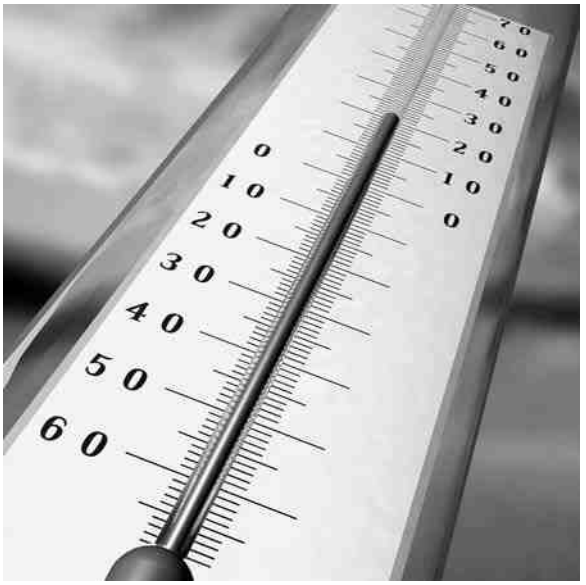
Jack W. Dini
1537 Desoto Way
Livermore, CA 94550
E-mail: jdini@comcast.net

Blame it on the Sun?



The evidence is in and the news is alarming. Empirical scientific data show that the globe is in fact warming and causing the polar ice caps to melt. This news should send shudders down the backs of those who have doubted the increasing temperature. Only one problem. The global warming is occurring on Mars.

Yes, Mars ice caps are melting and Jupiter is developing a second giant red spot, an enormous hurricane-like storm. Jupiter's original Great Red Spot is 300 years old and twice the size of Earth. The new storm - Red Spot Jr. - is thought to be the result of a sudden warming on our solar system's largest planet. Dr. Imke de Pater of the University of California, Berkeley, says some parts of Jupiter are now as much as 6°C warmer than just a few years ago.[1]

Neptune's moon, Triton, seems to have heated up significantly since 1989. Parts of its frozen nitrogen surface have begun melting and turning to gas, making Triton's atmosphere denser.[2] Even Pluto has warmed slightly in recent years, if you can call -230°C warmer than -233°C.[1]

Lome Gunter asks, "Is there something all these heavenly bodies have in common? Some one thing they all share that could be causing them to warm in unison? Hmmmm, is there some giant, self-luminous ball of burning gas with a mass more than 300,000 times that of Earth and a core temperature of more than 20 million degrees C, that for the past century or more has been unusually active and powerful? Is there something like that around which they can all revolve that could be causing this multi-globe warming?"[1]

For the past century and a half, Earth has been warming. Coincidentally, during that same period our Sun has been brightening, becoming more active, sending out more radiation. Solar scientists from Iowa to Siberia have overlaid the last several warm periods on our planet with known variations in our Sun's activity and found, according to Sami Solanki of the Max Planck Institute for Solar System Research in Germany, "a near-perfect match."[1] Solanki adds, "The Sun has been at its strongest over the past 60 years and may now be affecting global temperatures."[3]

According to Nicola Scafetta of Duke University, records of sunspot activity suggest that solar output has been rising slightly for about 100 years. However, only measurements of what is known as total solar irradiance gathered by orbiting satellites for the past 30 years are considered scientifically reliable.[4]

Sun's magnetic activity versus Earth's temperature

The average global temperature of the Earth has increased roughly 0.6°C over the past 120 years. Much of the observed temperature rise occurred before 1940, whereas most of the additional carbon dioxide (more than 80%) entered the atmosphere after 1940. As Jay Lehr notes, "Increased greenhouse gas levels cannot explain a temperature rise that occurred before the major increases in these gases occurred in the atmosphere."[5]

One natural factor in climate change may be variation in the brightness of the Sun over decades to centuries, that are in step with changes in the Sun's magnetism. These changes occur over cycles of roughly 11 years - what is known as the sunspot cycle. Climate models suggest changes of roughly 0.5% in the Sun's brightness would produce global average temperature changes of about 0.5°C over a century or so.[6]

The almost perfect correlation between the Sun's magnetic activity and the Earth's temperature is too close to be readily dismissed as coincidence.[7]

Willie Soon of the Solar and Stellar Physics Division of the Harvard-Smithsonian Center for Astrophysics, showed that in the depth of the Little Ice Age - the coldest period in the northern hemisphere in the past 1,500 years - corresponded perfectly with a solar event known as the Maunder Minimum. For nearly seven decades there was virtually no sunspot activity.[1] It was named after British astronomer E. Walter Maunder, who in the 1890s, tried in vain to stir up interest in this aberration. In the 1970s, American solar physicist Jack Eddy revisited Maunder's work, noting that the Minimum offered " a good test case for solar influence on climate." After some research, Eddy concluded that there might be a connection after all. Eddy's investigation also drew attention to another sunspot dearth from 1460 to 1550. Putting that episode next to the Maunder dates, scientists realized that these extended minimums coincided with the core of a famously frigid period in Europe and elsewhere known as the Little Ice Age (1400-1850), during which the Thames River in London and the Lagoon of Venice regularly froze.[8]

A very important point! Our knowledge of those swings is limited. The best helioseismological studies and high-tech spacecraft observations only cover about 15 years. And as Joel B. Mozer, senior physicist at the Air Force Research Laboratory at Sacramento Peak, New Mexico, points out, "Since the beginning of the space age in the 1950s, we've had only four solar cycles. All our understanding is based on that. But there's plenty of evidence that these don't represent the extremes."

The mean sunspot number is higher than it has ever been in the last thousand years and two and a half times higher than the

long term average. The temporal variation in the solar activity displays a similarity to that of the mean temperature of the Earth. These scientific results therefore bring the influence of the Sun on the terrestrial climate, and in particular its contribution to the global warming of the 20th century, into the forefront of current interest.[9]

Summary

Why does all of this matter to us? Because this warming tells us a lot about our own planet. Namely, that climate changes occur regardless of human activity, and that planet temperatures are always cooling or warming.

After all, how do radical environmentalists explain the end of the Ice Age? Prehistoric SUVs? Neanderthals operating coal-fired power plants and using aerosol hair spray?

In Europe, governments have led the march in implementing the Kyoto Protocol's mandates. The results? Stagnant economies, high unemployment and failure to actually meet its environmental and requirements. The U.S. economy is growing nearly three times as fast as Europe's. Yet, Europe's greenhouse gas emissions have increased far faster than the U.S. and far faster than it had permitted itself under Kyoto.[10]

But this information about the sun will hardly be welcomed. Too many people have too much riding on greenhouse global warming - research grants, business subsidies, personal prestige, bureaucratic power and political agendas - to permit another theory to supplant it.[11]

And, if you haven't already heard, there is "consensus" that man is responsible for climate change on Earth. Let's not muddle this up with contrary facts.

Update

Just recently it's been reported that over the past year global temperatures have dropped precipitously. The total amount of cooling ranges form 0.65 to 0.75 C°. Some scientists link the cooling to reduced solar activity. Dr. Kenneth Tapping reports solar activity comes in regular cycles, but the latest one is refusing to start. Cooling will be much worse for humans than warming. A new campaign for Al Gore? **P&SF**

References

1. Lorne Gunter, "Breaking: Warming On Jupiter, Mars, Pluto, Neptune's Moon & Earth Linked to Increased Solar Activity, Scientists, Say," *National Post*, March 13, 2007.
2. J. L. Elliot, *et al*., "Global Warming on Triton," *Nature*, **393** (6687), 765 (June 25, 1998).
3. Deborah Halber, "Evidence of global warming seen on Neptune's largest moon," *MIT News Report*, July 15, 1998; http://web.mit.edu/newsoffice/1998/triton-0715.html
4. "Sun's Direct Role in Global Warming May Be Underestimated, *Duke Physicists Report*," http://www.dukenews.duke.edu/2005/09/sunwarm.html
5. J. Lehr & R.S. Bennett, "A Climate Change Primer: It's the Sun!" *Environment & Climate News*, **6**, 10 (May 2003); http://www.heartland.org/Article.cfm?artId=12099.
6. W.H. Soon, E.S. Posmentier & S. Baliunas, "Inference of Solar Irradiance Variability from Terrestrial Temperature Changes, 1880-1993: An Astrophysical Application of the Sun-Climate Connection," *Astrophysical Journal*, **472** (2), 891 (1996); http://www.journals.uchicago.edu/doi/pdf/10.1086/178119
7. D. Raymond, "Carbon Dioxide Content and Temperature," *Science*, **259** (5097), 926 (1993).
8. Curt Suplee, "A Stormy Star," *National Geographic*, **206** (7), 2 (2004).
9. N.A. Krivova & S.K. Solanki, "Solar Variability and Global Warming: A Statistical Comparison since 1850," *Adv. Space Res*., **34**, 361 (2004).
10. Christopher C. Horner, *The Politically Incorrect Guide to Global Warming and Environmentalism*, Regnery Publishing, Washington, DC, 2007; p. 279.
11. Lorne Gunter, "Here Comes the Sun," *Tech Central Station*, July 23, 2003.

Editor's Note: *We would like to mention that Mr. Dini is having so much fun providing these columns that he is churning them out at a rate faster than we can publish them on a monthly basis. Indeed, he has created a blog at http://myblogscience.blogspot.com. If you wish to see more of Mr. Dini's provocative works that might not have appeared in Plating & Surface Finishing, check it out.*

Finisher's Think Tank

Continued from page 26

carbon level is typically low. There is at most, very little nickel in this alloy series. Inclusions are molybdenum and either aluminum or titanium. Alloys are magnetic. Applications include architectural and builders' hardware, appliances, liners and deck plates.

Martensitic

These are the first commercial stainless steels. They are also referred to as plain chromium stainless steels, part of the 400 alloy series. The high carbon level is alloyed with 12 to 18% chromium. The alloys are machinable, heat treatable for hardness and extremely strong and durable. Commercial applications include cutlery, fasteners, surgical instruments, aerospace, engineering, shafts, springs and nozzles.

Series designations:

405. Recommended for welding applications. Ferritic.
408. Better heat resistance.
409. Most economical. Highly visible as common automobile exhausts.
410. Good wear resistance. Martensitic.
416. Good machining characteristics, with addition of sulfur.
420. Martensitic. This grade is similar to the original formulation for rustless steel. It has good polishing characteristics. The major use is in cutlery.
430. Ferritic. Decorative automotive trim.
440. Higher carbon content improves hardness. This alloy, exhibiting a hardness of Rockwell 58, is one of the hardest stainless steels.

Stainless steel is very important, not only to equipment used in metal finishing, but in assorted industries, consumer, medical, technical and military. One of the successful methods to open clogged arteries has been the insertion of stainless steel stents. We can readily agree stainless materials of construction are quite obvious, if one chooses to acknowledge their presence. There are many structures throughout that incorporate stainless in their fabrication. The anti-weathering effect along with strength cast a shining tribute to stainless steel. Two famous architectural landmarks stand out: the Gateway Arch clad in alloy 304, the top of the Chrysler Building is clad in alloy 302. **P&SF**