

# International Geophysical Calendar 1987

(See other side for information on use of this Calendar)

	S	M	T	W	T	F	S		S	M	T	W	T	F	S	
					1	2	3					1	2	3	4	
	4	5	6	7	8	9	10		5	6	7	8	9	10	11	
<b>JANUARY</b>	11	12	13	14	15	16	17		12	13	14	15	16	17	18	<b>JULY</b>
	18	19	20	21	22	23	24		19	20	21	22	23	24	25	
	25	26	27 <sup>+</sup>	28 <sup>+</sup>	29 <sup>+</sup>	30 <sup>+</sup>	31		26	27	28	29	30	31	1	
	1	2	3	4	5	6	7		2	3	4	5	6	7	8	
<b>FEBRUARY</b>	8	9	10	11	12	13	14		9	10	11	12	13	14	15	<b>AUGUST</b>
	15	16	17	18	19 <sup>*</sup>	20	21		16	17	18	19	20 <sup>*</sup>	21	22	
	22	23	24	25	26	27	28		23	24	25	26 <sup>+</sup>	27 <sup>+</sup>	28	29	
	1	2	3	4	5	6	7		30	31	1	2	3	4	5	
<b>MARCH</b>	8	9	10	11	12	13	14		6	7	8	9	10	11	12	<b>SEPTEMBER</b>
	15	16	17	18	19	20	21		13	14	15	16	17	18	19	
	22	23	24	25 <sup>*</sup>	26 <sup>*</sup>	27	28		20	21 <sup>+</sup>	22 <sup>+</sup>	23 <sup>+</sup>	24 <sup>+</sup>	25 <sup>+</sup>	26 <sup>+</sup>	
	29	30	31 <sup>+</sup>	1 <sup>+</sup>	2	3	4		27	28	29	30	1	2	3	
	5	6	7	8	9	10	11		4	5	6	7	8	9	10	
<b>APRIL</b>	12	13	14	15	16	17	18		11	12	13	14	15	16	17	<b>OCTOBER</b>
	19	20	21	22 <sup>*</sup>	23 <sup>*</sup>	24	25		18	19	20 <sup>*</sup>	21 <sup>*</sup>	22	23	24	
	26	27	28 <sup>+</sup>	29 <sup>+</sup>	30	1	2		25	26	27	28	29	30	31	
	3	4	5	6	7	8	9		1	2	3	4	5	6	7	
<b>MAY</b>	10	11	12	13	14	15	16		8	9	10	11	12	13	14	<b>NOVEMBER</b>
	17	18	19	20 <sup>*</sup>	21 <sup>*</sup>	22	23		15	16	17	18	19	20	21	
	24	25	26	27	28	29	30		22	23	24 <sup>+</sup>	25 <sup>+</sup>	26	27	28	
	31	1 <sup>+</sup>	2 <sup>+</sup>	3 <sup>+</sup>	4 <sup>+</sup>	5 <sup>+</sup>	6		29	30	1	2	3	4	5	
<b>JUNE</b>	7	8	9	10	11	12	13		6	7	8	9	10	11	12	<b>DECEMBER</b>
	14	15	16	17 <sup>*</sup>	18 <sup>*</sup>	19	20		13	14	15	16	17	18	19	
	21	22	23	24	25	26	27		20	21	22 <sup>*</sup>	23 <sup>*</sup>	24	25	26	
	28	29	30						27	28	29	30	31	1	2	
	S	M	T	W	T	F	S		3	4	5	6	7	8	9	
									10	11	12 <sup>+</sup>	13 <sup>+</sup>	14 <sup>+</sup>	15 <sup>+</sup>	16	<b>1988</b>
									17	18	19	20 <sup>*</sup>	21 <sup>*</sup>	22	23	<b>JANUARY</b>
									24	25	26	27	28	29	30	
									31							
									S	M	T	W	T	F	S	

20 Regular World Day (RWD)

21 Priority Regular World Day (PRWD)

18 Quarterly World Day (QWD)  
also a PRWD and RWD

7 Regular Geophysical Day (RGD)

12 World Geophysical Interval (WGI)

19<sup>+</sup> Incoherent Scatter Coordinated  
Observation Day and Coordinated  
Tidal Observation Day

2 Day of Solar Eclipse

29 30 Airglow and Aurora Period

28<sup>\*</sup> Dark Moon Geophysical Day (DMGD)

## NOTES:

- Days with unusual meteor shower activity are: Northern Hemisphere Jan 3,4; Apr 21-23; May 4-5; Jun 8-12; Jul 28-29; Aug 11-14; Oct 20-23; Nov 2-4, 17-18; Dec 13-16, 22-23, 1987; Jan 3,4, 1988. Southern Hemisphere May 4-5; Jun 8-12; Jul 27-30; Oct 20-23; Nov 2-4, 17-18; Dec 5-7, 13-16, 1987.
- Middle Atmosphere Cooperation (MAC) began 1 Jan 1986 and runs through 1988.
- Day intervals that IMP 8 satellite is in the solar wind (begin and end days are generally partial days): 1986 Dec 31-1987 Jan 5; Jan 12-18; Jan 24-30; Feb 6-12; Feb 18-25; Mar 3-10; Mar 16-22; Mar 28-Apr 4; Apr 10-17; Apr 23-30; May 5-12; May 17-25; May 29-Jun 6; Jun 10-19; Jun 23-Jul 2; Jul 6-14; Jul 19-27; Jul 31-Aug 9; Aug 13-21, Aug 25-Sep 2; Sep 6-14; Sep 19-27; Oct 2-9; Oct 15-22; Oct 27-Nov 4; Nov 9-16; Nov 22-29; Dec 4-11; Dec 17-24; Dec 30-1988 Jan 6. There will not be total IMP 8 data monitoring coverage during these intervals. (Information kindly provided by the WDC-A for Rockets and Satellites, NASA/GSFC, Greenbelt, MD 20771 U.S.A.).
- + Incoherent Scatter programs start at 1600 UT on the first day of the intervals indicated, and end at 1600 UT on the last day of the intervals.

## EXPLANATIONS

This Calendar continues the series begun for the IGY years 1957-58, and is issued annually to recommend dates for solar and geophysical observations which cannot be carried out continuously. Thus, the amount of observational data in existence tends to be larger on Calendar days. The recommendations on data reduction and especially the flow of data to **World Data Centers (WDCs)** in many instances emphasize Calendar days. The Calendar is prepared by the **International Ursigram and World Days Service (IUWDS)** with the advice of spokesmen for the various scientific disciplines.

### The Solar Eclipses are:

a.) *March 29 (annular-total)* beginning in the southern part of South America and part of Antarctica, moving across the S. Atlantic Ocean, across Africa except the northwest part, across the extreme southeast section of Europe and the southwest of Asia -- totality lasts only 8 seconds in a path 5 km wide over the S. Atlantic, off the coast of West Africa.

b.) *September 23 (annular-partial)* beginning in Asia (except the northeast and southwest sections) crossing China, moving across Japan, across the Pacific Ocean, the Philippine Islands, Indonesia (except the southwest section), New Guinea, Northeast Australia and New Zealand (except the extreme south), and ends near Samoa.

**Meteor Showers** (selected by P.M. Millman, Ottawa) include important visual showers and also unusual showers observable mainly by radio and radar techniques. The dates are given in Footnote 1 on the reverse side. Note that the meteor showers that come in the first week of May and the third week in October are of particular interest (fragments of Halley's comet).

### Definitions:

Time = Universal Time (UT);

Regular Geophysical Days (RGD) = each Wednesday;

Regular World Days (RWD) = Tuesday, Wednesday and Thursday near the middle of the month (see calendar);

Priority Regular World Days (PRWD) = the Wednesday RWD;

Quarterly World Days (QWD) = PRWD in the WGI;

World Geophysical Intervals (WGI) = 14 consecutive days each season (see calendar);

**ALERTS** = occurrence of unusual solar or geophysical conditions, broadcast once daily soon after 0400 UT;

**STRATWARM** = stratospheric warmings;  
Retrospective World Intervals (RWI) = intervals selected by MONSEE for study.

For more detailed explanations, please see one of the following or contact H. Coffey (address below): *Solar-Geophysical Data*, November issue; *URSI Information Bulletin*; *COSPAR Information Bulletin*; *IAGA News*; *IUGG Chronicle*; *WMO Bulletin*; *IAU Information Bulletin*; *Solar-Terrestrial Environmental Research in Japan*; *Journal of the Radio Research Laboratories (Japan)*; *Geomagnetism and Aeronomy (USSR)*; *Journal of Atmospheric and Terrestrial Physics (UK)*; *EOS Magazine (AGU/USA)*.

**The International Ursigram and World Days Service (IUWDS)** is a permanent scientific service of the International Union of Radio Science (URSI), with the participation of the International Astronomical Union and the International Union Geodesy and Geophysics. IUWDS adheres to the Federation of Astronomical and Geophysical Services (FAGS) of the International Council of Scientific Unions (ICSU). The IUWDS coordinates the international aspects of the world days program and rapid data interchange.

This Calendar for 1987 has been drawn up by H.E. Coffey, of the IUWDS Steering Committee, in association with spokesmen for the various scientific disciplines in SCOSTEP, IAGA and URSI. Similar Calendars have been issued annually beginning with the IGY, 1957-58, and have been published in various widely available scientific publications.

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**Additional copies are available upon request to IUWDS Chairman, Dr. R. Thompson, IPS Radio and Space Services, 162-166 Goulburn St., Darlinghurst, NSW 2010 Australia, or IUWDS Secretary for World Days, Miss H.E. Coffey, WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder, Colorado 80303 U.S.A.**

**Priority recommended programs for measurements not made continuously --** (in addition to unusual **ALERT** periods):

**Aurora and Airglow** -- Observation periods are New Moon periods, especially the 7 day intervals on the calendar;

**Atmospheric Electricity** -- Observation periods on the RGD each Wednesday, beginning on 7 January 1987 at 0000 UT, 14 January at 0600 UT, 21 January at 1200 UT, 28 January at 1800 UT, etc. Minimum program are **PRWDs**.

**Geomagnetic Phenomena** -- Observation periods on **RWDs**.

**Ionospheric Phenomena** -- Quarter-hourly ionograms; more frequently on **RWDs**, particularly at high latitude sites; f-plots on **RWDs**; hourly ionograms to WDCs on **QWDs**; continuous observations for solar eclipse in the eclipse zone. See Airglow and Aurora.

**Incoherent Scatter** -- Observations on Incoherent Scatter Coordinated Days; also intensive series on **WGI**s or Airglow and Aurora periods. **Special programs:** Dr. V. Wickwar, SRI International, 333 Ravenswood Ave., Menlo Park, CA 94025 U.S.A., URSI Working Group G.5.

**Ionospheric Drifts** -- During weeks with **RWDs**.

**Traveling Ionosphere Disturbances** -- special periods, probably **PRWD** or **RWDs**.

**Ionospheric Absorption** -- Half-hourly on **RWDs**; continuous on solar eclipse days for stations in eclipse zone and conjugate area. Daily measurements during Absorption Winter Anomaly at temperate latitude stations (Oct-Mar Northern Hemisphere; Apr-Sep Southern Hemisphere).

**Backscatter and Forward Scatter** -- **RWDs** at least.

**Mesospheric D region electron densities** -- **RGD** around noon.

**ELF Noise Measurements of earth-ionosphere cavity resonances** -- **WGI**s.

**ALL PROGRAMS** -- Intensive observations during unusual meteor activity.

**Meteorology** -- Especially on **RGDs**. On **WGI**s and **STRATWARM** Alert Intervals, please monitor on Mondays and Fridays as well as Wednesdays.

**Middle Atmosphere Cooperation (MAC)** -- **RGDs**, **PRWDs** and **QWDs**. For planetary waves and tides monitor at least 10 days centered on **PRWDs** and **QWDs**. (Dr. T. VanZandt, NOAA R/E/AL3, 325 Broadway, Boulder, CO 80303 U.S.A.)

**Solar Phenomena** -- Solar eclipse days, **RWDs**, and during **PROTON/FLARE ALERTS**.

**Study of Traveling Interplanetary Phenomena (STIP)** -- XV = 12-21 Feb 1984 solar GLE; XVI = 20 Apr-4 May 1984 Forbush decrease; XVII = 24 Apr-30 Jun 1985 alignment of Venus magnetotail with satellites VEGA 1, VEGA 2, MS-T5, PVO, and ICE; XVIII = Sep 1985 Giacobini-Zinner Comet fly-by by ICE; XIX = March 1986 International Halley Watch.

**Space Research, Interplanetary Phenomena, Cosmic Rays, Aeronomy** -- **QWDs**, **RWD**, and Airglow and Aurora periods.

**URSI/IAGA Coordinated Tidal Observations Program (CTOP)** -- Dr. R. G. Roper, School of Geophysical Sci., Geophysical Sci., Georgia Inst. of Tech., Atlanta, GA 30332 U.S.A. has the 1987 CTOP calendar.