

Legacy for Our Children

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There is a lot of talk these days about the legacy we will leave our children and our grandchildren. When I stare into the immediate future, I see a frightening legacy caked in darkness and famine. Instead of intelligently preparing, we find ourselves whittling away this precious time chasing fraudulent theories. We have a decade to prepare, but have a misguided sense of direction and urgency.

Climate change is primarily driven by nature. It has been true in the days of my father and his father and all those that came before us. Because of science, not junk science, we have slowly uncovered some of the fundamental mysteries of nature. Our Milky Way galaxy is awash with cosmic rays. These are high speed charged particles that originate from exploding stars. Because they are charged, their travel is strongly influenced by magnetic fields. Our sun produces a magnetic field that extends to the edges of our solar system.

This field deflects many of the cosmic rays away from Earth. But when the sun goes quiet (minimal sunspots), this field collapses inward allowing cosmic rays to penetrate deeper into our solar system. As a result, far greater numbers collide with Earth and penetrate down into the lower atmosphere where they ionize small particles of moisture (humidity) forming them into water droplets that become clouds. Low level clouds reflect sunlight back into space. An increase in Earth's cloud cover produce a global drop in temperature. These periods of quiet sun are referred to as a [Grand Minima](#). The Maunder Minimum (1645-1715) and the Dalton Minimum (1790-1830) are examples.

During a Grand Minima the Earth begins to slowly cool. The start of the planting season is delayed and in the fall early frost limits the harvest. Earth's abundant bounty is put on hold and starvation takes its ghastly grip. Historian, John D. Post, referred to the last Grand Minima, the Dalton Minimum, as the "last great subsistence crisis in the Western world". With the cold came massive crop failures, food riots, famine and disease.

Several scientists including [David Hathaway](#) (NASA), [William Livingston & Matthew Penn](#) (National Solar Observatory), and [Khabibullo Abdusamatov](#) (Russian Academy of Science) have forecasted that the sun may enter a Grand Minima a decade from now in Solar Cycle 25.

A few scientists including [David C. Archibald](#) (Australia) and [M. A. Clilverd](#) (Britain) have warned this might even begin in Solar Cycle 24. We are at the transition into Solar Cycle 24 and this cycle has already shown itself to be unusually quiet. The number of spotless days (days without sunspots) during this solar minimum appears to be tracking 3 times the typical number observed during the last century (Solar Cycles 16-23).

There are some that urge North America follow Europe's lead. On January 13, 2009, the European Parliament adopted a regulation dramatically restricting the number of

pesticides allowed. This move is based on the precautionary principle and on junk science. According to Dr. Colin Ruscoe, chairman of the British Crop Production Council, "If farmers are forced to stop using certain products, crop yields would halve. There would be such huge losses in the yields of potatoes, carrots, peas and parsnips that it would become uneconomical to farm them." Is this the kind of lead we should be following? Europe is also leading in another area - in its opposition to genetically modified (GM) crops. In Europe, environmentalists have driven fear into the hearts of their citizens by labeling GM food as "Frankenfood". In our country, we have been using GM crops for almost two decades without any ill effects. GM crops hold the promise of helping us survive the next Grand Minima by offering crops that can grow under extreme weather conditions. North America is currently a leader in this technology. Should we follow Europe's lead and ban GM crops? And in ten years from now when the next solar cycle begins, if the sun goes quiet, who will comfort the starving children who cry out in the middle of the night for a small piece of bread? These will be our children.

So what legacy will we leave behind?

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