Select start of calculation:

Date: 28 September 2015

Time: 05 : 15 : 00 . 00 in TDT Now

Select duration: 30 Minutes go!

The Calendar-Sky

The astronomical calendar contains **thousands of events per day** for every point on Earth. We know that you only care for a very few of these events and hence we let you personalize your own Astro-Calendar. You may primarily do so by switching to your appropriate user level, and by selecting some of the three dozens categories.

In parentheses are forced limits for the maximum calculation interval. The celestial calendar is to be found further below on this page and will appear within some seconds after pressing the *Go!*-Button (depending on the complexity of your selections). The calendar is created especially for you. The higher your user level, the more complex objects you selected, the longer it does take to calculate. *Please do not press the reload-button*; the calculations will take significantly longer.

Calendar and Timekeeping

- Space Calendar: Birthdays, Rocket Launches
- Local Events (Talks, Exhibitions)
- NASA TV Guide
- Local Telescope Dealers
- Public Holidays
- Saint's Day
- Zodiac of today. Change of Zodiac
- Islamic, Indian, Persian and Hebrew Calendar
- Week Number
- Sundials / GPS Time / Current Time Definitions
- Julian Day Number
- Sidereal Time
- Local Magnetic Field

General events

- Lunar Occultations (2 months)
- Planetary Conjunctions
- Lunar Eclipses
- Solar Eclipses and Transits
- Meteor Showers
- Planetary Phenomena
- Lunar Phenomena
- The Sun
- Asteroids (6 months)
- Comets

Earth orbiting satellites

- Space Station ISS (1 month)
- short duration Flares of Iridium satellites (14 days)
- Passes of other bright satellites (*1 day*, slow!)

Daily reoccurring events

- Graphical night calendar
- Sun and Moon
- Planets
- Asteroids
- Comets
- Meteor Showers
- Polar Star Transits
- Weather Balloons

Dimmer and more difficult objects

- Jupiter: Great Red Spot and satellite events
- Jupiter's Satellites: position
- Saturn: Satellite events and storms
- Saturn's Satellites: position
- Zodiacal light/Gegenschein
- Variable Stars (3 months)
- Supernovae
- Binary Stars

Deep sky objects

- Star chart
- Milky Way
- Galaxies
- Open Star Clusters
- Globular Star Clusters
- Nebula

go!

Monday 28 September 2015

Time (24-hour clock)	Object (Link)	Event
	Observer Site	Loupian, France, France WGS84: Lon: +3d36m49.92s Lat: +43d26m57.69s Alt: 80m All times in CET or CEST (during summer)
5h15m00s	Geosats flare season	**There will be flares from geostationary satellites today!** Geostationary satellites are usually very dim objects, comparable with Pluto. Today, some can get so bright for some minutes, that they can be seen with the unaided eye. Look for them at the optimal coordinates and time given below and with patience. The satellites will move slowly through the stellar field, about one or one cluster every 5 minutes. And the Geostationary satellites get totally eclipsed tonight. They disappear completely in the shadow of Earth at about the same spot on the celestial sphere one after the other, about one satellite or cluster every 5 minutes. With a little patience this can be easily observed through a smaller telescope. • Umbral shadow eclipse: Satellites disappear at RA=23h20m Dec=-6.1° and reappear at RA= 0h29m Dec=-6.3° Duration=65.9 minutes • Penumbral eclipse: Satellites start fading at RA=23h18m Dec=-6.1°, full brightness: RA= 0h32m Dec=-6.3° Duration=70.3 minutes, duration of fading until total eclipse: 2.2 minutes • **Optimal coordinates** to look for geostationary satellites at this time: RA= 0h32m Dec=-6.3°, az=236.6° h=22.2° (Penumbra eclipse ends) The Sun is at Dec=-1.9°, flare angle=5.7° • There is no optimal time to observe geostationary satellites. Observe them whenever you like during the night.
5h15m36s	Okean-O Rocket (25861 1999-039-B) →Ground track →Star chart	**Appears horizon 5h09m31s 6.7mag az: 11.7° NNE** **Disappears h:65.8° 5h15m36s 2.5mag az:359.2° N** 
5h15m38s	Yaogan 25 Rocket (40341 2014-080-D) →Ground track →Star chart	**Appears horizon 5h06m30s** 9.2mag az:321.5° NW **Culmination h:73.0° 5h15m37s 6.1mag** az:237.4° **WSW** distance: 1098.7km height above Earth: 1057.9km elevation of Sun: -26° angular velocity: 0.37°/s **at Meridian h:60.0° 5h16m49s** 6.4mag az:180.0° S **Disappears horizon 5h25m17s** 9.5mag az:153.0° SSE 

5h18m28s	Cosmos 2428 Rocket (31793 2007-029-B) →Ground track →Star chart	**Appears** 5h10m26s 6.2mag az:338.9° NNW horizon **at Meridian** 5h15m38s 4.7mag az: 0.0° N h:26.3° **Culmination** 5h18m28s **4.1mag** az: 59.1° **ENE** **h:47.0°** distance: 1111.6km height above Earth: 852.3km elevation of Sun: -26° angular velocity: 0.37°/s **Disappears** 5h26m26s 6.5mag az:139.0° SE horizon
5h22m24s	USA 16/NOSS 1-7A (16624 1986-014-E) →Ground track →Star chart	**Appears** 5h22m24s 6.4mag az: 47.1° NE h:45.9° **Disappears** 5h27m16s 10.8mag az: 38.0° NE horizon Time uncertainty of about 31 seconds
5h25m25s	Lacrosse 5 Rocket (28647 2005-016-B) →Ground track →Star chart	**Appears** 5h23m21s 4.4mag az:158.5° SSE h:16.1° **Culmination** 5h25m25s **4.6mag** az:122.5° **ESE** **h:21.8°** distance: 1359.8km height above Earth: 620.0km elevation of Sun: -25° angular velocity: 0.31°/s **Disappears** 5h31m41s 8.3mag az: 58.1° ENE horizon Time uncertainty of about 1 seconds
5h26m10s	USA 209/STSS Demo SV-2 (35938 2009-052-B) →Ground track →Star chart	**Appears** 5h14m55s 8.9mag az:313.2° NW horizon **at Meridian** 5h25m35s 6.4mag az: 0.0° N h:75.1° **Culmination** 5h26m10s **6.5mag** az: 42.6° **NE** **h:79.0°** distance: 1375.1km height above Earth: 1354.2km elevation of Sun: -24° angular velocity: 0.29°/s **Disappears** 5h37m23s 9.8mag az:131.5° SE horizon
5h33m21s	NOSS 6 (D) (14729 1984-012-D) →Ground track →Star chart	**Appears** 5h33m21s 6.5mag az:104.2° ESE h:48.6° **Disappears** 5h38m15s 11.2mag az: 41.3° NE horizon Time uncertainty of about 0.7 minutes
5h35m27s	Cosmos 1602 Rocket (15332 1984-105-B) →Ground track →Star chart	**Appears** 5h35m01s 4.1mag az:230.2° SW h:67.9° **Culmination** 5h35m27s **4.1mag** az:278.9° **W** **h:75.0°** distance: 653.3km height above Earth: 633.2km elevation of Sun: -23° angular velocity: 0.67°/s **at Meridian** 5h37m45s 6.0mag az: 0.0° N h:28.2° **Disappears** 5h42m11s 8.4mag az: 7.2° N

		horizon
5h36m00s	USA 234/FIA Radar 2 (38109 2012-014-A) →Ground track →Star chart	**Appears** **5h26m57s** 9.1mag az: 48.7° NE horizon **at Meridian** **5h35m59s** 3.9mag az: 0.0° N h:89.4° **Culmination** **5h36m00s** **3.9mag** az:320.5° **NW** **h:89.5°** distance: 1106.1km height above Earth: 1106.1km elevation of Sun: -23° angular velocity: 0.38°/s **Disappears** **5h38m57s** 4.4mag az:231.4° SW h:36.3° 
5h37m15s	USA 208/STSS Demo SV-1 (35937 2009-052-A) →Ground track →Star chart	**Appears** **5h26m02s** 8.9mag az:313.3° NW horizon **at Meridian** **5h37m03s** 6.3mag az: 0.0° N h:85.3° **Culmination** **5h37m15s** **6.3mag** az: 44.7° **NE** **h:86.6°** distance: 1352.8km height above Earth: 1350.9km elevation of Sun: -23° angular velocity: 0.29°/s **Disappears** **5h48m28s** 9.8mag az:135.5° SE horizon 
5h37m49s	Cosmos 2082 Rocket (20625 1990-046-B) →Ground track →Star chart	**Appears** **5h37m43s** 4.0mag az:306.2° NW h:26.8° **Culmination** **5h37m49s** **4.0mag** az:307.9° **NW** **h:26.8°** distance: 1578.6km height above Earth: 849.1km elevation of Sun: -22° angular velocity: 0.27°/s **at Meridian** **5h41m50s** 5.5mag az: 0.0° N h:13.2° **Disappears** **5h45m26s** 7.0mag az: 17.6° NNE horizon 
5h39m12s	NOSS 6 (C) (14728 1984-012-C) →Ground track →Star chart	**Appears** **5h39m08s** 6.1mag az:128.1° SE h:54.2° **Culmination** **5h39m12s** **6.1mag** az:123.5° **ESE** **h:54.3°** distance: 522.1km height above Earth: 430.7km elevation of Sun: -22° angular velocity: 0.87°/s **Disappears** **5h44m24s** 11.2mag az: 40.8° NE horizon Time uncertainty of about 28 minutes 
5h39m58s	SJ 12 LM Rocket (36597 2010-027-B) →Ground track →Star chart	**Appears** **5h33m16s** 8.1mag az: 10.8° N horizon **at Meridian** **5h38m55s** 4.4mag az: 0.0° N h:52.1° **Culmination** **5h39m58s** **3.6mag** az:284.2° **WNW** **h:79.5°** distance: 655.2km height above Earth: 645.4km elevation of Sun: -22° angular velocity: 0.65°/s **Disappears** **5h41m09s** 4.0mag az:206.7° SSW h:48.2° 

5h40m54s	SES 5 Tk (38654 2012-036-C) →Ground track →Star chart	**Appears** **5h40m54s** 4.0mag az:119.3° ESE h:41.5° **Disappears** **5h47m13s** 10.5mag az: 62.6° ENE horizon
5h43m52s	Meteor 3M Rocket (27006 2001-056-F) →Ground track →Star chart	**Appears** **5h42m07s** 3.8mag az:224.6° SW h:34.6° **Culmination** **5h43m52s** **3.5mag** az:261.9° **W** **h:41.9°** distance: 1395.0km height above Earth: 1004.6km elevation of Sun: -21° angular velocity: 0.31°/s **Disappears** **5h52m23s** 6.3mag az:339.5° NNW horizon
5h44m45s	USA 131/DMSP 5D-2/F14 (24753 1997-012-A) →Ground track →Star chart	**Appears** **5h36m59s** 9.6mag az: 18.4° NNE horizon **Culmination** **5h44m45s** **6.3mag** az:100.4° **E** **h:52.2°** distance: 1035.5km height above Earth: 845.8km elevation of Sun: -21° angular velocity: 0.40°/s **at Meridian** **5h51m22s** 8.1mag az:180.0° S h:4.3° **Disappears** **5h52m27s** 8.4mag az:181.9° S horizon

18 Items/Events: Export to Outlook/iCal Print E-mail

Used satellite data set is from 26 September 2015

Hide glossary

Glossary:

Altitude/alt/h
Angular separation of the object from the local mathematical horizon. This accounts for refraction as well.

Appears
Local time at which the satellite appears visually. The first figure indicates the **visual brightness** of the object. The smaller the number, the brighter and more eye-catching it appears to an observer. The units are astronomical magnitudes [m]. **Azimuth** is given in degrees counting from geographic north clockwise to the east direction. The three-character direction code is given as well. In case the satellite exits from the Earth shadow and comes into the glare of the Sun, the elevation above horizon is given in degrees for this event. If this figure is omitted, the satellite is visible straight from the horizon.

at Meridian
Time of the transit of the meridian, i.e. the satellite is due South or due North. At this time, the satellite will not reach its highest point of the pass. Look for culmination.

Azimuth/az
Azimuth direction of the object is given in degrees counting from geographic north (0°) clockwise to the east direction. East is 90°, south 180°, and west 270°. The three-character direction code is given as well. For example, NNW stands for north-north-west.

Culmination
Time at which the satellite reaches his highest point in the sky as seen from the observer. For description of the figures see **Appears**.
Visually "better" passes of satellites are indicated by highlighting the information. The selection within the list of all possible transits is coupled with the observer level, the daylight, and several other conditions.

Dec., declination, DE
One coordinate used to indicate the position on the sky. It is the angular distance of the object from the

celestial equator. North pole, close to Polaris, is 90° north.

Disappears

Local time of visual disappearance of the satellite. This may either be the time at which the satellite moves below the observer's horizon or the entry of the object in the shadow of Earth (the elevation is given for this event). The low Earth orbiting (LEO) satellites are usually visible for about 10 seconds more than the listed time, when they start fading rapidly.

Duration

Duration of the umbral phase at the geographical point given (WGS84).

R.A., right ascension, RA

One coordinate used to indicate the position on the sphere. It is the angular distance of the object from the spring equinox measured along the celestial equator, expressed in hours of arc.

Remarks

These calculations are based on mean observed radiants and rates. For exceptional outbursts, these special predictions will be included as well.

Time and Date

Date of validity of calculated output in local time and date, taking into account daylight saving time as well (see the current time zone on the left of the Earth icon on top right of almost all pages). The time is given as hours:minutes:seconds, or 00h00m00s. The time may also be rounded and given in decimal form, in order to correspond to the accuracy of the calculation: e.g., 10.1h means that the event will take place at about 5 minutes past 10 o'clock. This may also happen for days: 4.3d corresponds to the fourth day at around 7 o'clock. The start time is taken as selected by you, i.e., this is *not* necessarily at midnight. For intervals shorter than one day, decimal days are given. Times are given in 24 hour format (0h00m is midnight, 12h: noon, 18h: 6 pm.)

WGS84 / Geographical Coordinates

Geographical coordinates are given by the angles longitude (Lon), latitude (Lat), and altitude in meters (Alt). A place north of the equator at marked by N or +, places south of the equator by S or -. The longitude from the meridian of Greenwich is counted positive towards east (E). Places west from Greenwich are marked W or by -. The geographical coordinates refer to an ellipsoid, which fits the true shape of the Earth (geoid). The geoid corresponds to calm sea surface. The keyword "Geographic:" uses the local ellipsoid as reference system. WGS84 mark coordinates referring to the WGS84 ellipsoid. The difference in altitude to the geoid sums up to 100 meters and is called geoid undulation. This is corrected for when tagged "MSL" (mean sea level), such that the origin of the height system is at sea level.

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Software Version: 28 September 2015
Database updated 18 min ago
Current Users: 387, Runtime: 3.2s

19 Oct 2015, 13:50 UTC
597 minutes left for this session