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Select start of calculation:

Date:

Time: : : . in TDT

Select duration:

geipan
gonneville, France

Easting: -1.466
Northing: 49.6391
Time zone: CET/
CEST

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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.















<p>Calendar and Timekeeping</p> <ul style="list-style-type: none"> <input type="checkbox"/> Space Calendar: <input type="checkbox"/> Birthdays, Rocket Launches <input type="checkbox"/> Local Events (Talks, Exhibitions) <input type="checkbox"/> NASA TV Guide <input type="checkbox"/> Local Telescope Dealers <input type="checkbox"/> Public Holidays <input type="checkbox"/> Saint's Day <input type="checkbox"/> Zodiac of today. <input type="checkbox"/> Change of Zodiac <input type="checkbox"/> Islamic, Indian, Persian and Hebrew Calendar <input type="checkbox"/> Week Number <input type="checkbox"/> Sundials / GPS Time / Current Time Definitions <input type="checkbox"/> Julian Day Number <input type="checkbox"/> Sidereal Time <input type="checkbox"/> Local Magnetic Field 	<p>General events</p> <ul style="list-style-type: none"> <input type="checkbox"/> Lunar Occultations (2 months) <input type="checkbox"/> Planetary Conjunctions <input type="checkbox"/> Lunar Eclipses <input type="checkbox"/> Solar Eclipses and Transits <input type="checkbox"/> Meteor Showers <input type="checkbox"/> Planetary Phenomena <input type="checkbox"/> Lunar Phenomena <input type="checkbox"/> The Sun <input type="checkbox"/> Asteroids (6 months) <input type="checkbox"/> Comets 	<p>Earth orbiting satellites</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Space Station ISS (1 month) <input type="checkbox"/> short duration Flares of Iridium satellites (14 days) <input checked="" type="checkbox"/> Passes of other bright satellites (1 day, slow!) <p>Daily recurring events</p> <ul style="list-style-type: none"> <input type="checkbox"/> Graphical night calendar <input type="checkbox"/> Sun and Moon <input type="checkbox"/> Planets <input type="checkbox"/> Asteroids <input type="checkbox"/> Comets <input type="checkbox"/> Meteor Showers <input type="checkbox"/> Polar Star Transits <input type="checkbox"/> Weather Balloons 	<p>Dimmer and more difficult objects</p> <ul style="list-style-type: none"> <input type="checkbox"/> Jupiter: Great Red Spot and satellite events <input type="checkbox"/> Jupiter's Satellites: position <input type="checkbox"/> Saturn: Satellite events and storms <input type="checkbox"/> Saturn's Satellites: position <input type="checkbox"/> Zodiacal light/Gegenschein <input type="checkbox"/> Variable Stars (3 months) <input type="checkbox"/> Supernovae <input type="checkbox"/> Binary Stars <p>Deep sky objects</p> <ul style="list-style-type: none"> <input type="checkbox"/> Star chart <input type="checkbox"/> Milky Way <input type="checkbox"/> Galaxies <input type="checkbox"/> Open Star Clusters <input type="checkbox"/> Globular Star Clusters <input type="checkbox"/> Nebula
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Wednesday 24 July 2013

Time (24-hour clock)	Object (Link)	Event
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	<p>Observer Site</p>	<p>gonneville, France WGS84: Lon: -1d27m57.68s Lat: +49d38m20.92s Alt: 156m All times in CET or CEST (during summer)</p>
<p>0h00m00s</p>	<p> USA 194/NOSS 3-4A (31701 2007-027-A) →Ground track →Star chart</p>	<p>Appears 23h50m29s 10.8mag az:315.4° NW horizon Culmination 23h59m45s 5.0mag az:238.7° WSW h:49.1° distance: 1379.5km height above Earth: 1097.4km elevation of Sun: -15° angular velocity: 0.30°/s at Meridian 0h03m17s 5.3mag az:180.0° S h:27.3° Disappears 0h04m56s 5.7mag az:171.4° S h:17.4°</p> 
<p>0h00m00s</p>	<p> USA 194-2/NOSS 3-4C (31708 2007-027-C) →Ground track →Star chart</p>	<p>Appears 23h50m36s 10.8mag az:315.4° NW horizon Culmination 23h59m52s 5.0mag az:238.6° WSW h:49.5° distance: 1373.1km height above Earth: 1097.2km elevation of Sun: -15° angular velocity: 0.30°/s at Meridian 0h03m20s 5.3mag az:180.0° S h:27.8° Disappears 0h05m02s 5.7mag az:171.1° S h:17.5°</p> 
<p>0h00m29s</p>	<p> NOSS 5 (C) (14143 1983-056-C) →Ground track →Star chart</p>	<p>Appears 23h55m52s 8.3mag az:212.3° SSW h:3.4° at Meridian 23h59m52s 5.2mag az:180.0° S h:50.9° Culmination 0h00m29s 5.0mag az:128.5° SE h:63.4° distance: 508.7km height above Earth: 458.9km elevation of Sun: -15° angular velocity: 0.92°/s Disappears 0h06m22s 9.5mag az: 44.6° NE horizon</p> 
<p>0h00m40s</p>	<p> USA 186/KH (28888 2005-042-A) →Ground track →Star chart</p>	<p>Appears 23h57m08s 6.3mag az:205.5° SSW h:8.2° Culmination 0h00m40s 6.1mag az:269.1° W h:27.8° distance: 1097.8km height above Earth: 579.0km elevation of Sun: -15° angular velocity: 0.41°/s Disappears 0h07m23s 11.2mag az:339.7° NNW horizon Time uncertainty of about 1 seconds</p> 
<p>0h02m44s</p>	<p> NOSS 5 (D) (14144 1983-056-D) →Ground track →Star chart</p>	<p>Appears 23h59m03s 8.3mag az:209.2° SSW h:7.9° at Meridian 0h02m01s 5.8mag az:180.0° S h:46.2° Culmination 0h02m44s 5.5mag az:128.0° SE h:59.9° distance: 524.6km height above Earth: 459.0km elevation of Sun: -15° angular velocity: 0.89°/s Disappears 0h08m37s 10.0mag az: 44.9° NE horizon</p> 
<p>0h04m19s</p>	<p> Yaogan 1 LM Rocket (29093 2006-015-B) →Ground track →Star chart</p>	<p>Appears 0h02m17s 3.4mag az:172.9° S h:24.6° at Meridian 0h03m21s 2.5mag az:180.0° S h:46.7° Culmination 0h04m19s 2.4mag az:257.1° WSW h:78.3° distance: 515.9km height above Earth: 506.2km elevation of Sun: -15° angular velocity: 0.87°/s Disappears 0h10m16s 9.0mag az:346.1° NNW horizon</p> 
<p>0h05m50s</p>	<p> USA 215/FIA Radar 1 (37162 2010-046-A) →Ground track</p>	<p>Appears 23h57m40s 6.9mag az: 60.3° ENE horizon Culmination 0h05m50s 4.9mag az:125.7° SE h:23.6° distance: 2120.1km height above Earth: 1104.6km</p> 

	→Star chart	elevation of Sun: -15° angular velocity: 11.5'/s Disappears 0h07m45s 5.0mag az:150.3° SSE h:20.7°	
☉ 0h07m06s	 Cartosat 1 (28649 2005-017-A) →Ground track →Star chart	Appears 0h04m19s 5.5mag az:173.5° S h:21.7° at Meridian 0h05m38s 4.6mag az:180.0° S h:40.8° Culmination 0h07m06s 4.4mag az:257.0° WSW h:75.7° distance: 643.6km height above Earth: 625.6km elevation of Sun: -15° angular velocity: 0.69°/s Disappears 0h13m39s 10.7mag az:345.5° NNW horizon	
☉ 0h08m02s	 Cosmos 1536 (14699 1984-013-A) →Ground track →Star chart	Appears 0h05m15s 5.0mag az:182.7° S h:20.3° at Meridian 0h06m18s 4.2mag az:180.0° S h:34.1° Culmination 0h08m02s 3.5mag az: 98.0° E h:79.6° distance: 590.2km height above Earth: 581.4km elevation of Sun: -15° angular velocity: 0.76°/s Disappears 0h14m24s 8.7mag az: 11.4° NNE horizon	
☉ 0h09m31s	 IGS 5 (36104 2009-066-A) →Ground track →Star chart	Appears 0h06m56s 5.4mag az:176.6° S h:22.4° at Meridian 0h07m36s 4.9mag az:180.0° S h:30.8° Culmination 0h09m31s 4.3mag az:257.6° WSW h:71.3° distance: 626.6km height above Earth: 596.5km elevation of Sun: -15° angular velocity: 0.71°/s Disappears 0h15m53s 10.7mag az:345.2° NNW horizon	
☉ 0h15m54s	 Cosmos 1697 Rocket (16182 1985-097-B) →Ground track →Star chart	Appears 0h07m49s 10.2mag az:332.0° NNW horizon at Meridian 0h14m23s 4.8mag az: 0.0° N h:45.5° Culmination 0h15m54s 3.7mag az: 57.3° ENE h:62.6° distance: 935.3km height above Earth: 843.5km elevation of Sun: -16° angular velocity: 0.45°/s Disappears 0h19m27s 4.5mag az:132.7° SE h:22.7°	
☉ 0h16m45s	 Iridium 82	Flare from MMA0 (Front antenna) Magnitude=-1.0mag Azimuth=258.9° W altitude= 31.1° in constellation Bootes RA=14h13.2m Dec=+16°40' Flare angle=1.28° Flare center line, closest point →MapIt: Longitude=0.645°W Latitude=+49.602° (WGS84) Distance=59.3 km Azimuth= 93.7° E Peak Magnitude=-6.5mag Satellite above: longitude=14.8°W latitude=+46.9° height above Earth=784.5 km distance to satellite=1339.8 km Altitude of Sun=-15.9°	
☉ 0h18m42s	 Cosmos 2322 Rocket (23705 1995-058-B) →Ground track →Star chart	Appears 0h10m50s 9.7mag az:333.5° NNW horizon at Meridian 0h15m49s 6.1mag az: 0.0° N h:21.3° Culmination 0h18m42s 4.3mag az: 47.4° NE h:33.0° distance: 1404.5km height above Earth: 861.6km elevation of Sun: -16° angular velocity: 0.30°/s Disappears 0h23m11s 4.7mag az:107.6° ESE h:13.0°	
☉ 0h20m52s	 Meteor 1-11 Rocket (05918	Appears 0h15m58s 6.1mag az:194.7° SSW h:13.6° Culmination 0h20m52s 4.5mag az:282.3° WNW	

	<p>1972-022-B) →Ground track →Star chart</p>	<p>h:81.2° distance: 858.8km height above Earth: 850.1km elevation of Sun: -16° angular velocity: 0.51°/s at Meridian 0h22m12s 5.4mag az: 0.0° N h:54.0° Disappears 0h29m00s 9.2mag az: 12.1° NNE horizon</p>	
0h21m40s	<p> Cosmos 2058 Rocket (20466 1990-010-B) →Ground track →Star chart</p>	<p>Appears 0h18m23s 5.4mag az:197.1° SSW h:17.6° Culmination 0h21m40s 4.0mag az:280.9° W h:74.1° distance: 654.2km height above Earth: 631.6km elevation of Sun: -16° angular velocity: 0.68°/s at Meridian 0h23m40s 6.1mag az: 0.0° N h:32.3° Disappears 0h28m25s 9.0mag az: 9.1° N horizon</p>	
0h22m57s	<p> SJ 11-03 (37730 2011-030-A) →Ground track →Star chart</p>	<p>Appears 0h20m15s 5.4mag az:170.1° S h:25.7° at Meridian 0h22m04s 4.5mag az:180.0° S h:59.0° Culmination 0h22m57s 4.5mag az:255.9° WSW h:81.7° distance: 703.8km height above Earth: 697.3km elevation of Sun: -16° angular velocity: 0.63°/s Disappears 0h29m55s 11.0mag az:345.7° NNW horizon</p>	
0h25m20s	<p> FENGYUN 1C DEB (32221 1999-025-CVT) →Ground track →Star chart</p>	<p>Appears 0h21m37s 4.0mag az:202.6° SSW h:13.4° Culmination 0h25m20s 3.6mag az:264.7° W h:34.8° distance: 1177.7km height above Earth: 737.3km elevation of Sun: -17° angular velocity: 0.37°/s Disappears 0h32m33s 9.0mag az:339.6° NNW horizon</p>	
0h25m48s	<p> Iridium 41</p>	<p>Flare from MMA0 (Front antenna) Magnitude= 1.9mag Azimuth=261.1° W altitude= 26.0° in constellation Bootes RA=14h01.8m Dec=+14°07' Flare angle=2.09° Flare center line, closest point →MapIt: Longitude=3.005°W Latitude=+49.728° (WGS84) Distance=111.1 km Azimuth=275.7° W Peak Magnitude=-6.5mag Satellite above: longitude=17.2°W latitude=+47.1° height above Earth=784.3 km distance to satellite=1500.6 km Altitude of Sun=-16.6°</p>	
0h27m39s	<p> Cosmos 1980 Rocket (19650 1988-102-B) →Ground track →Star chart</p>	<p>Appears 0h19m34s 9.6mag az:332.4° NNW horizon at Meridian 0h25m44s 4.8mag az: 0.0° N h:37.4° Culmination 0h27m39s 3.4mag az: 55.3° NE h:54.6° distance: 1008.3km height above Earth: 845.3km elevation of Sun: -17° angular velocity: 0.42°/s Disappears 0h31m09s 4.0mag az:125.3° SE h:22.3°</p>	

20 Items/Events: [Export to Outlook/iCal](#) [Print](#) [E-mail](#)

Used satellite data set is from 24 July 2013

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.

Flare angle

The angle between the direction of the mirrored image of the Sun and the observer. For bright flares, this angle must be as small as possible (i.e., the observer should be as close to the center line as possible).

Flare

The communication antennas and the solar panels reflect the sunlight almost as a perfect mirror. In case the observer lays within this reflected beam, the satellite suddenly appears very bright, as bright as the Moon in the first quarter; the light is even strong enough to cast shadows. Since the sunlight is bundled, the duration of the whole event is short, and lasts about 10 seconds. The indicated time is the center of the flare event; hence the satellite can be spotted some seconds earlier. Due to the shortness of the event, it is important to look in the right direction at the right time.

Iridium

Wireless worldwide communication system, which consists of 66 satellites that are in low Earth orbits. The user who has a rather small phone directly contacts one of the satellites, i.e., one of the three **Main**

Mission Antennas MMA (the three panels in the bottom of the image with a size of about $1 \times 2 \text{m}^2$). The satellites constellation consists of 6 planes with 11 satellites each (and some spares). Hence, another Iridium satellite passes at about the same place in the sky every 8 minutes.

Magnitude/Mag

Brightness of an object considered as a point source of light, on a logarithmic scale. Visual limiting magnitude is about 6mag, whereas the brightest star Sirius reaches -1.4mag. The Hubble Space Telescope can image objects as dim as 29mag.

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.

Sat above

Geographic coordinates of the sub-satellite point (in WGS84 coordinates). This is the point on Earth, from which the satellite is in the zenith at the indicated time. The altitude of the satellite from this point is given as "alt".

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 is 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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Database updated 11 min ago
Current Users: 280, Runtime: 2.3s

26 Nov 2014, 17:13 UTC
598 minutes left for this session [\[?\]](#) / Mode
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