MARCH 1971

WORLD DATA CENTER A

Rockets and Satellites

CATALOGUE OF DATA

1 JULY-31 DECEMBER 1970

WORLD DATA CENTER A

ROCKETS AND SATELLITES

CATALOGUE OF DATA

Data Received by

WDC-A for Rockets and Satellites

During the Period

1 July - 31 December 1970

World Data Center A
Rockets and Satellites
Code 601
Goddard Space Flight Center
Greenbelt, Maryland 20771 U.S.A.

March 1971

FOREWORD

World Data Centers (WDCs) conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions (ICSU). WDC-A in the U.S.A., WDC-B in the U.S.S.R., and WDC-C in Western Europe, Australia, and Japan were established in 1957 by the IGY Committee (CSAGI), as part of the fundamental planning for the International Geophysical Year program, to collect data from the numerous and widespread IGY observational programs and to make such data readily accessible to interested scientists and scholars for an indefinite period of time. This system for exchanging geophysical data was found to be very effective, and the operations of the World Data Centers were extended by ICSU on a continuing basis to other international programs. The WDCs were under the supervision of the Comité International de Géophysique (CIG) for the period 1960 to 1967; they are now supervised by the ICSU Panel on World Data Centers.

Since the beginning of the World Data Center System, the basic principles guiding the WDCs have been set forth in the introductory section of the Guide to International Exchange of Geophysical Data through the World Data Centers, adopted by CIG in August 1963. Several sections of the CIG Guide have been superseded by revisions adopted and published by various ICSU committees and commissions and other international organizations. Because these revisions have been widely distributed to the scientific community, the ICSU Panel o. World Data Centers does not plan to issue a consolidated revised Guide at this time.

The objectives of having several World Data Centers for the collection of observational data are: (1) to insure against loss of data by the catastrophic destruction of a single center and (2) to meet the geographical convenience of, and provide easy communication for, workers in different parts of the world. Each WDC is responsible for: (1) endeavoring to collect a complete set of data in the field or discipline for which it is responsible, (2) safekeeping of the incoming data, (3) correctly copying and reproducing data and maintaining adequate standards of clarity and durability, (4) supplying copies to other WDCs of data not received directly, (5) preparing catalogues of all data in its charge, and (6) making data in the WDCs available to the scientific community.

The World Data Centers collect data and publications for the following disciplines: airglow; aurora; cosmic rays; geomagnetism; glaciology; gravimetry; ionosphere; longitude and latitude; meteorology; nuclear radiation; oceanography; rockets and satellites; seismology;

solar activity; tsunami; and the Upper Mantle Project (UMP) disciplines (recent movements of the earth's crust, paleomagnetism, volcanology, geochemistry, properties of rocks under high pressure and temperatures, geothermics, and deep drilling). At the present time, there are no WDC-Cs for longitude and latitude, meteorology, oceanography, tsunami, or the Upper Mantle Project. There are two WDC-Cs for airglow, cosmic rays, geomagnetism, ionosphere, and nuclear radiation: one in Western Europe (WDC-C1) and one in Japan (WDC-C2). There are several WDCs for solar activity that collect and analyze data for specific solar activity projects.

In planning for the various scientific programs, decisions on data exchange were made by the scientific community through the international scientific unions and committees. In each discipline the specialists themselves determined the nature and form of data exchange, based on their needs as research workers. Thus, the type and amount of data in the WDCs differ from discipline to discipline.

World Data Center A

World Data Center A, for which the U.S. National Academy of Sciences through the Geophysics Research Board (GRB) and its Committee on Data Interchange and Data Centers has overall responsibility, consists of the WDC-A Coordination Office and nine subcenters at scientific institutions in various parts of the United States. The GRB periodically reviews the activities of WDC-A and has conducted several studies on the effectiveness of the WDC system. As a result of these reviews and studies, some of the subcenters of WDC-A have been relocated so that they can more effectively serve the scientific community. Several of the discipline centers of WDC-A dealing with the upper atmosphere were consolidated in the WDC-A for Upper Atmosphere Geophysics during the period 1 July 1966 to 1 July 1968. The WDC-A for Rockets and Satellites was moved from the National Academy of Sciences to a location adjacent to the National Space Science Data Center (NSSDC) at NASA Goddard Space Flight Center on 1 January 1969. (Because of its proximity to NSSDC, this WDC-A subcenter can effectively cooperate with NSSDC in obtaining reduced and analyzed data to satisfy requests from the scientific community for data required for research projects.) The WDC-A for Tsunamis was moved from the National Oceanic and Atmospheric Administration (NOAA)* in Rockville, Maryland, to NOAA in Honolulu, Hawaii, in May 1969. In October 1970, the WDC-A for Glaciology was moved from the American Geographical Society in New York City to a location adjacent to the U.S. Geological Survey Project Office for Glaciology in Tacoma, Washington. The current addresses of all WDC-As are given inside the front cover.

*Formerly Environmental Science Services Administration

The data received by the WDC-As are made available to the scientific community in various ways: (1) reports containing data and results of experiments have been compiled, published, and widely distributed; (2) synoptic type data on cards, microfilm, or tables are available for use at the subcenters and for loan to scientists; (3) copies of data and reports are provided upon request.

International Exchange of Rocket and Satellite Data

International agreements concerning international exchange of rocket and satellite data through the World Data Centers were adopted by the Committee on Space Research (COSPAR) in May 1962 and were published in COSPAR Information Bulletin No. 9, Part I, July 1962. The "COSPAR Guide to Rocket and Satellite Information and Data Exchange" was incorporated in full by CIG into the overall "Guide to International Data Exchange through the World Data Centers for the period 1960-onwards" (published in November 1963). These agreements were modified to include recommendations for improving the exchange of information and data, and a revised "COSPAR Guide to Rocket and Satellite Information and Data Exchange" was adopted by COSPAR in July 1967 and was published in COSPAR Transactions No. 4, Part I, December 1967.

The World Data Center A for Rockets and Satellites collects and exchanges reports of sounding rocket launches; reports of satellite and space probe launchings; descriptive information on spacecraft experiments; scientific reports on results of experiments that receive a limited distribution; data supporting conclusions when not included in the published reports; and precise positional observations, orbital elements, and ephemerides that are of great scientific interest and value. Original (raw) data or calibrated (reduced or analyzed) data are not normally deposited in the subcenters for rockets and satellites. Data related to rocket and satellite launchings are summarized biannually in the World Data Center A Rockets and Satellites Catalogue of Data (this Catalogue), which also includes a listing of documents received by this subcenter during the 6-month reporting period.

Scientific organizations and individual scientists may order documents directly from the WDC-A for Rockets and Satellites or through their national organization responsible for communication with the centers. Scientists may borrow materials from the subcenter whenever duplicate copies are available. If duplicate copies are not available, copies of the original material will be made for the requester at a cost not to exceed the cost of copying and transmittal. The subcenter also provides facilities for scientists who wish to participate in the on-site study of data. Advance notice of such a visit enables the staff to provide better services to the data user.

Catalogues of Rocket and Satellite Data

The WDC-A Catalogue of rocket and satellite data will continue to be published biannually through July 1971. A cumulative catalogue of data will be published in the first quarter of 1972.

A complete listing of all data received by WDC-A for Rockets and Satellites from 1 July 1957 to the present time is included in the following catalogues.

Catalogues of Data Received During the Period:	
1 July 1957 - 31 December 1961	The first compilation of data prepared and submitted to COSPAR (April 1962)
1 January 1962 - 31 December 1963	The second compilation of data prepared and submitted to COSPAR (January 1964)
1 January 1964 - 31 December 1965	The third compilation of data prepared and submitted to COSPAR (March 1966)
1 January 1966 - 31 December 1967	The fourth compilation of data prepared and submitted to COSPAR (March 1969)
1 January - 31 December 1968	The fifth compilation of data prepared and submitted to COSPAR (March 1969)
1 January - 30 June 1969	The sixth compilation of data prepared and submitted to COSPAR (July 1969)
1 July - 31 December 1969	The seventh compilation of data prepared and submitted to COSPAR (March 1970)
1 January - 30 June 1970	The eighth compilation of data prepared and submitted to COSPAR (July 1970)
1 July - 31 December 1970	This catalogue (March 1971)

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A. SOUNDING ROCKETS

The following summary of sounding rocket launchings has been compiled from reports of sounding rocket launchings, National Reports to COSPAR, and reports contained in scientific source literature. Only launchings in which the rockets and experiments were completely or partially successful are included in this summary. A sample Report of Sounding Rocket Launching, which illustrates the type of information available in the reports subm. ted to World Data Centers, is shown below.

The discipline codes for entries in the "Experiments" column of this summary are listed on the following page. Section A also includes the addresses of the individuals/organizations included in the "Principal Experimenter(s)" column of the summary and a listing of launching sites for sounding rockets. The types, availability, and source of meteorological sounding rocket data are summarized at the end of Section A.

N A S A

REPORT OF SOUNDING ROCKET LAUNCHING

Vehicle No.: 15.47GT Rocket Type: Boosted Arcas II Launching Site: Wallops Island, Virginia

Range No.: G2-4098 Lat.: 37°50' 6"N Long.: 75°29'11"W

NASA Project Scientist: Mr. H. Pedolsky, GSFC - Code 721.4, Greenbelt, Maryland

Experimenter and Location: Mr. H. Pedolsky, GSFC - Code 721.4, Greenbelt, Maryland

OBJECTIVES AND INSTRUMENTATION: The objectives of this launch were to study the performance characteristics of the Boosted Arcas II in the configuration provided by the manufacturer and to insure that the vehicle was satisfactory for use in Resolute Bay with Dr. J. Kane's scientific payload.

REMARKS:

Launching Date: 27 January 1969 Time: 1953 Z Peak Altitude: 102 km.* (63.5 st. mi.)

Rocket Performance: The rocket reached a peak altitude of 22 kilometers below that predicted. Spin rate appeared to be nominal (12 rps), and drag separation of the stages appeared normal.

Instrumentation Performance: Instrumentation was good throughout the flight except for the tone ranging which appeared to be too weak for Resolute Bay.

PRELIMINARY EXPERIMENTAL RESULTS: The vehicle underperformed according to the predicted trajectory. It appeared that a portion of this performance can be attributed to wind weighting. However, the velocity after first stage burnout was only 900 ft/sec compared with the predicted 1500 ft/sec. The four sabots ejected from the tube properly and were recovered in good condition.

COMMENTS AND RECOMMENDATIONS: Additional information derived from the data received will be required to determine if the vehicle, as it performed, will be satisfactory for the Resolute Bay series.

*Based on plotboard data. Not to be considered final.

Prepared: 9 April 69
HP/jr

ROCKET DISCIPLINE CODES

1. Aurora and Airglow
   - A. Gegenschein
   - B. Auroral emissions
   - C. Airglow emissions
   - D. Airglow composition
   - E. Atmospheric radiations

2. Atmospheric Physics
   - A. Winds
   - B. Pressure
   - C. Temperature
   - D. Albedo
   - E. Planetary radiations (IR)
   - F. Neutral density
   - G. Neutral composition
   - H. Electromagnetic waves
   - I. Acoustics
   - J. Meteorology
   - K. Noctilucent clouds
   - V. Vapor trail
   - Y. Falling sphere - winds, temperature, and density
   - Z. Grenades - winds, temperature, pressure, and density

3. Ionosphere
   - A. Wave propagation
   - B. Electric currents (mag. fields)
   - C. Ion/electron density
   - D. Ion composition
   - E. Ion/electron temperature
   - F. Ion production/recombination

4. Energetic Particles
   - A. Galactic cosmic rays
   - B. Solar particle radiation
   - C. Terrestrial trapped radiation
   - D. Particle precipitation

5. Magnetic Fields
   - A. Geomagnetic fields
   - B. Electric fields

6. Solar Physics
   - A. Radio (1-1000mm)
   - B. Infrared (.8-1000μ)
   - C. Visible (3000-8000A)
   - D. Ultraviolet (2000-3000A)
   - E. Extreme UV (100-2000A)
   - F. X Rays (.001-100A)

7. Astronomy
   - A. Radio (1-1000mm)
   - B. Infrared (.8-1000μ)
   - C. Visible (3000-8000A)
   - D. Ultraviolet (2000-3000A)
   - E. Extreme UV (100-2000A)
   - F. X Rays (.001-100A)
   - G. Gamma Rays (<.001A)

8. Planetology
   - A. Micrometeorites
   - B. Zodiacal light
   - C. Gravity
   - D. Terrain photographs

9. Biology

0. Test and Other
   - A. Rocket performance
   - B. Communication systems
   - C. Satellite experiment test
   - U. Discipline unknown

X. Subdivision of numbered discipline unknown.

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (GT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
09/03/66	1930	MP-12	USSR	VOLGOGRAD		V									165	INST OF EXPERI-MENTAL METEOROLOGY
09/09/66	0418	MP-12	USSR	VOLGOGRAD		V									165	INST OF EXPERI-MENTAL METEOROLOGY
09/17/66	1900	MP-12	USSR	VOLGOGRAD		V									165	INST OF EXPERI-MENTAL METEOROLOGY
10/26/66	1203	MP-12	USSR	VOLGOGRAD		V	D								170	INST OF EXPERI-MENTAL METEOROLOGY
09/24/66	1947	MP-12	USSR	KHEISA ISLAND		B C F									144	CENTRAL AEROLOG-ICAL OBSERVATORY
09/30/66	0907	MP-12	USSR	KHEISA ISLAND		B C F									174	CENTRAL AEROLOG-ICAL OBSERVATORY
10/20/66	1232	MP-12	USSR	KHEISA ISLAND		B C F									186	CENTRAL AEROLOG-ICAL OBSERVATORY
10/26/66	1416	MP-12	USSR	KHEISA ISLAND		B C F									176	CENTRAL AEROLOG-ICAL OBSERVATORY
11/04/66	1516	MP-12	USSR	KHEISA ISLAND		B C F									164	CENTRAL AEROLOG-ICAL OBSERVATORY
11/23/66	2144	MP-12	USSR	KHEISA ISLAND		B C F									165	CENTRAL AEROLOG-ICAL OBSERVATORY
12/01/66	2040	MP-12	USSR	KHEISA ISLAND		B C F									168	CENTRAL AEROLOG-ICAL OBSERVATORY
12/06/66	0836	MP-12	USSR	VOLGOGRAD		G									167	INST OF EXPERI-MENTAL METEOROLOGY

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
12/12/66	1739	MP-12	USSR	VOLGOGRAD		G	D								160	INST OF EXPERIMENTAL METEOROLOGY
12/20/66	1600	MP-12	USSR	VOLGOGRAD		G	D								178	INST OF EXPERIMENTAL METEOROLOGY
12/21/66	1230	MP-12	USSR	KHEISA ISLAND		B F C									166	CENTRAL AEROLOGICAL OBSERVATORY
12/21/66	1230	MP-12	USSR	VOLGOGRAD						F					167	INST OF EXPERIMENTAL METEOROLOGY
12/31/66	2144	NASA 18.59 IE	UNITED STATES NORWAY	ANDOYA	B										228	JENSEN, J. LANDMARK, B.
01/02/67	0350	MP-12	USSR	200 00°S 065D 00°E		A									89	HYDROMETEOROLOGICAL SERVICE
01/02/67	0542	MP-12	USSR	200 00°S 065D 00°E		A									86	HYDROMETEOROLOGICAL SERVICE
01/02/67	1640	MP-12	USSR	200 00°S 065D 00°E		A									93	HYDROMETEOROLOGICAL SERVICE
01/02/67	1645	MP-12	USSR	250 00°S 065D 00°E		A									91	HYDROMETEOROLOGICAL SERVICE
01/02/67	2205	MP-12	USSR	200 00°S 065D 00°E		A									92	HYDROMETEOROLOGICAL SERVICE
01/03/67	0000	MP-12	USSR	250 00°S 065D 00°E		A									91	HYDROMETEOROLOGICAL SERVICE
01/07/67	0300	MP-12	USSR	250 00°S 065D 00°E		A									94	HYDROMETEOROLOGICAL SERVICE
01/07/67	0352	MP-12	USSR	200 00°S 065D 00°E		A									90	HYDROMETEOROLOGICAL SERVICE
01/07/67	0950	MP-12	USSR	200 00°S 065D 00°E		A									91	HYDROMETEOROLOGICAL SERVICE
01/07/67	1000	MP-12	USSR	250 00°S 065D 00°E		A									90	HYDROMETEOROLOGICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
01/07/69	1001	MP-12	USSR	VOLGOGRAD		A									94	HYDROMETEOROLOG-ICAL SERVICE
01/07/69	2147	MP-12	USSR	20D 00°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
01/08/69	0900	MP-12	USSR	KHEISA ISLAND		A									94	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	0351	MP-12	USSR	20D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	0545	MP-12	USSR	20D 00°S 065D 00°E		A									94	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	1000	MP-12	USSR	25D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	1556	MP-12	USSR	20D 00°S 065D 00°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	1630	MP-12	USSR	25D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	2145	MP-12	USSR	20D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
01/11/69	2200	MP-12	USSR	25D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
01/13/69	0900	MP-12	USSR	KHEISA ISLAND		A									88	HYDROMETEOROLOG-ICAL SERVICE
01/15/69	0808	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOG-ICAL SERVICE
01/15/69	0528	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
01/16/69	0900	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOG-ICAL SERVICE
01/17/69	0905	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOG-ICAL SERVICE

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DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
01/18/65	0500	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/19/65	0900	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOG-ICAL SERVICE
01/22/65	0503	MP-12	USSR	KHEISA ISLAND		A									93	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	0350	MP-12	USSR	25D 00°S 065D 00°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	0400	MP-12	USSR	20D 00°S 065D 00°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	0500	MP-12	USSR	KHEISA ISLAND		A									86	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	0548	MP-12	USSR	25D 00°S 065D 00°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	1000	MP-12	USSR	20D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	1620	MP-12	USSR	20D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/23/65	2149	MP-12	USSR	25D 00°S 065D 00°E		A									94	HYDROMETEOROLOG-ICAL SERVICE
01/24/65	0900	MP-12	USSR	KHEISA ISLAND		A									94	HYDROMETEOROLOG-ICAL SERVICE
01/24/65	1558	MP-12	USSR	25D 00°S 065D 00°E		A									87	HYDROMETEOROLOG-ICAL SERVICE
01/25/65	0900	MP-12	USSR	KHEISA ISLAND		A									96	HYDROMETEOROLOG-ICAL SERVICE
01/26/65	0900	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/27/65	0353	MP-12	USSR	25D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE

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DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
01/27/69	0400	MP-12	USSR	20D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/27/69	0543	MP-12	USSR	KHEISA ISLAND		A									96	HYDROMETEOROLOG-ICAL SERVICE
01/27/69	0948	MP-12	USSR	25D 00°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
01/27/69	1548	MP-12	USSR	25D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/27/69	1640	MP-12	USSR	20D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
01/27/69	2148	MP-12	USSR	25D 00°S 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
01/27/69	2200	MP-12	USSR	20D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/28/69	0907	MP-12	USSR	KHEISA ISLAND		A									94	HYDROMETEOROLOG-ICAL SERVICE
01/28/69	1852	MP-12	USSR	28D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/29/69	0900	MP-12	USSR	KHEISA ISLAND		A									87	HYDROMETEOROLOG-ICAL SERVICE
01/29/69	1802	MP-12	USSR	VOLGOGRAD		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/30/69	0902	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
01/30/69	1803	MP-12	USSR	34D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
01/30/69	2004	MP-12	USSR	36D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
01/31/69	0904	MP-12	USSR	KHEISA ISLAND		A									87	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE(KM)	PRINCIPAL EXPERIMENTER(S)
01/31/69	1900	MP-12	USSR	40D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
02/01/69	1900	MP-12	USSR	43D 00°S 065D 00°E		A									87	HYDROMETEOROLOG-ICAL SERVICE
02/02/69	0900	MP-12	USSR	KHEISA ISLAND		A									87	HYDROMETEOROLOG-ICAL SERVICE
02/02/69	1800	MP-12	USSR	15D 14°S 065D 06°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
02/02/69	1900	MP-12	USSR	46D 00°S 065D 00°E		A									84	HYDROMETEOROLOG-ICAL SERVICE
02/03/69	1800	MP-12	USSR	11D 45°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/03/69	2000	MP-12	USSR	50D 00°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/04/69	1800	MP-12	USSR	08D 03°S 065D 00°E		A									96	HYDROMETEOROLOG-ICAL SERVICE
02/04/69	2000	MP-12	USSR	54D 00°S 065D 00°E		A									98	HYDROMETEOROLOG-ICAL SERVICE
02/05/69	0802	MP-12	USSR	VOLGOGRAD		A									85	HYDROMETEOROLOG-ICAL SERVICE
02/05/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/05/69	1800	MP-12	USSR	04D 11°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
02/05/69	2000	MP-12	USSR	57D 00°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/06/69	0900	MP-12	USSR	KHEISA ISLAND		A									87	HYDROMETEOROLOG-ICAL SERVICE
02/06/69	1705	NASA 14.392 UI	UNITED STATES	WALLOPS ISLAND		C E A									219	SMITH,L.G. BOWHILL,S.A. SECHRIST,C.F. MECHTLY,E.A.

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
02/06/69	1745	MP-12	USSR	59D 54°S 064D 43°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/06/69	1825	MP-12	USSR	00D 30°S 065D 09°E		A									94	HYDROMETEOROLOG-ICAL SERVICE
02/06/69	2000	MP-12	USSR	60D 00°S 065D 00°E		A									95	HYDROMETEOROLOG-ICAL SERVICE
02/07/69	0900	MP-12	USSR	KHEISA ISLAND		A									89	HYDROMETEOROLOG-ICAL SERVICE
02/07/69	1720	MP-12	USSR	03D 05°N 064D 52°E		A									86	HYDROMETEOROLOG-ICAL SERVICE
02/09/69	2200	MP-12	USSR	11D 07°N 065D 11°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
02/10/69	0900	MP-12	USSR	KHEISA ISLAND		A									89	HYDROMETEOROLOG-ICAL SERVICE
02/10/69	2200	MP-12	USSR	14D 53°S 065D 03°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
02/11/69	2200	MP-12	USSR	18D 39°N 065D 00°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
02/12/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/12/69	1303	MP-12	USSR	VOLGOGRAD		A									81	HYDROMETEOROLOG-ICAL SERVICE
02/14/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/17/69	0900	MP-12	USSR	KHEISA ISLAND		A									85	HYDROMETEOROLOG-ICAL SERVICE
02/19/69	0928	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
02/19/69	1348	MP-12	USSR	VOLGOGRAD		A									84	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
02/22/69	0500	MP-12	USSR	KHEISA ISLAND		A									94	HYDROMETEOROLOGICAL SERVICE
03/01/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOGICAL SERVICE
03/05/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOGICAL SERVICE
03/08/69	0900	MP-12	USSR	KHEISA ISLAND		A									88	HYDROMETEOROLOGICAL SERVICE
03/12/69	0900	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOGICAL SERVICE
03/13/69	1817	MP-12	USSR	KHEISA ISLAND		A									88	HYDROMETEOROLOGICAL SERVICE
03/13/69	2133	MP-12	USSR	KHEISA ISLAND		A									93	HYDROMETEOROLOGICAL SERVICE
03/14/69	2130	MP-12	USSR	KHEISA ISLAND		A									93	HYDROMETEOROLOGICAL SERVICE
03/19/69	0900	MP-12	USSR	KHEISA ISLAND		A									97	HYDROMETEOROLOGICAL SERVICE
03/24/69	1001	MP-12	USSR	VOLGOGRAD		A									89	HYDROMETEOROLOGICAL SERVICE
03/26/69	1202	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOGICAL SERVICE
03/27/69	1335	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOGICAL SERVICE
03/27/69	1530	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOGICAL SERVICE
04/01/69	1930	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOGICAL SERVICE
04/02/69	0832	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOGICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
07/05/65	1003	MP-12	USSR	VOLGOGRAD		A									89	HYDROMETEOROLOG-ICAL SERVICE
07/12/65	1849	MP-12	USSR	KHEISA ISLAND		A									94	HYDROMETEOROLOG-ICAL SERVICE
07/16/65	0806	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
07/16/65	1003	MP-12	USSR	VOLGOGRAD		A									91	HYDROMETEOROLOG-ICAL SERVICE
07/18/65	1330	MP-12	USSR	VOLGOGRAD		A									87	HYDROMETEOROLOG-ICAL SERVICE
07/18/65	1858	MP-12	USSR	VOLGOGRAD		A									88	HYDROMETEOROLOG-ICAL SERVICE
07/19/65	1332	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOG-ICAL SERVICE
07/19/65	1822	MP-12	USSR	VOLGOGRAD		A									81	HYDROMETEOROLOG-ICAL SERVICE
07/20/65	1854	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOG-ICAL SERVICE
07/21/65	1346	MP-12	USSR	VOLGOGRAD		A									89	HYDROMETEOROLOG-ICAL SERVICE
07/21/65	1856	MP-12	USSR	VOLGOGRAD		A									87	HYDROMETEOROLOG-ICAL SERVICE
07/23/65	0806	MP-12	USSR	KHEISA ISLAND		A									97	HYDROMETEOROLOG-ICAL SERVICE
07/23/65	1210	MP-12	USSR	VOLGOGRAD		A									88	HYDROMETEOROLOG-ICAL SERVICE
07/23/65	1600	MP-12	USSR	VOLGOGRAD		A									88	HYDROMETEOROLOG-ICAL SERVICE
07/24/65	0645	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
04/20/65	0404	MP-12	USSR	VOLGOGRAD		A									88	HYDROMETEOROLOG-ICAL SERVICE
04/20/65	0800	MP-12	USSR	KHEISA ISLAND		A									88	HYDROMETEOROLOG-ICAL SERVICE
05/07/65	0303	MP-12	USSR	VOLGOGRAD		A									89	HYDROMETEOROLOG-ICAL SERVICE
05/14/65	0800	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOG-ICAL SERVICE
05/15/65	0400	MP-12	USSR	50D 00°S 065D 00°E		A									76	HYDROMETEOROLOG-ICAL SERVICE
05/15/65	1600	MP-12	USSR	49D 00°S 065D 00°E		A									80	HYDROMETEOROLOG-ICAL SERVICE
05/15/65	2200	MP-12	USSR	48D 00°S 065D 00°E		A									86	HYDROMETEOROLOG-ICAL SERVICE
05/20/65	2200	MP-12	USSR	44D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
05/21/65	0803	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOG-ICAL SERVICE
05/21/65	1103	MP-12	USSR	VOLGOGRAD		A									86	HYDROMETEOROLOG-ICAL SERVICE
05/21/65	1600	MP-12	USSR	41D 00°S 065D 00°E		A									83	HYDROMETEOROLOG-ICAL SERVICE
05/21/65	2200	MP-12	USSR	40D 00°S 065D 00°E		A									82	HYDROMETEOROLOG-ICAL SERVICE
05/22/65	0400	MP-12	USSR	40D 00°S 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
05/22/65	1000	MP-12	USSR	39D 00°S 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
05/23/65	2200	MP-12	USSR	34D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/24/65	1100	MP-12	USSR	320 00°S 065D 00°E		A									89	HYDROMETECROLCG-ICAL .SERVICE
06/24/65	1600	MP-12	USSR	30D 00°S 065D 00°E		A									92	HYDROMETECROLOG-ICAL SERVICE
06/25/65	0400	MP-12	USSR	28D 00°S 065D 00°E		A									92	HYDROMETECROLOG-ICAL SERVICE
06/25/65	2300	MP-12	USSR	25D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
06/26/65	2200	MP-12	USSR	21D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
06/27/65	1600	MP-12	USSR	19D 00°S 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
06/28/65	0831	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOG-ICAL SERVICE
06/28/65	1126	MP-12	USSR	KHEISA ISLAND		A									87	HYDROMETEOROLOG-ICAL SERVICE
06/30/65	0302	MP-12	USSR	VOLGOGRAD		A									86	HYDROMETEOROLOG-ICAL SERVICE
06/02/65	2200	MP-12	USSR	15D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
06/03/65	2200	MP-12	USSR	12D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
06/04/65	0400	MP-12	USSR	VOLGOGRAD		A									91	HYDROMETECROLCG-ICAL SERVICE
06/04/65	0400	MP-12	USSR	11D 00°S 065D 00°E		A									90	HYDROMETECROLCG-ICAL SERVICE
06/04/65	0811	MP-12	USSR	KHEISA ISLAND		A									93	HYDROMETEOROLCG-ICAL SERVICE
06/06/65	2200	MP-12	USSR	000 00°S 065D 00°E		A									92	HYDROMETECROLCG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/07/69	0400	MP-12	USSR	00D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
06/07/69	1000	MP-12	USSR	01D 00°S 065D 00°E		A									93	HYDROMETEOROLOG-ICAL SERVICE
06/07/69	1600	MP-12	USSR	02D 00°S 065D 00°E		A									92	HYDROMETEOROLOG-ICAL SERVICE
06/08/69	2200	MP-12	USSR	06D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
06/09/69	2200	MP-12	USSR	09D 00°S 065D 00°E		A									87	HYDROMETEOROLOG-ICAL SERVICE
06/10/69	0400	MP-12	USSR	10D 00°S 065D 00°E		A									86	HYDROMETEOROLOG-ICAL SERVICE
06/10/69	2214	MP-12	USSR	VOLGOGRAD		A									87	HYDROMETEOROLOG-ICAL SERVICE
06/11/69	0805	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
06/11/69	2200	MP-12	USSR	16D 00°N 065D 00°E		A									85	HYDROMETEOROLOG-ICAL SERVICE
06/12/69	2200	MP-12	USSR	19D 00°N 065D 00°E		A									N/A	HYDROMETEOROLOG-ICAL SERVICE
06/13/69	0400	MP-12	USSR	20D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
06/13/69	1600	MP-12	USSR	22D 00°N 065D 00°E		A									86	HYDROMETEOROLOG-ICAL SERVICE
06/18/69	0837	MP-12	USSR	KHEISA ISLAND		A									91	HYDROMETEOROLOG-ICAL SERVICE
06/28/69	0800	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOG-ICAL SERVICE
06/28/69	1001	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
07/01/65	1015	MP-12	USSR	VOLGOGRAD		G									141	INST OF EXPERI-MENTAL METEOROLOGY
07/02/65	0900	MP-12	USSR	KHEISA ISLAND		A									96	HYDROMETEOROLOG-ICAL SERVICE
07/02/65	1001	MP-12	USSR	VOLGOGRAD		A									87	HYDROMETEOROLOG-ICAL SERVICE
07/03/65	0329	MP-12	USSR	VOLGOGRAD		B C F									165	CENTRAL AEROLOG-ICAL OBSERVATORY
07/08/65	1820	MP-12	USSR	VOLGOGRAD		G									148	INST OF EXPERI-MENTAL METEOROLOGY
07/09/65	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
07/09/65	1755	MP-12	USSR	VOLGOGRAD		V									150	INST OF EXPERI-MENTAL METEOROLOGY
07/10/65	0807	MP-12	USSR	VOLGOGRAD		G C									162	INST OF EXPERI-MENTAL METEOROLOGY
07/11/65	1755	MP-12	USSR	VOLGOGRAD		V									148	INST OF EXPERI-MENTAL METEOROLOGY
07/16/65	0900	MP-12	USSR	KHEISA ISLAND		A									92	HYDROMETEOROLOG-ICAL SERVICE
07/16/65	1004	MP-12	USSR	VOLGOGRAD		A									86	HYDROMETEOROLOG-ICAL SERVICE
07/23/65	0903	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
07/23/65	1001	MP-12	USSR	VOLGOGRAD		A									88	HYDROMETEOROLOG-ICAL SERVICE
07/23/65	2100	MP-12	USSR	VOLGOGRAD		A									9.	HYDROMETEOROLOG-ICAL SERVICE
07/24/65	2355	MP-12	USSR	VOLGOGRAD		V									145	INST OF EXPERI-MENTAL METEOROLOGY

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (GT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE(KM)	PRINCIPAL EXPERIMENTER(S)
07/25/69	0815	MP-12	USSR	45D 00°N 030D 00°W		G									166	INST OF EXPERI-MENTAL METEOROLOGY
07/25/69	0130	MP-12	USSR	VOLGOGRAD		G									172	CENTRAL AEROLOG-ICAL OBSERVATORY
07/25/69	0200	MP-12	USSR	VOLGOGRAD		A									89	HYDROMETEOROLOG-ICAL SERVICE
07/25/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									94	HYDROMETEOROLOG-ICAL SERVICE
07/25/69	2203	MP-12	USSR	VOLGOGRAD		G									170	CENTRAL AEROLOG-ICAL OBSERVATORY
07/25/69	2350	MP-12	USSR	VOLGOGRAD		V									145	INST OF EXPERI-MENTAL METEOROLOGY
07/27/69	2147	MP-12	USSR	31D 00°N 034D 00°W		G									168	INST OF EXPERI-MENTAL METEOROLOGY
07/27/69	2237	MP-12	USSR	30D 59°N 034D 50°W		G									164	INST OF EXPERI-MENTAL METEOROLOGY
07/27/69	2327	MP-12	USSR	31D 05°N 034D 55°W		G									170	INST OF EXPERI-MENTAL METEOROLOGY
07/28/69	0017	MP-12	USSR	31D 15°N 034D 56°W		G									167	INST OF EXPERI-MENTAL METEOROLOGY
07/30/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									84	HYDROMETEOROLOG-ICAL SERVICE
07/30/69	0301	MP-12	USSR	VOLGOGRAD		A									91	HYDROMETEOROLOG-ICAL SERVICE
07/30/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
07/30/69	2007	MP-12	USSR	VOLGOGRAD		B C F									171	CENTRAL AEROLOG-ICAL OBSERVATORY
08/03/69	0325	MP-12	USSR	00D 03°S 017D 44°W		G									164	INST OF EXPERI-MENTAL METEOROLOGY

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/03/69	0415	MP-12	USSR	00D 05°S 017D 34°W		G									168	INST OF EXPERI-MENTAL METEOROLOGY
06/03/69	0505	MP-12	USSR	00D 05°N 017D 31°W		G									165	INST OF EXPERI-MENTAL METEOROLOGY
06/03/69	0551	MP-12	USSR	00D 08°N 017D 34°W		G									169	INST OF EXPERI-MENTAL METEOROLOGY
06/03/69	0700	MP-12	USSR	00D 19°N 017D 46°W		G									172	INST OF EXPERI-MENTAL METEOROLOGY
06/06/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									94	HYDROMETEOROLOG-ICAL SERVICE
06/06/69	0900	MP-12	USSR	KHEISA ISLAND		A									89	HYDROMETEOROLOG-ICAL SERVICE
06/13/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
06/20/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
06/20/69	0900	MP-12	USSR	KHEISA ISLAND		A									90	HYDROMETEOROLOG-ICAL SERVICE
06/27/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
06/27/69	1037	MP-12	USSR	KHEISA ISLAND		A									N/A	HYDROMETEOROLOG-ICAL SERVICE
09/03/69	0900	MP-12	USSR	KHEISA ISLAND		A									93	HYDROMETEOROLOG-ICAL SERVICE
09/03/69	1003	MP-12	USSR	VOLGOGRAD		A									93	HYDROMETEOROLOG-ICAL SERVICE
09/10/69	0200	MP-12	USSR	67D 40°S 045D 51°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
09/10/69	0900	MP-12	USSR	KHEISA ISLAND		A									93	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/16/65	1950	MP-12	USSR	00D 00° 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
06/16/65	2143	MP-12	USSR	00D 00° 065D 00°E		A									N/A	HYDROMETEOROLOG-ICAL SERVICE
06/17/65	0200	MP-12	USSR	67D 40°S 045D 51°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
06/17/65	0610	MP-12	USSR	KHEISA ISLAND		A									98	HYDROMETEOROLOG-ICAL SERVICE
06/17/65	1003	MP-12	USSR	VOLGOGRAD		A									90	HYDROMETEOROLOG-ICAL SERVICE
06/17/65	1950	MP-12	USSR	00D 00° 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
06/17/65	2140	MP-12	USSR	00D 00° 065D 00°E		A									87	HYDROMETEOROLOG-ICAL SERVICE
06/18/65	1145	MP-12	USSR	00D 00° 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
06/18/65	2155	MP-12	USSR	00D 00° 065D 00°E		A									87	HYDROMETEOROLOG-ICAL SERVICE
06/18/65	2308	MP-12	USSR	00D 00° 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
06/19/65	2010	MP-12	USSR	00D 00° 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
06/19/65	2232	MP-12	USSR	00D 00° 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
06/20/65	2008	MP-12	USSR	00D 00° 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
06/24/65	0200	MP-12	USSR	67D 40°S 045D 51°E		A									95	HYDROMETEOROLOG-ICAL SERVICE
06/24/65	0408	MP-12	USSR	VOLGOGRAD		A									89	HYDROMETEOROLOG-ICAL SERVICE

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
09/24/65	0520	MP-12	USSR	KHEISA ISLAND		A									87	HYDROMETEOROLOG-ICAL SERVICE
09/25/65	2315	MP-12	USSR	20D 00°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
09/26/65	2005	MP-12	USSR	20D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
09/26/65	2200	MP-12	USSR	20D 00°S 065D 00°E		A									91	HYDROMETEOROLOG-ICAL SERVICE
09/27/65	1900	MP-12	USSR	20D 00°S 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
09/28/65	2003	MP-12	USSR	20D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
09/28/65	2200	MP-12	USSR	20D 00°S 065D 00°E		A									90	HYDROMETEOROLOG-ICAL SERVICE
09/29/65	2123	MP-12	USSR	20D 00°S 065D 00°E		A									88	HYDROMETEOROLOG-ICAL SERVICE
09/29/65	2231	MP-12	USSR	20D 00°S 065D 00°E		A									89	HYDROMETEOROLOG-ICAL SERVICE
10/11/65	1105	MP-12	USSR	64D 38°N 032D 18°E			C								158	INST OF EXPERI-MENTAL METEOROLOGY
10/14/65	0822	MP-12	USSR	VOLGOGRAD		V									120	INST OF EXPERI-MENTAL METEOROLOGY
10/17/65	2205	MP-12	USSR	VOLGOGRAD		G									166	CENTRAL AEROLOG-ICAL OBSERVATORY
10/18/65	1107	MP-12	USSR	60D 48°N 036D 30°W			C								165	INST OF EXPERI-MENTAL METEOROLOGY
10/18/65	1747	MP-12	USSR	61D 17°N 037D 28°W			C								160	INST OF EXPERI-MENTAL METEOROLOGY
10/21/65	1232	MP-12	USSR	VOLGOGRAD		G									164	CENTRAL AEROLOG-ICAL OBSERVATORY

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
10/22/65	0831	MP-12	USSR	VOLGOGRAD		V									116	INST OF EXPERI-MENTAL METEOROLOGY
10/24/65	1233	MP-12	USSR	VOLGOGRAD		G									160	CENTRAL AEROLOG-ICAL OBSERVATORY
11/06/65	0811	MP-12	USSR	52D 46°N 016D 40°W			C								162	INST OF EXPERI-MENTAL METEOROLOGY
11/08/65	1112	MP-12	USSR	52D 59°N 017D 08°W			C								160	INST OF EXPERI-MENTAL METEOROLOGY
11/09/65	1647	MP-12	USSR	41D 15°N 018D 21°W			C								162	INST OF EXPERI-MENTAL METEOROLOGY
12/10/65	0800	MP-12	USSR	VOLGOGRAD		G	D								165	INST OF EXPERI-MENTAL METEOROLOGY
12/10/65	2059	MP-12	USSR	62D 12°N 028D 38°W			C								160	INST OF EXPERI-MENTAL METEOROLOGY
12/10/65	2213	MP-12	USSR	62D 37°N 028D 22°W			C								160	INST OF EXPERI-MENTAL METEOROLOGY
12/12/65	1304	S24H	UNITED KINGDOM	SOUTH UIST		B	C								79	WILLIAMS, E.R.
12/16/65	0800	MP-12	USSR	VOLGOGRAD		G	D								163	INST OF EXPERI-MENTAL METEOROLOGY
12/16/65	1443	S28H	UNITED KINGDOM	SOUTH UIST		B	C								89	WILLIAMS, E.R.
12/18/65	0815	MP-12	USSR	VOLGOGRAD		G	D								166	INST OF EXPERI-MENTAL METEOROLOGY
12/18/65	0800	MP-12	USSR	VOLGOGRAD		G	D								162	INST OF EXPERI-MENTAL METEOROLOGY
12/19/65	1115	MP-12	USSR	VOLGOGRAD		G	D								165	INST OF EXPERI-MENTAL METEOROLOGY
01/08/70	1423	UCL 1	UNITED KINGDOM	KIRUNA		A C									77	GROVES, G.V. SCOTT, A.F.D. HAMILTON, R.A. ALMOND, R.

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
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DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
01/07/70	1425	UCL 2	UNITED KINGDOM	KIRUNA		A C									75	GREVES, G.V. SCOTT, A.F.C. HAMILTON, R.A. ALMOND, R.
01/09/70	1417	SSBH	UNITED KINGDOM	SOUTH UIST		B	C								82	WILLIAMS, E.R.
01/09/70	1443	UCL 3	UNITED KINGDOM	KIRUNA		A C									74	GREVES, G.V. SCOTT, A.F.C. HAMILTON, R.A. ALMOND, R.
01/12/70	1353	SSBH	UNITED KINGDOM	SOUTH UIST		B	C								85	WILLIAMS, E.R.
01/12/70	1436	UCL 4	UNITED KINGDOM	KIRUNA		A C									68	GREVES, G.V. SCOTT, A.F.C. HAMILTON, R.A. ALMOND, R.
01/14/70		NASA 10.323 GM	UNITED STATES	WALLOPS ISLAND		Z									N/A	SMITH, W.S.
01/14/70	0110	NASA 10.343 CM	UNITED STATES	WALLOPS ISLAND		V									160	BEDINGER, J.F.
01/14/70	0300	NASA 14.447 CM	UNITED STATES	WALLOPS ISLAND		V									197	BEDINGER, J.F.
01/14/70	0500	NASA 14.448 CM	UNITED STATES	WALLOPS ISLAND		V									204	BEDINGER, J.F.
01/14/70	0717	NASA 14.449 CM	UNITED STATES	WALLOPS ISLAND		V									204	BEDINGER, J.F.
01/14/70	0915	NASA 14.450 CM	UNITED STATES	WALLOPS ISLAND		V									201	BEDINGER, J.F.
01/14/70	1135	NASA 14.451 CM	UNITED STATES	WALLOPS ISLAND		V									207	BEDINGER, J.F.
01/14/70	1440	UCL 5	UNITED KINGDOM	KIRUNA		A C									N/A	GREVES, G.V. SCOTT, A.F.C. HAMILTON, R.A. ALMOND, R.
01/15/70	1601	UCL 7	UNITED KINGDOM	KIRUNA		A C									70	GREVES, G.V. SCOTT, A.F.C. HAMILTON, R.A. ALMOND, R.

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE(KM)	PRINCIPAL EXPERIMENTER(S)
01/21/70	1500	UCL 8	UNITED KINGDOM	KIRUNA		A C									71	GREVES,G.V. SCOTT,A.F.C. HAMILTON,R.A. ALMOND,R.
01/23/70	1506	UCL 9	UNITED KINGDOM	KIRUNA		A C									71	GREVES,G.V. SCOTT,A.F.C. HAMILTON,R.A. ALMOND,R.
01/26/70	1518	UCL 10	UNITED KINGDOM	KIRUNA		A C									73	GREVES,G.V. SCOTT,A.F.C. HAMILTON,R.A. ALMOND,R.
01/28/70	1518	UCL 11	UNITED KINGDOM	KIRUNA		A C									75	GREVES,G.V. SCOTT,A.F.C HAMILTON,R.A. ALMOND,R.
01/29/70		NASA 10.338 GP	UNITED STATES	POINT BARROW		Z									N/A	SMITH,W.S.
01/29/70		NASA 10.339 GP	UNITED STATES	POINT BARROW		Z									N/A	SMITH,W.S.
01/30/70	1527	UCL 12	UNITED KINGDOM	KIRUNA		A C									78	GREVES,G.V. SCOTT,A.F.C. HAMILTON,R.A. ALMOND,R.
02/03/70		NASA 10.340 GP	UNITED STATES	POINT BARROW		Z									N/A	SMITH,W.S.
02/03/70		NASA 10.341 GP	UNITED STATES	POINT BARROW		Z									N/A	SMITH,W.S.
02/03/70		NASA 18.113 IE	UNITED STATES NORWAY	ANDOYA	X										N/A	
02/04/70		NASA 14.441 UI	UNITED STATES	FORT CHURCHILL			X								N/A	SCHMERLING,E.R.
02/05/70		NASA 13.13 GT	UNITED STATES	WALLOPS ISLAND										A	N/A	MEDROW,K.R.
02/07/70		NASA 4.262 CG	UNITED STATES	WHITE SANDS						F					N/A	ROMAN.
02/10/70		NASA 14.442 UI	UNITED STATES	FORT CHURCHILL			X								N/A	SCHMERLING,E.R.
02/16/70	0905	SKIT/C	UNITED KINGDOM	THUMBA			C	A							92	WILLMORE,A.P. NORMAN,K. SMERKE,J.S.

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DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
02/21/70	1235	P22M	UNITED KINGDOM	SOUTH UIST			C E								148	GOODALL, C. V.
02/24/70		NASA 15.72 UI	UNITED STATES	FORT CHURCHILL			X								N/A	SCHMERLING, E. R.
02/28/70		NASA 14.382 GE	UNITED STATES	FORT CHURCHILL	X			X							N/A	EVANS, D.
03/01/70		NASA 15.73 UI	UNITED STATES	FORT CHURCHILL			X								N/A	SCHMERLING, E. R.
03/01/70	0400	NB 3.237	UNITED STATES	WHITE SANDS							D F				210	HENRY, R. C. MEEKINS, J. F. FRITZ, G. G.
03/06/70		NASA 15.66 NM	UNITED STATES	WALLOPS ISLAND		J									N/A	HENRY, R. C.
03/07/70		NASA 15.68 NP	UNITED STATES	WALLOPS ISLAND		J									N/A	HENRY, R. C.
03/07/70		NASA 15.69 NP	UNITED STATES	WALLOPS ISLAND		J									N/A	HENRY, R. C.
03/07/70		NASA 15.70 NM	UNITED STATES	WALLOPS ISLAND		J									N/A	HENRY, R. C.
03/07/70	1937	AE 7.902-9	UNITED STATES	WALLOPS ISLAND		F V									76	NARCISI, R. S.
03/07/70	1939	AD 7.902-5	UNITED STATES	WALLOPS ISLAND		F V									76	NARCISI, R. S.
03/07/70	1946	AB 7.902-10	UNITED STATES	WALLOPS ISLAND		F V									74	NARCISI, R. S.
03/08/70		NASA 15.78 NM	UNITED STATES	WALLOPS ISLAND		J									N/A	HENRY, R. C.
03/09/70		NASA 18.99 GI	UNITED STATES	THUMBA			X								N/A	AIKIN, A. C. GOLDBERG,
03/09/70	0314	AT 8.298	UNITED STATES	FORT CHURCHILL			B	A							298	VANCOUR, R.
03/09/70	0321	AD 7.987-2	UNITED STATES	FORT CHURCHILL			B C E								158	WILDMAN, F. J. L.
03/14/70		NASA 4.328 DG	UNITED STATES	WHITE SANDS							X				N/A	ROMAN,
03/18/70	2200	SL 601	UNITED KINGDOM	WOOMERA							F				208	COOKE, B. A.

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IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE(KM)	PRINCIPAL EXPERIMENTER(S)
03/15/70	1518	SL 401	UNITED KINGDOM	WOOMERA							D			A	181	BUTLER,H.E. HUMPHRIES,C.M.
03/26/70	0444	NASA 4.389 UA	UNITED STATES	FORT CHURCHILL	B										164	FASTIE,W.G. ZIPF,E.
03/27/70		NASA 14.405 IE -II	UNITED STATES INDIA	TRIVANDRUM			X		X						N/A	
03/27/70	0700	NASA 15.54 GI	UNITED STATES	TRIVANDRUM			C								N/A	KANE,J.A.
04/07/70	032C	SL 803	UNITED KINGDOM	WOOMERA						D E					204	EASTRON,F. SHENTON,D.B.
04/11/70		NASA 18.91 UE	UNITED STATES	FORT CHURCHILL	X										N/A	OPP,A.G.
04/11/70	1306	S28M	UNITED KINGDOM	SOUTH UIST		C B	C							A	N/A	WILLIAMS,E.R.
04/11/70	1606	S27M	UNITED KINGDOM	SOUTH UIST		B C	C							A	N/A	WILLIAMS,E.R.
04/13/70		NASA 4.321 UA	UNITED STATES	WHITE SANDS	X										N/A	DUBIN,M.
04/14/70	0915	S18M	UNITED KINGDOM	SOUTH UIST			C	A							92	WILLMORE,A.P. NORMAN,K. SHIRKE,J.S.
04/14/70	1233	S17M	UNITED KINGDOM	SOUTH UIST			C	A							92	WILLMORE,A.P. NORMAN,K. SHIRKE,J.S.
04/16/70		NASA 15.74 UI	UNITED STATES	FORT CHURCHILL			X								N/A	SCHMERLING,E.R.
04/16/70		NASA 14.443 UI	UNITED STATES	FORT CHURCHILL			X								N/A	SCHMERLING,E.R.
04/16/70	0150	S161/C	UNITED KINGDOM	THUMBA			C	A							91	WILLMORE,A.P. NORMAN,K. SHIRKE,J.S.
04/16/70	0637	SL 728	UNITED KINGDOM	WOOMERA		G					F				210	HARRIES,J. STEWART,K.H.

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DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/17/70	1306	S12M	UNITED KINGDOM	SOUTH UIST			C	A							95	WILLMORE, A.P. NORMAN, K. SHIRKE, J.S.
06/21/70	2141	P30M	UNITED KINGDOM	SOUTH UIST				C							139	ROTHWELL, P. FROCA, G.
06/06/70	0915	NASA 13.06 UG	UNITED STATES	WHITE SANDS						F					146	BRADT, H.
05/11/70		NASA 4.322 UA	UNITED STATES	FORT CHURCHILL		G									N/A	DUBIN, M.
05/14/70		NASA 15.57 GM	UNITED STATES	VANDENBURG AFB		J									N/A	KRUEGER, A. J.
05/21/70	1031	AO 7.901-3	UNITED STATES	EGLIN AFB		V									153	ROSENBERG, N.W.
05/21/70	1206	AO 7.901-1	UNITED STATES	EGLIN AFB		V									159	ROSENBERG, N.W.
05/26/70		NASA 4.301 UG	UNITED STATES	WOOMERA							F				N/A	ROMAN.
06/02/70		NASA 4.311 UG	UNITED STATES	WHITE SANDS							D				N/A	DUBIN, M.
06/02/70		NASA 4.302 UG	UNITED STATES	WOOMERA							F				N/A	DUBIN, M.
06/02/70		NASA 4.271 UG	UNITED STATES	WHITE SANDS							X				N/A	ROMAN.
06/17/70	1450	SUPARCO 62/70	PAKISTAN	SONMIANI		A									64	RAHMATULLAH, M. JAFRI, S.A.
06/18/70	1537	NASA 10.342 GM	UNITED STATES	WALLOPS ISLAND		Z									N/A	SMITH, B.S.
06/18/70	2126	NASA 15.79 GM	UNITED STATES	VANDENBURG AFB		J									N/A	KRUEGER, A. J.
06/22/70	1445	NASA 4.323 US	UNITED STATES	WHITE SANDS						X					N/A	JEFFRIES, W.
06/22/70	1600	NASA 10.332 GM	UNITED STATES	WALLOPS ISLAND		Z									132	WRIGHT, D.U.
06/24/70	1509	S22M	UNITED KINGDOM	SOUTH UIST		B	A C								N/A	WILLIAMS, E.R.
06/27/70	0455	NASA 13.12 UG	UNITED STATES	WHITE SANDS							F				175	GURSKY, H. GORENSTEIN, P.
06/27/70	1727	P31M	UNITED KINGDOM	SOUTH UIST			C								126	BULLOUGH, K.

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DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
07/01/70	1506	SSSN	UNITED KINGDOM	SOUTH UIST		C B	C								N/A	WILLIAMS,E.R.
07/02/70	0601	NASA 4.259 UG	UNITED STATES	WHITE SANDS							D				168	CODE,A. BLESS,R.C.
07/10/70	0000	SL 727	UNITED KINGDOM	WOOMERA			B C				F				203	BURROWS,D.K. DORLING,E.E. MCCRACKEN,K.G.
07/14/70	0452	SL 571	UNITED KINGDOM	WOOMERA						F					223	WILLMORE,A.P. CRUISE,A.M.
07/15/70	1400	SL 811	UNITED KINGDOM	WOOMERA							D E				164	BURTON,W.M. BOKSENBERG,A.
07/15/70	1505	SUPARCO 63/70	PAKISTAN	SONMIANI		A									63	RAHMATULLAH,N. JAFRI,S.A.
07/16/70	1600	NASA 10.320 UI	UNITED STATES	WALLOPS ISLAND			E B								143	MECHTLY,E.A. SMITH,L.G.
07/27/70	0437	NASA 4.259 GG	UNITED STATES	WHITE SANDS							X				N/A	SMITH,W.S.
07/27/70	0635	AO 4.064-1	UNITED STATES	WHITE SANDS							B				143	WALKER,R.G. CUNNIFF,C.
07/30/70	1246	NASA 18.72 UE	UNITED STATES	WALLOPS ISLAND				X							N/A	LOCKWOOD,R.
08/03/70	1609	NASA 14.466 UN	UNITED STATES	WALLOPS ISLAND		J									N/A	HORVATH,J.J.
08/04/70	1105	SPARROW ARCAS	NORWAY	ANDOYA			C D								85	JOHANNESSEN,A.
08/12/70	1502	AO 4.002-1	UNITED STATES	WHITE SANDS						E					246	HINTEREGGER,H.E. HIGGINS,J.E. CHAGNON,C.W.
08/13/70	1802	NASA 4.260 DE	UNITED STATES	WHITE SANDS						X					N/A	TOUSEY,R.
08/17/70	0356	ADC-VB-31	CANADA	FORT CHURCHILL			B C F								260	KAVADAS,A. MCNAMARA,A.G. MCEWEN,D.J. HAERENDEL,I. MOZER,F. FAHLESON,H.

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DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/28/70	0442	NASA 14.414 UG	UNITED STATES	WHITE SANDS							X				N/A	GARMIRE,G.
06/01/70	2010	NASA 8.52 UA	UNITED STATES	WALLOPS ISLAND			C								N/A	DONAHUE,T.M.
06/02/70	1014	S-54-3	JAPAN	KAGOSHIMA		V	E								174	OYAMA,K.
06/02/70	1014	S-54-1	JAPAN	KAGOSHIMA		V	G								174	KIMURA,H. MATSUOKA,T. OMICHI,N. KATO,S. KURIKI,I.
06/02/70	1014	S-54	JAPAN	KAGOSHIMA			C E								174	KATO,K. EJIRI,M. ASO,T.
06/17/70	1842	NASA 10.324 GM	UNITED STATES	WALLOPS ISLAND		Z									127	THEON,J.S.
06/17/70	1858	NASA 14.385 UN	UNITED STATES	WALLOPS ISLAND		Y									156	HORVATH,J.J. ALLEN,H. FISHBACH,F.
06/19/70		S-45-5	JAPAN	KAGOSHIMA		G									N/A	NAKAI,S. IZAWA,Y.
06/19/70	1130	S-45-1	JAPAN	KAGOSHIMA	D										2017	MASUOKA,T.
06/19/70	1130	S-45-6	JAPAN	KAGOSHIMA				C							2017	UENO,M. FUJII,M. HISHIDA,Y. KAJIYAMA,K.
06/19/70	1130	S-45-2	JAPAN	KAGOSHIMA						E					2017	TOHMATSU,T. OGAWA,T. HAYASHI,T. HASHIMOTO,M.
06/19/70	1130	S-45-3	JAPAN	KAGOSHIMA			C E								2017	MORI,H.
06/19/70	1130	S-45-4	JAPAN	KAGOSHIMA			E								2017	OYAMA,K.
06/19/70	1130	S-45-7	JAPAN	KAGOSHIMA			C								2017	OYA,H. ASO,T.

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DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
06/15/70	1130	S-25-11	JAPAN	KAGOSHIMA		E									329	TOHMATSU,T. OGAWA,T. HAYASHI,T.
06/15/70	1130	S-25-13	JAPAN	KAGOSHIMA				A C							329	TAKEUCHI,H. INAI,T. WATANABE,S. NAKAI,K. KATO,K. IWASAKI,S. YAMASHITA,T.
06/15/70	1230	S-25-12	JAPAN	KAGOSHIMA							F				N/A	HAYAKAWA,S. KATO,H. KONO,T. YAMASHITA,K.
06/20/70	1130	S-25-6	JAPAN	KAGOSHIMA				C D							2017	TSUKUDA,M. YOSHIMORI,M. MURAKAMI,M. NAKAMOTO,A. DOKE,T.
06/21/70	1614	NASA 10.327 UM	UNITED STATES	WALLOPS ISLAND	C B F									A	145	HORVATH,J.J.
06/27/70	0642	S-25-5	JAPAN	KAGOSHIMA			B A								346	YABUZAKI,T. TSUKADA,K. TSUTSUI,M. KONDO,S.
06/27/70	0642	S-25-4	JAPAN	KAGOSHIMA			C								346	OYAMA,K.
06/27/70	0642	S-25-3	JAPAN	KAGOSHIMA			C A								346	EJIRI,M. WATANABE,Y. BORGNE,K.
06/27/70	0642	S-25-2	JAPAN	KAGOSHIMA			A								240	KAWASHIMA,N. KIFUNE,T.
10/06/70	1840	AFCRL 70-1	UNITED STATES	CAPE KENNEDY										A	73	GRIFFIN,J.R.
10/07/70	1600	AFCRL 70-2	UNITED STATES	CAPE KENNEDY										A	72	GRIFFIN,J.R.
10/08/70	1300	AFCRL 70-3	UNITED STATES	CAPE KENNEDY										A	78	GRIFFIN,J.R.

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (LT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
10/08/70	1215	AFCRL 70-4	UNITED STATES	CAPE KENNEDY										A	74	GRIFFIN, J.R.
10/08/70	1623	AFCRL 70-5	UNITED STATES	CAPE KENNEDY										A	75	GRIFFIN, J.R.
10/16/70	1800	NASA 15.80 GP	UNITED STATES	PRINRCSE LAKE										C	68	KRUEGER, A.J.
10/14/70	1641	NASA 10.276 AR	UNITED STATES	WALLOPS ISLAND		G	D							A	116	HORVATH, J.J. HENDERSON, H.
10/17/70	1800	NASA 15.81 GP	UNITED STATES	PRINRCSE LAKE										C	62	KRUEGER, A.J.
11/06/70	1645	NASA 15.82 GP	UNITED STATES	FORT SHERMAN		G	C								60	KRUEGER, A.J.
11/13/70	1645	NASA 15.83 GP	UNITED STATES	FORT SHERMAN		G								C	60	KRUEGER, A.J.
11/13/70	2220	NIKE/TOMAHAWK	NORWAY UNITED STATES AUSTRIA DENMARK SWEDEN FEDERAL REPUBLIC OF GERMANY	ANDOYA			C D E	D	B						214	KRANKOWSKY, D. EGELAND, A. MAYNARD, N.C. CHRISTOPHERSEN, P. FOLKESTAD, [illegible] BROMUNDT, G. BAHNSEN, A. RIEDLER, W.
11/20/70	2315	AO 7.901-E	UNITED STATES	EGLIN AFB		V									150	MACLEOD, M.A. ZIMMERMAN, S. ROSENBERG, A.W.
11/20/70	2315	AO 7.917-1	UNITED STATES	EGLIN AFB		V									170	MACLEOD, M.A.
11/20/70	2323	AT 7.895	UNITED STATES	EGLIN AFB		G	D								120	PHILBRICK, C.R. DANDEKAR, B.S. TURTLE, J.P.
11/20/70	2323	AT 7.896	UNITED STATES	EGLIN AFB			D C								130	NARCISI, R.S. PHILBRICK, C.R. ULWICK, J.C.
11/20/70	2326	AO 7.917-3	UNITED STATES	EGLIN AFB		V									155	MACLEOD, M.A. ROSENBERG, A.W.
11/20/70	2326	AO 7.917-2	UNITED STATES	EGLIN AFB		V									165	UNKNOWN

SUMMARY OF SOUNDING ROCKET LAUNCHINGS
IDENTIFIED DURING PERIOD 1 JULY - 31 DECEMBER 1970

DATE (UT)	TIME (UT)	ROCKET NUMBER OR TYPE	SPONSORING COUNTRY	LAUNCHING SITE	EXPERIMENTS 1	2	3	4	5	6	7	8	9	0	APPROX. APOGEE (KM)	PRINCIPAL EXPERIMENTER(S)
11/24/70	2356	AS 21.862	UNITED STATES	WALLOPS ISLAND										B	360	ROTMAN,M.
12/06/70	1100	S-69	ITALY INTERNATIONAL	SARDINIA						F					187	UNKNOWN
12/07/70	2134	AKF-IV-19	CANADA	FORT CHURCHILL	C						F				770	HARRISON,A.W. WILSON,B.G.
12/14/70	1002	AAC-WB-30	CANADA UNITED STATES SWEDEN	FORT CHURCHILL			C					A			340	WLOCHOWICZ,R. MCNAMARA,A.G. TENNYSON,R.C. ALEXANDER,W.M. SINEK,N. ZACHAROV,V. LINDBLAD,B.A. BURBANK,P.

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LAUNCHING SITES FOR SOUNDING ROCKETS*

Launching Site	Geographical Coordinates		Local Standard Time to Nearest 15° Meridian
	Latitude	Longitude	
Akita, Japan	39°34'N	140°04'E	UT + 9
Alaska Rocket Range, United States	65°06'N	147°30'W	UT - 10
Andoya, Norway	69°18'N	016°00'E	UT + 1
Antigua, United Kingdom	17°09'N	061°47'W	UT - 4
Arecibo, Puerto Rico	18°30'N	066°50'W	UT - 4
Arenosello (Huelva), Spain	37°06'N	006°44'E	UT + 1
Ascension Island, United Kingdom	07°59'S	014°25'W	UT 0
Barking Sands (Kauai), United States	22°04'N	159°46'W	UT - 11
Barter Island, United States	70°07'N	143°38'W	UT - 10
Cape Karikari, New Zealand	34°00'S	173°30'E	UT + 12
Cape Kennedy, United States	28°27'N	080°32'W	UT - 5
Cape Parry, Canada	70°10'N	124°43'W	UT - 8
Carnarvon, Australia	24°30'S	113°24'E	UT + 8
Cassino, Brazil	32°12'S	052°10'W	UT - 3
Chamical, Argentina	30°20'S	066°19'W	UT - 4
Colomb Bechar, Algeria	30°49'N	003°04'E	UT + 1
Dumont d'Urville	64°40'S	140°01'E	UT + 9
East Quoddy, Canada	44°54'N	063°25'W	UT - 4
Eglin AFB, United States	30°23'N	086°42'W	UT - 6
Fort Churchill, Canada	58°44'N	093°49'W	UT - 6
Fort Sherman, United States	09°20'N	079°59'W	UT - 5
Fort Wainwright, United States	64°48'N	147°38'W	UT - 10
Hammaguir, Algeria	30°51'N	113°04'W	UT 0
Heiss Island, U.S.S.R.	80°27'N	058°03'E	UT + 5
Ile du Levant, France	43°03'N	006°28'E	UT 0
Johnston Island, United States	16°45'N	169°31'W	UT - 11
Kagoshima, Japan	31°15'N	131°04'E	UT + 9
Kapustin Yar (Astrakhan), U.S.S.R.	48°31'N	045°48'E	UT + 4
Karystos, Greece	38°01'N	024°25'E	UT + 2
Kheisa Island, U.S.S.R.	80°27'N	058°03'E	UT + 5
Kiruna, Sweden	68°00'N	021°00'E	UT + 1
Koroni Beach, Greece	36°46'N	021°57'E	UT + 2

*Launching sites used only to launch synoptic meteorological sounding rockets are not included in this list.

LAUNCHING SITES FOR SOUNDING ROCKETS* (continued)

Launching Site	Geographical Coordinates		Local Standard Time to Nearest 15° Meridian
	Latitude	Longitude	
Kourou (Guyane), French Guiana	05°12'N	053°43'W	UT - 4
Krongard, Sweden	66°13'N	019°47'E	UT + 1
Kwajalein, Marshall Islands	08°44'N	167°44'W	UT - 12
Lapan Space Center (Tjililitan), Indonesia	06°16'S	106°52'E	UT + 7
Mar Chiquita, Argentina	30°42'S	062°32'W	UT - 4
Mar Del Plata, Argentina	38°00'S	058°00'W	UT - 4
Mediterranean Test Center, Africa	06°28'N	043°02'E	UT + 3
Natal, Brazil	05°52'S	035°23'W	UT - 3
Obachi Aomori, Japan	40°42'N	141°44'E	UT + 9
Plesetsk (Arkhangelsk), U.S.S.R.	65°42'N	040°21'E	UT + 5
Point Arguello, United States	34°37'N	120°35'W	UT - 8
Point Barrow, United States	71°20'N	156°47'W	UT - 10
Point Mugu, United States	34°07'N	119°07'W	UT - 8
Primrose Lake, Canada	54°45'N	110°03'W	UT - 7
Reggane, Algeria	26°43'N	000°10'E	UT 0
Resolute Bay, Canada	74°42'N	094°54'W	UT - 6
Sardinia, Italy	39°56'N	009°24'E	UT + 1
Sonmiani, Pakistan	25°12'N	066°45'E	UT + 4
South Uist, Scotland	57°22'N	007°20'W	UT 0
Tartagul, Argentina	22°46'S	063°49'W	UT - 4
Test Center of Landes, France	44°16'N	003°36'W	UT 0
Thumba (Trivandrum), India	08°32'N	076°52'E	UT + 5
Tonopah Test Range, United States	38°00'N	116°30'W	UT - 8
Tyuratam (Kazakhstan), U.S.S.R.	45°38'N	063°16'E	UT + 4
Vandenburg AFB, United States	34°38'N	120°32'W	UT - 8
Vega Baja (Camp Tortuguero), Puerto Rico	18°25'N	067°00'W	UT - 4
Volgograd, U.S.S.R.	48°41'N	044°21'E	UT + 4
Wallops Island, United States	37°50'N	075°29'W	UT - 5
White Sands Missile Range, United States	32°24'N	106°32'W	UT - 7
Woomera, Australia	31°58'S	136°31'E	UT + 9
Yuma, United States	32°52'N	114°19'W	UT - 7

METEOROLOGICAL SOUNDING ROCKET DATA

A new series entitled "Data Report, High Altitude Meteorological Data" is being published by the National Climatic Center (formerly the National Weather Records Center) for the World Data Center A for Meteorology. This publication includes high altitude data collected by rockets and other means and is an extension of the former series "Data Report, Meteorological Rocket Network Firings." The National Climatic Center plans to publish two volumes of data per month until the new publication becomes current. At the present time, the data contained in the new and former series cover the period January 1964 through May 1969. A sample page from the "Data Report, High Altitude Meteorological Data," illustrating the types of data presented and the format of presentation, is shown on the following page.

Copies of the WDC-A Data Reports have been sent to the discipline World Data Centers for Meteorology and for Rockets and Satellites. Interested scientists and scientific institutes desiring copies for their use in research should request them from:

World Data Center A
Meteorology
National Climatic Center
Asheville, North Carolina 28801 U.S.A.

Similar reports on upper-level wind data from rocketsondes are also available for 1966 through 1968 from the Experimental InterAmerican Meteorological Rocket Network (EXAMETNET). This is a cooperative program among the national space organizations of Argentina, Brazil, and the U.S.A. The data are available in the EXAMETNET Data Report Series, Annual Reports for 1966 (NASA SP-175), 1967 (NASA SP-176), and 1968 (NASA SP-231). These reports can be obtained from the National Technical Information Service, Springfield, Virginia 22151.

EXAMETNET data for 1969 will be included in the World Data Center A for Meteorology "Data Report, High Altitude Meteorological Data."

7240Z
WALLOPS ISLAND, VIRGINIA
37.8N 075.5W

Y	M	D	GMT	TR	WS	TS	AC	CC	MC	TC
09	09	01	1457	-137	101	040	000	000	00	00

QUESTIONABLE DATA

BASE DATA
GEOPOTENTIAL HEIGHT 1020 DECAMETERS
PRESSURE 100.00 MBS
TEMPERATURE -56.7 DEG C

SHT	SWS	THT	THS	SS	SMT	SMS	RT	RP
							01	00

SOUNDING (HGT IN GEOMETRIC DECAMETERS)

HGT	WIND POLAR DEG	WIND POLAR HPS	WIND COMPONENT N-S	WIND COMPONENT E-W	HPS	TEMP DEGC	Tc	PRES MB	DENSITY G M^{-3}	SOS HPS	SPc A	SPc B
00235						-011		1.861e+1	2.477e+1	324		
00300						-012		1.949e+1	2.596e+1	324		
00100	196	005	005	-002	105	-012		2.216e+1	2.961e+1	324		
00062	191	004	005	-003	105	-013		2.327e+1	3.112e+1	324		
00000	149	004	007	-005	105	-010		2.519e+1	3.327e+1	325		
09922	125	011	006	-009	109	-007		2.701e+1	3.640e+1	327		
09900	119	012	006	-010	111	-007		2.099e+1	3.740e+1	327		
09800	097	017	002	-017	125	-006		3.242e+1	4.231e+1	328		
09709	087	013	-001	-013	117	-006		3.634e+1	4.732e+1	328		
09700	085	013	-001	-013	117	-006		3.675e+1	4.788e+1	328		
09600	006	009	-001	-009	109	-007		4.168e+1	5.461e+1	327		
09504	091	008	000	-008	108	-008		4.253e+1	5.577e+1	327		
09500	126	007	004	-006	095	-009		4.726e+1	6.134e+1	328		
09400	109	003	004	-004	086	-001		5.252e+1	6.862e+1	330		
09309	133	004	003	-003	089	-001		5.429e+1	6.947e+1	331		
09328	069	001	000	-001	081	-001		5.849e+1	7.490e+1	331		
09300	359	002	-002	000	080	-001		6.059e+1	7.741e+1	331		
09200	243	002	001	002	076	001		6.840e+1	8.707e+1	332		
09100	222	009	004	008	071	002		7.737e+1	9.768e+1	333		
09000	202	011	010	004	060	004		8.730e+1	1.100e+0	334		
04900	187	015	015	002	068	005		9.869e+1	1.239e+0	336		
04877	187	015	015	002	066	005		1.014e+0	1.260e+0	335		
04837	186	014	014	001	066	004		1.044e+0	1.306e+0	336		
04800	185	014	014	001	062	005		1.113e+0	1.394e+0	336		
04749	194	012	011	000	057	006		1.164e+0	1.470e+0	339		
04700	209	010	009	004	056	006		1.256e+0	1.569e+0	338		
04600	219	010	008	006	046	004		1.417e+0	1.779e+0	336		
04593	219	010	008	006	040	004		1.429e+0	1.795e+0	334		
04500	214	011	009	006	040	006		1.600e+0	1.997e+0	335		
04444	214	009	008	005	040	007		1.711e+0	2.129e+0	338		
04400	214	008	007	004	040	005		1.804e+0	2.260e+0	336		
04300	213	003	003	002	036	001		2.038e+0	2.595e+0	332		
04200	302	001	-001	001	032	-004		2.306e+0	2.986e+0	329		
04100	335	004	-004	000	038	-000		2.610e+0	3.668e+0	326		
04014	013	005	-005	001	030	-012		2.923e+0	3.965e+0	324		
04000	019	005	-005	001	030	-012		2.977e+0	3.971e+0	324		
03987	009	005	-009	-001	029	-012		3.027e+0	4.035e+0	326		
03900	327	004	-002	002	028	-010		3.303e+0	4.382e+0	321		
03800	314	004	-008	003	028	-017		3.892e+0	4.614e+0	321		
03800	307	004	-002	003	027	-017		3.641e+0	4.876e+0	321		
03823	277	003	-001	003	025	-022		3.747e+0	5.199e+0	318		
03800	269	006	000	006	025	-022		3.879e+0	5.383e+0	317		
03700	284	005	001	005	023	-024		4.435e+0	6.201e+0	316		
03647	289	006	000	006	021	-025		4.759e+0	6.676e+0	316		
03600	273	006	000	006	021	-028		5.082e+0	7.223e+0	314		
03566	271	007	000	007	020	-030		5.327e+0	7.642e+0	312		
03500	268	008	000	008	020	-033		5.842e+0	8.479e+0	311		
03404	266	008	001	008	019	-034		6.975e+0	8.607e+0	310		
03447	269	007	001	007	019	-033		6.299e+0	9.116e+0	311		
03400	292	007	002	007	018	-034		6.725e+0	9.686e+0	310		
03292	281	007	002	006	018	-035		6.802e+0	9.928e+0	310		
03262	268	006	002	006	017	-034		7.097e+0	1.032e+1	310		
03210	260	004	002	004	016	-035		7.630e+0	1.115e+1	310		
03200	290	004	002	003	016	-035		7.747e+0	1.132e+1	309		
03210	219	002	002	001	018	-040		8.015e+0	1.219e+1	306		
03200	215	002	002	001	018	-040		8.041e+0	1.224e+1	306		
03100	195	004	004	001	016	-041		1.034e+1	1.551e+1	306		
03021	103	005	005	000	018	-042		1.100e+1	1.767e+1	305		
03000	180	005	005	000	018	-044		1.196e+1	1.917e+1	306		
02993	179	005	005	000	018	-044		1.209e+1	1.941e+1	302		
02967	170	003	003	-001	018	-043		1.294e+1	1.973e+1	303		
02900	148	002	002	-001	018	-047		1.389e+1	2.127e+1	302		
02841	109	001	000	-001	011	-050		1.517e+1	2.304e+1	300		
02800	067	001	-001	-001	011	-050		1.614e+1	2.416e+1	300		
02710	000	000	000	000	010	-050		1.841e+1	2.689e+1	300		
02700	000	000	000	000	010	-050		1.870e+1	2.933e+1	290		

SOUNDING CONTINUED (HGT IN GEOMETRIC DECAMETERS)

HGT	WIND POLAR DEG	WIND POLAR HPS	WIND COMPONENT N-S	WIND COMPONENT E-W	HPS	TEMP DEGC	Tc	PRES MB	DENSITY G M^{-3}	SOS HPS	SPc A	SPc B
02697	229	000	000	000	009	-052		1.976e+1	3.105e+1	298		
02624	249	001	000	001	008	-051		2.100e+1	3.302e+1	298		
02600	229	001	001	001	008	-052		2.107e+1	3.446e+1	298		
02534	178	000	000	000	008	-055		2.498e+1	3.920e+1	296		
02500	178	004	004	000	008	-055		2.552e+1	4.060e+1	296		
02466	182	005	005	-001	007	-056		2.609e+1	4.218e+1	295		
02414	116	002	001	-002	007	-054		2.917e+1	4.641e+1	297		
02400	097	002	000	-002	007	-054		2.991e+1	4.749e+1	297		
02301	000	000	000	000	006	-053		3.478e+1	5.390e+1	296		
02300	000	000	000	000	006	-053		3.481e+1	5.366e+1	296		
02268	206	001	001	000	009	-058		3.806e+1	6.171e+1	294		
02200	206	002	002	001	005	-050		4.072e+1	6.589e+1	294		
02167	205	002	001	002	005	-057		4.288e+1	6.916e+1	295		
02100	275	005	000	005	005	-059		4.767e+1	7.721e+1	293		
02091	275	005	000	005	006	-059		4.836e+1	7.826e+1	293		
02054	274	006	000	006	006	-058		5.127e+1	8.310e+1	296		
02000	274	008	-001	008	004	-060		5.508e+1	9.111e+1	293		
01972	268	009	000	009	003	-058		5.698e+1	9.453e+1	294		
01900	258	011	002	011	003	-061		6.545e+1	1.079e+2	292		
01875	256	012	003	012	002	-062		6.913e+1	1.129e+2	291		
01800	250	015	005	014	003	-062		7.687e+1	1.260e+2	291		
01769					002	-062		7.824e+1	1.292e+2	291		
01737					002	-060		8.368e+1	1.389e+2	293		
01700					002	-059				294		

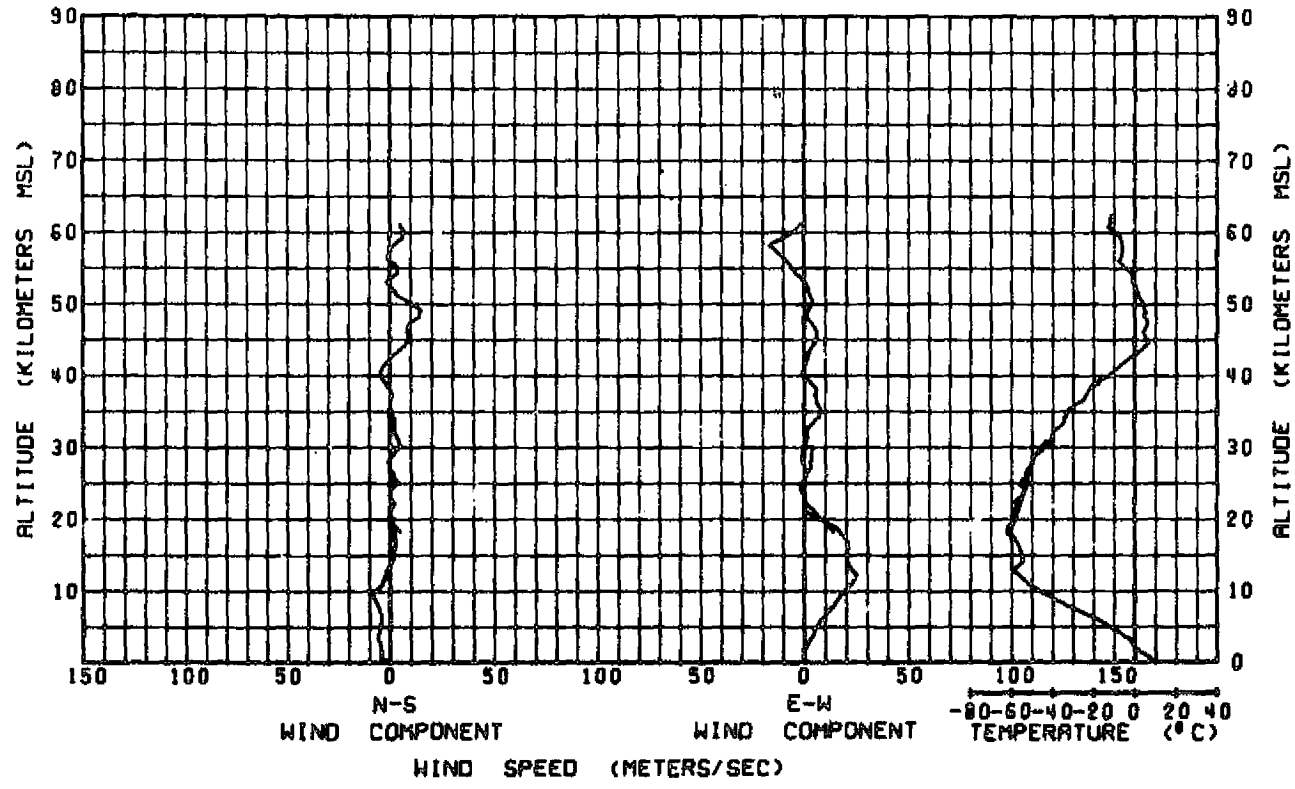
SOUNDING CONSTANT PRESSURE LEVELS (HGT IN GEOPOTENTIAL DECAMETERS)

05979	006	010	-001	-010		-067	4.000e-1	5.290e-1	327
05136	235	002	001	002		001	7.000e-1	8.906e-1	321
04847	187	015	015	002		005	1.000e+0	1.251e+0	334
04284	213	004	003	002		002	2.000e+0	2.529e+0	332
03966	012	005	-005	-001		-012	3.000e+0	3.808e+0	324
03580	272	006	000	006		+027	5.000e+0	7.080e+0	314
03391	269	006	001	006		-036	7.000e+0	1.020e+1	310
03105	198	004	003	001		+041	1.000e+1	1.408e+1	305
02643	229	000	000	000		-051	2.000e+1	3.142e+1	298
02305	097	002	000	-002		-054	3.000e+1	4.776e+1	296
02061	275	006	000	006		-059	5.000e+1	8.122e+1	293

RAWINSONDE (HGT IN GEOPOTENTIAL DECAMETERS)

03040					-042	1.100e+1	
02960	200	008	000	006	-048	1.200e+1	
02650	201	004	000	003	-052	2.000e+1	
02590	203	008	002	001	-053	2.200e+1	
02500	226	001	000	000	-052	2.500e+1	
02391	256	001	000	000	-053	3.000e+1	
02065	297	001	000	000	-057	5.000e+1	
01694	299	019	002	014	-060	7.000e+1	
01770	265	018	002	017	-061	7.900e+1	
01430	260	022	003	021	-057	1.000e+2	
01373	268	021	001	020	-054	1.500e+2	
01268	275	024	-002	023	-059	1.640e+2	
01190	278	026	-002	025	-057	2.000e+2	
01047	281	029	-004	022	-051	2.500e+2	
00925	296	021	-009	018	-044	3.000e+2	
00728	298	013	-005	013	-031	4.000e+2	
00565	298	018	-004	008	-018	5.000e+2	
00389	281	008	-004	003	-003	7.000e+2	
00151	004	003	-004	000	001	8.500e+2	
00018	300	004	-004	000	008	1.000e+3	
00000	300	002	-001	000	008	1.021e+3	

ROCKETSONDE - - - SUPPLEMENTAL DATA - - - RADIOSONDE
MOTOR LOKI FINEPOM GOOD RADIOSONDE TYPE ESSA /JT, THERM
PAYLOAD DATASONDE FINEPOM GOOD PRESS SENSOR ARMCO/ STRAIN
RADAR TYPE SPANDAR OR BOOTP GMD-1B TEMP SENSE ROD THERM
EP AL ANG 03 EP AZ ANG 71 BALLOON SIZE 1700 GRAMS
PAYLOAD ACCUM ALT 63063 TIME 108 GRND RCVR GMD-1A
WIND SENSOR 7.6 FT CHUTE REMARKS:
TEMP SENSOR .010 IN. BEAD THERM
SPEC SENSOR NONE



B. ARTIFICIAL EARTH SATELLITES AND SPACE PROBES

The summary of satellite and space probe launchings that follows was compiled from information in the national launching announcements and the reports of satellite and space probe launchings submitted to the International Ursigram and World Days Service and to the World Data Centers in accordance with the revised "COSPAR Guide to Rocket and Satellite Information and Data Exchange" adopted at the Tenth Meeting of COSPAR, July 1967, London, and Resolution No. 18 adopted at the Eleventh Meeting of COSPAR, May 1968, Tokyo. A report on the U.S. solar radiation satellite Explorer 37 is shown on the following page; this sample illustrates the type of information in these reports. More detailed narrative descriptions are submitted to COSPAR and published in the "COSPAR Information Bulletin" when information on spacecraft experiments is available.

The entries in this summary are for satellites and space probes launched during the period 1 July to 31 December 1970. Four entries for satellites launched in the latter part of June 1970 are also included; these entries did not appear in the previous WDC-A catalogue. The spacecraft brief descriptions included with the entries in this summary have been prepared, in most instances, from the original launching announcements. Where more complete information was available (for example, from a post-launch announcement), this has been used in the brief description.

REPORT OF SATELLITE OR SPACE PROBE LAUNCHING

COSPAR Designation	Popular Name	Launching Site (include coordinates)	Launching Date	Universal Time
1968-17A	Explorer 37 (SOLRAD)	Wallops Island, Va. 37°50'N 75°29'W	5 March 1968	1828 UT

Initial Orbital Elements	Apogee (km)	Perigee (km)	Period (min)	Inclination (degrees)
5 March 1968	878	522	98.77	59.4

Physical Characteristics
(size, shape, weight)
Nearly cylindrical (12 sides) spin-stabilized satellite, diameter 76 centimeters, height 69 centimeters; weight, 90 kilograms.

Transmitters (Frequency and Power)

Data transmitted continuously on 136.530 and 137.590 Megahertz at 150 milliwatts and on command on 137.410 Megahertz at 500 milliwatts.

Scientific Experiments

Objectives	Instruments	Experimenter(s) and Institution
1. X-ray emissions: To obtain measurements of the intensity of solar X-ray emission in the 0.1 to 0.5 Å, 0.5 to 3Å, 1 to 8 Å, 1 to 20 Å, 8 to 16 Å, 44 to 60 Å wavelength bands.	Scintillation counter, X-ray photometers, X-ray Geiger-Meuller tubes	Dr. Robert W. Kreplin, E. O. Hulburt Center for Space Research, U.S. Naval Research Laboratory
2. Ultra-violet emissions: To obtain measurements of the intensity of solar ultra-violet emissions in the 1080 to 1350 Å and 1225 to 1350 Å wavelength bands.	Ultra-violet photometer	Dr. Robert W. Kreplin, E. O. Hulburt Center for Space Research, U. S. Naval Research Laboratory

Remarks

The measurements are made in different but overlapping X-ray and ultra-violet bands so that comparison of the different photometer outputs can be employed to construct a model of the solar X-ray spectrum and to provide an instantaneous indication of spectral changes with solar activity.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-047A

SPACECRAFT NAME- METEOR
OTHER NAMES- 1970-047A

LAUNCH DATE- 06/23/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 06/23/70 ORBIT PERIOD- 102 MIN.
APOGEE-906 KM ALT PERIGEE- 863 KM ALT INCLINATION- 81.2 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES METEOROLOGICAL APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-049A

SPACECRAFT NAME- 14TH MOLNIYA I
OTHER NAMES- 1970-049A

LAUNCH DATE- 06/26/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 06/26/70 ORBIT PERIOD- 705 MIN.
APOGEE-39280 KM ALT PERIGEE- 470 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES APPARATUS FOR TRANSMITTING TELEVISION PROGRAMS AND MULTICHANNEL RADIO COMMUNICATION, APPARATUS OF THE COMMAND MEASURING COMPLEX, ORIENTATION SYSTEM, ORBIT CORRECTION SYSTEM, AND POWER SUPPLIES.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-050A

SPACECRAFT NAME- COSMOS 350
OTHER NAMES- 1970-050A

LAUNCH DATE- 06/26/70 DECAY DATE- 07/08/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 06/26/70 ORBIT PERIOD- 89.06 MIN.
APOGEE-267 KM ALT PERIGEE- 204 KM ALT INCLINATION- 51.8 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-051A

SPACECRAFT NAME- COSMOS 351
OTHER NAMES- 1970-051A

LAUNCH DATE- 06/27/70 DECAY DATE- 10/13/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 06/27/70 ORBIT PERIOD- 92 MIN.
APOGEE-494 KM ALT PERIGEE- 282 KM ALT INCLINATION- 71 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-052A

SPACECRAFT NAME- COSMOS 352
OTHER NAMES- 1970-052A

LAUNCH DATE- 07/07/70 DECAY DATE- 07/15/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 07/07/70 ORBIT PERIOD- 89.5 MIN.
APOGEE-309 KM ALT PERIGEE- 205 KM ALT INCLINATION- 51.8 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-053A

SPACECRAFT NAME- COSMOS 353
OTHER NAMES- 1970-053A

LAUNCH DATE- 07/09/70 DECAY DATE- 07/21/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 07/09/70 ORBIT PERIOD- 89.4 MIN.
APOGEE-309 KM ALT PERIGEE- 211 KM ALT INCLINATION- 65.4 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-055A

SPACECRAFT NAME- INTELSAT 3 F-8
OTHER NAMES- 1970-055A

LAUNCH DATE- 07/23/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- UNITED STATES SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- 07/23/70 ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
INTELSAT 3 F-8 WAS A COMMUNICATIONS SATELLITE LAUNCHED BY NASA FOR THE COMMUNICATIONS SATELLITE CORP.

****

COSPAR DESIGNATION- 1970-056A

SPACECRAFT NAME- COSMOS 354
OTHER NAMES- 1970-056A

LAUNCH DATE- 07/28/70 DECAY DATE- 07/28/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 07/29/70 ORBIT PERIOD- N/A MIN.
APOGEE-208 KM ALT PERIGEE- 144 KM ALT INCLINATION- 50 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-057A

SPACECRAFT NAME- INTERCOSMOS 3
OTHER NAMES- 1970-057A

LAUNCH DATE- 08/07/70 DECAY DATE- 12/06/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/07/70 ORBIT PERIOD- 99.8 MIN.
APOGEE-1320 KM ALT PERIGEE- 207 KM ALT INCLINATION- 49 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS.

COSPAR DESIGNATION- 1970-058A

SPACECRAFT NAME- COSMOS 355
OTHER NAMES- 1970-058A

LAUNCH DATE- 08/07/70 DECAY DATE- 08/15/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/07/70 ORBIT PERIOD- 89.7 MIN.
APOGEE-342 KM ALT PERIGEE- 202 KM ALT INCLINATION- 65.4 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-059A

SPACECRAFT NAME- COSMOS 356
OTHER NAMES- 1970-059A

LAUNCH DATE- 08/10/70 DECAY DATE- 10/02/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/10/70 ORBIT PERIOD- 92.6 MIN.
APOGEE-600 KM ALT PERIGEE- 240 KM ALT INCLINATION- 82 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 20.005, 30.0075, 90.0225

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-060A

SPACECRAFT NAME- VENERA 7
OTHER NAMES- 1970-060A

LAUNCH DATE- 08/17/70 DECAY DATE- 12/15/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- 1180 KG

ORBIT TYPE- VENUSCENTRIC EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM RAD PERIGEE- N/A KM RAD INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
AUTOMATIC INTERPLANETARY STATION VENERA 7 WAS LAUNCHED BY THE U.S.S.R. IN THE DIRECTION OF VENUS. STATION CARRIES SCIENTIFIC AND MEASURING APPARATUS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-062A

SPACECRAFT NAME- SKYNET B
OTHER NAMES- 1970-062A

LAUNCH DATE- 08/19/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- UNITED KINGDOM SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SKYNET B, A UNITED KINGDOM COMMUNICATIONS SATELLITE, WAS LAUNCHED BY NASA.

****

COSPAR DESIGNATION- 1970-063A

SPACECRAFT NAME- COSMOS 357
OTHER NAMES- 1970-063A

LAUNCH DATE- 08/19/70 DECAY DATE- 11/24/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/19/70 ORBIT PERIOD- 92 MIN.
APOGEE-500 KM ALT PERIGEE- 282 KM ALT INCLINATION- 71 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-064A

SPACECRAFT NAME- COSMOS 358
OTHER NAMES- 1970-064A

LAUNCH DATE- 08/20/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/20/70 ORBIT PERIOD- 95.2 MIN.
APOGEE-545 KM ALT PERIGEE- 517 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS.

****

COSPAR DESIGNATION- 1970-065A

SPACECRAFT NAME- COSMOS 359
OTHER NAMES- 1970-065A

LAUNCH DATE- 08/22/70 DECAY DATE- 11/06/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/22/70 ORBIT PERIOD- 95.5 MIN.
APOGEE-910 KM ALT PERIGEE- 210 KM ALT INCLINATION- 51.5 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-067A

SPACECRAFT NAME- OSCAR 19
OTHER NAMES- 1970-067A, O TRANSIT 19, OPERATIONAL
TRANSIT 19, NNSS 30190

LAUNCH DATE- 08/27/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- UNITED STATES SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- 90.023 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 150, (.75W), 400, (1.25W)

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
NO INFORMATION AVAILABLE.

****

COSPAR DESIGNATION- 1970-068A

SPACECRAFT NAME- COSMOS 360
OTHER NAMES- 1970-068A

LAUNCH DATE- 08/29/70 DECAY DATE- 09/08/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 08/29/70 ORBIT PERIOD- 89.5 MIN.
APOGEE-318 KM ALT PERIGEE- 209 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-071A

SPACECRAFT NAME- COSMOS 361
OTHER NAMES- 1970-071A

LAUNCH DATE- 09/08/70 DECAY DATE- 09/21/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 09/08/70 ORBIT PERIOD- 89.6 MIN.
APOGEE-326 KM ALT PERIGEE- 207 KM ALT INCLINATION- 72.9 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-072A

SPACECRAFT NAME- LUNA 16
OTHER NAMES- 1970-072A

LAUNCH DATE- 09/12/70 DECAY DATE- 09/24/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
AUTOMATIC STATION LUNA 16 WAS LAUNCHED IN THE DIRECTION OF THE MOON. MAIN OBJECTIVES ARE INVESTIGATIONS OF MOON AND OF CIRCUMLUNAR SPACE.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-073A

SPACECRAFT NAME- COSMOS 362
OTHER NAMES- 1970-073A

LAUNCH DATE- 09/16/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 09/16/70 ORBIT PERIOD- 95.7 MIN.
APOGEE-854 KM ALT PERIGEE- 281 KM ALT INCLINATION- 71 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-074A

SPACECRAFT NAME- COSMOS 363
OTHER NAMES- 1970-074A

LAUNCH DATE- 09/17/70 DECAY DATE- 09/29/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 09/17/70 ORBIT PERIOD- 89.6 MIN.
APOGEE-324 KM ALT PERIGEE- 210 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-075A

SPACECRAFT NAME- COSMOS 364
OTHER NAMES- 1970-075A

LAUNCH DATE- 09/22/70 DECAY DATE- 10/02/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 09/22/70 ORBIT PERIOD- 89.6 MIN.
APOGEE-330 KM ALT PERIGEE- 211 KM ALT INCLINATION- 65.4 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-076A

SPACECRAFT NAME- COSMOS 365
OTHER NAMES- 1970-076A

LAUNCH DATE- 09/25/70 DECAY DATE- 09/26/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 09/25/70 ORBIT PERIOD- N/A MIN.
APOGEE-210 KM ALT PERIGEE- 144 KM ALT INCLINATION- 49.5 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-077A

SPACECRAFT NAME- 15TH MOLNIYA 1
OTHER NAMES- 1970-077A

LAUNCH DATE- 09/29/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 09/29/70 ORBIT PERIOD- 706 MIN.
APOGEE-39300 KM ALT PERIGEE- 480 KM ALT INCLINATION- 65.5 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES APPARATUS FOR TRANSMITTING TELEVISION PROGRAMS AND MULTICHANNEL RADIO COMMUNICATION, APPARATUS OF THE COMMAND MEASURING COMPLEX, ORIENTATION SYSTEM, ORBIT CORRECTION SYSTEM, AND POWER SUPPLIES.

****

COSPAR DESIGNATION- 1970-078A

SPACECRAFT NAME- COSMOS 366
OTHER NAMES- 1970-078A

LAUNCH DATE- 10/01/70 DECAY DATE- 10/13/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/01/70 ORBIT PERIOD- 89.5 MIN.
APOGEE-310 KM ALT PERIGEE- 206 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.99

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-079A

SPACECRAFT NAME- COSMOS 367
OTHER NAMES- 1970-079A

LAUNCH DATE- 10/03/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/03/70 ORBIT PERIOD- 104.5 MIN.
APOGEE-1030 KM ALT PERIGEE- 932 KM ALT INCLINATION- 65.3 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.542

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-080A

SPACECRAFT NAME- BIOSPUTNIK COSMOS 368
OTHER NAMES- 1970-080A

LAUNCH DATE- 10/08/70 DECAY DATE- 10/14/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/08/70 ORBIT PERIOD- 90.6 MIN.
APOGEE-421 KM ALT PERIGEE- 212 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-081A

SPACECRAFT NAME- COSMOS 369
OTHER NAMES- 1970-081A

LAUNCH DATE- 10/08/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/08/70 ORBIT PERIOD- 92.3 MIN.
APOGEE-534 KM ALT PERIGEE- 278 KM ALT INCLINATION- 71 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-082A

SPACECRAFT NAME- COSMOS 370
OTHER NAMES- 1970-082A

LAUNCH DATE- 10/09/70 DECAY DATE- 10/22/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/09/70 ORBIT PERIOD- 89.5 MIN.
APOGEE-307 KM ALT PERIGEE- 208 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-083A

SPACECRAFT NAME- COSMOS 371
OTHER NAMES- 1970-083A

LAUNCH DATE- 10/12/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/12/70 ORBIT PERIOD- 99.9 MIN.
APOGEE-780 KM ALT PERIGEE- 754 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

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COSPAR DESIGNATION- 1970-084A

SPACECRAFT NAME- INTERCOSMOS 4
OTHER NAMES- 1970-084A

LAUNCH DATE- 10/14/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/14/70 ORBIT PERIOD- 93.6 MIN.
APOGEE-668 KM ALT PERIGEE- 263 KM ALT INCLINATION- 48.5 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-085A

SPACECRAFT NAME- METEOR 6
OTHER NAMES- 1970-085A

LAUNCH DATE- 10/15/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
NO INFORMATION AVAILABLE.

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COSPAR DESIGNATION- 1970-086A

SPACECRAFT NAME- COSMOS 372
OTHER NAMES- 1970-086A

LAUNCH DATE- 10/16/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/16/70 ORBIT PERIOD- 100.8 MIN.
APOGEE-828 KM ALT PERIGEE- 786 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-087A

SPACECRAFT NAME- COSMOS 373
OTHER NAMES- 1970-087A

LAUNCH DATE- 10/20/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/20/70 ORBIT PERIOD- 94.8 MIN.
APOGEE-553 KM ALT PERIGEE- 490 KM ALT INCLINATION- 62.9 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-088A

SPACECRAFT NAME- ZOND 8
OTHER NAMES- 1970-088A

LAUNCH DATE- 10/20/70 DECAY DATE- 10/27/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
AUTOMATIC STATION ZOND 8 WAS LAUNCHED BY THE U.S.S.R. MAIN OBJECTIVES ARE INVESTIGATIONS OF THE MOON AND CIRCUMLUNAR SPACE AND TESTING OF ONBOARD SYSTEMS AND UNITS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-089A

SPACECRAFT NAME- COSMOS 374
OTHER NAMES- 1970-089A

LAUNCH DATE- 10/23/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/23/70 ORBIT PERIOD- 112.3 MIN.
APOGEE-2153 KM ALT PERIGEE- 536 KM ALT INCLINATION- 63 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-091A

SPACECRAFT NAME- COSMOS 375
OTHER NAMES- 1970-091A

LAUNCH DATE- 10/30/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/30/70 ORBIT PERIOD- 112.4 MIN.
APOGEE-2164 KM ALT PERIGEE- 538 KM ALT INCLINATION- 63 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-092A

SPACECRAFT NAME- COSMOS 376
OTHER NAMES- 1970-092A

LAUNCH DATE- 10/30/70 DECAY DATE- 11/12/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 10/30/70 ORBIT PERIOD- 89.5 MIN.
APOGEE-311 KM ALT PERIGEE- 216 KM ALT INCLINATION- 65.4 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

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COSPAR DESIGNATION- 1970-094A

SPACECRAFT NAME- OFO-1
OTHER NAMES- OFO A, 1970-094A, ORBITAL FROG OTOLITH SATELLITE

LAUNCH DATE- 11/09/70 DECAY DATE- N/A LAUNCH VEHICLE- SCOUT

COUNTRY- UNITED STATES SPACECRAFT WEIGHT IN ORBIT- 133 KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/09/70 ORBIT PERIOD- 93.3 MIN.
APOGEE-574 KM ALT PERIGEE- 300 KM ALT INCLINATION- 37.7 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 400.5, 401.5, (10W), 136.38, (50MW)

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
OFO-1, AN ORBITING FROG OTOLITH SATELLITE, WAS INSTRUMENTED TO OBTAIN THE FIRST DIRECT RECORDINGS OF OTOLITH RESPONSE DURING PROLONGED PERIODS OF WEIGHTLESSNESS. IN-DWELLING MICROELECTRODES WERE IMPLANTED IN THE VESTIBULAR NERVES OF TWO BULLFROGS TO MEASURE THE BIOELECTRIC ACTION POTENTIAL IN THE ANIMALS DURING WEIGHTLESSNESS AND DURING REPEATED SIMULATED GRAVITY STIMULUS OBTAINED BY ACTIVATION OF A SMALL CENTRIFUGE. THE PRIMARY DATA OBTAINED INCLUDE (1) THE INSTANTANEOUS RATE OF FIRING FROM SINGLE VESTIBULAR UNITS (DATA WERE RECORDED FROM TWO MICROELECTRODES IMPLANTED IN EACH OF THE FROGS), (2) CENTRIFUGAL ACCELERATION PROFILES MEASURED AT THE HEAD OF EACH FROG, (3) EKG AS A VITAL INDEX OF ANIMAL WELFARE, AND (4) WATER ENVIRONMENT TEMPERATURE, BECAUSE OF THE RELATION OF TEMPERATURE TO VESTIBULAR ACTIVITY. THE INSTRUMENTATION FOR THE EXPERIMENT WAS CONTAINED IN A BIOPACKAGE CONFIGURED TO ASSURE SURVIVAL AND NORMAL FUNCTION OF THE TWO FROGS FOR THE DURATION OF THE EXPERIMENT. DATA WERE TELEMETERED TO GROUND STATIONS.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-094B

SPACECRAFT NAME- RM 1
OTHER NAMES- 1970-094B, RADIATION METEOROID SATELLITE

LAUNCH DATE- 11/09/70 DECAY DATE- N/A LAUNCH VEHICLE- SCOUT

COUNTRY- UNITED STATES SPACECRAFT WEIGHT IN ORBIT- 21 KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/09/70 ORBIT PERIOD- 93.3 MIN.
APOGEE-574 KM ALT PERIGEE- 300 KM ALT INCLINATION- 37.7 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 137.89, (2W), 136.86, (50MW)

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
RM 1 WEIGHED ABOUT 21 KG AND WAS APPROXIMATELY 167.6 CM LONG AND 76.2 CM IN DIAMETER. IT CONSISTED OF TWO CYLINDRICAL SEGMENTS. (1) A SOLAR CELL ARRAY MOUNTED AROUND THE FOURTH-STAGE MOTOR CAGE OF THE SCOUT LAUNCH VECHICLE AND (2) AN ELECTRONICS PACKAGE ENCIRCLING THE CONE-SHAPED ADAPTER SECTION ATOP THE FOURTH-STAGE MOTOR CASE. THERE WERE TWO EXPERIMENTS ON BOARD THE RM 1 SATELLITE - 1 - A RADIATION EXPERIMENT CONSISTING OF AN ADVANCED RADIATION DOSIMETRY SYSTEM DESIGNED TO MEASURE AND DETERMINE THE TYPE OF RADIATION ENCOUNTERED AND TO CONVERT THE DATA INSTANTLY TO CONVENTIONAL RADIATION DOSE UNITS AND - 2 - A METEOROID EXPERIMENT EMPLOYING AN IMPROVED DETECTOR SYSTEM OF THIN FILM CAPACITORS TO OBTAIN THE NUMBER OF METEOROID IMPACTS AND THEIR DIRECTION AND SPEED.

****

COSPAR DESIGNATION- 1970-095A

SPACECRAFT NAME- LUNA 17
OTHER NAMES- 1970-095A

LAUNCH DATE- 11/10/70 DECAY DATE- 11/17/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- N/A EPOCH- N/A ORBIT PERIOD- N/A MIN.
APOGEE- N/A KM ALT PERIGEE- N/A KM ALT INCLINATION- N/A DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
AUTOMATIC STATION LUNA 17 WAS LAUNCHED IN THE DIRECTION OF THE MOON. MAIN OBJECTIVES ARE INVESTIGATIONS OF MOON AND OF CIRCUMLUNAR SPACE.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-096A

SPACECRAFT NAME- COSMOS 377
OTHER NAMES- 1970-096A

LAUNCH DATE- 11/11/70 DECAY DATE- 11/23/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/11/70 ORBIT PERIOD- 89.4 MIN.
APOGEE-305 KM ALT PERIGEE- 208 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

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COSPAR DESIGNATION- 1970-097A

SPACECRAFT NAME- COSMOS 378
OTHER NAMES- 1970-097A

LAUNCH DATE- 11/17/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/17/70 ORBIT PERIOD- 105 MIN.
APOGEE-1763 KM ALT PERIGEE- 241 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-099A

SPACECRAFT NAME- COSMOS 379
OTHER NAMES- 1970-099A

LAUNCH DATE- 11/24/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/24/70 ORBIT PERIOD- 88.7 MIN.
APOGEE-253 KM ALT PERIGEE- 198 KM ALT INCLINATION- 51.6 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-100A

SPACECRAFT NAME- COSMOS 380
OTHER NAMES- 1970-100A

LAUNCH DATE- 11/24/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/24/70 ORBIT PERIOD- 102.2 MIN.
APOGEE-1548 KM ALT PERIGEE- 210 KM ALT INCLINATION- 83 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-101A

SPACECRAFT NAME- 16TH MOLNIYA 1
OTHER NAMES- 1970-101A

LAUNCH DATE- 11/27/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 11/27/70 ORBIT PERIOD- 707 MIN.
APOGEE-39430 KM ALT PERIGEE- 435 KM ALT INCLINATION- 65.3 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES APPARATUS FOR TRANSMITTING TELEVISION PROGRAMS AND MULTICHANNEL RADIO COMMUNICATION. APPARATUS OF THE COMMAND MEASURING COMPLEX. ORIENTATION SYSTEM. ORBIT CORRECTION SYSTEM. AND POWER SUPPLIES.

****

COSPAR DESIGNATION- 1970-102A

SPACECRAFT NAME- COSMOS 381
OTHER NAMES- 1970-102A

LAUNCH DATE- 12/02/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/02/70 ORBIT PERIOD- 105 MIN.
APOGEE-1023 KM ALT PERIGEE- 985 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-103A

SPACECRAFT NAME- COSMOS 382
OTHER NAMES- 1970-103A

LAUNCH DATE- 12/02/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/02/70 ORBIT PERIOD- 143 MIN.
APOGEE-5040 KM ALT PERIGEE- 320 KM ALT INCLINATION- 51.6 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-104A

SPACECRAFT NAME- COSMOS 383
OTHER NAMES- 1970-104A

LAUNCH DATE- 12/03/70 DECAY DATE- 12/16/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/03/70 ORBIT PERIOD- 89.3 MIN.
APOGEE-293 KM ALT PERIGEE- 208 KM ALT INCLINATION- 65.4 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-105A

SPACECRAFT NAME- COSMOS 384
OTHER NAMES- 1970-105A

LAUNCH DATE- 12/10/70 DECAY DATE- 12/22/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/10/70 ORBIT PERIOD- 89.5 MIN.
APOGEE-314 KM ALT PERIGEE- 212 KM ALT INCLINATION- 72.9 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 19.995

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-106A

SPACECRAFT NAME- NOAA-1
OTHER NAMES- ITOS-A, 1970-106A

LAUNCH DATE- 12/11/70 DECAY DATE- N/A LAUNCH VEHICLE- DELTA N-6

COUNTRY- UNITED STATES SPACECRAFT WEIGHT IN ORBIT- 306 KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/11/70 ORBIT PERIOD- 114.8 MIN.
APOGEE-1472 KM ALT PERIGEE- 1422 KM ALT INCLINATION- 101.9 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 137.62, (5W), 1697.5, (4W), 136.77, (250MW)

PROJECT MANAGER- W.W. JONES, NASA-GSFC, GREENBELT, MD.
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
THE NOAA-1 METEOROLOGICAL SATELLITE WAS LAUNCHED INTO A NEARLY CIRCULAR, SUN-SYNCHRONOUS POLAR ORBIT. IT WAS A RECTANGULAR OR BOX-SHAPED SPACECRAFT WITH THREE LARGE SOLAR PANELS. NOAA-1 WAS THE FIRST OF A SERIES OF THE IMPROVED TIROS OPERATIONAL SATELLITE (ITOS) SYSTEM MANAGED AND OPERATED BY THE NATIONAL ENVIRONMENTAL SATELLITE SERVICE (NESS) OF THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA). NOAA-1 CARRIED FOUR CAMERAS, TWO ADVANCED VIDICON CAMERA SYSTEM (AVCS) CAMERAS. IT ALSO CARRIED TWO SCANNING RADIOMETERS FOR APT, A LOW-RESOLUTION FLAT-PLATE RADIOMETER, AND A SOLAR PROTON MONITOR. NOAA-1 HAD A DIFFERENT ATTITUDE CONTROL SYSTEM THAN THE PREVIOUS ESSA SPACECRAFT. INSTEAD OF THE WHOLE SPACECRAFT SPINNING LIKE A WHEEL, THE BODY OF NOAA-1 WAS STABILIZED IN ALL THREE AXES (PITCH, YAW, AND ROLL) SO THAT IT WOULD ALWAYS FACE THE EARTH. THE SPACECRAFT AND EXPERIMENTS WERE A SUCCESS AND HAVE PERFORMED NORMALLY SINCE LAUNCH.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-107A

SPACECRAFT NAME- EXPLORER 42
OTHER NAMES- SAS-1, SAS-A, PL-701C, UHURU 1, SMALL ASTRONOMICAL SATELLITE, 1970-107A

LAUNCH DATE- 12/12/70 DECAY DATE- N/A LAUNCH VEHICLE- SCOUT

COUNTRY- AFRICA SPACECRAFT WEIGHT IN ORBIT- 142 KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/12/70 ORBIT PERIOD- 95.7 MIN.
APOGEE-572 KM ALT PERIGEE- 531 KM ALT INCLINATION- 3.0 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 136.68, (2W), 136.68, (2MW)

PROJECT MANAGER- M.R. TOWNSEND, NASA-GSFC, GREENBELT, MD.

PROJECT SCIENTIST- C.E. FICHTEL, NASA-GSFC, GREENBELT, MD.

SPACECRAFT BRIEF DESCRIPTION

EXPLORER 42 WAS THE FIRST OF A SERIES OF SMALL SPACECRAFT WHOSE OBJECTIVES WERE TO SURVEY THE CELESTIAL SPHERE AND SEARCH FOR SOURCES RADIATING IN THE X-RAY, GAMMA-RAY, UV, AND OTHER SPECTRAL REGIONS. THE PRIMARY MISSION OF EXPLORER 42 WAS TO DEVELOP A CATALOG OF CELESTIAL X-RAY SOURCES BY SYSTEMATIC SCANNING OF THE CELESTIAL SPHERE IN THE ENERGY RANGE FROM 2 TO 20 KEV. THE SPACECRAFT WAS LAUNCHED DECEMBER 12, 1970, FROM THE SAN MARCO PLATFORM OFF THE COAST OF KENYA, AFRICA, INTO A NEAR CIRCULAR EQUATORIAL ORBIT. THE ORBITING SPACECRAFT WAS IN THE SHAPE OF A CYLINDER APPROXIMATELY 56 CM IN DIAMETER AND 116 CM IN LENGTH. FOUR SOLAR PADDLES WERE USED TO RECHARGE A 6-AMP-HR 8-CELL NICKEL-CADMIUM BATTERY AND PROVIDE POWER TO THE SPACECRAFT AND EXPERIMENT. THE SPACECRAFT WAS SPIN-STABILIZED, AND A MAGNETICALLY TORQUED COMMANDABLE CONTROL SYSTEM WAS USED TO POINT THE SPIN AXIS OF THE SPACECRAFT TO ANY POINT OF THE SKY. DESPIN OPERATIONS DECREASED THE SPIN RATE FROM 4.5 TO 0.2 RPM. ON DECEMBER 17, 1970, THE SPIN AXIS WAS MANEUVERED TO THE INITIAL ATTITUDE REQUESTED BY THE EXPERIMENTER. NORMAL OPERATION OF THE SPACECRAFT STARTED ON DECEMBER 18, 1970. THE SPIN AXIS WAS CHANGED ON A DAILY BASIS. DATA WERE STORED ON A ONE-ORBIT STORAGE TAPE RECORDER AND TELEMETERED DURING A 3.4-MIN PLAYBACK CYCLE. A 1000-BIT PER SEC PCM/PM SYSTEM WAS USED.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-108A

SPACECRAFT NAME- COSMOS 385
OTHER NAMES- 1970-108A

LAUNCH DATE- 12/12/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/12/70 ORBIT PERIOD- 104.8 MIN.
APOGEE-1005 KM ALT PERIGEE- 982 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-109A

SPACECRAFT NAME- PEOLE
OTHER NAMES- 1970-109A

LAUNCH DATE- 12/12/70 DECAY DATE- N/A LAUNCH VEHICLE- DIAMANT B

COUNTRY- FRANCE SPACECRAFT WEIGHT IN ORBIT- 70 KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/12/70 ORBIT PERIOD- 96.9 MIN.
APOGEE-749 KM ALT PERIGEE- 514 KM ALT INCLINATION- 14.98 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- 136.350, (1000MW), 400.190, (4W)

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
PEOLE, A FRENCH SATELLITE, LAUNCHED FROM KOUROU, FRENCH GUIANA, WAS AN OCTAHEDRON-SHAPED SPACECRAFT THAT HAD A DIAMETER OF 704 MM AND A LENGTH OF 550 MM. IT WAS DESIGNED TO ORBIT IN A 15-DEG INCLINED PLANE. UPON INJECTION, EIGHT SOLAR PANELS WERE UNFOLDED 125 DEG AROUND THE BACK EDGES. A RIGID STRIP MAST 10 M IN LENGTH BEARING A 3-KG WEIGHT WAS USED TO STEADY THE ATTITUDE. FORTY-FOUR LASER REFLECTORS WERE DISPLAYED ON THE OUTER EDGES OF THE SOLAR ARRAYS AND AROUND THE UHF SCANNER. THE MEASUREMENTS OBTAINED FROM THIS SATELLITE WILL BE USED FOR GEOPOTENTIAL DETERMINATION.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-110A

SPACECRAFT NAME- COSMOS 386
OTHER NAMES- 1970-110A

LAUNCH DATE- 12/15/70 DECAY DATE- 12/28/70 LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/15/70 ORBIT PERIOD- 89.2 MIN.
APOGEE-275 KM ALT PERIGEE- 207 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-111A

SPACECRAFT NAME- COSMOS 387
OTHER NAMES- 1970-111A

LAUNCH DATE- 12/16/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/16/70 ORBIT PERIOD- 95.3 MIN.
APOGEE-560 KM ALT PERIGEE- 528 KM ALT INCLINATION- 74 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS, RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS, AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-112A

SPACECRAFT NAME- COSMOS 388
OTHER NAMES- 1970-112A

LAUNCH DATE- 12/18/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/18/70 ORBIT PERIOD- 92.3 MIN.
APOGEE-532 KM ALT PERIGEE- 281 KM ALT INCLINATION- 71 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

****

COSPAR DESIGNATION- 1970-113A

SPACECRAFT NAME- COSMOS 389
OTHER NAMES- 1970-113A

LAUNCH DATE- 12/18/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/18/70 ORBIT PERIOD- 98.1 MIN.
APOGEE-699 KM ALT PERIGEE- 655 KM ALT INCLINATION- 81 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN . UNKNOWN
PROJECT SCIENTIST- UNKNOWN . UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES SCIENTIFIC APPARATUS. RADIO SYSTEM FOR PRECISE MEASUREMENTS OF ORBITAL ELEMENTS. AND RADIO TELEMETRY SYSTEM.

ARTIFICIAL EARTH SATELLITES AND SPACE PROBES
LAUNCHED FOR SCIENTIFIC PURPOSES
1 JULY - 31 DECEMBER 1970

****

COSPAR DESIGNATION- 1970-114A

SPACECRAFT NAME- 17TH MOLNIYA 1
OTHER NAMES- MOLNIYA 1Q, 1970-114A

LAUNCH DATE- 12/25/70 DECAY DATE- N/A LAUNCH VEHICLE- N/A

COUNTRY- SOVIET UNION SPACECRAFT WEIGHT IN ORBIT- N/A KG

ORBIT TYPE- GEOCENTRIC EPOCH- 12/25/70 ORBIT PERIOD- 712 MIN.
APOGEE-39600 KM ALT PERIGEE- 480 KM ALT INCLINATION- 65 DEGREES

TRANSMITTING FREQUENCIES(MHZ)- N/A

PROJECT MANAGER- UNKNOWN , UNKNOWN
PROJECT SCIENTIST- UNKNOWN , UNKNOWN

SPACECRAFT BRIEF DESCRIPTION
SPUTNIK CARRIES APPARATUS FOR TRANSMITTING TELEVISION PROGRAMS AND MULTICHANNEL RADIO COMMUNICATION. APPARATUS OF THE COMMAND MEASURING COMPLEX. ORIENTATION SYSTEM. ORBIT CORRECTION SYSTEM AND POWER SUPPLIES.

C. REPORTS AND REPRINTS

This section is comprised of two listings that indicate the documents received by World Data Center A for Rockets and Satellites during the period 1 July to 31 December 1970. The first listing, which begins on the following page, contains the publications received sorted by discipline. A second listing of these same publications, sorted by the country from which the publication was forwarded, begins on page 105.

The abbreviations used in this section are as follows:

Ann. Geophys.	-	Annales de Geophysique
Appl. Opt.	-	Applied Optics
Astronaut. Aeron.	-	Astronautics and Aeronautics
Astrophys. J.	-	Astrophysical Journal
J. Atmospheric Sci.	-	Journal of Atmospheric Science
J. Atmospheric Terrest. Phys.	-	Journal of Atmospheric and Terrestrial Physics
J. Geophys. Res.	-	Journal of Geophysical Research
Space Res.	-	Space Research

In accordance with the revised COSPAR Guide, adopted by COSPAR in July 1967, reports of experimental results published in scientific literature of general availability are no longer being exchanged through the World Data Centers. However, the national members of COSPAR each year prepare a bibliography of reports and papers in space sciences published in their country and append it to their annual report to COSPAR.

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