Araucária DX Group
CURITIBA – BRASIL

http://dx.qsl.net/propagation/

Propagation

This page contains a dynamic collection of propagation information gathered from many different sources.

The current time is: 23:47 UTC on Thursday, July 03, 2003

Current Solar Indicies from WWV
03-Jul-2003 at 2105 UTC SFI = 132 A = 15 K = 3
Conditions during the last 24 hours
No space weather storms were observed for the past 24 hours.
Forecast for the next 24 hours
Space weather for the next 24 hours is expected to be minor. Radio blackouts reaching the R1 level are expected.

Solar Wind Data

Provides solar wind velocity and energetic particle intensity
Updated at: 2334Z on July 3, 2003

Velocity (km/s):	674.2
Density (protons/cm^3):	2.3

Penticton Observatory SFI Measurement

WWV only updates its SFI reading once a day at 2100Z
The Penticton solar observatory takes measurements at 1700Z, 2000Z, and 2300Z
(WWV uses the 2000Z Penticton measurement)

The Penticton Observatory SFI value on 3-Jul-2003 at 2300Z was:	137

Three Day SFI and A-index Forecast

(updated daily after 2200Z)
This report issued on Jul 03, 2003 at 2210Z

Date	SFI	A-index
03 Jul	135	25
04 Jul	138	25
05 Jul	141	20

Solar Activity Forecast
Solar activity is expected to be moderate. There is a good chance for M-class flare activity from Region 397. In addition, the magnetic structure of Region 400 suggests that it is likely to build shear and this should lead to frequent subflare activity.
Geophysical Activity Forecast
The geomagnetic field is expected to be mostly active for the next two days in response to a favorably positioned coronal hole. There may also be isolated periods of storm level activity. A gradual decline to unsettled to active is expected on the third day.

Recent Major Solar Flare Activity

(usually reported within 30 minutes of event peak)

Date	Time	Magnitude
02-Jul-2003	0728Z	M3.0

NOAA (American) Sunspot Number

This number is reported daily around 0225Z and reports
the number of sunspots observed in the previous 24 hour period

The NOAA Sunspot number for 2-Jul-2003 was: 153

Most recent five days (oldest first): **128 151 112 159 138**

GOES-8 Background X-ray Flux

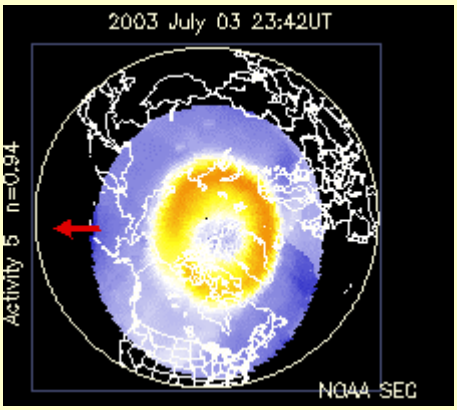
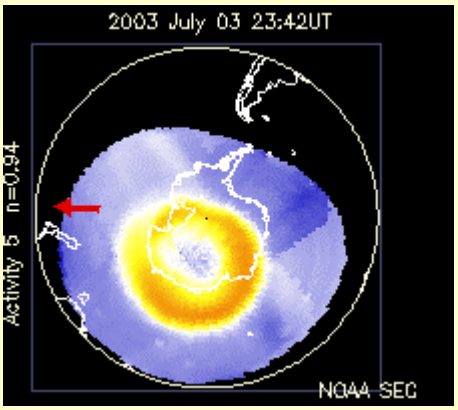
This value is reported daily around 0225Z and reports the
average background x-ray flux level as measured by the GOES-8 satellite

The GOES-8 Background X-ray Flux level on 2-Jul-2003 was: B4

Most recent five days (oldest first): **B3 B4 B3 B4 B3**

Auroral Activity

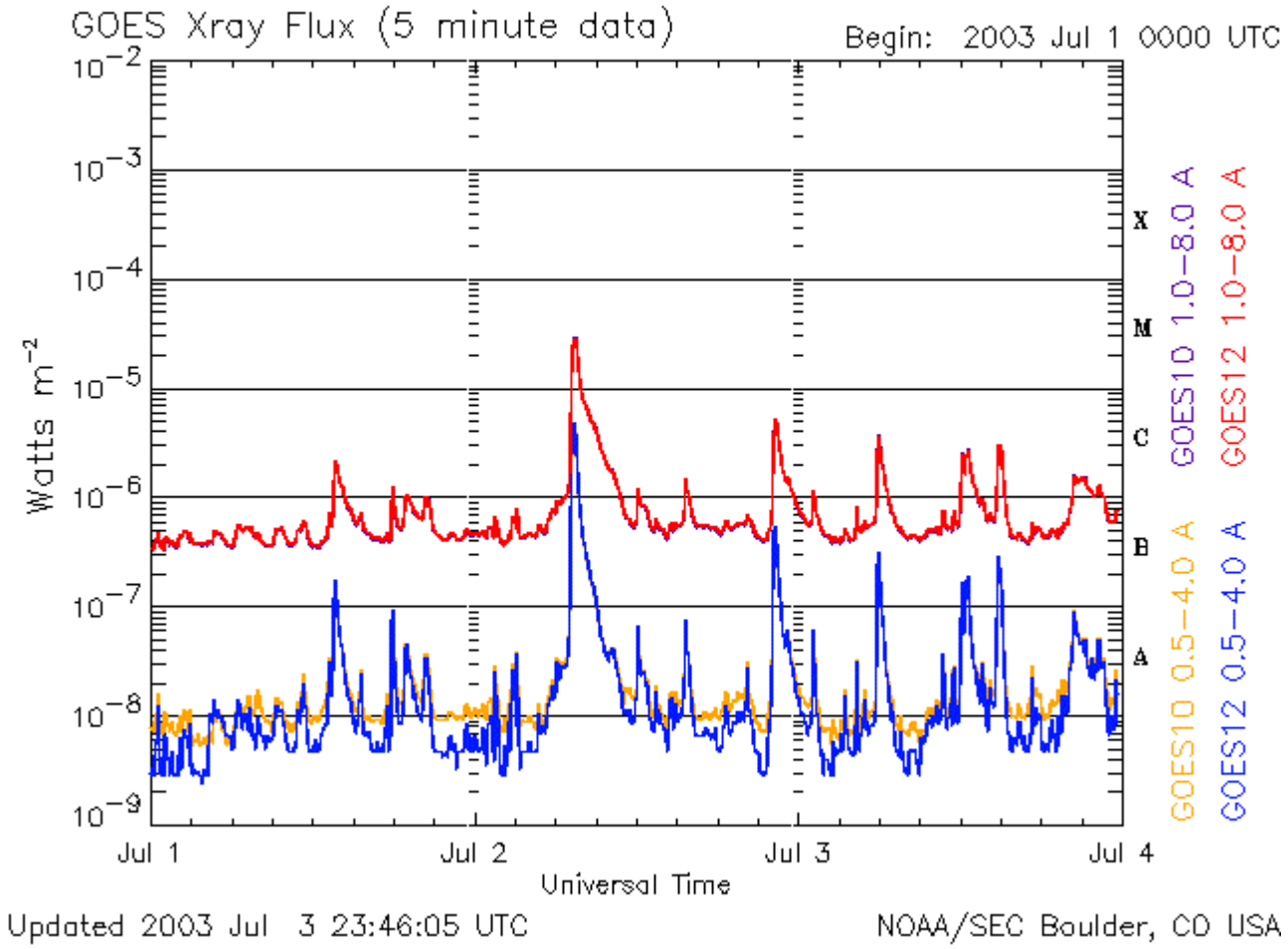
Aurora is caused by interaction between the Earth's magnetic field and the solar wind (a mix of charged particles blowing away from the sun). During solar storms, enough of these charged particles make it through to the Earth's upper atmosphere that they interact with the earths natural magnetic field lines. When enough of these particles collide, energy is released in the form of auroral light. In addition to creating a pretty light show (mostly in upper latitudes), radio signals scatter off of these particles and can greatly enhance propagation on 6 meters and above. High levels of aurora can also make HF propagation via polar routes difficult.

Real-Time Northern Hemisphere Auroral Activity	**Real-Time Southern Hemisphere Auroral Activity**
	

Click on thumbnails to view a larger image
Images courtesy of the NOAA Auroral Activity site

Solar X-ray Flux

This chart shows X-ray flux levels as measured by the GOES-8 and GOES-10 satellites. The GOES-8 measurements (shown in red) are used to issue "solar alerts" when X-ray flux levels exceed certain levels. Spikes on the chart correspond to solar flares. Flares are considered "significant" when flux levels rise above the "M" level (as shown on the right side of the chart). These large flares can often wipe out the bands almost immediately and it can take minutes to hours for the bands to recover. If the bands seem to go dead all of a sudden, it is always a good idea to check this chart to see if a large flare has occurred recently.



Dynamically updating plots:
5-minute X-ray | 1-minute X-ray | Satellite Environment
K-index | Proton Flux | Electron Flux | GOES Magnetometer

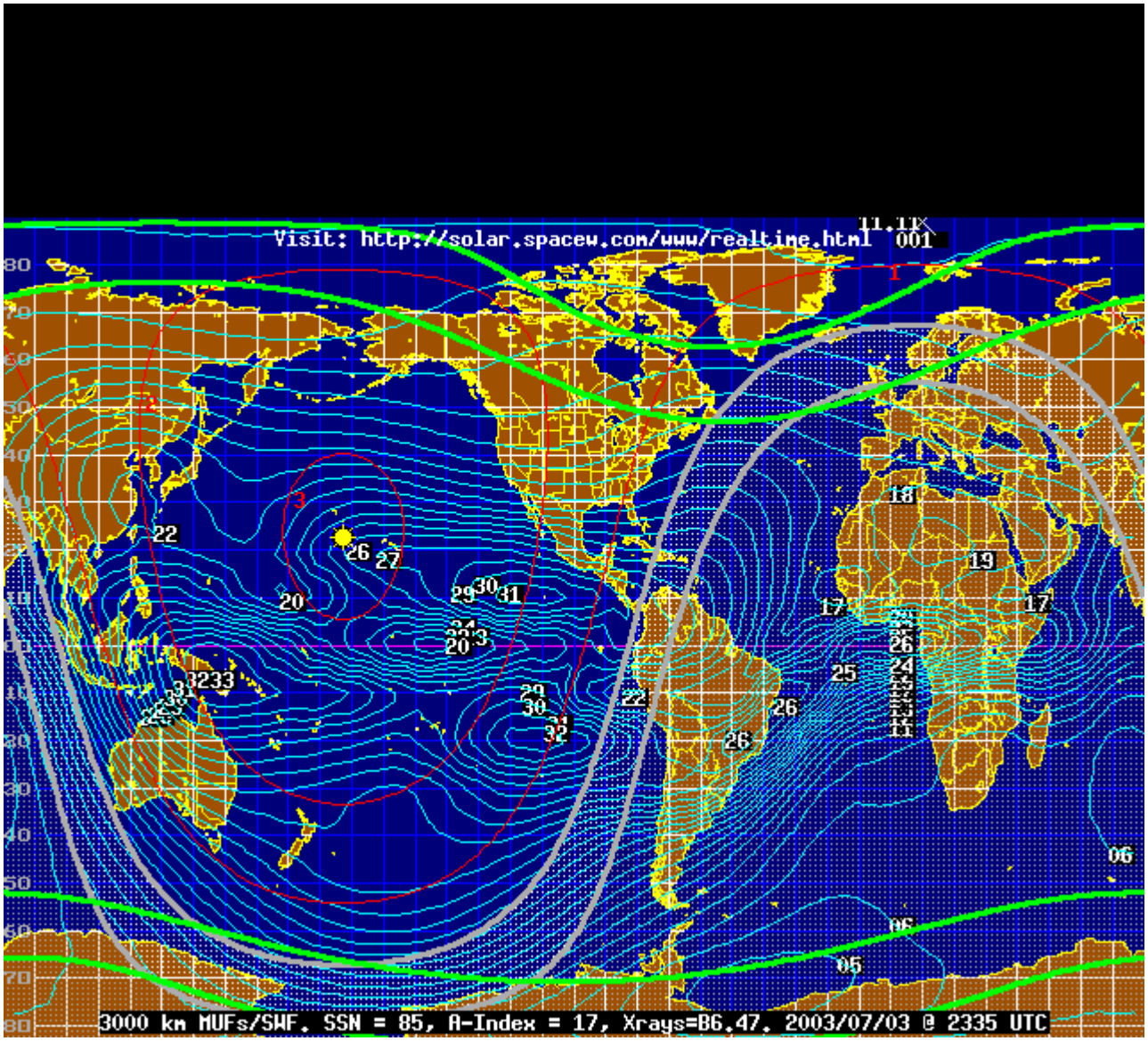
Grey Line Map

The grey line is a band around the Earth that separates the daylight from darkness. Propagation along the grey line is very efficient. One major reason for this is that the D layer, which absorbs HF signals, disappears rapidly on the sunset side of the grey line, and it has not yet built upon the sunrise side. This map shows the current position of the grey line terminator.

Click here to show a dynamically updating Grey Line map

Near-Real-Time MUF map

The following map shows Maximum Usable Frequencies (MUFs) for 3000 kilometer radio signal paths. More importantly, the current sunspot number (SSN) and Planetary A-index are updated every 30 minutes on the bottom of this image. Additionally, the grey line position, auroral ovals, and sun position are provided. Click on the map for more details on how to use it.

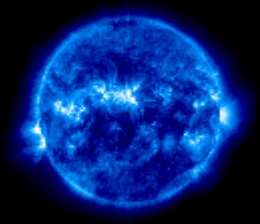


This image courtesy of [Solar Terrestrial Dispatch]

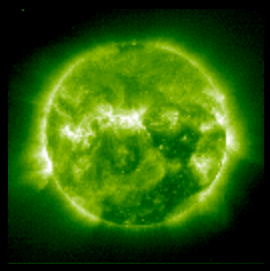
Current Solar Images

The images below are current views of the sun shown at different wavelengths of light as taken by SOHO and the Yohkoh soft-Xray telescope. Generally, more bright regions on the disk indicates more solar activity, which usually leads to higher solar flux levels (which usually leads to better propagation!). Click on any thumbnail to view a larger image.

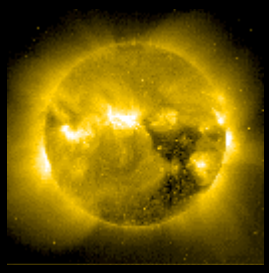
SOHO - 17.1nm



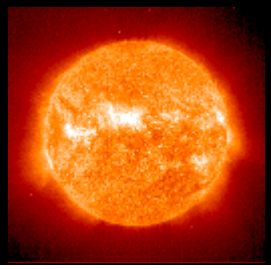
SOHO - 19.5nm



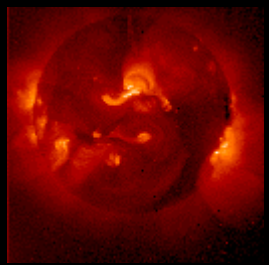
SOHO - 28.4nm



SOHO - 30.4nm



Yohkoh Soft X-rays



Sometimes you may see "CCD Bakeout" instead of the solar disc images. This occurs when NASA does routine maintenance and calibration on the cameras. For a more technical explaination, read NASA's CCD Bakeout explaination.

Images courtesy of the Solar Data Analysis Center at the NASA Goddard Space Flight Center

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Layout and dynamic reports created by N6RT

Comments or Questions? Email webmaster@dx.qsl.net