

No. 30289

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**UNITED STATES OF AMERICA  
and  
BRAZIL**

**Exchange of notes constituting an agreement concerning remote sensing for earth resources (with memorandum of understanding of 29 March 1979). Brasília, 27 April and 15 May 1979**

*Authentic texts: English and Portuguese.*

*Registered by the United States of America on 28 September 1993.*

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**ÉTATS-UNIS D'AMÉRIQUE  
et  
BRÉSIL**

**Échange de notes constituant un accord relatif à la télédétection des ressources terrestres (avec mémorandum d'accord en date du 29 mars 1979). Brasília, 27 avril et 15 mai 1979**

*Textes authentiques : anglais et portugais.*

*Enregistré par les États-Unis d'Amérique le 28 septembre 1993.*

EXCHANGE OF NOTES CONSTITUTING AN AGREEMENT<sup>1</sup> BETWEEN THE UNITED STATES OF AMERICA AND BRAZIL CONCERNING REMOTE SENSING FOR EARTH RESOURCES

I

*The American Ambassador  
to the Brazilian Minister of External Relations*

EMBASSY OF THE UNITED STATES OF AMERICA

Brasília, April 27, 1979

No. 112

Excellency,

I have the honor to refer to the Memorandum of Understanding between the United States National Aeronautics and Space Administration (NASA) and the Brazilian Commission for Space Activities (COBAE) concerning remote sensing dated March 29, 1979. Recognizing the close cooperation that has been built in this area since 1968, I have the further honor to inform Your Excellency that the Government of the United States of America confirms the provisions of the Memorandum of Understanding referred to above.

If the Government of the Federative Republic of Brazil would also confirm the provisions of the Memorandum of Understanding, I propose that my note and your reply to that effect shall constitute an agreement between our two governments regarding this matter which will enter into force on the date of Your Excellency's reply and shall remain in force for four years.

<sup>1</sup> Came into force on 15 May 1979, the date of the note in reply, in accordance with the provisions of the said notes.

Accept, Excellency, the renewed assurances of my highest  
consideration.

A handwritten signature in black ink, appearing to read "R. M. Sayre". The signature is fluid and cursive, with a large initial "R" and "M".

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His Excellency  
Ambassador Ramiro Saraiva Guerreiro  
Minister of External Relations  
Brasília, D.F.

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<sup>1</sup> Robert M. Sayre.

[TRANSLATION<sup>1</sup> — TRADUCTION<sup>2</sup>]

*Most urgent*

May 15, 1979

DIE/DNU/DCS/DAI/35/670.3(B46)(B13)

Mr. Ambassador,

I have the honor to acknowledge receipt of Your Excellency's note No. 112 of April 27, 1979, which, translated into Portuguese, reads as follows:

[*See note I*]

In reply, I have the honor to inform Your Excellency that the Brazilian Government accepts the terms of the aforementioned note which, together with this note, shall constitute an agreement between our two Governments that shall enter into force on today's date.

I avail myself of this opportunity to renew to Your Excellency the assurances of my highest consideration and esteem.

RAMIRO SARAIVA GUERREIRO

His Excellency  
Robert Sayre  
Ambassador Extraordinary and Plenipotentiary  
of the United States of America

<sup>1</sup> Translation provided by the Government of the United States of America.

<sup>2</sup> Traduction fournie par le Gouvernement des Etats-Unis d'Amérique.

MEMORANDUM OF UNDERSTANDING BETWEEN BRAZILIAN COMMISSION FOR SPACE ACTIVITIES (COBAE) AND THE UNITED STATES NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

The United States National Aeronautics and Space Administration (NASA), which conducts an experimental LANDSAT Earth Resources Satellite Program and, under certain conditions, provides for direct reception of data from these satellites by stations operated outside the United States, and the Brazilian Commission for Space Activities (COBAE) which through the Institute for Space Research (INPE) of the Brazilian National Council for Scientific and Technological Development (CNPq) established a station to receive, process, archive and disseminate LANDSAT data, have decided to enter into this Memorandum of Understanding which, subject to the following terms and conditions, provides for (A) direct access to NASA's currently operating and future experimental LANDSAT satellites by the CNPq/INPE's ground station and (B) availability to NASA and others of LANDSAT data acquired by this CNPq/INPE station.

1. For their part, COBAE and the operational agency CNPq/INPE will use their best efforts to:

(A) Continue to operate a ground station at Cuiaba and Cachoeira Paulista for the reception, processing, archiving and dissemination of LANDSAT data at their own cost including the cost of the necessary communication links with the NASA LANDSAT Operations Control Center at the Goddard Space Flight Center;

(B) Produce at the Cachoeira Paulista Station LANDSAT computer compatible tapes and image products;

(C) Ensure, in conformance with US LANDSAT data dissemination practices, unrestricted public availability of all LANDSAT data of areas within range of the Cuiaba ground station at a fair and reasonable charge, and in a non-discriminatory manner;

(D) Ensure the provision of processed LANDSAT data (imagery and digital products) to NASA-selected principal investigators whose test sites are within range of the Cuiaba station for the period of coverage envisaged and under the same conditions as NASA applies to them;

(E) Provide to NASA reasonable support requested by NASA in a spacecraft emergency condition, such as the provision of duplicate station tapes or high density digital tapes should the LANDSAT on-board tape recorders fail;

(F) Provide to NASA and the US EROS Data Center on a monthly, cost-free basis catalog listings of LANDSAT data acquired and data processed by the Cachoeira Paulista Station. These catalog listings will also be made publicly available;

(G) Make available to NASA on request, for US agencies' experimental purposes, on a cost-free basis and in reasonable quantities, copies of LANDSAT data acquired and processed by CNPq/INPE.

2. For its part, NASA will use its best efforts to:

(A) Program LANDSAT-2, LANDSAT-3, and any subsequent experimental LANDSAT type satellites to acquire and transmit data of the area accessible for direct read-out by the Cuiaba Station with a view to ensuring regular coverage of this area commensurate with the LANDSAT repeat cycle. Details of this programming will be subject to mutual agreement by the designated technical representatives of NASA and CNPq/INPE;

(B) Provide the Cuiaba ground station with orbital elements for calculating the antenna pointing angles necessary to acquire the LANDSAT transmitted signal, and for processing the data acquired;

(C) Process, on a time-available basis, as agreed by the designated technical representatives, a limited number of CNPq/INPE data tapes for evaluation and calibration of the Cuiaba Station's performance;

(D) Make available to CNPq/INPE for comparison purposes, a limited number of NASA LANDSAT data tapes covering selected portions of the Cuiaba Station's coverage zone.

3. CNPq/INPE and NASA will each designate technical representatives to be responsible for coordinating the agreed functions and responsibilities of each party with the other. The technical representatives, or their deputies and advisors as mutually agreed, will participate in meetings of the LANDSAT ground station operations working group. This working group, established by NASA, meets every six months and serves as a forum for exchange of technical information among station operators. Supplemental meetings between CNPq/INPE and NASA will be held as mutually agreed.

4. The following additional understandings are confirmed:

(A) CNPq/INPE will take appropriate measures so that any radio frequency problem occurring in relation to LANDSAT data reception by the Cuiaba Station is resolved to the satisfaction of the parties to the Memorandum of Understanding. In this context it is noted that provisions of the International Telecommunications Union's radio regulations<sup>1</sup> require that radio frequencies for future operational LANDSAT type satellites will differ from those currently used for experimental satellites;

(B) It is understood that the NASA LANDSAT program is experimental in character and therefore subject to change in accordance with modifications in technical requirements and opportunities, and that at the date of this Memorandum of Understanding, NASA cannot make a firm commitment regarding the launching of future LANDSAT type satellites. NASA, however, undertakes to keep CNPq/INPE informed in good time of any modifications to the satellite design or to its plans for the LANDSAT series of satellites which may affect the implementation of this Memorandum of Understanding;

<sup>1</sup> International Telecommunication Union, *Radio Regulations*, Edition of 1982, as amended.

(C) NASA and CNPq/INPE will exchange, upon request, such technical information as may be necessary for the implementation of this Memorandum of Understanding, as is mutually agreed, and is consistent with the export regulations of the two countries;

(D) NASA and CNPq/INPE may each release public information regarding their own activities under this Memorandum of Understanding and, insofar as the participation of the other party is concerned, after suitable consultation;

(E) The responsibility for spacecraft control, health and status will remain with NASA throughout the execution of this Memorandum of Understanding;

(F) When the expected coverage of a prospective LANDSAT ground station overlaps with that of the Cuiaba Station, NASA will inform COBAE and will advise the prospective station operator of this COBAE/NASA Memorandum of Understanding which provides for unrestricted public availability of data of areas within range of the Cuiaba Station at a fair and reasonable charge. Should the prospective station operator choose to pursue plans for a station with substantially overlapping coverage, NASA will encourage the prospective station operator and COBAE to consult with a view toward reaching a mutually satisfactory understanding on responding to requests for data of the overlapping coverage area;

(G) The US EROS Data Center will include with all responses to requests for LANDSAT data acquired in the Cuiaba Station coverage zone, a statement noting that the Brazilian station should have available more recent and/or more complete data. In the event that the EROS Data Center receives requests for specific information on their holdings, EROS will, in accordance with US Freedom of Information Laws, provide the data and/or information requested;

(H) The ability of COBAE, CNPq/INPE and NASA to carry out their responsibilities under this Memorandum of Understanding is subject to the availability of appropriated funds;

(I) Copies of any agreement signed by CNPq/INPE concerning sale of LANDSAT data from the Cuiaba ground station shall be made available to NASA upon request and shall be consistent with the provisions of Paragraph 1 (C) above.

5. In consideration of the costs NASA is bearing for the LANDSAT space segment, CNPq/INPE will pay to NASA the sum of dollars 200,000 per annum. CNPq/INPE will pay this sum in quarterly installments at the end of each quarter. This rate is expected to remain in effect until January 1, 1979 after which NASA may, after consultation with operating agencies, revise the rate and arrangements for cost sharing. Such revised cost sharing arrangements will be applied to all non-US LANDSAT stations on an equitable basis.

6. It is understood that the availability of data under any of the above paragraphs shall not prejudice any rights and obligations of the parties under international law which may be established in the future with respect to remote sensing activities.

7. This Memorandum of Understanding shall enter into force upon an exchange of notes between the governments confirming its provisions and shall continue in force for four years, subject to extension as may be agreed by the parties and their respective governments.

Done at Brasilia, on the 29th day of March, 1979, in two originals, in English and Portuguese, each text being equally authentic.

[For the United States Aeronautics  
and Space Administration (NASA):]

[ROBERT SAYRE]

[For the Brazilian Commission  
for Space Activities (COBAE):]

[José Maria de Andrada Serpa]