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LETTER DATED 6 NOVEMBER 1964 FROM THE PERMANENT REPRESENTATIVES OF
THE UNION OF SOVIET SOCIALIST REPUBLICS AND THE UNITED STATES OF
AMERICA TO THE UNITED NATIONS ADDRESSED TO THE SECRETARY-GENERAL

We have the honour to submit documents relating to the Second Memorandum of Understanding to implement the Bilateral Space Agreement of 8 June 1962, for which circulation as a United Nations document was requested on 5 December 1962.^{1/} The Memorandum resulted from a series of meetings between Dr. Hugh Dryden of the United States National Aeronautics and Space Administration and Academician A.A. Blagonravov of the Academy of Sciences of the Union of Soviet Socialist Republics.

We request that these documents be circulated to all United Nations Members as an official United Nations document.

(Signed) Francis T.P. PLIMPTON
Deputy Permanent Representative of
the United States of America to
the United Nations

(Signed) N. FEDORENKO
Permanent Representative of the
Union of Soviet Socialist Republics
to the United Nations

1/ Official Records of the General Assembly, Seventeenth Session, Annexes, agenda item 27, document A/C.1/880.

SECOND MEMORANDUM OF UNDERSTANDING
TO IMPLEMENT THE BILATERAL SPACE
AGREEMENT
OF
JUNE 8, 1962
BETWEEN THE ACADEMY OF SCIENCES
OF THE USSR
AND
THE NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION OF THE US

I - PREAMBLE

The purpose of the present Memorandum of Understanding is to advance the implementation of the sections of the bilateral space agreement of June 8, 1962 dealing with a coordinated meteorological satellite program and a world magnetic survey using satellites.

II - COORDINATED METEOROLOGICAL SATELLITE PROGRAM

This section of the Second Memorandum of Understanding to Implement the Bilateral Space Agreement of June 8, 1962 supplements Section II of the First Memorandum dated March 20 and May 24, 1963, and replaces the Appendix attached to that Memorandum.

A. EXCHANGE OF CONVENTIONAL METEOROLOGICAL DATA

1. Conventional data of equivalent type will be exchanged over the communications link between the World Meteorological Centers in Moscow and in Washington, provisions for the establishment of which have been determined by a separate protocol in accordance with transmission schedules to be agreed by exchange of correspondence between the Chief, U. S. Weather Bureau, and the Chief of the Hydrometeorological Service of the USSR.

2. The following order of priority shall apply to the transmission of conventional meteorological data:

- (a) Collectives of upper-air data. Transmissions should be completed within four hours of observation time.
- (b) Collectives of surface synoptic weather reports. Data available in Washington, within three hours of observation time, for the area of North and Central America and the North Atlantic and North Pacific Oceans, will be transmitted to Moscow.

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Data available in Moscow, within three hours of observation time, for the areas of Eastern Europe, the USSR, South Asia and the Southern Pacific (WMO Regional Association V), will be transmitted to Washington.

(c) In addition, the following charts will be transmitted by facsimile on a time available basis:

- (i) Forecast contour charts for 1,000, 500, 300 and 200 millibars, for periods up to 72 hours, if available.
- (ii) Vertical motion forecast for a level between 850 and 500 mb, or for the levels 850, 700 and 500 mb.
- (iii) 500 mb. vorticity chart.
- (iv) Sea level isobaric five-day forecast.
- (v) Thirty-day temperature and precipitation forecast for the continent of the transmitting country.
- (vi) Special charts for aviation such as tropopause chart and significant weather distribution chart.

3. When practicable, charts exchanged will cover the area of the Northern Hemisphere. Polar stereographic projections will be used for all chart exchanges. Analysis and prognostic charts having a scale of 1:30 million or 1:40 million will be used. Special charts exchanged on request would be on scales most convenient for the transmitting country.

4. When satellite data become available, they will have first priority as provided in the First Memorandum of Understanding. Priorities for conventional data will follow thereafter in the order prescribed above. It is recognized that, due to the experimental nature of satellite programs, there may be periods when satellite data will not be available at Moscow or Washington and satellite data exchange will be temporarily discontinued.

5. Status of the exchange will be reviewed formally early in 1965, and at six-month intervals thereafter, to ascertain whether the purpose of satellite data exchange has been achieved and to evaluate the usefulness of continued direct exchange. If satellite data do not become mutually available within a reasonable time, the exchange of data over this special link will be discontinued.

III - MAGNETIC FIELD SURVEY THROUGH THE USE OF ARTIFICIAL SATELLITES

A. EXCHANGE OF DATA

1. It is agreed that the exchange of magnetic observatory data between the Academy of Sciences of the USSR and NASA of the USA, provided for and described in IV, paragraph 6, of the First Memorandum of Understanding (Geneva, 1963) is to be conducted in the volume of data for the years 1964 and 1965, and will be carried out through World Data Centers A and B, located, respectively, in Washington and in Moscow.

2. It is agreed that magnetograms and monthly tables of the following Observatories

<u>USSR</u>	<u>US</u>
Yakutsk	Sitka
Sverdlovsk	College
Irkutsk	Fredericksburg
Odessa	Tucson
Tashkent	San Juan
	Guam

for the years 1960-1963 will be transmitted to World Data Centers A and B before the end of 1964.

3. It is agreed that the exchange of magnetic survey data taken without the utilization of satellites, provided for in IV, paragraph 8, of the First Memorandum of Understanding (Geneva, 1963) will be conducted through World Data Centers A and B, located, respectively, in Washington and in Moscow.

B. MAGNETIC MAPPING

It is agreed to review the possibility of utilizing satellite measurement results for the composition of a magnetic map for days of slight disturbance and to exchange review results with the other side.

FOR NASA:

FOR THE ACADEMY OF SCIENCES OF THE USSR:

Hugh L. Dryden

A. Blagonravov

New York, New York
November 5, 1964

PROTOCOL

FOR THE ESTABLISHMENT OF A SPECIAL DIRECT COMMUNICATIONS LINK BETWEEN THE WORLD METEOROLOGICAL CENTERS IN MOSCOW AND WASHINGTON IN ACCORDANCE WITH THE BILATERAL AGREEMENT ON OUTER SPACE DATED JUNE 8, 1962 BETWEEN THE ACADEMY OF SCIENCES OF THE USSR AND THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION OF THE USA.

1. This Protocol has been prepared to implement the Bilateral Agreement in Outer Space, dated June 8, 1962, between the Academy of Sciences of the USSR and the National Aeronautics and Space Administration in the USA, as well as the First Memorandum of Understanding dated March 20 and May 24, 1963.

2. In anticipation of the availability of meteorological satellite data for exchange by early 1965, it is agreed to establish, in the third quarter of 1964, a duplex twenty-four hour communications link between Moscow and Washington, for transmission of meteorological information. Assuming there are no technical difficulties of any kind, it is agreed that each side will use its own terminal equipment and apparatus and that the telegraph signals will be sent in accordance with International Telegraph Code 2. The communications link and the terminal equipment and apparatus will conform to CCITT standards, and will be operated according to an agreed schedule of transmission of photo, facsimile, and telegraph signals.

3. It was agreed that the link would be routed via the following points -- Moscow-Warsaw-Berlin-Frankfurt-London-Washington.

4. The principle of equal sharing of costs will be achieved through a method of settlement whereby the sides will pay full costs of the communications link between Washington and Moscow for periods of one month. The American side will pay for the first month after establishment of the link after which the responsibility for payment of costs will be assumed by the parties alternately for each one month period.

5. After the link has been determined to be operating satisfactorily, the parties, in a manner to be determined by correspondence, will invite to a meeting the WMO, weather services operating in the territories through which the communications link passes, and any other weather services interested in acquiring access to the communication link on a receive-only basis. Each such weather service will make a proportional contribution to the total expenses of the communications link.

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6. This special Protocol may be terminated by either party on 60 days notice.

FOR NASA:

FOR THE ACADEMY OF SCIENCES OF THE USSR:

/s/ Hugh L. Dryden

/s/ A. Blagonravov

Hugh L. Dryden

A. Blagonravov

/s/ John W. Townsend

/s/ A. Badalov

John W. Townsend

A. Badalov

Geneva, Switzerland
June 6, 1964