

International Geophysical Calendar 2007 (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	
JANUARY		1	2	3 ^F	4	5	6	1	2	3	4	5	6	7	JULY
	7	8	9	10 [*]	11	12	13	8	9	10	11	12	13	14 ^N	
	14	15	16	17 [*]	18 [*]	19 ^N	20 ⁺	15	16	17 [*]	18 [*]	19	20	21	
	21 ⁺	22 ⁺	23 ⁺	24	25	26	27	22	23	24	25	26	27	28	
	28	29	30	31	1	2 ^F	3	29	30 ^F	31	1	2	3	4	
FEBRUARY	4	5	6 ⁺	7 ⁺	8 ⁺	9 ⁺	10 ⁺	5	6	7	8	9	10	11	AUGUST
	11 ⁺	12 ⁺	13 ⁺	14 ⁺	15 ⁺	16 ⁺	17 ^N	12 ^N	13	14 [*]	15 [*]	16	17	18	
	18	19	20	21	22	23	24	19	20	21	22	23	24	25	
	25	26	27	28	1 ⁺	2 ⁺	3 ^{F+}	26	27	28 ^F	29	30	31	1	
MARCH	4 ⁺	5 ⁺	6 ⁺	7	8	9	10	2	3	4	5	6	7	8	SEPTEMBER
	11	12	13	14	15	16	17	9	10	11 ⁺	12 ⁺	13 ⁺	14	15	
	18	19 ^N	20 [*]	21 [*]	22	23	24	16	17	18	19	20	21	22	
	25	26	27	28	29	30	31	23	24	25	26 ^F	27	28	29	
APRIL	1	2 ^F	3	4	5	6	7	30	1	2	3	4	5	6	
	8	9	10	11	12	13	14	7	8	9	10 [*]	11 ^N	12	13	OCTOBER
	15	16	17 ^N	18 [*]	19	20	21	14	15	16	17	18	19	20	
	22	23	24	25	26	27	28	21	22	23	24	25	26 ^F	27	
	29	30	1 ⁺	2 ^{F+}	3 ⁺	4	5	28	29	30	31	1	2	3	
MAY	6	7	8	9	10	11	12	4	5	6	7 [*]	8 [*]	9 ^N	10	NOVEMBER
	13	14	15	16 ^N	17 [*]	18	19	11	12	13	14	15	16	17	
	20	21	22	23	24	25	26	18	19	20	21	22	23	24 ^F	
	27	28	29	30	31	1 ^F	2	25	26	27	28	29	30	1	
JUNE	3	4	5	6	7	8	9	2	3	4	5	6	7	8	DECEMBER
	10	11	12	13	14	15 ^N	16	9 ^N	10 ⁺	11 ⁺	12 ⁺	13 ⁺	14 ⁺	15 ⁺	
	17	18	19 ⁺	20 ⁺	21 ⁺	22 ⁺	23 ⁺	16 ⁺	17 ⁺	18 ⁺	19 ⁺	20 ⁺	21 ⁺	22	
	24	25	26	27	28	29	30 ^F	23	24 ^F	25	26	27	28	29	
	S	M	T	W	T	F	S	30	31	1	2	3	4	5	2008
								6	7	8 ^N	9 [*]	10	11	12	JANUARY
								13	14	15	16	17	18	19	
								20	21	22 ^F	23	24	25	26	
								27	28	29	30	31			
								S	M	T	W	T	F	S	

16 Regular World Day (RWD)

17 Priority Regular World Day (PRWD)

14 Quarterly World Day (QWD)

also a PRWD and RWD

3 Regular Geophysical Day (RGD)

12 13 World Geophysical Interval (WGI)

⁺ Incoherent Scatter Coordinated Observation Day

N NEW MOON F FULL MOON

19 Day of Solar Eclipse: Mar 19 and Sep 11

18 19 Airglow and Aurora Period

17* Dark Moon Geophysical Day (DMGD)

NOTES on other dates and programs of interest:

1. Days with **significant meteor shower** activity (based on UT in year 2007) — regular meteor showers: Jan 1-6, peak Jan 04 0322 UT (Quadrantids); Apr 16-25, peak Apr 23 01h UT (Lyrids); Apr 19-May 28, peak May 05 09h UT, broad component peaks at May 07 23h UT (Eta-Aquariids); May 22-July 02, peak Jun 07 23h UT (Daytime Arietids); May 20-July 05, peak Jun 09 22h UT (Daytime Zeta-Perseids); Jun 05-July 17, peak Jun 28 21h (Daytime Beta-Taurids); Jul 8-Aug 19, peak Jul 29 04h UT (S. Delta-Aquariids); Jul 17-Aug 24, peak Aug 13 0957 UT (Perseids); Sep 26-Oct 03, peak Oct 02 01h UT (Daytime Sextantids); Oct 02-Nov 07, peak Oct 22 12h UT, bright meteors peak at Oct 18 09h UT (Orionids); Oct 31-Nov 23, peak Nov 17 23h UT (Leonids); Nov 27-Dec 18, peak Dec 14 1356 UT (Geminids); Dec 17-26, peak at Dec 23 08h UT 2007 (Ursids). **Meteor outbursts** are unusual showers (often of short duration) from the crossing of relatively recent comet ejecta. Dates for year 2007: Apr 28, 1728 UT; Aug 12, 2242 UT; Sep 1, 1137 UT; Nov 18, 2303 UT; Dec 21, 0340 UT; Dec 22, about 20h UT — see the long text for more information on these outbursts.

These can be studied for their own geophysical effects or may be “geophysical noise” to other experiments.

2. **GAW (Global Atmosphere Watch)** -- early warning system for changes in greenhouse gases, ozone layer, and long range transport of pollutants -- http://www.wmo.ch/web/arep/gaw/gaw_home.html. (See Explanations.)
3. **CAWSSES (Climate and Weather of the Sun-Earth System)** -- SCOSTEP Program 2004-2008. Theme areas: Solar Influence on Climate; Space Weather: Science and Applications; Atmospheric Coupling Processes; Space Climatology; and Capacity Building and Education. <http://www.bu.edu/cawses> (See Explanations.) (S. Basu --sbasu@cawses.bu.edu)
4. **IHY (International Heliophysical Year) 2007** – International effort to advance our understanding of the fundamental heliophysical processes that govern the Sun, Earth, and Heliosphere — <http://ihy2007.org/>. See also the IPY (International Polar Year) — <http://www.ipy.org/>; IYPE (International Year of the Planet Earth) — <http://www.yearofplanetearth.org/>, and eGY (Electronic Geophysical Year 2007-2008) — <http://www.egy.org/> — all celebrating the 50th Anniversary of the IGY (International Geophysical Year 1957-58) <http://www.nas.edu/history/igy/>
5. + **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: **20-23 Jan** -- latitude dependence of **TIDs**; **6-16 Feb (10 days whenever StratWarms first occur after 6 Feb) Stratospheric Warmings** studies; **1-6 Mar** Start of IPY **TEC mapping**; **1-3 May - Synoptic**; **19-23 Jun MST/ISR, Synoptic**; **11-13 Sep Synoptic**; **10-21 Dec (10 days whenever StratWarms first occur after 9 Dec) Stratospheric Warmings**. See http://people.ece.cornell.edu/wes/URSI_ISWG/2007WDSchedule.htm.
where **Synoptic**= Wide coverage of the F-region, with topside or E-region also (W. Swartz -- wes@ece.cornell.edu);
Stratospheric Warmings = Dynamics and temperature of the lower thermosphere during sudden stratospheric warming (L. Goncharenko -- lpg@haystack.mit.edu);
TEC Mapping = ISR/GPS Coordinated Observation of Electron Density Variations (Shun-Rong Zhang -- shunrong@haystack.mit.edu)
TIDs = Latitude dependence of the F-Region plasma variations during the passage of large- and medium-scale Traveling Ionospheric Disturbances (TIDs) -- (T. Tsugawa -- tsugawa@stelab.nagoya-u.ac.jp)
MST = Studies of the Mesosphere, Stratosphere, and Troposphere--Coordinated D- and E-region campaigns in high resolution MST mode (G. Lehmacher -- glehmac@clemson.edu);
AO = Arecibo Obs (<http://www.naic.edu/aisr/olmon2/omframedoc.html>);
JRO = Jicamarca Radio Obs (http://jro.igpp.gov.pe/english/radar/operation/real-time_en.php);
IPY = **IPY-long observations with the EISCAT Svalbard ISR** (Tony.van.Eyken@eiscat.se -- <https://e7.eiscat.se/groups/IPY>)

FINAL EDITION, November 2006

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:

The only solar eclipses in 2007 will be partial; no total or annular solar eclipses will occur.

a.) 19 March 2007 (partial) eclipse peaks at 0232 UT, with a maximum of 87% coverage. Over 80% of the sun will be covered from northwestern Russia and 60% from Iran, Afghanistan, Pakistan, Northern India, northwestern China, western Mongolia and western Russia. Thailand, Cambodia, Vietnam, eastern China, and southeastern and northeastern Japan are barely within the zone of partial eclipse.

b.) 11 September 2007 (partial) eclipse visible only from South America and the part of Antarctica facing that continent, with maximum coverage of 75%. The farther south, the greater the eclipse, extending up to almost 60% in Patagonia, 50% in Buenos Aires, and almost 40% in Rio de Janeiro.

(Information provided by Jay M. Pasachoff on behalf of the Working Group on Eclipses of the International Astronomical Union based on maps by Fred Espenak, NASA's Goddard Space Flight Center. See <http://www.totalsolareclipse.net> and <http://sunearth.gsfc.nasa.gov/eclipse/OH/OH2007.html>. See also the IAU Program Group on Public Education at the Times of Eclipses site: <http://www.eclipses.info>.

Meteor Showers (selected by P. Jenniskens, SETI Institute, Mountain View, CA, pjenniskens@mail.arc.nasa.gov) 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. See extended text for more details.

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): [URSI Information Bulletin](#); [COSPAR Information Bulletin](#); [IAGA News](#); [IUGG Chronicle](#); [WMO Bulletin](#); [IAU Information Bulletin](#); [Geomagnetism and Aeronomy \(Russia\)](#); [Journal of Atmospheric and Terrestrial Physics \(UK\)](#); [ISES homepage](#)

<http://www.ises-spaceweather.org/>.

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 are the **RGD** each Wednesday, beginning on 3 January 2007 at 0000 UT,

10 January at 0600 UT, 17 January at 1200 UT, 24 January at 1800 UT, etc. Minimum program is **PRWDs**.

Geomagnetic Phenomena — At the 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 **WGI**s or **Airglow and Aurora** periods. **Special programs:** Dr. Wes Swartz, School of Electr. & Computer Eng., Cornell University, Ithaca, NY 14853 USA; tel.

607-255-7120; Fax 607-255-6236; e-mail wes@ece.cornell.edu.

URSI Working Group G.5. See

http://people.ece.cornell.edu/wes/URSI_ISWG/2007WDSchedule.htm.

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 — Appropriate 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.

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.

CAWSES (Climate and Weather of the Sun-Earth System)

-- SCOSTEP Program 2004-2008. Focus on fully utilizing past, present, and future data; and improving space weather forecasting, the design of space- and Earth-based technological systems, and understanding the solar-terrestrial influences on Global Change. Contact is Su. Basu (sbasu@bu.edu), Chair of CAWSES Science Steering Group. Program "theme" areas: Solar Influence on Climate; Space Weather: Science and Applications; Atmospheric Coupling Processes; Space Climatology; and Capacity Building and Education. See <http://www.bu.edu/cawses/>.

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

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 2007 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. PDF versions are available online at ftp://ftp.ngdc.noaa.gov/STP/SOLAR_DATA/IGC_CALENDAR.

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Additional copies are available upon request to either ISES Director, Dr. David Boteler, Geomagnetic Laboratory, Natural Resources Canada, 7 Observatory Crescent, Ottawa, Ontario, Canada, K1A 0Y3, FAX (613)824-9803, e-mail dboteler@NRCan.gc.ca, or ISES Secretary for World Days, Ms. Helen Coffey, WDC-A for Solar-Terrestrial Physics, NOAA E/GC2, 325 Broadway, Boulder, Colorado 80305, USA, Fax number (303)497-6513, e-mail Helen.E.Coffey@noaa.gov.

The calendar is available on-line at <http://www.ises-spaceweather.org/>.