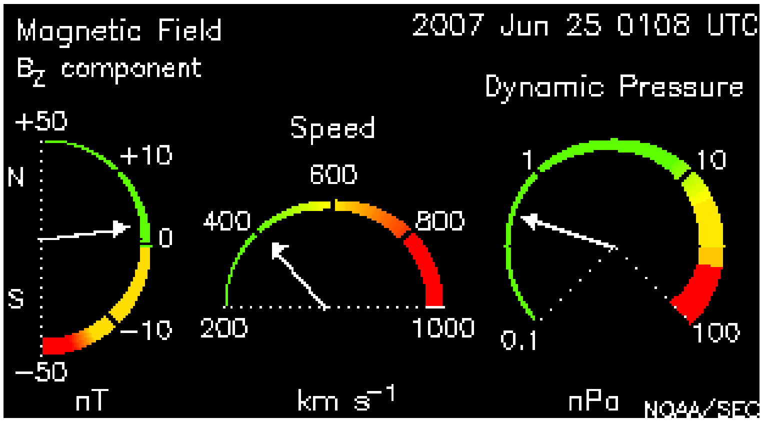
SPACE WEATHER

Space weather phenomena are good sources of energy for paranormal activity. It has been noted over the years that increases in these Stellar phenomena are reflected by increases in Paranormal activity. Why is that?

Paranormal phenomena often seem to tap into normal electrical sources such as electrical appliances and batteries. How many of us have been in the midst of a paranormal event horizon only to watch our equipment die as the batteries are drained of energy?

But on days when there is an abundance of natural radiating energy, manifestations seem to occur more frequently. There appears to be a correlation to the amount of energy available and the level of activity encountered.

Solar Wind Data



The solar wind data (velocity and proton density).

This is derived from real-time information transmitted to Earth from the ACE spacecraft and reported by the NOAA Space Environment Center. The location of ACE at the L1 libration point between the earth and the sun enables the spacecraft to give about a one hour advance warning of impending geomagnetic activity. An example:

Speed: 512.6 km/s (That's 318.5148731408574 Miles per second!)
Density: 5.3 protons/cm3

A solar wind is a stream of charged particles (i.e., plasma) which are ejected from the upper atmosphere of a star. When originating from stars other than the Earth's Sun, it is sometimes called a stellar wind.

Stellar wind consists mostly of high-energy electrons and protons (about 1 keV) that are able to escape the star's gravity in part because of the high temperature of the corona and the high kinetic energy particles gain through a process that is not well understood at this time. Many phenomena are directly related to the solar wind, including: geomagnetic storms that can knock out power grids on Earth, auroras (e.g. Northern Lights), why the tail of a comet always points away from the Sun, and the formation of distant stars.

While early models of the solar wind used primarily thermal energy to accelerate the material, by the 1960s it was clear that thermal acceleration alone cannot account for the high speed solar wind. Some additional acceleration mechanism is required, but is not currently known, but most likely relates to magnetic fields in the solar atmosphere.

In the heliosphere, the composition of the solar wind is identical to the Sun's corona: These components are present as plasma, consisting of about 95%

singly ionized hydrogen, 4% doubly ionized helium, and less than 0.5% other ions (often called minor ions). Carbon, nitrogen, oxygen, neon, magnesium, silicon and iron are the dominant minor ions. The exact composition has been routinely measured on Ulysses and ACE, two spacecraft carrying a Solar Wind Ion Composition Spectrometer. Unexpectedly, the solar wind composition shows substantial variation, likely directly reflecting the physics of the underlying corona.

The first detailed composition measurements were performed by Geiss on the Moon, which was part of the first Moon-landing. (That's how we know the landings were real, for all you conspiracy pundits out there). Solar wind was collected using a specially prepared metal-foil and then brought back for analysis. A similar technique was recently pursued using a robotic approach: A sample return mission, Genesis, returned to Earth in 2004 and is undergoing analysis, but it was damaged by crash-landing when its parachute failed to deploy on re-entry to Earth's atmosphere, possibly contaminating the solar samples.

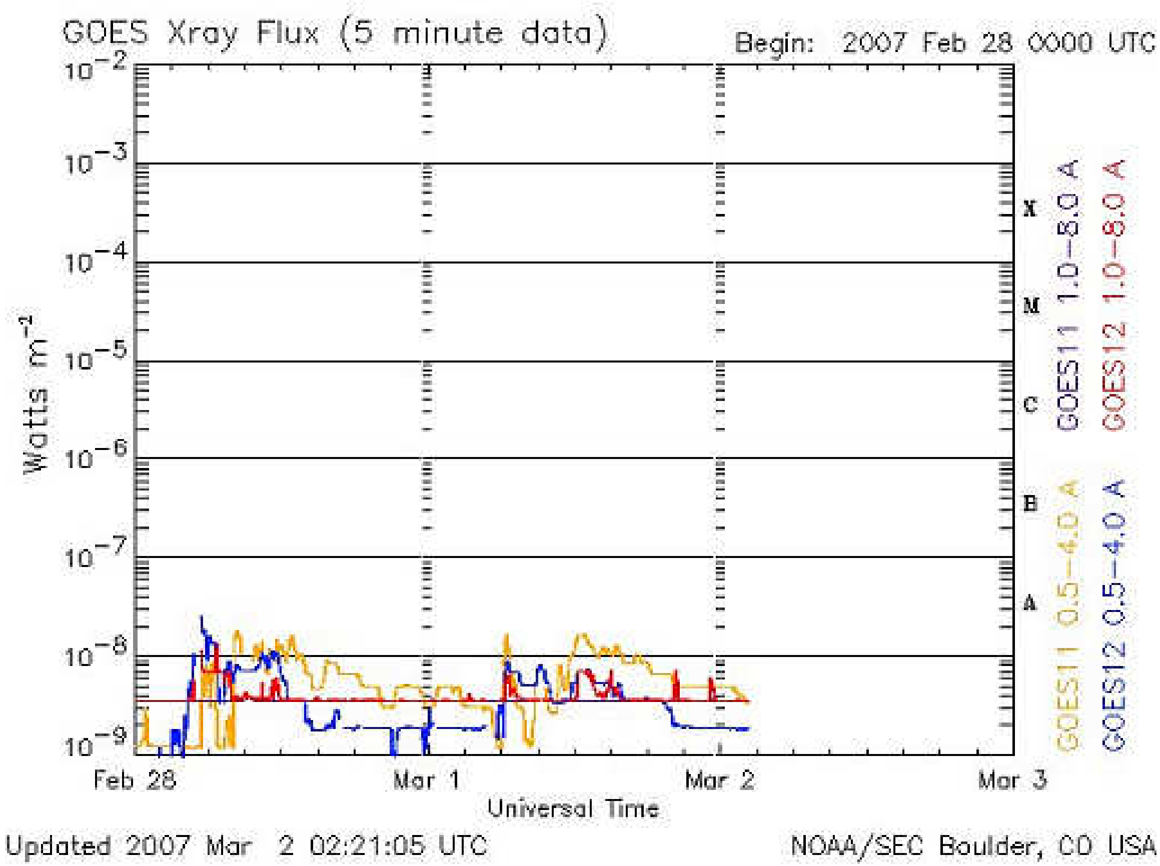
Since the solar wind is a plasma, it has the characteristics of a plasma, rather than a simple gas. For example, it is highly electrically conductive so that magnetic field lines from the Sun are carried along with the wind. The dynamic pressure of the wind dominates over the magnetic pressure through most of the solar system (or heliosphere), so that the magnetic field is pulled into an Archimedean spiral pattern (the Parker spiral) by the combination of the outward motion and the Sun's rotation. Depending on the hemisphere and phase of the solar cycle, the magnetic field spirals inward or outward; the magnetic field follows the same shape of spiral in the northern and southern parts of the heliosphere, but with opposite field direction. These two magnetic domains are separated by a two current sheet (an electric current that is confined to a curved plane). This heliospheric current sheet has a similar shape to a twirled ballerina skirt, and changes in shape through the solar cycle as the Sun's magnetic field reverses about every 11 years.

The plasma in the interplanetary medium is also responsible for the strength of the Sun's magnetic field at the orbit of the Earth being over 100 times greater than originally anticipated. If space were a vacuum, then the Sun's 10-4 tesla magnetic dipole field would reduce with the cube of the distance to about 10-11 tesla. But satellite observations show that it is about 100 times greater at around 10-9 tesla.

Magnetohydrodynamic (MHD) theory predicts that the motion of a conducting fluid (e.g. the interplanetary medium) in a magnetic field, induces electric currents which in turn generates magnetic fields, and in this respect it behaves like a MHD dynamo.

Earth itself is protected from the solar wind by its magnetic field, which deflects charged particles. We only notice the solar wind when it is strong enough to deform this magnetic field, causing phenomena such as geomagnetic storms and the aurora. As investigators it is imperative that we monitor the solar wind as it is a precursor to magnetic fluctuations of the Earth's magnetic field.

The Classification of X-ray Solar Flares



A solar flare is an explosion on the Sun that happens when energy stored in twisted magnetic fields (usually above sunspots) is suddenly released. Flares produce a burst of radiation across the electromagnetic spectrum, from radio waves to x-rays and gamma-rays.

Scientists classify solar flares according to their x-ray brightness in the wavelength range 1 to 8 Angstroms. There are 3 categories: X-class flares are big; they are major events that can trigger planet-wide radio blackouts and long-lasting radiation storms. M-class flares are medium-sized; they can cause brief radio blackouts that affect Earth's polar regions. Minor radiation storms sometimes follow an M-class flare. Compared to X- and M-class events, C-class flares are small with few noticeable consequences here on Earth.

Sample readings

X-ray Solar Flares
6-hr max: A1 1140 UT Feb27
24-hr: B1 0725 UT Feb27

More specifically, A solar flare is a violent explosion in the Sun's atmosphere with an energy equivalent to a billion megatons, traveling normally at about 1 million km per hour (about 0.1% the speed of light), though sometimes much faster. The flares have been known to affect the electro transmission of many earthly communication devices including computers, cell phones, pagers and automobiles. Solar flares take place in the solar corona and chromosphere, heating plasma to tens of millions of kelvins and accelerating the resulting electrons, protons and heavier ions to near the speed of light. They produce electromagnetic radiation across the electromagnetic spectrum at all wavelengths from long-wave radio to the shortest wavelength gamma rays. Most flares occur around sunspots, where intense magnetic fields emerge from the Sun's surface into the corona. The energy efficiency associated with solar flares may take several hours or even days to build up, but most flares take only a matter of minutes to release their energy.

Solar flares were first observed on the Sun in 1859. Stellar flares have also been observed on a variety of other stars.

The frequency of occurrence of solar flares varies, from several per day when the Sun is particularly
"active" to less than one each week when the Sun is "quiet". Solar activity varies with an 11-year cycle
(the solar cycle). At the peak of the cycle there are typically more sunspots on the Sun, and hence more solar flares. Increased levels of solar flares appear to directly increase the frequemncy and magnitude of
paranormal activity.

NOAA Forecasts Solar Flares:
Probabilities for a medium-sized (M-class) or a major (X-class) solar flare during the next 24/48
hours are tabulated below.

Updated at 2007 Feb 26 2203 UTC

FLARE	0-24 hr	24-48 hr
Class M	01%	01%
Class x	01%	01%

The Interplanetary Magnetic Field

The Sun is a huge magnet. During solar "minimum" the Sun's magnetic field, like Earth's, resembles that of an iron bar magnet, with great closed loops near the equator and open field lines near the poles. Scientists call such a field a "dipole."

The Sun's dipolar field is about as strong as a refrigerator magnet, or 50 gauss. Earth's magnetic field is 100 times weaker.

During the years around solar "maximum" (2000 and 2001 are good examples) spots pepper the face of the Sun. Sunspots are places where intense magnetic loops -- hundreds of times stronger than the ambient dipole field -- poke through the photosphere. Sunspot magnetic fields overwhelm the underlying dipole; as a result, the Sun's magnetic field near the surface of the star becomes tangled and complicated.

The Sun's magnetic field isn't confined to the immediate vicinity of our star. The solar wind carries it throughout the solar system. Out among the planets we call the Sun's magnetic field the "Interplanetary Magnetic Field" or "IMF." Because the Sun rotates (once every 27 days) the IMF has a spiral shape -- named the "Parker spiral" after the scientist who first described it.

The Earth has a magnetic field, too. It forms a bubble around our planet called the magnetosphere, which deflects solar wind gusts. (Mars, which does not have a protective magnetosphere, has lost much of its atmosphere as a result of solar wind erosion.) Earth's magnetic field and the IMF come into contact at the magnetopause: a place where the magnetosphere meets the solar wind. Earth's magnetic field points north at the magnetopause. If the IMF points south -- a condition scientists call "southward Bz" -- then the IMF can partially cancel Earth's magnetic field at the point of contact.

Btotal: 6.0 nT
Bz: 1.5 nT south
Updated: Today at 1727 UT

Geomagnetic Storm Forecasts

The geomagnetic storm probabilities are the estimated chances of at least one 3-hour K index, at the indicated level, for each of the next 3 days.

Active: K = 4.
Minor storm: K = 5.
Major or Severe storm: K > 6.

The "K index" is a 3-hourly quasi-logarithmic local index of geomagnetic activity relative to an assumed quiet-day curve for the recording site. Range is from 0 to 9. The K index measures the deviation of the most disturbed horizontal component of the magnetic field.

Mid-latitudes	0-24 hr	24-48 hr
ACTIVE	15 %	15 %

MINOR	10 %	05 %
SEVERE	01 %	01 %

A geomagnetic storm is a temporary disturbance of the Earth's magnetosphere. Associated with solar coronal mass ejections (CME), coronal holes, or solar flares, a geomagnetic storm is caused by a solar wind shock wave which typically strikes the Earth's magnetic field 24 to 36 hours after the event. This only happens if the shock wave travels in a direction toward Earth. The solar wind pressure on the magnetosphere will increase or decrease depending on the Sun's activity. These solar wind pressure changes modify the electric currents in the ionosphere. Magnetic storms usually last 24 to 48 hours, but some may last for many days.

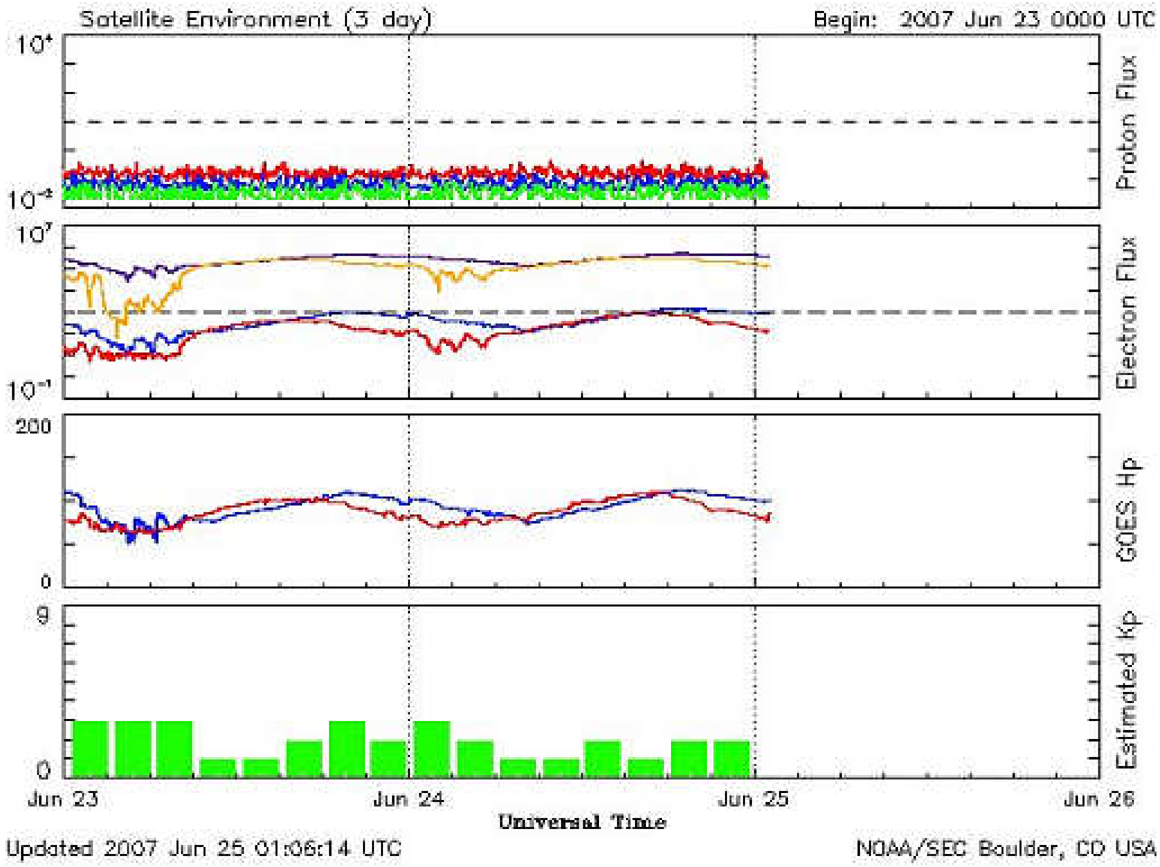
The solar wind also carries with it the magnetic field of the Sun. This field will have either a North or South orientation. If the solar wind has energetic bursts, contracting and expanding the magnetosphere, or if the solar wind takes a southward polarization, geomagnetic storms can be expected. The southward field causes magnetic reconnection of the dayside magnetopause, rapidly injecting magnetic and particle energy into the Earth's magnetosphere.

During a geomagnetic storm, the ionosphere's F2 layer will become unstable, fragment, and may even disappear. In the Northern and Southern pole regions of the Earth, auroras will be observable in the sky.

There is a growing body of evidence that changes in the geomagnetic field affect biological systems. Studies indicate that physically stressed human biological systems may respond to fluctuations in the geomagnetic field. Interest and concern in this subject have led the International Union of Radio Science to create a new commission entitled Commission K - Electromagnetics in Biology and Medicine. Current chair is Dr. Frank Prato.

Possibly the most closely studied of the variable Sun's biological effects has been the degradation of homing pigeons' navigational abilities during geomagnetic storms. Pigeons and other migratory animals, such as dolphins and whales, have internal biological compasses composed of the mineral magnetite wrapped in bundles of nerve cells. While this probably is not their primary method of navigation, there have been many pigeon race smashes, a term used when only a small percentage of birds return home from a release site. Because these losses have occurred during geomagnetic storms, pigeon handlers have learned to ask for geomagnetic alerts and warnings as an aid to scheduling races. Is it possible that this is a piece of evidence indicating that paranormal activity may be "human" in nature? Is this possible evidence that the phenomena may be a "ghost"???

More research needs to be done in this area. Time will tell.



Satellite Environment (3 day)
Begin: 2007 Jun 23 0000 UTC
Proton Flux
Electron Flux
GOES Hp
Estimated Kp
200
0
9
0
Jun 23
Jun 24
Jun 25
Jun 26
Universal Time
Updated 2007 Jun 25 01:06:14 UTC
NOAA/SEC Boulder, CO USA