

LETTER OF INTENT

BETWEEN THE NATIONAL INSTITUTE FOR SPACE RESEARCH (INPE) AND THE OFFICE OF PROJECTS, PLANNING, AND ANALYSIS (OPPA) OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) TO COOPERATE ON OPERATIONAL SPACE WEATHER OBSERVATIONS WITHIN THE SWFO PROGRAM

THE NATIONAL INSTITUTE FOR SPACE RESEARCH (hereinafter: "INPE"), a research unit of the Ministry of Science, Technology and Innovation (hereinafter: "MCTI"), registered with CNPJ / MF under number 01.263.896/0005-98, established at 1758 dos Astronautas Avenue, São José dos Campos, SP, Zip code 12227-010, qualified as a Scientific, Technological and Innovation Institution (hereinafter "ICT"), pursuant to Law Nr. 10,973 / 04 hereinafter referred as INPE, in this act represented by its Director, Dr. Clezio Marcos De Nardin, appointed by Ordinance Nr. 3,782, of October 1st, 2020, published in the D.O.U. of October 2nd, 2020, holder of Identity Card Nr. 060.817.277-7 - SSP/SP and CPF Nr. ***.545.830-***.

THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA), delegates the authority to sign this Letter of Intent to the Director of the Office of Policy, Planning, and Analysis, Dr. Elsayed Talaat.

National Institute for Space Research (INPE)

INPE's mission is to develop, operate and use space systems to advance science, technology and applications in the areas of outer space and the terrestrial environment, and offer innovative products and services for the benefit of Brazil. Among its strategic objectives are: To expand and consolidate competences in science, technology and innovation in the areas of space and the terrestrial environment to respond to national challenges; Develop, worldwide, scientific and technological leadership in the areas of space and the terrestrial environment, emphasizing Brazilian specificities; Expand and consolidate skills in weather and climate forecasting and global environmental changes; Consolidate INPE's role as a singular institution in the development of satellites and space technologies; Promote a space policy for the industry to meet the needs for the development of space services, technologies and systems; Strengthen INPE's institutional relationship at national and international levels; Provide adequate infrastructure for scientific and technological development; Establish a human resources policy for INPE, based on the strategic management of skills and people; Identify and implement a managerial and institutional model, suited to the specificities and challenges that INPE is facing.

National Oceanic and Atmospheric Administration (NOAA)

NOAA's mission is based on science, service, and stewardship. NOAA is working to understand and predict changes in climate, weather, oceans, and coasts. NOAA shares this knowledge with others, and works to conserve and manage coastal and marine ecosystems and resources. NOAA's vision for the future is one of resilient ecosystems, communities, and economies and works to achieve healthy ecosystems, communities, and economies that are resilient in the face of change.

National Environmental Satellite, Data, and Information Service (NESDIS)

NESDIS's mission is to provide timely access to global environmental data and information services from satellites and other sources in order to promote, protect, and enhance the United

States' economy, security, environment, and quality of life. To fulfill its responsibilities, NESDIS acquires and manages the United States operational environmental satellites, operates the NOAA National Data Centers, provides data and information services including Earth system monitoring, and performs assessments of the environment and related research.

Office of Policy, Planning, and Analysis (OPPA)

OPPA seeks to meet NOAA/NESDIS space-based Earth and space weather observation requirements through the advancement of innovative projects, the implementation of evolutionary improvements to satellite systems, and the expansion of international space cooperation.

Recognizing that INPE and OPPA, hereinafter called the PARTICIPANTS, share certain common interests and priorities, cooperating in the area of making direct solar observation and the near-Earth space with in-situ measurements of the solar wind and plasma ejections, measuring the flux of particles and magnetic field from the Sun to fulfill their missions of providing alerts and warnings to the society about geomagnetic storms.

The Participants have expressed the intention to promote:

- Discussions about the technical and economic feasibility of INPE's participation in OPPA's Space Weather Follow-On (SWFO) Program;
- Discussions on the viability of INPE's Ground Segment to fulfill the SWFO Program Requirements;
- Discussions on the collection, storage and sharing of space weather data for operational and scientific purposes;
- Discussions for the possible distribution of space weather data, results, products, derived scientific publications or any related element derived from possible space weather cooperation;
- Discussions on sharing of equipment and relevant documentation to align with the SWFO Program Objectives;
- Discussions on possible additional areas of collaboration that may include but are not limited to research in Space Weather, Engineering and related Sciences.
- Organization of scientific and technological seminars, specialized workshops, symposia and other scientific meetings of mutual interest, to promote interaction between institutions and research groups relevant to both Participants, and to identify future areas for space weather cooperation.


Both Participants intend to combine efforts to complement their experiences in areas of common interest, without prejudice to their individual and independent actions. Therefore, the provisions outlined in this Letter of Intent (LoI) will not create any legally binding obligations between the Participants.



For the future execution of projects and activities related to this LoI, the Participants will prepare Work Plans, which must be implemented through separate Agreements or other similar instruments.

The execution of this LoI will not incur additional costs for both Participants and, if there is a need to transfer financial resources, the Parties may sign a specific instrument for this purpose. All activities anticipated in this LoI are subject to the availability of appropriated funds.

This LoI will come into effect as of the date of its last signature and will remain in effect for 24 (twenty-four) months and may be discontinued in advance, through written notice, with 30 (thirty) days in advance, from one Participant to another or by mutual agreement.



CLEZIO MARCO DE NARDIN
Director INPE
Date: 11/04/2022

**Elsayed R.
Talaat** Digitally signed by
Elsayed R. Talaat
Date: 2022.03.29
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ELSAYED R. TALAAT, Ph.D.
Director OPPA
Date: