How to Use the Solar Cycle

By D.H. Van den Berghe, August 2012

Introduction

What I will present in this article is not based on my own discovery, but on the work of a little known Russian scientist, Alexander Chizhevsky, who did some interesting research more than a century ago. Unfortunately, his discovery landed him in Soviet prisons for 30 years, but that's another story.

So what was his discovery?
Chizhevsky had made a list of major conflicts, wars, revolutions, violent uprisings, large scale popular protests,.. for the last 500 years. And he observed that most of these conflicts had started near a solar maximum. The solar cycle has an average period of 11 years, but the cycle varies and can be as short as 8 years and as long as 15 years. So, usually we have a solar maximum every 11 years.

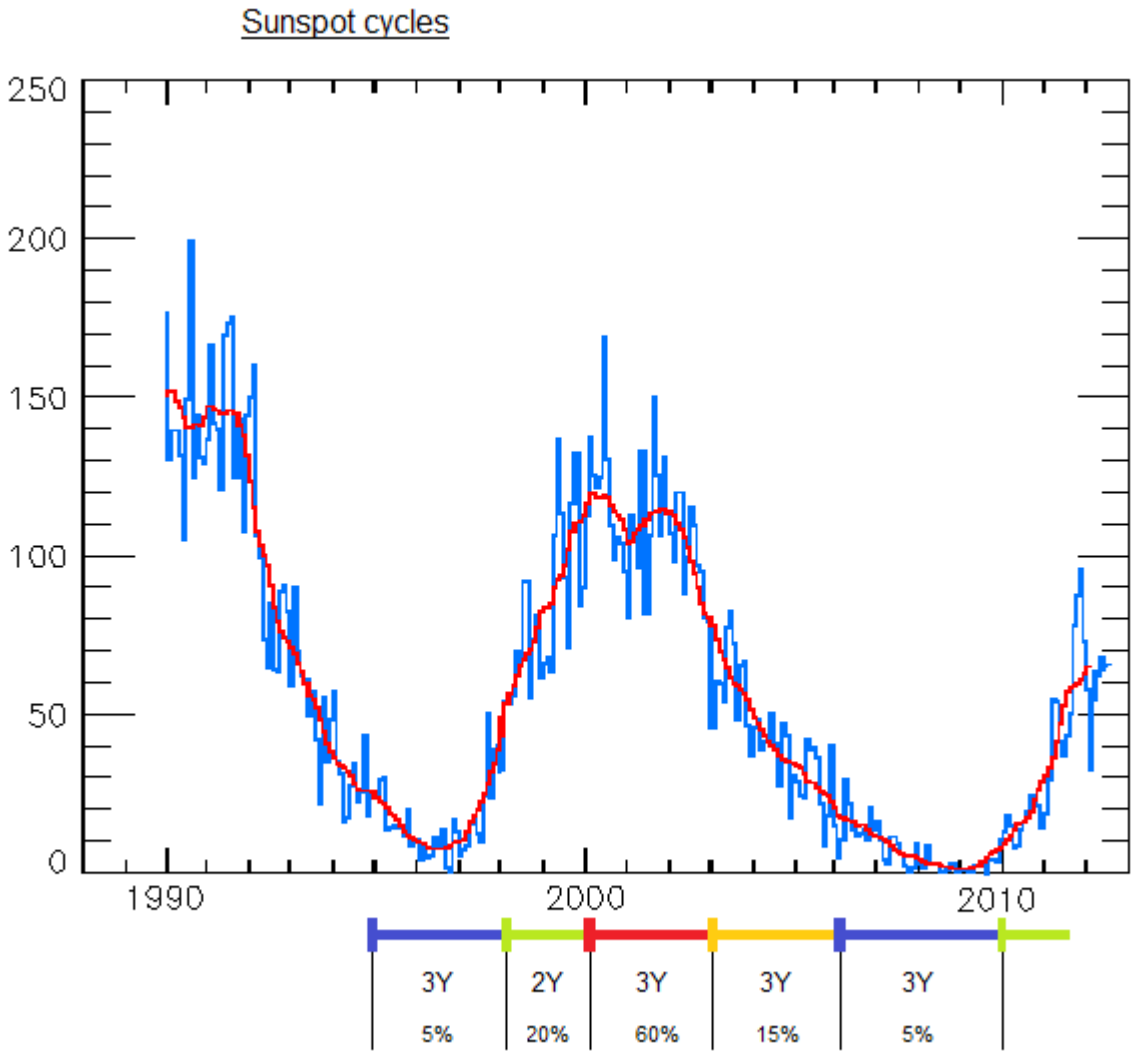
This Russian scientist calculated that 60% of the major conflicts in the world had started in the 3 years around a solar maximum, the other 40% was spread out over the remaining 8 years. In the 3 years around a solar minimum, almost no major conflicts started (only 5%).

He concluded that people were probably influenced by solar activity. More solar activity (near solar maximum) made the people more excitable, more risk taking, more aggressive, more outgoing (= more Yang). Less solar activity (near solar minimum) brought calm and peace, more acceptance, more ingoing (= more Yin).

So, in this article we will take a closer look at this cycle, and whether his ideas still work today.

The solar cycle

I have pulled up the most recent completed solar cycle to show how his idea works in practice.

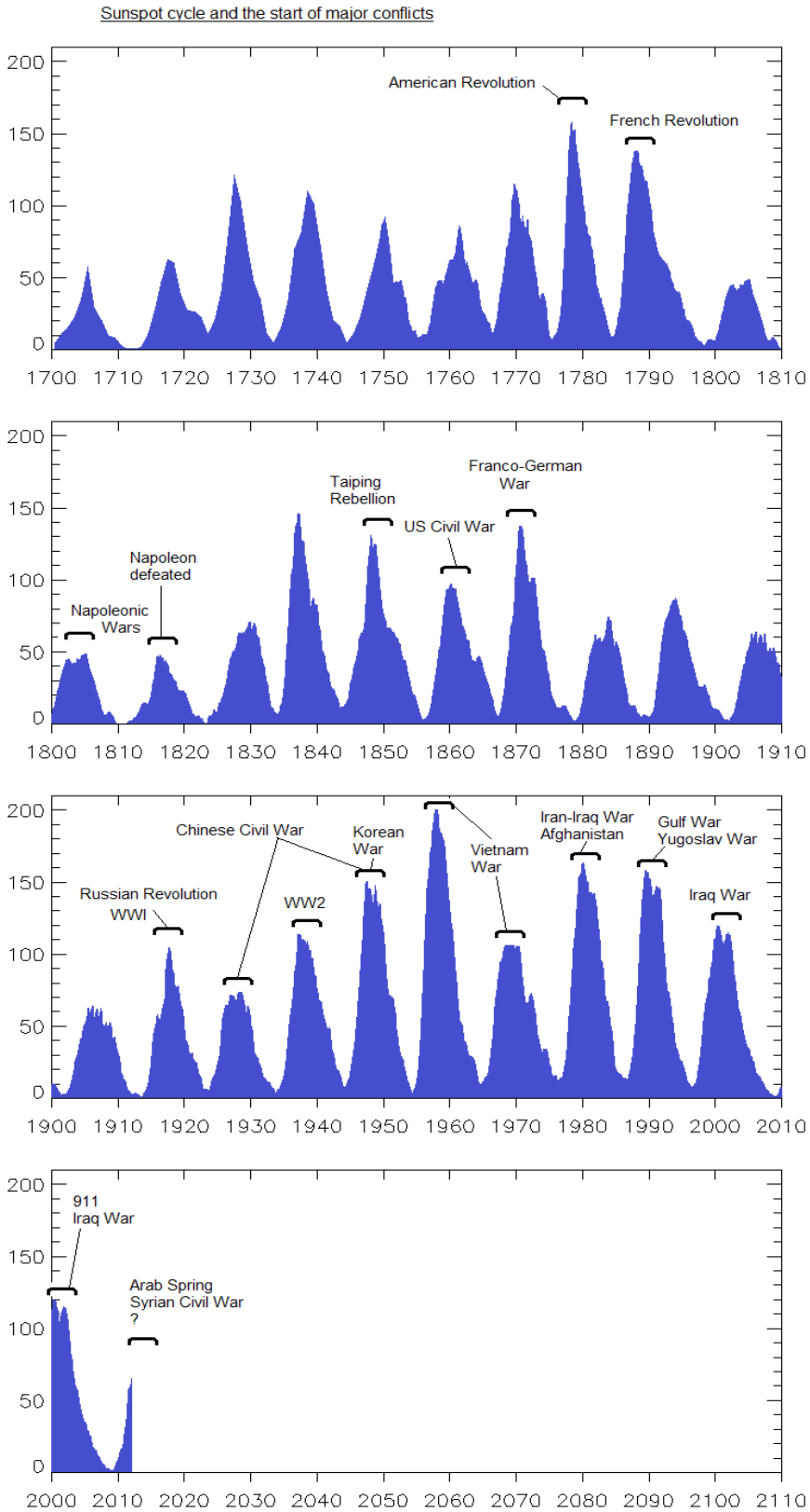


The most recent solar maximum was in 2000-2001. The minimum that started this cycle was in 1996, when there were almost no sunspots.
Chizhevsky divided the solar cycle in four parts as follows:

1) A calm period (blue) starts about two years before a solar minimum and ends one year after the minimum (this covers the years 1995,1996 and 1997 in the example).
2) Then there is a two year period of rapidly increasing sunspot number (green), which covers 1998 and 1999.
3) The next three years (red) cover the years around the solar maximum (2000, 2001 and 2002).
4) The last three years (yellow) of the cycle show a gradually decreasing number of sunspots (2003, 2004, 2005).
5) And that brings you to the start of the next cycle, with another calm period (blue), which then stretches until one year after the solar minimum.

A bit of history

Let's take a little look at the history of these solar cycles since 1700:



I have only marked the most famous examples of conflicts that started in the years around a solar maximum. We can see how the American Revolution, the French Revolution, the Napoleonic Wars, The US Civil War, the Russian Revolution, WW1 and WW2, the Korean War, Vietnam War, Gulf War, Iraq War, and many more..., all started in this part of the cycle where the higher solar activity makes people more excitable and hotheaded.

When these conflicts end is a bit more difficult to say.
Some are short one or two year conflicts that end as soon as solar activity starts cooling down after its peak.
Others end near the next solar minimum, when the desire for peace is stronger (e.g. WW2 and the recent Iraq War).
And then there are longer conflicts, which stretch out over more than one cycle. In these cases the solar maximums usually show the periods of more intense violence within an ongoing conflict period.

Besides major wars, it was also found that there are more big revolts, protests, strikes, demonstrations and so on, in the 3 years around a solar maximum.
Think about the: Prague Spring (1968), the May 1968 uprisings in France, the mass demonstrations against war in Vietnam (1969), the student strikes of 1970.
And a bit more recently, the general strikes in Poland (Soldarnosc – 1980), the worldwide protests against nuclear weapons (1981, 1982), the Tiananmen Square protests (1989) and the fall of the Berlin Wall (1989).

Strikes and protests happen in all years, but when they happen near a solar maximum they tend to grow much bigger than expected, sometimes involving 100000s or even millions of people, and they tend to bring real changes.
Near a solar minimum, people tend to be more calm, apathetic and risk-averse. They take their problems in stride and don't feel moved to join any big protest actions. Their frustration slowly piles up, and later it comes to the surface when the solar maximum makes the people more excited and ready to (re)act.

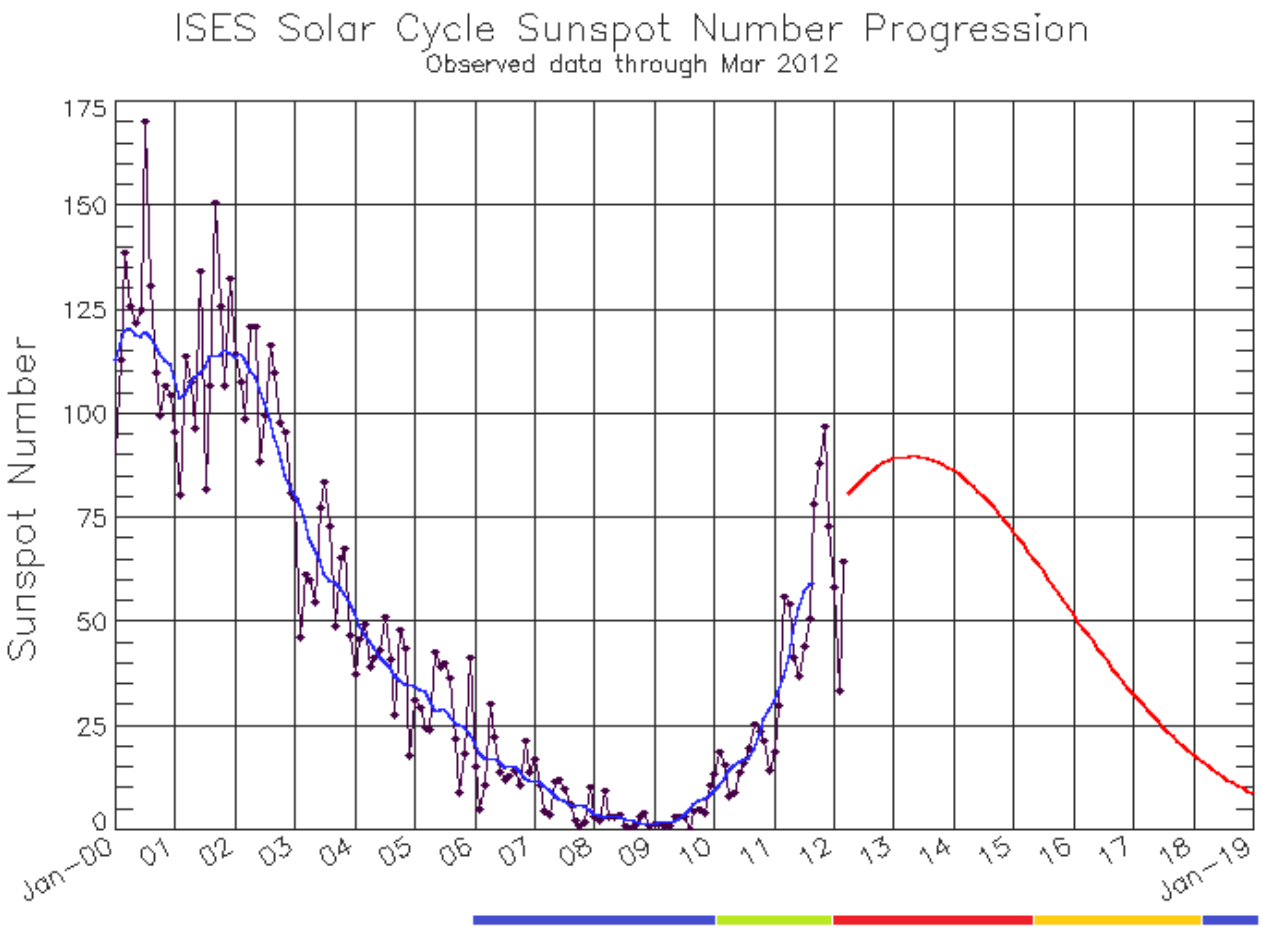
Why does it work?

Some explanations have been proposed for this phenomenon.
The heightened solar activity near solar max has several measurable effects. The Sun is a bit more hot and emits a lot more ultraviolet light, which heats up the upper layers of our atmosphere, and affects climate (more hot and dry in some places). It also generates more geomagnetic storms and solar flares, which are known to affect people's mood. There is more electricity in the air, literally putting them under a higher tension (electric voltage in the atmosphere). People are thus in a more excited state, which can become a more explosive state if plenty of frustrations have been stored up in the preceding period(s). They cannot keep their calm as easily as they do near the solar minima. And this affects everybody, not just the workers in the street.

So, the high tension atmosphere that comes with a solar maximum, more easily leads to fanaticism and manias, and can result in increased violence.
Years later, when back to the calm of a solar minimum, the same people scratch their head and wonder: what were we thinking?

Does it still work today?

The most recent solar minimum was in 2008, so let's have a look at the current cycle:



The calm (blue) period has stretched from 2006 until 2009 (one year after solar minimum). While there was a financial crisis during this period, it has been relatively calm. No major new conflicts were started and there were no big mass protests. Actually, existing conflicts like the wars in Iraq and Afghanistan were slowly phased out during this solar minimum, as one would expect.

As of 2010, we have entered a period of rising solar activity, as evidenced by the rising sunspot number. We have seen the Arab Spring with several governments overthrown in North-Africa, we have also seen the start of new mass protests that seem to span the globe, like the Occupy movement.

Now in 2012, we have entered the peak period (red) of this cycle. The current prediction is that “solar cycle 24” will peak near May 2013. That would mean the red period of max excitability is going to last until mid 2015.
We already see extreme and growing violence in the Syrian Civil War.
Recently we also see more frequent news of shootings in public, often killing innocent bystanders.
People do not understand why this happens, but it is not unexpected in the light of entering the most

violent phase of the solar cycle. The excitability is rising and some frustrated individuals are triggered into action.

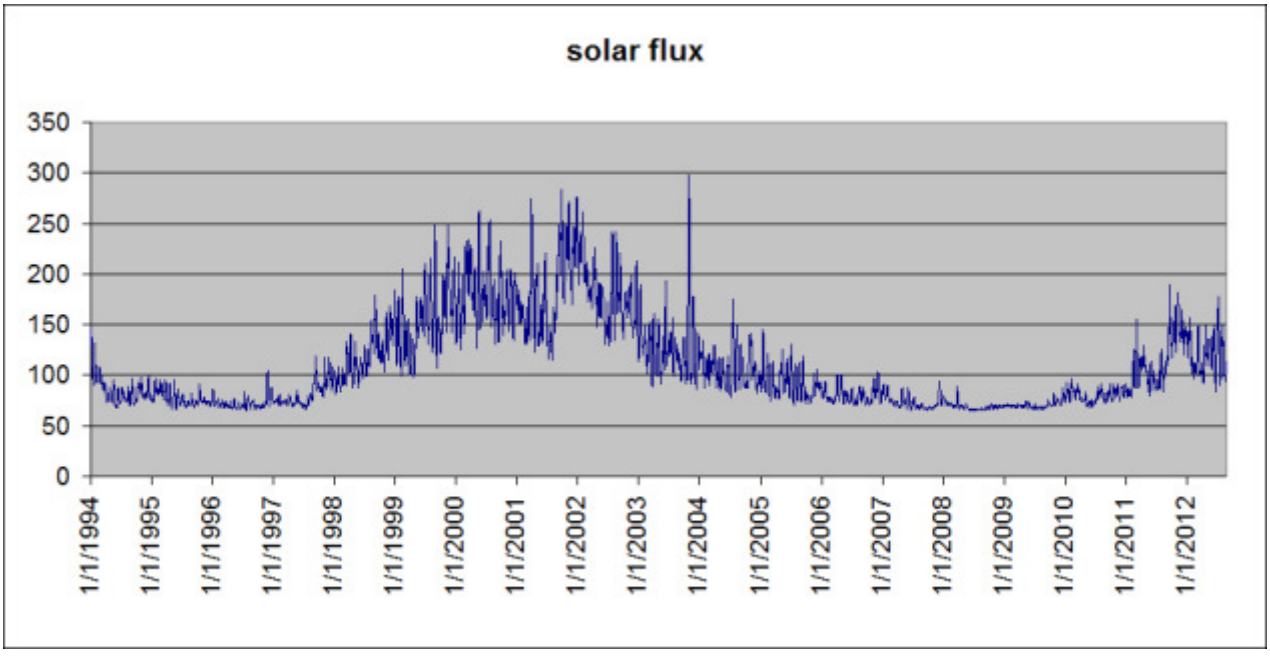
As of 2015 we should start to see the declining phase of this cycle and the next calm period should start around 2018, based on the current solar cycle forecast (which is subject to change).

On the basis of these observations we can say that for the next 3 years there is an increased risk for further escalation in existing conflicts. There is also an increased likelihood of new conflicts being started, and of growing mass protests, especially in places where frustration has accumulated in the recent decade. For example in places where the economic crisis has hit hard and where joblessness (especially youth jobless rate) has remained very high.
Countries that have enjoyed increasing prosperity and freedom in the recent decade, are less likely to experience big problems.

More in detail

While there are a number of services and websites that will give you the daily sunspot count, counting the sunspots has always been a bit subjective (when is a sunspot big enough to be counted?) and there is now a better way to monitor solar activity.
It is called the "solar radio flux", and it can always be measured even when the sky is clouded.

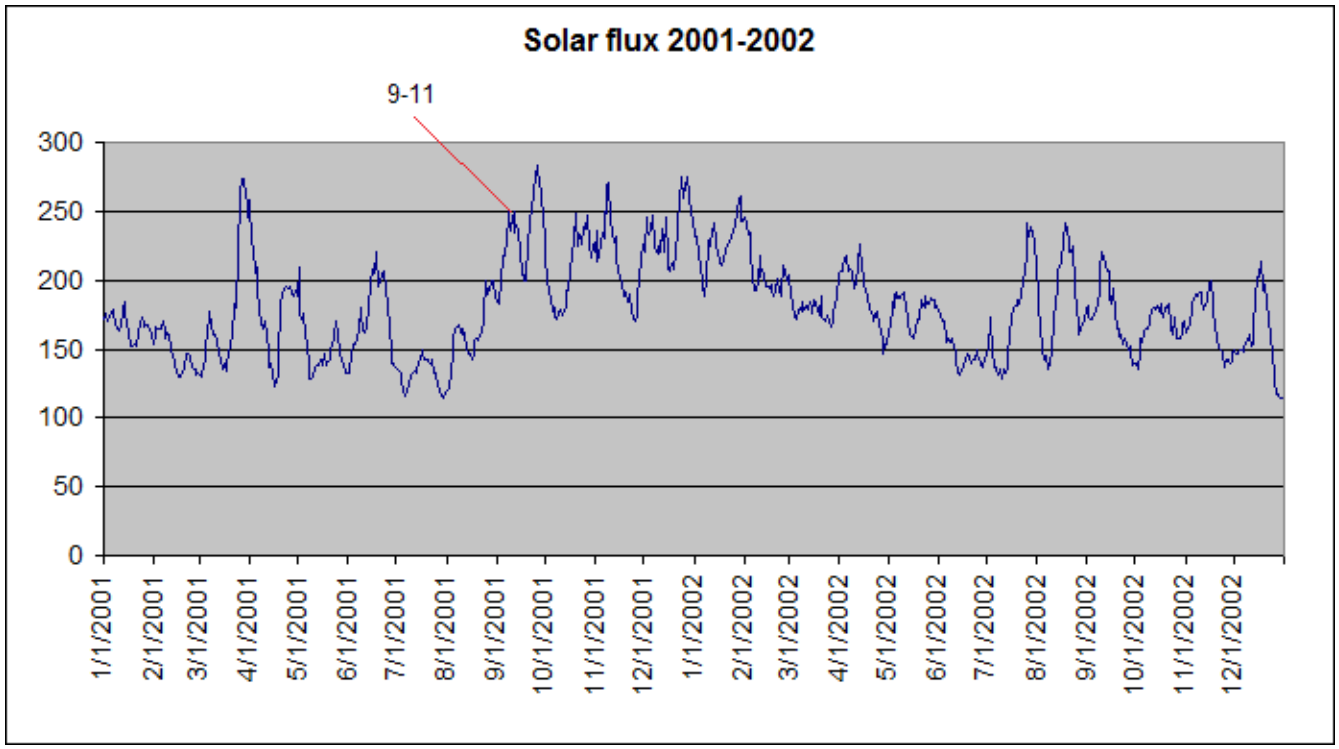
Here is a chart showing the daily solar flux since 1994:



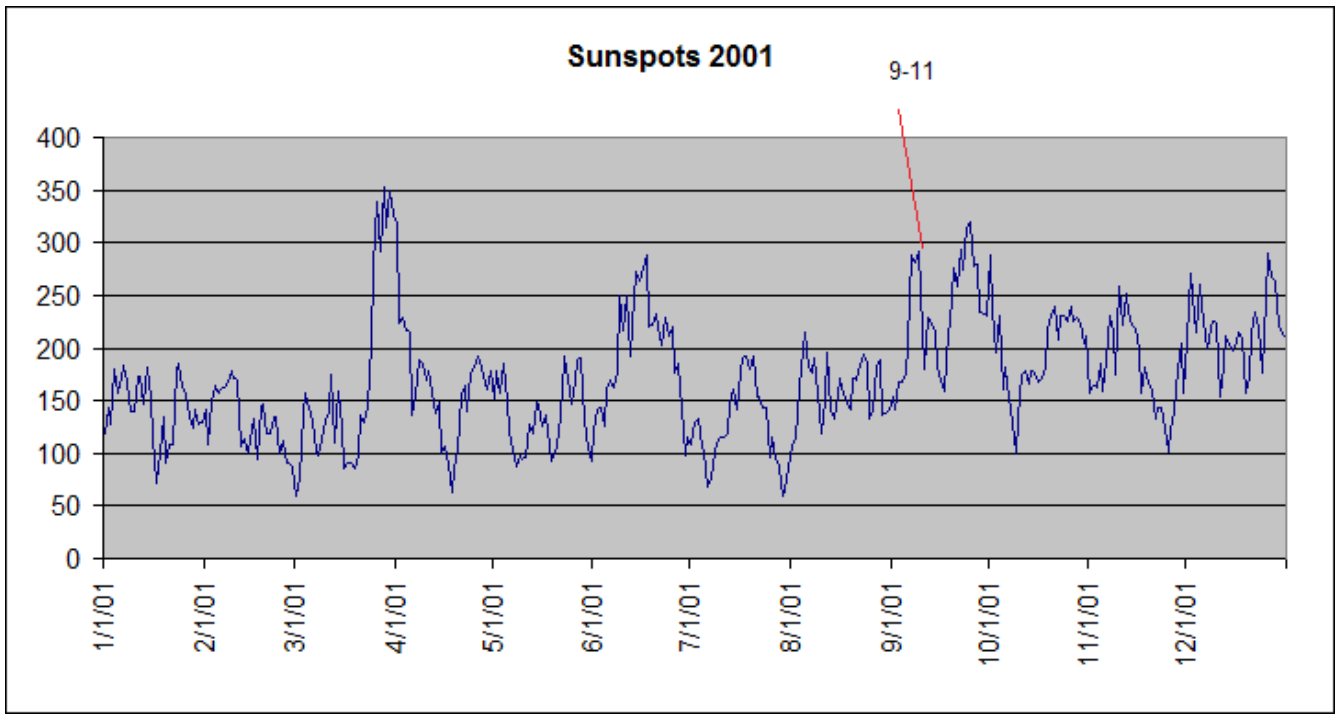
What we see is that near solar minimum (e.g. 1996 and 2008) the solar flux hovers around 70 and generally doesn't get above 100. That is the typical bottom level, showing that the Sun is very quiet. In periods near the solar maximum the solar flux goes up to 200 or even higher in violent spikes.

In this chart you see how in early 2011 the solar flux suddenly jumped above 100 and even reached 150. As we know, that's when the recent mass protests in various countries started.

Before we take a closer look at the current cycle, here is a chart with the solar flux at the previous solar maximum in 2001-2002:

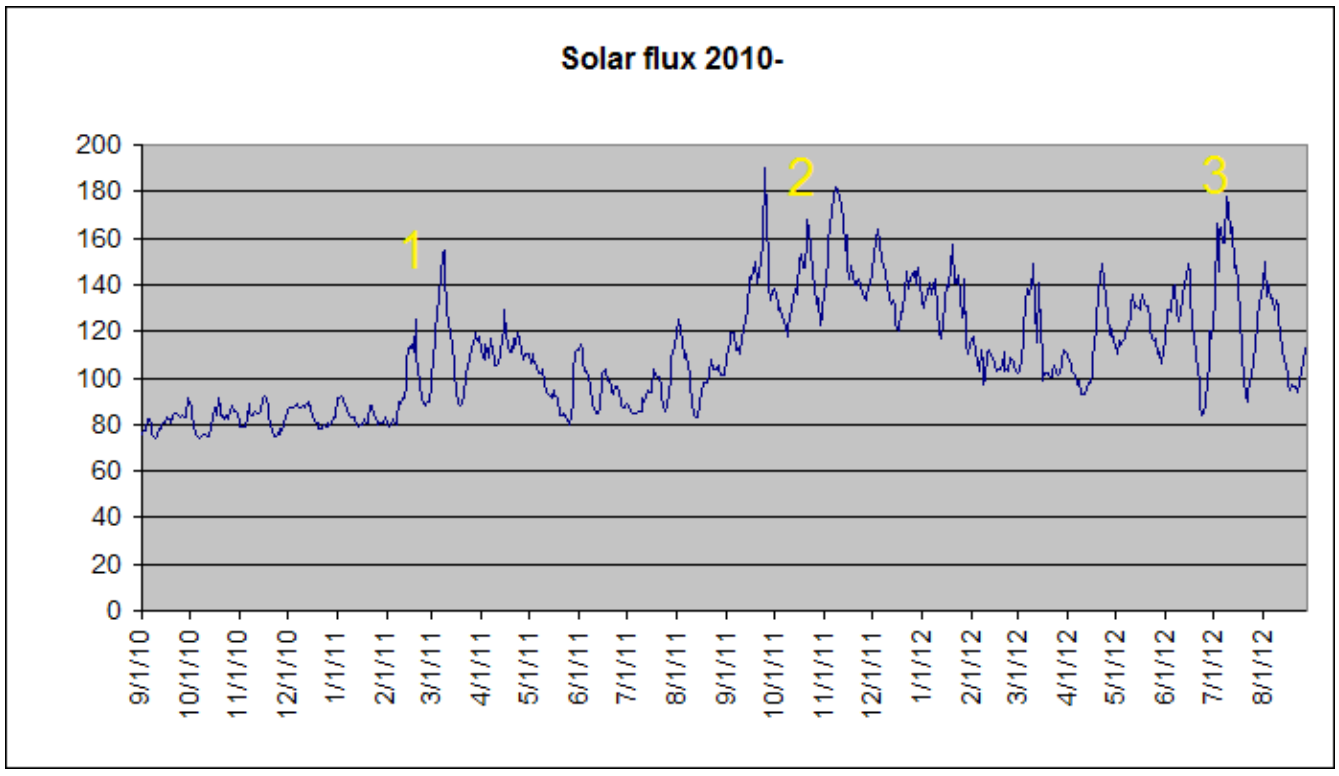


Here we can clearly see the major spikes, when solar flux went above 250.
Notice how the September 11 2001 terrorist attacks occurred close to the highest spike in solar flux. There were almost 300 sunspots at that time:



Several of the spikes in this chart have also marked major bottoms/panics in the stock market.

Now, let's take a look at the present.
Here is the solar flux chart for the last couple of years:



The Sun remained very quiet until the start of 2011.
The first spike in the chart (marked "1") coincided with the events in Egypt and the ouster of Mubarak on the 11th February.
This is when the solar flux went above 100 for the first time since 2005. And at that time protests started escalating in Libya as well.

In September – October we see the next series of spikes. That's when the war in Libya reached its decisive stage. Fighting intensified as the solar flux when above 180, and eventually Gaddafi was captured and killed on 20th October. This was exactly one day before the solar flux made the middle of its three peaks (marked with "2").
At the same time there was also escalation of fighting in Syria, especially in November 2011, when solar flux spiked above 180 once again.

Number "3" in this chart marks the next spike in July 2012. The fighting in Syria spread to the whole country and it became a terrible civil war. It is too early to tell when and how it will end.

How to monitor and use it?

Because the solar cycle is not expected to peak before the middle of next year, we are likely to get several more violent spikes before the Sun starts to cool down again in 2015.
That's the bad news.
The good news is that spikes in solar flux and sunspot number can be predicted with some accuracy for the next 27 days. This is because our Sun has a 27 day rotation period, so the same side of the Sun is turned to us every 27 days.

This means we can monitor solar activity quite well.

To see the recent weeks' solar flux, you can always visit this website:
http://www.nwra.com/spawx/f10.html
The heavy black line is the one to watch. Remember, below 100 is quiet. Spikes upwards and especially spikes above 140, spell potential trouble.

To see the forecast for the next 27 days:
http://www.nwra.com/spawx/27do.html
Again the heavy black line is the prognosis, and you can also see whether it is high or low compared to the average for the current stage of the cycle (shown by the horizontal lines).

If you live in a conflicted zone, this can be useful to decide when it is most safe to go out.
Generally, you may prefer to stay away from angry mobs, strikes and manifestations whenever the solar flux is too high.
Of course, this doesn't mean you should lock yourself up on days of high solar activity, at least not in most parts of the world. Just be more careful on the problem days.
If you are about to make a major decision that you may regret later on, then it is also a good idea to check the solar flux chart.
It is better not to make impulsive decisions during a solar flux spike.

Conclusion

It is really unfortunate that Chizhevsky's ideas were not taken more serious, and not studied better.
The concept he developed seems to have kept working for almost a century.
If so, then we can avoid a lot of problems, by realizing where we are in the solar cycle, and by understanding that it takes more effort to let cooler heads prevail when we are near a solar maximum.

If the public “cooks over” in violent protests, as it often does near the peak of a solar cycle, then those in power always have two choices:

1) realize that it is a time for change and allow the change to happen naturally.
2) OR be as hotheaded as the public, and fight changes at all costs. This invariably leads to an ugly chapter in the history books.

Unfortunately, more often than not the second path is pursued and tanks are being rolled out.
We can do better.

Danny Van den Berghe