaken

under this Agreement. Each Implementing Arrangement shall include:

- a) the nature and framework of the specific project or joint activity,
- b) the type of data to be exchanged and the mode of exchange,
- c) individual and common responsibilities of the Parties or the Parties' designated organisations related to the execution of the project or activity,
- d) financial arrangements, if any, and
- e) other appropriate provisions.

5.2 In case of any inconsistency between the provisions of an Implementing Arrangement and the provisions of this Agreement, the provisions of this Agreement shall govern.

5.3 Any arrangements, activities and/or plans being carried out between the Parties pursuant to the 1997 Memorandum of Understanding, shall be governed by this Agreement unless specifically excluded by the Parties.

## **ARTICLE 6**

### **JOINT STEERING GROUP AND JOINT TASK TEAMS**

To achieve the objectives of this Agreement, a NOAA-ISRO Joint Steering Group (JSG) shall be set up comprising designated representatives of the two Parties, which shall meet as often as necessary to review the progress of the ongoing cooperative activities and to examine proposals for new programmes. The findings and the recommendations of the JSG shall be forwarded to the Administrator, NOAA, and Chairman, ISRO, or their designated representatives, for their information or approval. If deemed necessary the JSG may set up Joint Task Teams for a more detailed management of individual activities.

## **ARTICLE 7**

### **FINANCING**

7.1 Each Party shall fund its own activities under this Agreement, subject to the availability of appropriated or allocated funds.

- 7.2 Generally, specific projects and joint activities carried out under this Agreement shall not be carried out either with a transfer of funds between the Parties, or on the basis of other compensatory arrangements between the Parties. However, this does not preclude one Party from transferring funds to the other Party to facilitate implementation of obligations of the transferring Party under the Agreement. Nothing in this Agreement shall preclude the conclusion of contracts or other arrangements through which one Party purchases goods or services from the other Party or related entities.
- 7.3 All Earth observations data agreed to be exchanged by the Parties under this Agreement shall be available without fee or at no more than the marginal cost of fulfilling a specific user request.

#### **ARTICLE 8**

#### **EXCHANGE AND UTILISATION OF SCIENTIFIC DATA AND INFORMATION**

- 8.1 The Parties shall inform each other of the basic trends of their space programmes and of the course of their execution.
- 8.2 Scientific and technical data and information received in the course of joint activities shall be available to both Parties and shall be mutually exchanged as soon as possible.
- 8.3 Scientific data agreed to be exchanged by the Parties for activities under this Agreement shall be made available in accordance with their applicable laws, rules, and regulations.

#### **ARTICLE 9**

#### **TRANSFER OF GOODS AND TECHNICAL DATA**

The Parties are obligated to transfer only those goods and technical data (including software) necessary to fulfil their respective responsibilities under this Agreement, in accordance with

the following provisions:

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



related entity exclusively for the purposes of the Agreement. Upon completion of the activities under this Agreement, the receiving Party or its related entity shall return or, at the request of the furnishing Party or its related entity, otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this Agreement, as directed by the furnishing Party or its related entity.

## **ARTICLE 10**

### **INTELLECTUAL PROPERTY RIGHTS**

- 10.1 Nothing in this Agreement shall 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, or outside the scope, of this Agreement, including any patents (or similar forms of protection in any country) corresponding to such inventions or any copyrights corresponding to such works.
- 10.2 Any rights to, or interest in, any invention or work made in the performance of this Agreement 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, shall 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 shall be determined by applicable national laws, rules, regulations of the Party and contractual obligations.
- 10.3 It is not anticipated that there will be any joint inventions made in the performance of this Agreement. Nevertheless, in the event that an invention is jointly made by the Parties in the performance of this Agreement, the Parties shall, 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.

10.4 For any work jointly authored by the Parties, should the Parties decide to register the copyright in such work, they shall 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).

10.5 Subject to the provisions of Article 9 (Transfer of Goods and Technical Data) and Article 12 (Publicity), each Party shall 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 Agreement 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 11**

### **PROMOTION OF DIFFERENT TYPES AND FORMS OF COOPERATION**

The Parties shall provide support and assistance to the establishment and development of cooperation in the field of Earth observation and Earth sciences and application of space technology between organisations, institutions, enterprises, and entities of both countries.

## **ARTICLE 12**

### **PUBLICITY**

12.1. The Parties retain the rights to release public information regarding their own activities under this Agreement. Each Party may release information regarding joint

activities under this Agreement and its implementation, after ensuring that such information is fairly and accurately represented after clearance by the other Party, when appropriate, in particular in respect of the roles of the two Parties.

12.2 Particularly in their relations with the media, each Party will refer to the participation of the other Party in the activity being reported.

12.3 The Parties agree to coordinate with each other and with other designated organisations, as appropriate and in advance, with respect to any public information activity or publication of technical and programmatic data which relates to their joint responsibilities and performance under this Agreement or to the activities of the other designated organisations within the scope of this Agreement.

### **ARTICLE 13 COOPERATION IN INTERNATIONAL FORA**

The Parties shall generally seek to cooperate in international fora in addressing issues of mutual interest in areas of Earth observation and Earth sciences.

### **ARTICLE 14 IMMIGRATION, CUSTOMS, AND TAXES**

14.1 Subject to the laws and regulations of their respective countries, each Party shall endeavour to facilitate the entry into and exit from the territory of its country for the specialists of the other Party as well as movement, import and export included and at no cost to the other Party, of equipment and goods of the other Party required for executing this Agreement. In case any customs duty is to be levied, the receiving Party shall bear that cost unless otherwise agreed to by the Parties.

14.2 Subject to the laws and regulations of their respective countries and their obligations under international conventions, each Party shall also endeavour to facilitate the waiver of any tax that may be levied on items or services in connection with activities carried out under this Agreement. In case any tax is to be paid, the Party responsible for providing the item or service shall bear that cost.

## **ARTICLE 15 SETTLEMENT OF DISPUTES**

The Parties shall hold consultations without delay on issues that might arise in respect of the interpretation or application of this Agreement or its associated Implementing Arrangements. The Parties shall also make every effort to settle any possible differences by consultation. Disputes that fail to be settled by mutual consultation may be referred to the Administrator, NOAA, and Chairman, ISRO, or their designated representatives, for necessary resolution.

## **ARTICLE 16 AMENDMENTS**

The provisions of this Agreement may, at the request of either Party, be amended by mutual written agreement of the Parties.

## **ARTICLE 17 ENTRY INTO FORCE AND TERMINATION**


17.1 This Agreement shall enter into force on the date of signature by both Parties and shall remain in force for an initial period of five years and thereafter shall be automatically extended for subsequent five-year periods. Either Party may terminate this Agreement at any time by giving six months written notice of such intention to the other Party.

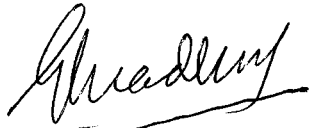
17.2 Notwithstanding termination or expiration of this Agreement, the obligations of the Parties set forth in Articles 9 and 10 of this Agreement concerning the transfer of goods and technical data and intellectual property rights shall continue to apply. The termination of this Agreement shall not release the Parties from financial or contractual obligations assumed by them as the participants of this Agreement.

IN WITNESS WHEREOF the undersigned have signed the present Agreement.

DONE at Washington D.C. on this 31<sup>st</sup> day of January, 2008, in two original copies in the English language.

For the United States National Oceanic and Atmospheric Administration      For the Indian Space Research Organisation

  
Conrad C. Lautenbacher  
Administrator

  
G. Madhavan Nair  
Chairman