

Date and time: Tuesday February 11 2014

Weather: Pr n/r; RH 73%; BP 103.2 kPa; sun/cld; T - 7° C

Activity: A visit to the “other” Thames

In the absence of a useful visit to Newport Forest, owing to extreme cold, we have decided to file this report on the only reasonable-sounding explanation for the prolonged cold spell we have been experiencing. The report begins with the Thames River, not at this “London”, but the other one. Shown below is a painting made of a winter scene of skaters on the Thames during the the “Little Ice Age”, which lasted



The Frozen Thames by Abraham Hondius 1677

from the early 17th century to well into the 18th, with a global minimum occurring around 1650 AD. Climatologists for the most part link this prolonged cooling period to solar activity when a “quiet sun” produced less irradiance, resulting in a drop in global temperatures.

Although hardly a full blown ice age, this “little” one resulted in widespread crop losses and heavy mortality across Europe, especially in the north of the Mediterranean, owing to starvation and severe cold. Over the peak decades, Europe lost

nearly half its population! Only the 19th Century saw a full recovery from the era of cold. To put matters in perspective, let us rewind the tape 100,000 years or so to the beginning of the Wisconsinan Age which saw the growth of a huge sheet of ice up to a kilometre or more thick covering much of North America and with a cooler, rainy climate further south. The Wisconsinan came to an end a mere 12-13000 years ago with the warmer Holocene period, generally assumed to be an interstadial, after which the Wisconsinan is generally expected to take up where it left off. As most glaciologists are aware, the end of the current interstadial could come at “any time” in the vague terminology of the Earth Sciences. However, nobody seems to expect one “soon”.

In the last two or three months we have been experiencing nothing like the usual series of “cold snaps”, but a period of prolonged cold that still lacks a convincing explanation — until now. The year 2013 was widely expected by astronomers and those who study the sun to be the peak of the 11-year solar sunspot cycle that always seems to produce much higher sunspot counts and a slightly enhanced heat output, usually about 1/10 of a percent. The influence of this enhanced output on Earth’s climate is still in debate, but there can be little doubt about the much longer (900,000 -plus year) Milankovitch Cycle, as of entirely solar in origin and responsible for much wider, long-term variations in Earth’s climate.

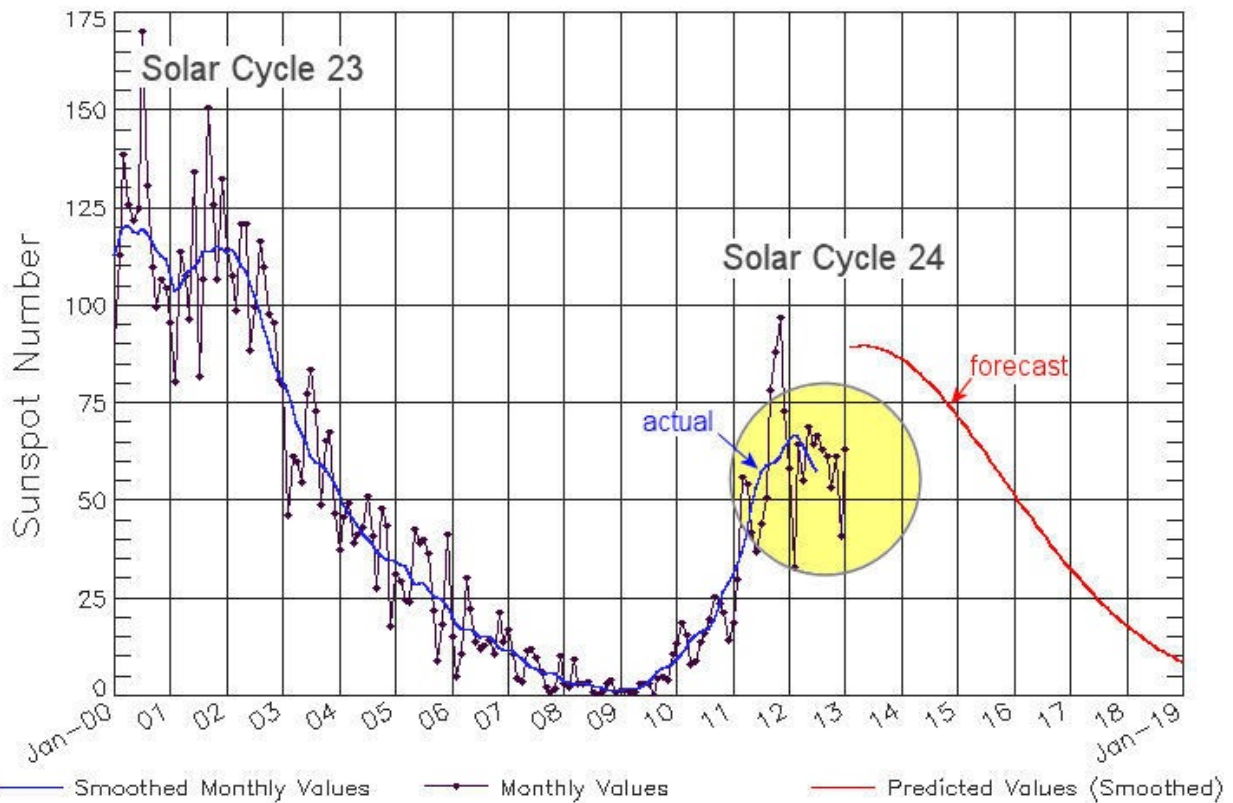
Late year, the expected solar peak went almost entirely missing. Instead of the usual plethora of sunspots, observers saw only one or two at a time. The observation was, to say the least, unexpected: Richard Harrison of the UK’s Rutherford-Appleton Institute near Oxford remarks, “I’ve been a solar physicist for 30 years. I’ve never seen anything quite like this. If you want to go back to see when the sun was this inactive, in terms of the minimum we’ve just had and the peak we have now you’ve got to back about a hundred years, so this is not something I’ve seen in my lifetime, it’s not something that a couple of generations before me have seen.” Instead of the activity that was expected, some observers describe the sun as having “gone to sleep.” Hopefully not for long.

We’ll leave the matter there for now. However, based on purely climatological factors, we’re expecting a cool, wet spring as followup to the lengthy cold spell. For Newport Forest, we may now add a second item to the list of potential problems: 1. some tree death, 2. very little drive-in access. And of course, one or two floods of Biblical proportions in the March-April period.

IMAGES:

ISES Solar Cycle Sunspot Number Progression

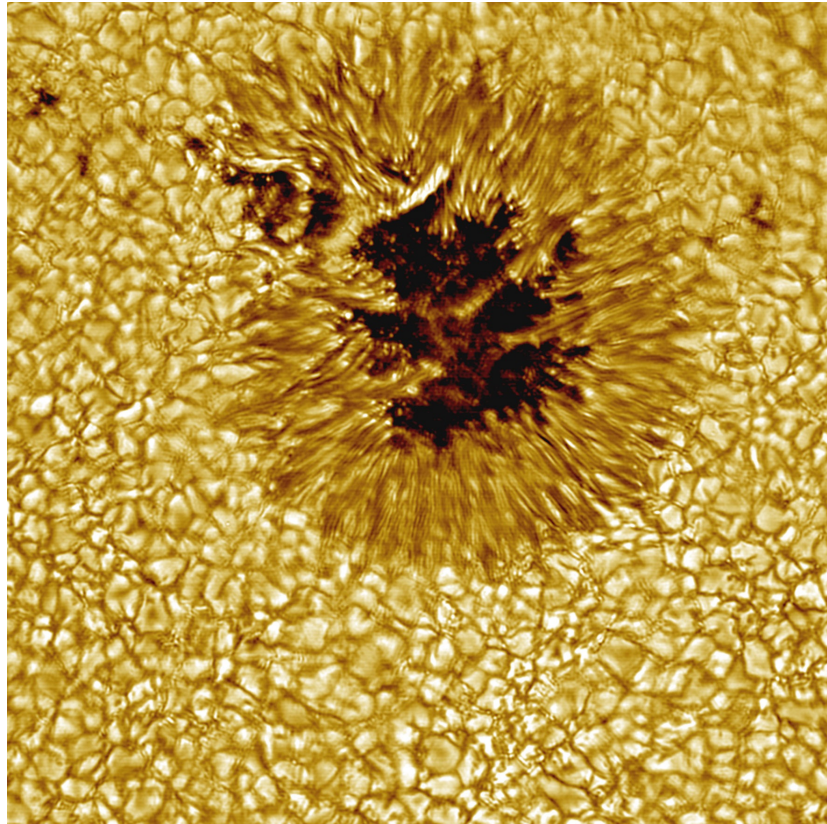
Observed data through Jan 2013



Updated 2013 Feb 4

NOAA/SWPC Boulder, CO USA

The red curve indicates the kind of trend that scientists at the NOAA had been expecting from long experience. Instead they got a much weaker signal and almost no sunspots. We don't think this is what the media mean by "climate change."



Here is a sunspot greatly magnified. It is large enough to fit several Earth-sized planets inside. Sunspots appear darker because they are somewhat cooler than the solar surface, although they indicate much higher internal activity, owing to vast magnetic storms that rage in the sun's interior and a higher energy output in all spectral frequencies, from ultraviolet to infrared.