

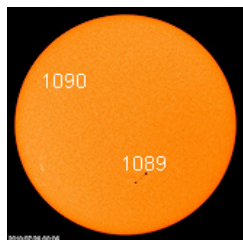


SPACE WEATHER
Current conditions

Solar wind
speed: 561.6 km/sec
density: 2.2 protons/cm³
[explanation](#) | [more data](#)
Updated: Today at 1456 UT

X-ray Solar Flares
6-hr max: B4 0955 UT
Jul27
24-hr: C2 0425 UT Jul27
[explanation](#) | [more data](#)
Updated: Today at: 1445 UT

Daily Sun: 26 Jul 10



Sunspot 1089 is showing an increase in activity, producing a C-class solar flare on July 27th. Credit: SOHO/MDI

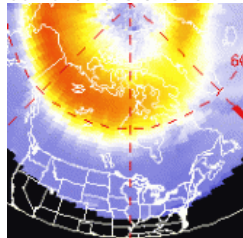
more images: [from John Stetson](#) of South Portland, Maine; [from Peter Paice](#) of Belfast, Northern Ireland; [from Cai-Uso Wohler](#) of Bispingen, Germany; [from Peter Desypris](#) of Island of Syros Greece;

Sunspot number: 39
[What is the sunspot number?](#)
Updated 24 July 2010

Spotless Days
Current Stretch: 0 days
2010 total: 35 days (17%)
2009 total: 260 days (71%)
Since 2004: 803 days
Typical Solar Min: 486 days
[explanation](#) | [more info](#)
Updated 24 July 2010

The Radio Sun
10.7 cm flux: 85 sfu
[explanation](#) | [more data](#)
Updated 24 July 2010

Current Auroral Oval:



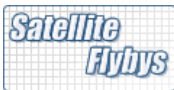
Switch to: [Europe](#), [USA](#), [New Zealand](#), [Antarctica](#)
Credit: NOAA/POES

Planetary K-index
Now: Kp= 4 **unsettled**
24-hr max: Kp= 4
unsettled
[explanation](#) | [more data](#)

Interplanetary Mag.

What's up in Space

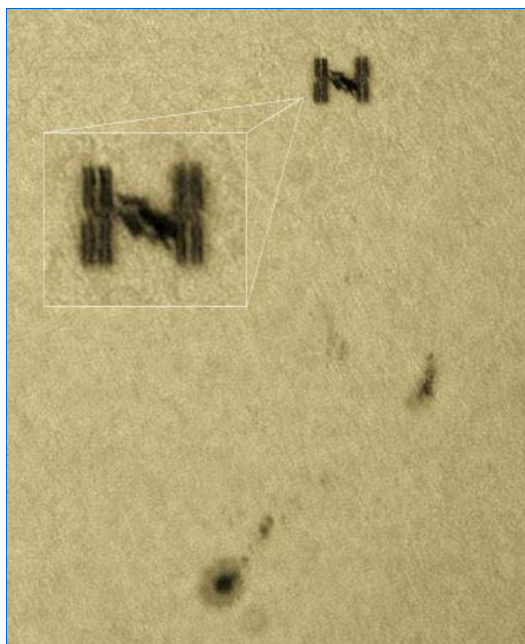
July 27, 2010



ANDROID FLYBYS: Our field-tested satellite tracker is now available for Android phones. Features: Global predictions and flyby alarms! [Learn more.](#)

C2-FLARE: This morning, July 27th at 0415 UT, magnetic fields around sunspot 1089 erupted, producing a C2-class solar flare. [Click here](#) and [here](#) to view movies of the blast recorded by NASA's Solar Dynamics Observatory.

SUNSPOT CONJUNCTION: Yesterday, the International Space Station (ISS) had a close encounter--with sunspot 1089:



Moving at 17,000 mph, the ISS flitted across the solar disk in less than half a second. Snap! Stephen W. Ramsden of Madison, Georgia, caught the space station just as it was passing by sunspot 1089. "I used an [Explore Scientific 127mm APO](#), a Lunt Solar Wedge, and a DMK41 digital camera," he says.

Look around the space station's silhouette. The graininess of the image there is not a defect. It's a real characteristic of the sun's surface, caused by the boiling motion of hot plasma. Researchers call it "granulation," and it is particularly obvious in contrast with the sharp outlines of the ISS. Ready for your own solar transit? Check [Calsky](#) for viewing times.

more images: [from John Stetson](#) of Falmouth, Maine

BREATHTAKING PLANETS: "Standing on the summit of Mount Lawu, 3265m above sea level on July 21st, I was treated to one of the most beautiful views of my life," reports Jia Hao of Java, Indonesia. "With reknowned Mount Merapi and Mount Merbabu soaked in twilight colors and city lights from Solo shining like stars, four of the major planets, Mercury, Venus, Mars and Saturn lined up in a row above western horizon."

Cool links:

archives

July

27

2010



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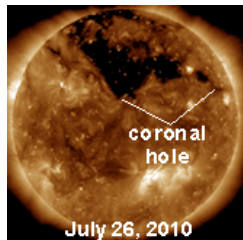
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Field
 B_{total} : 5.3 nT
 B_z : 2.1 nT north
[explanation](#) | [more data](#)
 Updated: Today at 1457 UT

Coronal Holes:



A solar wind stream flowing from the indicated coronal hole is gently buffeting Earth's magnetic field. Credit: SDO/AIA

SPACE WEATHER
 NOAA
 Forecasts

Updated at: 2010 Jul 26 2201 UTC

FLARE	0-24 hr	24-48 hr
CLASS M	01 %	01 %
CLASS X	01 %	01 %

Geomagnetic Storms:
 Probabilities for significant disturbances in Earth's magnetic field are given for three activity levels: [active](#), [minor storm](#), [severe storm](#)

Updated at: 2010 Jul 26 2201 UTC

Mid-latitudes

	0-24 hr	24-48 hr
ACTIVE	25 %	15 %
MINOR	10 %	05 %
SEVERE	01 %	01 %

High latitudes

	0-24 hr	24-48 hr
ACTIVE	30 %	20 %
MINOR	15 %	05 %
SEVERE	05 %	01 %



"The whole scene was simply surreal," he says, "and it did a much better job taking my breath away than the high altitude!"

Readers, take a deep breath, because this scene is about to get even better. Venus, Mars and Saturn are converging for a rare three-way conjunction in August. The show reaches its peak on August 12th and 13th when the crescent Moon joins them for a sunset gathering of surpassing beauty. Browse the sky maps for coming attractions: [July 26](#), [27](#), [28](#), [29](#), [30](#), [31](#), [August 1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#), [9](#), [10](#), [11](#), [12](#), [13](#)

[Solar Eclipse Photo Gallery](#)

[NASA: [South Pacific Eclipse](#)] [[animated map](#)]



Near-Earth Asteroids

Potentially Hazardous Asteroids (PHAs) are space rocks larger than approximately 100m that can come closer to Earth than 0.05 AU. None of the known PHAs is on a collision course with our planet, although astronomers are finding [new ones](#) all the time.

On July 27, 2010 there were **1140** potentially hazardous asteroids.

Upcoming Earth-asteroid encounters:

Asteroid	Date(UT)	Miss Distance	Mag.	Size
1999 JD6	Jul 27	53.9 LD	17	1.8 km
2010 KZ117	Aug 4	72.6 LD	18	1.0 km
6239 Minos	Aug 10	38.3 LD	18	1.1 km
2005 NZ6	Aug 14	60.5 LD	18	1.3 km
2002 CY46	Sep 2	63.8 LD	16	2.4 km
2010 LY63	Sep 7	56.1 LD	18	1.3 km
2009 SH2	Sep 30	7.1 LD	25	45 m
1998 UO1	Oct 1	32.1 LD	17	2.1 km
2005 GF59	Oct 1	77 LD	18	1.1 km
2001 WN5	Oct 10	41.8 LD	18	1.0 km
1999 VO6	Oct 14	34.3 LD	17	1.8 km
1998 TU3	Oct 17	69.1 LD	15	5.3 km
1998 MQ	Oct 23	77.7 LD	17	2.0 km
2007 RU17	Oct 29	40.6 LD	18	1.0 km
2003 UV11	Oct 30	5 LD	19	595 m
3838 Epona	Nov 7	76.8 LD	16	3.4 km
2005 QY151	Nov 16	77.7 LD	18	1.3 km

Notes: LD means "Lunar Distance." 1 LD = 384,401 km, the distance between Earth and the Moon. 1 LD also equals 0.00256 AU. MAG is the visual magnitude of the asteroid on the date of closest approach.

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Essential Links

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The official U.S. government space weather bureau

LINK [Atmospheric Optics](#)

The first place to look for information about sundogs, pillars, rainbows and related phenomena.

LINK [Solar and Heliospheric Observatory](#)

Realtime and archival images of the Sun from SOHO.

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3D views of the sun from NASA's Solar and Terrestrial Relations Observatory

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