

# International Geophysical Calendar 2000 (Final)

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

	S	M	T	W	T	F	S		S	M	T	W	T	F	S	
<b>JANUARY</b>				5*	6 <sup>N</sup> + 7+		1					5 + 6 + 7 +			1 <sup>N</sup>	<b>JULY</b>
	2	3	4	12	13	14	15		2	3	4	12	13	14	15	
	9	10	11	18	19	20	21 <sup>F</sup>	22	9 <sup>F</sup>	10	11	12	13	14	15	
	16	17	18	26	27	28	29		16 <sup>F</sup>	17	18	19	20	21	22	
	23	24	25	26	27	28	29		23	24	25	26*	27*	28	29	
	30	31	1	2	3	4	5 <sup>N</sup>		30	31 <sup>N</sup>	1	2	3	4	5	<b>AUGUST</b>
<b>FEBRUARY</b>	6	7	8*	9*	10	11	12		6	7	8	9	10	11	12	
	13	14	15	16	17	18	19 <sup>F</sup>		13	14	15 <sup>F</sup>	16	17	18	19	
	20	21	22	23	24	25	26		20	21	22	23*	24*	25	26	
	27	28	29	1	2	3	4		27	28	29 <sup>N</sup>	30	31	1	2	<b>SEPTEMBER</b>
<b>MARCH</b>	5	6 <sup>N</sup>	7	8	9	10	11		3	4	5	6	7	8	9	
	12	13	14+	15	16+	17+	18		10	11	12	13 <sup>F</sup>	14	15	16	
	19	20 <sup>F</sup>	21	22	23	24	25		17	18	19	20	21+	22+	23+	
	26	27	28	29	30	31	1		24+	25+	26+	27*	28*	29	30	
<b>APRIL</b>	2	3	4 <sup>N</sup>	5*	6	7	8		1	2	3	4	5	6	7	<b>OCTOBER</b>
	9	10	11+	12+	13+	14	15		8	9	10	11	12	13 <sup>F</sup>	14	
	16	17	18 <sup>F</sup>	19	20	21	22		15	16	17	18	19	20	21	
	23	24	25	26	27	28	29		22	23	24+	25*	26*	27 <sup>N</sup>	28	
	30	1	2	3*	4 <sup>N</sup>	5	6		29	30	31	1	2	3	4	<b>NOVEMBER</b>
<b>MAY</b>	7	8	9	10	11	12	13		5	6	7	8	9	10	11 <sup>F</sup>	
	14	15	16	17	18 <sup>F</sup>	19	20		12	13	14	15	16	17	18	
	21	22	23	24	25	26	27		19	20	21	22*	23*	24	25 <sup>N</sup>	
	28	29	30	31*	1*	2 <sup>N</sup>	3		26	27	28	29	30	1	2	<b>DECEMBER</b>
<b>JUNE</b>	4	5	6	7	8	9	10		3	4	5	6	7	8	9	
	11	12	13+	14+	15	16 <sup>F</sup>	17		10	11 <sup>F</sup>	12+	13+	14+	15+	16	
	18	19	20	21	22	23	24		17	18	19*	20*	21	22	23	
	25	26	27	28*	29*	30			24	25 <sup>N</sup>	26	27	28	29	30	
									31	1	2	3	4	5	6	<b>2001</b>
																<b>JANUARY</b>
									7	8	9 <sup>F</sup>	10	11	12	13	
									14	15	16	17	18	19	20	
									21	22	23*	24*	25	26	27	
									28	29	30	31				
									S	M	T	W	T	F	S	
									<sup>N</sup>	New Moon				<sup>F</sup>	Full Moon	
									5							Day of Solar Eclipse: Feb 5, Jul 1 & 31, Dec 25
									5	6						Airglow and Aurora Period
									5*							Dark Moon Geophysical Day (DMGD)

⑪ Regular World Day (RWD)

⑫ Priority Regular World Day (PRWD)

⑧ Quarterly World Day (QWD)  
also a PRWD and RWD

⑤ Regular Geophysical Day (RGD)

⑥ ⑦ World Geophysical Interval (WGI)

7+ Incoherent Scatter Coordinated Observation Day

⑤ Day of Solar Eclipse: Feb 5, Jul 1 & 31, Dec 25

⑤ ⑥ Airglow and Aurora Period

5\* Dark Moon Geophysical Day (DMGD)

## NOTES on other dates and programs of interest:

- Days with significant meteor shower activity are: Northern Hemisphere 3-5 Jan; 21-23 Apr; 4-6 May; 6-11, 27-29 Jun; 11-14 Aug; 21-23 Oct; 16-19 Nov; 13-15, 21-23 Dec 2000; 3-5 Jan 2001. Southern Hemisphere 4-6 May; 6-11, 27-29 Jun; 27 Jul-2 Aug; 21-23 Oct; 16-19 Nov; 13-15 Dec 2000. These can be studied for their own geophysical effects or may be "geophysical noise" to other experiments. The Leonid shower is projected to be strong in 2000. Peak activity is expected at 04 UT and 08 UT on November 18, 2000.
- GAW (Global Atmosphere Watch)** – early warning system for changes in greenhouse gases, ozone layer, and long range transport of pollutants. (See Explanations.)
- ISCS (International Solar Cycle Studies)** – SCOSTEP Project. Observing Program 1998-2002: Study of processes associated with the rising and maximum phase of the solar cycle. (See Explanations.)
- S-RAMP** – SCOSTEP Project. Solar Terrestrial Energy Program (S) - Results, Applications, and Modeling Phase (RAMP). (See Explanations.)
- + Incoherent Scatter Coordinated Observations Days** (see Explanations) starting at 1300 UT on the first day of the intervals indicated, and ending at 1600 UT on the last day of the intervals: 6-7 Jan POLITE; 14-17 Mar Global Convection/Hi-TRAC; 4-26 Apr WLS month-long alert (11-13 Apr default)/SPARC; 13-14 Jun POLITE; 5-7 Jul Mid-July Baseline; 4-29 Sep LTCS month-long alert (21-27 Sep default)/TIMED; 24-27 Oct Global ionosphere-thermosphere Coupling/WLS/SPARC; 4-22 Dec LTCS month-long alert (11-15 Dec default)/TIMED.

where Hi-TRAC= High Time Resolution Auroral Radar Convection (J. Holt – jmh@haystack.mit.edu);  
 LTCS = Lower Thermosphere Coupling Study (C. Fessen - fessen@tides.utdallas.edu);  
 POLITE=Plasmaspheric Observations of Light Ions in the Topside Exosphere (P. Erickson – pje@haystack.mit.edu);  
 SPARC = Researchers in upper atmospheric and space physics (T. Killeen – tkilleen@umich.edu);  
 TIMED = Thermosphere Ionosphere Mesosphere Energetics Dynamics satellite (J. Salah – jes@haystack.mit.edu);  
 WLS = Wide-Latitude Substorm Dynamics (J. Foster – jcf@hyperion.haystack.edu).  
 (See [http://www.eiscat.uit.no/URSI\\_ISWG](http://www.eiscat.uit.no/URSI_ISWG) for complete definitions.)

# 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 Space Environment Service (ISES)** with the advice of spokesmen for the various scientific disciplines.

The **Solar Eclipses** are:

a.) **5 February 2000 (partial) eclipse** visible in the South Pacific Ocean near Antarctica, crosses the Ross Sea, crosses Antarctica in parts of Victoria Land and Wilkes Land, and extends into the central southern Indian Ocean. Magnitude 59%.

b.) **1 July 2000 (partial) eclipse** visible in the central southern Pacific Ocean just North of Antarctica, moves across the southern most part of Chile and Argentina, ends in the South Atlantic Ocean. Magnitude 48%.

c.) **31 July 2000 (partial) eclipse** visible in northern part of Greenland, NW continental U.S. (western parts of Dakotas, Colorado, NW Utah, mid-Nevada and mid-California), western Canada, Alaska, northern Russia, northern Scandinavia. Magnitude 60%.

d.) **25 December 2000 (partial) eclipse** visible through all North America (only at sunrise in NW U.S.) except Alaska, western Atlantic Ocean, south Greenland, Central America down to Nicaragua, northern tip of Colombia and Venezuela, including Aruba and other Caribbean islands SE to Løeward Islands, east to Azores. Magnitude 72%.

(Description by Dr. Jay Pasachoff, Williams College, Chair of IAU WG on Solar Eclipses, jmp@williams.edu with input from Fred Espenak, NASA GSFC. See <http://umbra.gsfc.nasa.gov/eclipse/predictions/eclipse-paths.html> and [www.williams.edu/Astronomy/IAU\\_eclipses](http://www.williams.edu/Astronomy/IAU_eclipses).)

**Meteor Showers** (selected by R. Hawkes, Mount Allison Univ, Canada (rhawkes@mta.ca)) include important visual showers and also unusual showers observable mainly by radio and radar techniques. The dates are given in Note 1 under the Calendar.

## 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) = MONSEE study intervals  
For more detailed explanations of the definitions, please see one of the following or contact H. Coffey (address below): *Solar-Geophysical Data*, October issue; *URSI Information Bulletin*; *COSPAR Information Bulletin*; *IAGA News*; *IUGG Chronicle*; *WMO Bulletin*; *IAU Information Bulletin*; *Journal of the Radio Research Laboratories (Japan)*; *Geomagnetism and Aeronomy (Russia)*; *Journal of Atmospheric and Terrestrial Physics (UK)*; *EOS Magazine (AGU/USA)*, WWW homepage <http://www.sec.noaa.gov/ises/ises.html>.

**Priority recommended programs for measurements not**

The **International Space Environment Service (ISES)** is a permanent scientific service of the International Union of Radio Science (URSI), with the participation of the International Astronomical Union (IAU) and the International Union of Geodesy and Geophysics (IUGG). ISES adheres to the Federation of Astronomical and Geophysical Data Analysis Services (FAGS) of the International Council for Science (ICSU). The ISES coordinates the international aspects of the world days program and rapid data interchange.

This Calendar for 2000 has been drawn up by H.E. Coffey, of the ISES Steering Committee, in association with spokesmen for the various scientific disciplines in SCOSTEP, IAGA, URSI and other ICSU organizations. Similar Calendars are issued annually beginning with the IGY, 1957-58, and are published in various widely available scientific publications.

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**Additional copies are available upon request to ISES Chairman, Dr. Katsuhiko Marubashi, Space Science Division, Communications Research Laboratory, 4-2-1 Nukui-kita, Koganei-shi, Tokyo 184-8795, Japan, Fax number +81-42-327-6677, e-mail kmaru@crl.go.jp or ISES Secretary for World Days, Miss Helen Coffey, WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder, Colorado 80303, USA, Fax number (303)497-6513, e-mail hc Coffey@ngdc.noaa.gov.**

The calendar is available on-line at <http://www.sec.noaa.gov/ises/ises.html>.

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 are the RGD each Wednesday, beginning on 5 January 2000 at 0000 UT, 12 January at 0600 UT, 19 January at 1200 UT, 26 January at 1800 UT, etc. Minimum program is PRWDs.

**Geomagnetic Phenomena** — At minimum, need observation periods and data reduction on RWDs and during **MAGSTORM Alerts**.

**Ionospheric Phenomena** — Quarter-hourly ionograms; more frequently on RWDs, particularly at high latitude sites; f-plots on RWDs; hourly ionogram scaled parameters 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 **WGIs** or **Airglow and Aurora** periods. **Special programs**; Dr. A. P. van Eyken, EISCAT Scientific Assoc., Ramfjordmoen, N-9027 Ramfjordbotn, Norway, URSI Working Group G.5; tel. +47 77692166; Fax +47 77692380; e-mail [tony@eiscat.no](mailto:tony@eiscat.no). See [http://www.eiscat.uit.no/URSI\\_ISWG](http://www.eiscat.uit.no/URSI_ISWG).

**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** — **WGIs**.

**All Programs** — Appropriate intensive observations during unusual meteor activity.

**Meteorology** — Especially on RGDs. On **WGIs** and **STRATWARM** Alert Intervals, please monitor on Mondays and Fridays as well as Wednesdays.

**GAW (Global Atmosphere Watch)** — WMO program to integrate monitoring of atmospheric composition. Early warning system of changes in atmospheric concentrations of greenhouse gases, ozone, and pollutants (acid rain and dust particles). WMO, 41 avenue Giuseppe-Motta, P.O. Box 2300, 1211 Geneva 2, Switzerland.

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

**ISCS (International Solar Cycle Studies)** — SCOSTEP Project. 1998-2002 observations and analyses of underlying and resulting processes associated with the rising and maximum phase of the solar cycle. Contacts: S.T. Wu, Univ of Alabama, Huntsville Dept Mech Eng & Ctr for Space Plasma & Aeron Res, Huntsville, AL 35899 USA (205)895-6413, Fax (205)895-6328, [wu@cspar.uah.edu](mailto:wu@cspar.uah.edu), V. Obridko, IZMIRAN, Solar Physics Dept, 142092 Troitsk, Moscow, Russia. 095-334-0926; Fax 095-334-0124, [obridko@lars.izmiran.troitsk.su](mailto:obridko@lars.izmiran.troitsk.su).

**S-RAMP** — Global coordinated ground-based and space-borne observations of space weather phenomena covering the entire space weather chain from the surface of the Sun to the effects on the near-Earth space and ground-based technological systems. Contacts: Dr. David Boteler ([boteler@geolab.nrcan.gc.ca](mailto:boteler@geolab.nrcan.gc.ca)) and Dr. Phil Wilkinson ([phil@ips.gov.au](mailto:phil@ips.gov.au)). See [www.ngdc.noaa.gov/stp/SRAMP/sramp.html](http://www.ngdc.noaa.gov/stp/SRAMP/sramp.html).

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