International Council of Scientific Unions

SPECIAL COMMITTEE
ON
SOLAR-TERRESTRIAL PHYSICS

76-3

President: Dr. Francis S. Johnson *Vice-President:* Dr. J. W. King *Secretary:* Dr. E. R. Dyer

INTERNATIONAL MAGNETOSPHERIC STUDY
J. G. Roederer, Chairman IMS Steering Committee
TEMPORARY IMS CENTRAL INFORMATION EXCHANGE OFFICE, JOE H. ALLEN, HEAD
WORLD DATA CENTER A FOR STP, D64 NOAA, BOULDER, COLORADO 80302, USA

IMS NEWSLETTER

CONTENTS

The audience for these Newsletters is mainly the participating scientists in the IMS program. The NL will not be fully self-explanatory for others, but they may get the general idea of how this kind of international program is coordinated through information exchange. The program information comes from IMS contacts (see pp 6-7) or the participants. The Newsletter is issued about once a month by the TIMSCIE Office. The closing date for this issue was March 3. ---JHA

TIMSCIE Office: Telex 45897 SOLTERWARN BDR
Telephone: 303-499-1000 x6501 (FTS 323-6501)
European Information (P. Simon): Telex 200590 CNET OBS B MEUDO

PROGRAM PLANS FOR MARCH 1976

Special IMS Periods

Mar 2, 0700UT to Mar 4, 0200UT — IMP-J Neutral Sheet; IMP-H, Vela 6A Magnetopause

Mar 6, 0300UT to Mar 7, 1500UT — Multiple Boundary Crossings

Mar 18, 1400UT to Mar 19, 2400UT — Multiple Boundary Crossings

The time coincidence of several GBR campaigns March 17 - Apr 4 may justify a special interval (see April)

GBR Campaigns: (numbers refer to program details in IMS Bulletin No. 2 or in references below)

Phenomena-related Campaigns

*--- to Mar 5; #0400; Fitz; Poker Flat; Rockets (5) - 3 programs, coordinated, see notes on ICECAP
*--- to Mar 5; #0400; Fitz; Auroral Zone; Aircraft - coordinated with ICECAP program, Feb notes
--- to Mar 5; A-15; Baker; Poker Flat; Surface - coordinated with ICECAP program, Feb notes
--- to Mar 5; #0328; Tinsley (Christensen); Poker Flat; Rocket - complex experiment
--- to Mar 6; #0443; Hultqvist; ESRANGE; Rocket - particles, E-field, e- and ion density, coord #0041
--- to Mar 6; #0041; Thrane; ESRANGE; Rockets (2)- Faraday, e- and ion density, coord #0443, Feb note
--- to Mar 6; #0089, 0474; Holmgren, Rees; ESRANGE; Rocket - TNT-Cesium release
*--- to Mar 6; #0155; DeForest; Geosta. orbit; Satellite - turn-on ATS-5 plasma exper, spec note pg 3
*--- to Mar 10; A-21; Kennedy (Wht Sands Miss Range); Poker Flat; Rockets (7)- ARCAS ozone measurements
*--- to Mar 21; #0164; Davis; Poker Flat; Rocket - quiet time, multiple Barium release
--- to Mar 31; #0028; Riedler; Andoya; Rocket - cold plasma
--- to Mar 31; #0479; Sokolov; 3 sites; Balloons (100) - complex program, see note below
*--- to Mar 31; #0159; Chanin (Tulinov); Heiss Island; Rocket - spectrometer; Surface - atm laser meas
--- to Mar 31; #0090; Horton; Woomera; Rocket - mass spectrometer, neutral atm species to 140 km
Mar 1 to Mar 31; #0100; McEwen; Ft Churchill; Rocket - spectrometers, photometers, new launch date, note
Mar 1 to Mar 31; #0474; Rees; Kiruna; Rockets (2) - chemical release for thermospheric winds, new date
*Mar 1 to Apr 30; #0400; Fitz; Poker Flat; Rocket - e-accelerator, moon down
Mar 17 to Apr 1; A-13; Heikkila; Ft Churchill; Rocket - E & B-fields, particles, coord #0356, see notes
Mar 17 to Apr 1; #0356; Sheldon; Ft Churchill; Rocket - X-rays, E-fields, coordinated with A-13
Mar 17 to Apr 1; A-16; P.T. Berkey; Ft Churchill; Surface - ground auroral TV, coord with A-13
Mar 17 to Apr 4; A-17; Heppner; Poker Flat; Rockets (4) - Barium thermite release, see notes
Mar 18 to Apr 3; #0183,0037,0305,0308,0028,0251; Haerendel, Storey, Studemann, Theile, Riedler, Mozer; Kiruna (ESRANGE); Rockets (2) - PORCUPINE program, complex exp, coord with air, ground
Mar 18 to Apr 3; #0164; Davis; Athens, Greece; Aircraft - video TV of artificial aurora, coord PORCUPINE
Mar 18 to Apr 3; #0312, 0243; Untiedt, Maurer; N. Scandinavia; Surface - mag. chains, coord PORCUPINE
Mar 18 to Apr 3; #0066; Siebert; Finland; Surface - geomag pulsations, coordinated with PORCUPINE
Mar 18 to Apr 3; #0228; Lange-Hesse; Scandinavia; Surface - backscatter radar, coord PORCUPINE
*Mar 18 to Apr 3; #0155; DeForest; Geosta. orbit; Satellite - turn-on ATS-5 plasma exper, note pg 3

Quasi-synoptic Observing involving Balloons, Rockets, Aircraft, Selected Surface Campaigns

Mar 1...31; #0458; Charakchyan; Mirny, Murmansk, Moscow, Alma Ata; Balloons - daily launch, cosmic rays
Mar 4 and 18; #0342; Kulkarni; Aspendale; Balloons - ozonesonde, may continue through 1976
Mar 16 to Mar 18; #0004; Bauer; IISN; Surface - gravity waves and plasma

Observing Plans for Temporary Stations

*--- through March; #0115; R.W. Smith; Sidmouth; Surface - airglow interferometer, intermittant operation
--- through April; A-12; Crochet; Addis Ababa; Surface - E-fields in equatorial ionosphere
Mar through April; A-12; Crochet; Djibouti; Surface - E-fields in equatorial ionosphere
(we have not received full information on Surface campaigns)

Notes on Program Plans for March 1976

*marks new or changed information from NL 76-2

Refined Times of Special IMS Periods for March. Start and end times of the periods listed above and in the SCOSTEP Special Announcement shift a few hours as the result of recomputations given in the IMS Satellite Situation Center Report No 6 (pg 14) by Vette. Refined UT times are (changed times underlined): Mar 6 0500 to Mar 7 1500; Mar 18 1500 to Mar 19 2300.

#0479; Sokolov, is making about 100 balloon launches simultaneously (as possible) at Tixi, Zhigansk and Apatity to measure electron precipitation above 50 Kev by 5-channel scintillation counters.

#0100; McEwen, program shift from Feb to early Mar.

#0474; Rees, flights sched. Feb delayed to March.

A-13; Heikkila (same address as #0186 Hanson), a multi-national rocket experiment coordinated with #0356 and ground campaigns. Black Brant V-C carries experiments listed: (1) Spectrometers, soft particles, high energy and secondary elect; Heikkila & Winningham. (2) Swept-freq adm. probe R. Kist. (3) Energetic e- and p+, ion drift meter; B. Whalen. (4) Fast ion spectrometer; Freeman, Hills, Meister. (5) UV and visible photometers, 2 Lang. probes; Christensen. (6) Thermal ion mass spectrometer; Hoffman. (7) Retarding potential analyzer, thermal ions; Hanson. All-sky camera, merid scan photom, riometer, ionos, and magnetometers at launch site.

#0356; Sheldon, ARCAS launch simultaneous with A-13 to measure X-rays and E-fields.

A-16; P.T. Berkey (same address as #0128).

A-17; Heppner, campaign of 4 Nike Tomahawks. Each rocket will have: 4 cannisters to sequentially release Barium compound to monitor E-fields and neutral winds between 220-310 km. 1 trail generator for lower alt neutral winds @ 180-80 km.

#0183; Haerendel, et al, PORCUPINE First Campaign. Multi-national rocket launches of 2 ARIES from Kiruna (ESRANGE) carrying experiments listed: (1) AC E-field, Grabowski, Pedersen. (2) Plasma density fluctuations, Kelley. (3) Thermal plasma, Spenner. (4) High and middle-frequency e- currents Storey. (5) 3-comp DC B-fields, Theile. (6) AC B-fields, Haeusler. (7) Low energy e- and p+, Wilhelm, Riedler. (8) Medium energy e- and p+, Studemann. (9) Ejectable probes - 2, Mozer. (10) Barium charges - 2, Haerendel. (11) Cesium ejection, Sagdeev, Zhulin, and Haerendel.
Launch windows: UT
Mar 18-22, 1827-1005; Mar 23-26, 1845-2030;
Mar 27-30, 1900-2103; Mar 31-Apr 3, 1920-2151.
Launch conditions:
Clear sky at 2 observation stations, including NASA Lear Jet; aurora over ESRANGE. PORCUPINE is coordinated with the next four campaigns.

#0164; Davis, video TV of aurora from chemical release of PORCUPINE. NASA Lear Jet over Athens.

#0312, 0243; Untiedt, Maurer with Kuppers, Kertz. Oper 3 magnetometer chains in N. Scandinavia, total 20 stations. One sample every 5 seconds.

#0066; Siebert, Voelker, induction magnetometers for pulsations at stations in Finland. Both groups Untiedt and Siebert will have same instruments operating near ESRANGE.

#0228; Lange-Hesse, Czechovsky, bistatic CW backscatter radar, all-sky cameras, photometers at locations in Scandinavia.

#0155; DeForest, pg 3 for details of ATS-5 turn-on.

PROGRAM PLANS FOR APRIL 1976

Special IMS Periods

No Special IMS Periods in April were identified by the SSC or selected by the IMS Steering Committee at the Dec 1975 meeting. It has been suggested to the Chm of the Steering Committee that the coincidence of several launch windows for major programs of coordinated rocket, aircraft and surface observations during the time March 17 to April 4 could be the basis for declaring this 19-day interval a Special IMS Period. This period also includes the first ASHAY interval, March 21 to April 3 (SHIG/ASHAY WG-1 News Letter No 3, 31 Dec 1975, for details contact #0457, Gledhill).

Note also that April 13, 14, 15 are the Regular World Days on the International Geophysical Calendar when many programs concentrate their observations, data reduction and data exchange.

GBR Campaigns: (numbers refer to program details in IMS Bulletin No. 2 or in references below)

----------Phenomena-related Campaigns----------

--- to Apr 1; A-13; Heikkila; Ft Churchill; Rocket - E&B-fields, particles, see March notes
--- to Apr 1; #0356; Sheldon; Ft Churchill; Rocket - X-rays, E-fields, coordinated with A-13
--- to Apr 1; A-16; P.T. Berkey; Ft Churchill; Surface - ground auroral TV, coord with A-13
--- to Apr 3; #0183,0037,0305,0308,0028,0251; Haerendel, Storey, Studemann, Theile, Riedler, Mozer; Kiruna(ESRANGE); Rockets (2) - PORCUPINE Program, coordinated, see March notes
--- to Apr 3; #0164; Davis; Athens, Greece; Aircraft - video TV of artificial aurora, coord PORCUPINE
--- to Apr 3; #0312, 0243; Untiedt, Maurer; N. Scandinavia; Surface - mag. chains, coord PORCUPINE
--- to Apr 3; #0066; Siebert; Finland; Surface - geomag pulsations, coordinated with PORCUPINE
--- to Apr 3; #0228; Lange-Hesse; Scandinavia; Surface - backscatter radar, coord PORCUPINE
*--- to Apr 3; #0155; DeForest; Geosta. orbit; Satellite - turn-on ATS-5 plasma exper, spec note below
--- to Apr 4; A-17; Heppner; Poker Flat; Rockets (4) - Barium thermite release, March notes
*--- to Apr 30; #0400; Fitz (formerly Berning); Poker Flat; Rocket - e-accelerator, moon down
Apr 1 to Apr 30; #0149, 0288; Bullough, Rycroft; S Uist; Rockets (2) - ELF/VLF, E&B-fields, e- density
Apr 1 to Apr 30; A-18; Woolliscroft; S Uist; Rocket - +ion mass spectrometer
Apr 1 to Apr 30; #0104; Niles; Ft Wainwright; Balloons (4) - ion mass spectrometer
Apr 29 to May 15; #0070; Davis (formerly Vaiana); White Sands; Rocket - solar X-rays, spectrometer, notes

-------Quasi-synoptic Observations involving Balloons, Rockets, Aircraft, Selected Surface Campaigns-------

*Apr 1...30; #0458; Charakchyan; Mirny, Murmansk, Moscow, Alma Ata ; Balloons - daily launch, cosmic rays
*Apr 13 to Apr 15; #0004; Bauer; IISN; Surface - inco scat radar study thermal tides in 100-130 km region

----------Observing Plans for Temporary Surface Stations----------

--- through April 30; A-12; Crochet; Addis Ababa, Djibouti; Surface - E-fields in equatorial ionosphere
*Apr 1 to Sep 30; #0115; R.W. Smith; Jordanstown; Surface - airglow interferometer, intermittant operation
(we have not received full information on Surface campaigns)

Notes on Program Plans for April 1976

#0070; Dr. J. M. Davis, American Science and Engineering, 955 Massachusetts Ave, Cambridge, MA 02139 USA, is observing solar imagery @ 8-60 A and spectra from 10-25 A. Analysis is jointly with Evans (same address as #0207).

#0115; R.W. Smith will operate airglow interferometer on intermittant schedule at Jordanstown, with observations at 557.7 and 630.0 nm.

Special note, #0155; DeForest and McIlwain arranged that plasma experiments on ATS-5 be turned-on for two intervals: Feb 15 - Mar 6, Mar 18 - Apr 3 for 3-hourly schedule given in notes from SSC below.

PROGRAM PLANS FOR MAY 1976

Special IMS Periods

No special IMS intervals were selected during the month of May 1976, as of 3 March NL printing. See calendar on page 8 for days of special observational interest for particular programs. Next special IMS interval is scheduled for June 23-26. Note that Regular World Days in May are May 18, 19 and 20.

GBR Campaigns: (numbers refer to program details in IMS Bulletin No 2 or in references below)

----------Phenomena-related Campaigns----------

--- to May 15; #0070; Davis (formerly Vaiana); White Sands; Rocket - solar X-rays, spectrometer, notes
May 1 to Jun 30; #0090; Horton; Woomera; Rockets (2) - 1, neutral atm species; 2, airglow, ozone, notes

-------Quasi-synoptic Observations involving Balloons, Rockets, Aircraft, Selected Surface Campaigns-------

May 1...31; #0458; Charakchyan; Mirny, Murmansk, Moscow, Alma Ata; Balloons - daily launch, cosmic rays
May 5 to Aug 25; #0162; Y. Corcuff; Gen Belgrano, Halley Bay; Surface; weekly VLF obser, see notes
May 18 to May 20; #0004; Bauer;IISN; Surface - E-field meas in quiet time, dates may change, IISN note p.4

----------Observing Plans for Temporary Surface Stations----------

--- to Sep 30; #0115; R.W. Smith; Jordanstown; Surface - airglow interferom, intermittant operation
(we have not received full information on Surface campaigns)

Notes on Program Plans for May 1976

#0090; Horton has two launch programs:1, Similar to Feb-Mar launch carrying mass spectrometer, study of neutral atmospheric species to 140 km; 2, to study airglow and ozone with dusk/dark launch.

#0162; Y. Corcuff, Charcosset, Cazeneuve, Bullough participating in IPPDYP (see General notes) and program of coordinated VLF direction finding obs at Gen Belgrano and Halley Bay. Observations on each Wednesday from 0200-0300 UT, May - August.

Notes from Satellite Situation Center

ATS-5 plasma experiments are turned-on each weekday for 3-hr intervals to support rocket campaigns. Ref 1975 Report on Active and Planned Spacecraft and Experiments, Jan 1975, NSSDC/WDC-A-R&S 75-01 and the July Supplement (75-06) for experiment details. Also see #0155 in IMS Bull No 2. Beginning of 3-hr intervals shifts progressively as follows:

Feb 15 1430 UT, ..., Mar 6 1600 UT
Mar 18 1730 UT, ..., Apr 3 1900 UT

No weekend observations possible.

GENERAL NEWS

Notes from IMS Contacts

Japan. A. Nishida informs us that the first dedicated IMS satellite has been successfully launched, ISS (1976-019A). Launch time was 2130 UT, 29 Feb and initial orbital information is: apogee 1017 km, perigee 984 km, inclination 69.7 degrees, period 105 minutes. Planned observations are: topside sounding; radio noise at 2.5, 5, 10 and 25 MHz; ion/electron density/temperature; and ion composition. Project manager is Y. Ogata, Radio Research Laboratories (same address as #0185, Hakura).

USA. R.H. Manka sends the following items:
1. NSF intends to procure the magnetometers and satellite transmitters for the stations described in "Final Report on the Planning of the IMS North American Magnetometer Network" (Plan A). Procurement of magnetometers, photometers, all-sky cameras and riometers associated with all or some of these stations has been initiated. Proposals for installation, operation and analysis of data from these stations are now being accepted and considered. Investigators interested in these and any other research projects associated with the US-IMS should contact either of the following:
   D.S. Peacock (Solar Terrestrial Program)
   or G.W. Adams (Aeronomy Program)
   Atmospheric Research Section
   National Science Foundation
   1800 G St, Washington, D.C. 20550.
2. SOLRAD 11 A/B launch has now been set in mid-March, possibly on the 11th.
3. A short IMS information session is planned for the April American Geophysical Union Spring meeting. See program distributed at the meeting (or mailed just before) for details, tentative time is 5:00pm Wednesday, April 14.
4. Rocket launch A-7, Evans scheduled for Jan 21 to Feb 6 at Poker Flat was postponed until Oct 76-Feb 77, because of problems with the Malemute rocket motor. Other programs using this rocket may also be delayed.

France. P. Simon informs us that the Balloon campaign SAMBO 1-b planned at Kiruna for Jan 20 to Feb 13 was cancelled. Also, campaign SAMBO II has been slipped to Jan-Mar 1978 because of the delay in the launch of GEOS.
The Perraut/Hirasawa Conjugate Points Experiment has been slipped to August/September 1976. This is the only alteration to the French IMS program for the next three months.

An ESA meeting on Rocket and Balloon programs in the auroral zone will be held in Federal Rep of Germany during 3 to 7 May, according to word received through P. Simon.

NEW PROGRAMS

TIMSCIE Office has received information about two multi-national programs of coordinated observations that are scheduled to begin during June 1976.

Ungstrup, #0311, will launch four balloons from Andoya, Norway in June. They carry E-field detectors, X-ray detectors and riometers and will drift N. of Iceland and across Greenland. Telemetry reception will be possible from Andenes, Iceland, and the west coast of Greenland. Also, the joint rocket program with #0263, Olesen will launch from Sdr. Stromfjord in June. This is a month later than shown in previous NL calendars.

Koons, A-20, announces a new program involving Aerospace Corp, USA; Univ of Otago, New Zealand; Dartmouth Coll, USA;and DSIR PEL, New Zealand. VLF signals from a portable transmitter will be broadcast from New Zealand from June 1 to August 15 by Koons. M. Morgan will operate VLF receivers in the conjuggate region around Cold Bay, Alaska. R.L. Dowden will operate VLF receivers at Dunedin, N.Z., and J.G. Keys will operate photometers and riometers at Lauder, N.Z. VLF and energetic particle data will be obtained from satellites ISIS II and SSS when they are over the transmitter and conjugate region.

ACTUALITIES

The following launches were successfully carried-out at the given times:
#0193, et al; Hirao, et al, 2 launches at Kagoshima
(1) rocket K-9M-54 at 0600 LT, Jan 17 to 367 Km observed e-dens, thermal e-spect, e-temp, conjugate photoelectrons, airglow and geocoronal and interplanetary UV.
(2) rocket K-10-12 at 1420 LT, Jan 18 to 216 Km observed E-field, energetic particle spect, solar LYA, neutral wind, e-dens, e-temp, ion comp, UV albedo and plasma wave excitation.
#0218, et al; Kodama, et al, launched rocket S-210 JA22 from Syowa at 2320 LT, Jan 25 to 119 Km. Observed e-dens/temp, e-energy spect, NO dens.
A-8; Winckler, ECHO-IV launch from Poker Flat at 0944 UT, Jan 30. Complex rocket experiment with supporting ground auroral TV from launch site.
#0404; Cloutier, 2 launches at Poker Flat, - 0705UT Feb 18 and 1045 UT, Mar 1; E&B-fields, particles.
#0427, et al; Kamada, et al, Rocket S-310JA1 launch at 0945 LT, Feb 13 from Syowa to 216 Km altitude observed plasma waves, e-dens and e-energy spect
#0400; Berning (now Fitz), Blank, Ulwick, Stair at Poker Flat launched EXCEDE/SWIR 0546 UT, Feb 28.
#0328; Christensen, FERRET launched at Poker Flat, 1212 UT, Feb 28, complex rocket experriment.

World-wide Surface Campaigns

IISN. The Ionospheric Incoherent Scatter Network is a world-wide coordinated effort to perform similar observations on selected days of each month at all incoherent scatter radar observatories. The sites are: St. Santin, France; Arecibo, Puerto Rico; Jicamarca, Peru; and Millstone Hill and Chatanika, USA. Chairman of the program is P. Bauer (#0004). Days of joint observations are usually the Regular World Days (near the middle of each) month; however local programs or special conditions for study may cause a change in dates shown on the calendar, p 8. For 1976, M. Blanc will schedule obs for 3 quiet days in May and J. Doupnik will select a probable 3-day disturbed interval for September. Routine obs are in 3 categories: 1, E-fields for F and E regions during Feb, May, Aug, Sep, Nov, and Dec; 2, thermal tides in 100-130 Km region during Jan, Apr, Jul, and Oct; and general thermospheric meas during Mar and Jun. Coordinators responsible for collecting data on intervals of common observations are: Thermosphere - H.C. Carlson, same address as #0328 (Christensen); Tidal motions - R. Wand, same address as #0171 (Evans); and E-fields - M. Blanc, same address as P. Bauer (#0004).
A booklet summarizing 1974 IISN observations is available from P.M. Bauer (#0004).

IPPDYP. The International Plasmapause-Plasmasphere Dynamics Program is a coordinated multi-national program of whistler and other VLF observations. It is described in detail in Newsletter #1975-1, published in Dec 1975 and circulated by WDC-A for STP. Coordinated observations in 1976 will be made from June 21 - July 20. Although Siple is closed for this interval, observations will be made at Halley Bay, Gen Belgrano, Argentine Isl, and at Roberval in their N. conjugate area. Observations will be for one minute every 5-min after the hour or with other timing as selected for special studies (see pg 5 of URSI-IAGA Working Group on Passive Electromagnetic Probing of the Magnetosphere). Coordinator is D. Carpenter (#0192).

Notes from SCOSTEP Secretariat

The IMS Steering Committee is convening in Moscow during the week Mar 8-14. Besides working on IMS plans, there will be sessions for technical papers on magnetospheric and related topics.

C.-G. Falthammar has given the Secretary a mailing list for IAGA Div III members. Those not already listed among the IMS participants in Bullitens No 2 and 3 or on the separate IMS NL mailing list have been sent a copy of NL 76-3, a cover letter explaining the purpose of the NL, and a questionnaire to return if the person wishes to be added to the NL distribution list.

Availability of Basic Data

Most IMS participants are familiar with procedures for obtaining basic STP data needed in the interpretation of IMS experiments and observations. Nonetheless, we will repeat some of them here.

(1) Quick-time data through Regional Warning Centers (RWC) coordinated by the International Ursigram and World Days Service (IUWDS). Copies of the booklet with telegraphic codes and more information can be obtained from IUWDS President (P. Simon, Observatoire de Paris, 92-Meudon, France, telex 200590 CNETOBS MEUDO) or IUWDS Secretary for Ursigrams (R. Doeker, SEL, NOAA, Boulder, Colo 80302 USA, telex 45897 SOLTERWARN BDR). The telex numbers of the Regional Warning Centers follow:

RWC for Western Hemisphere
(also IUWDS World Warning Agency)
45897 SOLTERWARN BDR

RWC-MEUDON
200590 CNET OBS B

RWC-Darmstadt
419201 IONO D

RWC- Moscow
8717614 7614 ZEMLJA

RWC-Tokyo
2832611 DEMPA KKB

RWC-Sydney
20663 IPSO AA

Associate RWC-Prague
11346 IONP C

Associate RWC-New Delhi
953522 NATPHYLAB

(2) Rapid availability of key indices

(a) Weekly Report (from SEL-Boulder) issued each Tuesday covering the preceeding week, contains Ottawa 10.7cm solar radio flux, geomagnetic A and K indices from Fredericksburg and Anchorage, and daily sunspot numbers from Boulder. All data are preliminary.

(b) "aa" indices of 3-hourly and daily geomagnetic activity available each Wednesday for the preceeding week. May be obtained directly from Meudon by telex or from most of the RWCs.

(3) Prompt publications of multisource basic data

(a) Solar-Geophysical Data, Prompt Reports, issued monthly containing data 1 and 2 months old; a second part, Comprehensive Reports, has data 6 and 7 months old; cover all major kinds of monitoring data; available through WDC-A for STP.

(b) Solar Data is a monthly publication containing comprehensive solar activity data monitored by USSR, Czechoslovakia, Romania, GDR, and Rep of Cuba. Gives detailed daiiy charts of the sun and daily 9 cm flux drift curves. There are many numerical tables of data from the nearly 24-hours optical and radio patrols. Both synoptic and event data are included. The daily solar charts are accompanied by H-magnetograms for 4 typical stations. Each issue contains several research articles on various aspects of solar activity.
Editor: Prof V.A. Kraty
Address - Solar Data, Main Astronomical Observatory, M-140, Leningrad USSR.

(4) Institutional and National Publications with basic STP Data are issued in many countries on varying time schedules. Countries include: Argentina, Belgium, Canada, China, England, Fed Rep Germany, France, Italy, Japan, Lebanon, Netherlands, Switzerland, USSR, and USA. Details are available from WDC's.

(5) World Data Centers for STP disciplines usually have the above data or equivalent after some delay. They also have a very large quantity of data from individual stations. More details on the WDCs will be given in later NL.

Coordinates of Launch Sites, etc.

Below are given nominal coordinates (to nearest degree) of launch sites referenced in these Newsletters. They are taken from several sources but mainly from IMS Bulletin No 2, pages xxvii through xxxix, IMS/STP Station List. Anyone interested in precise coordinates for any experiment or launch site is advised to contact the participant. We hope to include maps in future Newsletters to illustrate the locations of these sites and other IMS programs. Also, detailed site information for surface campaigns will be contained in a later NL.

LOCATION		GEOGRAPHIC COORD. LATITUDE DEG N	LONGITUDE DEG E
USSR	Heiss Island	81	58
	Tixie Bay	72	129
	Murmansk	68	33
	Apatity	68	33
	Zhigansk	67	123
	Moscow	56	37
	Alma Ata	43	77
	Mirny	-67	93
Norway	Kiruna (ESRANGE)	68	20
Sweden	Andoya (ANDENES)	69	16
Spain	Aresonillo	37	07
United Kingdom	S. Uist	57	353
Greenland	Sdr. Stromfjord	67	309
Canada	Ft. Churchill	59	266
United States	Poker Flat	65	212
	Ft. Wainwright	65	212
	White Sands	32	254
Australia	Woomera	-31	137
	Aspendale	-38	145
Japan	Kagoshima	32	130
Antarctica	Syowa	-69	40
	SANAE	-70	358
	Siple	-76	276

New Data Service for IMS Participants. The IUWDS Regional Warning Center at Meudon is starting to distribute weekly, hopefully on Wednesdays, the geomagnetic activity indices "aa" for the preceding week. This continues on a current schedule the 100-year series published by Dr P.N. Mayaud who has organized this prompt computation thanks to the collaboration of the staffs of the two antipodal geomagnetic stations Hartland (UK) and Toolangi (Australia) and of the IUWDS telecommunication system. The "aa" indices will be the first planetary geomagnetic indices available on a weekly basis with no more than half a week delay. A few indices may be provisional because of the need for interpolation over data garbled in communications.

Newsletter Printing now is more than 1700 copies, sent directly to IMS participants, various ICSU groups and others. Extra copies are sent to IMS contacts, to members of the IMS Steering Committee, etc and can be provided on request. There may be some recipients who need a refresher course on the overall objectives and programs of IMS. A good source is the article by the IMS Steering Committee Chairman, J.G. Roederer, in the January 1976 issue of the magazine EOS, published by AGU.

ADDRESSES OF IMS CONTACTS

The following addresses are for IMS contacts in each country having IMS programs, according to the records of the SCOSTEP Secretary. Some of the contacts are officially designated national IMS coordinators while others are informal sources of IMS program information. A few of the addresses are from the responses to the original 1968 SCOSTEP questionnaire and may no longer be correct. We welcome updates or additions to this list and will share such information with Dr. Dyer, SCOSTEP Sec.

We give the telex numbers for those contacts with whom we have been dealing in connection with rocket, balloon, aircraft or surface campaigns scheduled for 1976. We hope eventually to receive the telex numbers for all contacts.

In some cases, the general IMS contact of a country has asked that TIMSCIE Office and others request specific program information directly from participating scientists or institutions. In such cases there will be multiple addresses for this country. The general contact is indicated by an asterisk, *. Institutional, regional, and multinational contacts are given for the European Space Agency (ESA), W. Europe, Committee for the Coordination of Observations Associated with GEOS (CCOG), SCOSTEP Sec, IMS Steering Committee, and TIMSCIE Office.

Additions, changes, and corrections to this list will be included in Newsletters from time-to-time and the complete list will be reprinted when this seems necessary. We stress the informal status of many of these contacts.

Prof A.A. Ashour
Faculty of Sci, Cairo Univ
Cairo
Arab Rep of Egypt

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Observatorio Astronomico Felix Aguilar
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Marquesado - San Juan, Argentina

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Note on Composition of IMS Newsletter

Manuscript for the IMS NL is produced using a time-share computer. It is used not only for normal editing but enables us to easily add or modify information which comes in at the last moment. The typewriter-like terminal in the TIMSCIE Office is connected by telephone to a computer 3-miles away. Standard editing programs are used to manipulate the text and relatively little "CPU" time is used. Unfortunately, spelling mistakes of TIMSCIE Office are not removed automatically by the computer.

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