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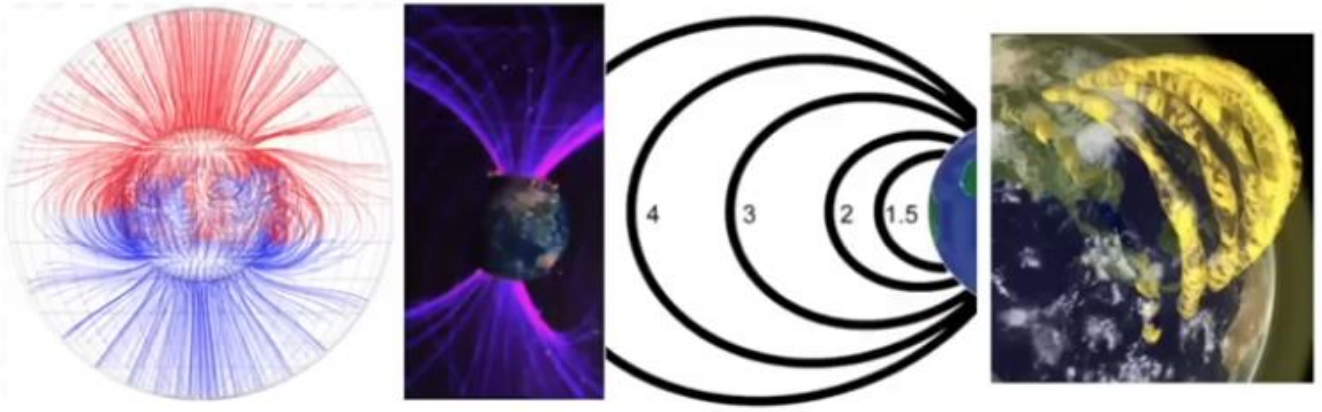
Earthspots – Magnetic Fields

There are a lot of mistakes made by the Catastrophic Anthropogenic Global Warming (CAGW) alarmist crowd (assuming they are not made intentionally). The simplistic, unscientific choice to base all "Climate Changes" on one parameter (a trace gas called CO_2 (0.04% of the atmosphere)) would be one place to start. But this post will focus on the ludicrous idea that the sun (and its main related influences (ocean cycles, cloud interactions, etc.)) plays no significant role in 'climate change' on our planet. A strange premise given that the sun provides virtually all the energy the planet receives. This post is a discussion comparing sunspot activity to hurricane activity on earth. The similarities are interesting and lead to the premise that hurricanes may be earth's manifestations of sunspots (i.e.: earthspots). This post is not about established science. But there is obviously an electromagnetic connection between the sun and the earth. Why is this important? That connection is one more parameter that is being ignored by the climate alarmist community. Much of this information is introduced in Ben Davidson's video "Earth Spots – The Most Obvious Ignored Science". Both the earth and the sun are surrounded by magnetic fields. The general structure of those fields are similar, with north/south dipoles and the more contained magnetic fields arching above the equators. When it comes to electromagnetic fields, the earth and sun do not exist in isolation from one another, the electromagnetic fields are interconnected. Disruptions on one body affect the other body (with the sun having a significantly more dominant effect). Earth's influence on the sun is obviously negligible. Solar electromagnetic disturbances are felt very quickly on earth (within 8 minutes).

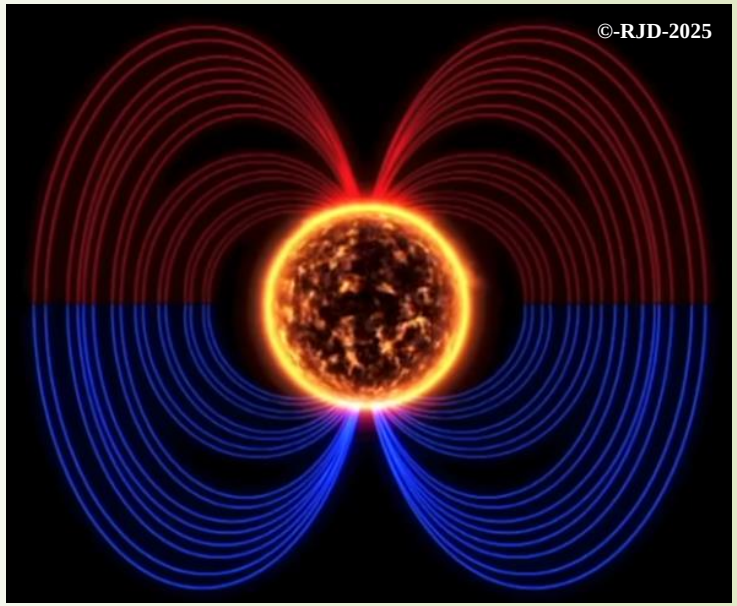


1. Same Field Structure

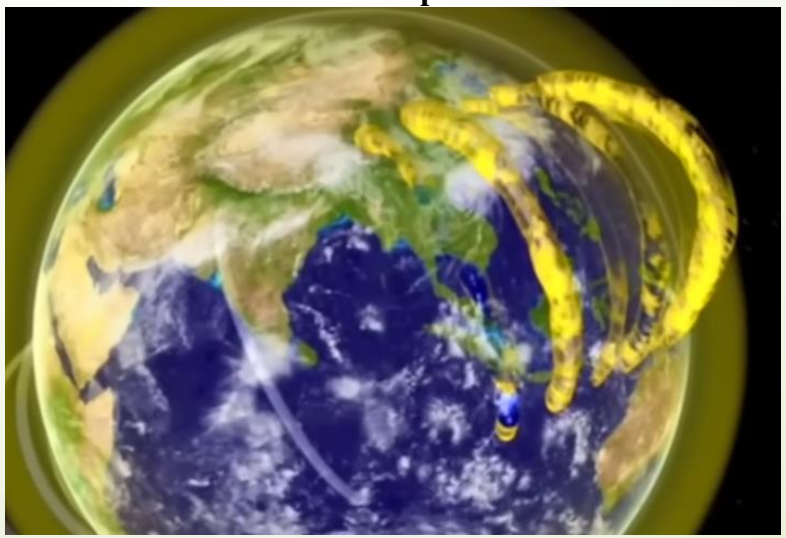
From left to right: 1) the Sun's north/south 'dipole' magnetic field, and the coronal magnetic fields arching above the solar equator, 2) Earth's 'dipole' component of the magnetosphere (north/south), 3) Earth's "L shell" magnetic fields, and 4) the plasma tubes tracing the lower levels of the shells over the magnetic equator.

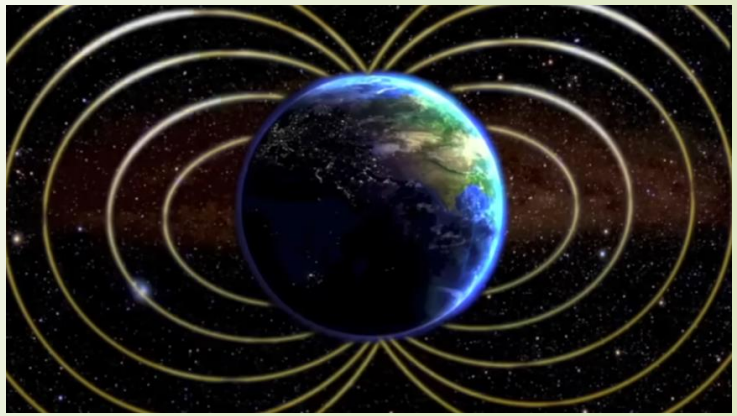
Earth Spots – The Most Obvious Ignored Science
https://www.youtube.com/watch?v=JMw5pw_fuF0

Earth and sun have similar global magnetic field structures. On the sun, these are well-known to drive the sunspot cycle. On Earth, scientists are JUST NOW learning how the magnetic fields/GEC affect storms and weather. Speaking of storms, let's move on to the similarities of the storms on the Earth and sun.



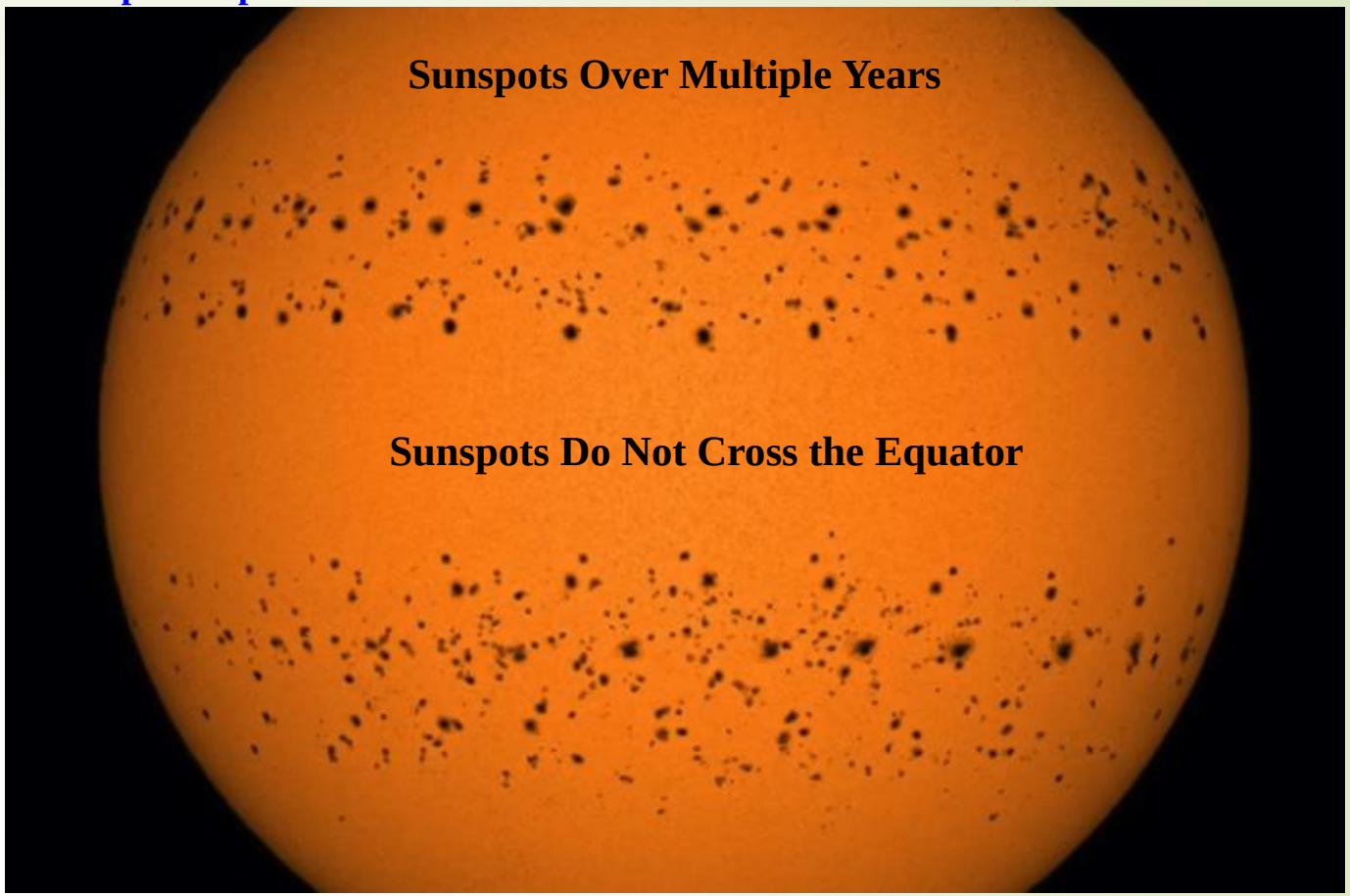
Earthspots Magnetic Fields





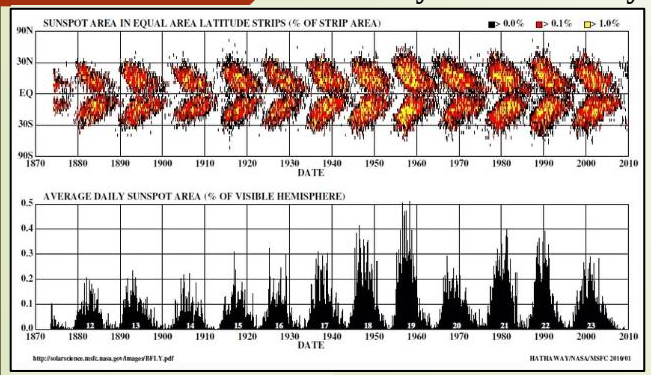
Earth Spots - Sunspots

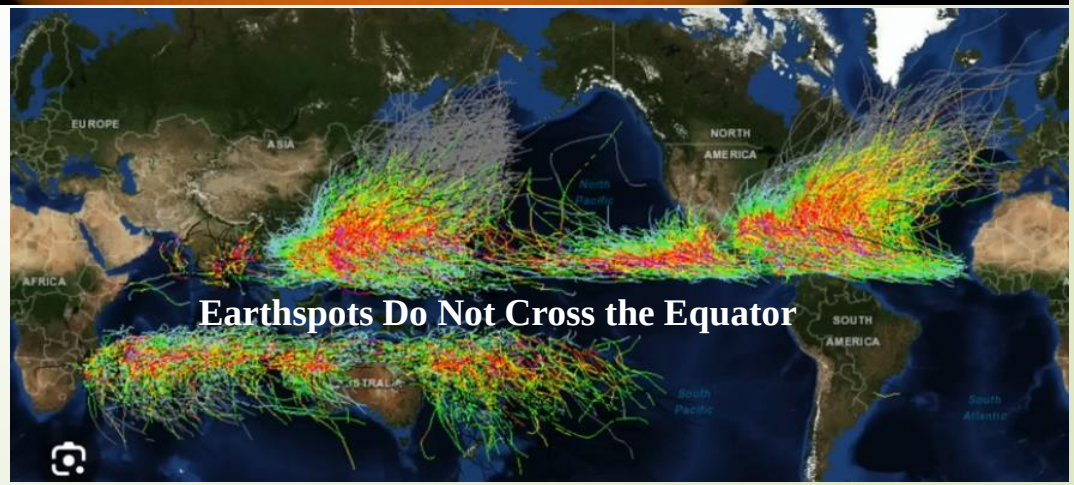
2. Sunspot/Tropical Storm Locations



Sunspots Earthspots

The magnetic fields restrict sunspots to the midlatitudes on the sun. Sunspots do not cross the equator. The upper right image shows consecutive images of sunspots as they move across the face of the sun and evolve. The sunspot latitudes are dependent on what part of the 11-year Schwabe cycle they develop in (butterfly diagrams, lower left). They start at higher latitudes and develop closer to the equator over time. Hurricanes have similar features, occurring in both the northern and southern hemispheres with no crossover between hemispheres. Hurricanes/earthspots do tend to drift more between latitudes than sunspots. Probably related to the much more complex mix of land/ocean topography and atmospheric influences. The sun, while chaotic in nature is primarily a plasma (a super-hot ionized gas).

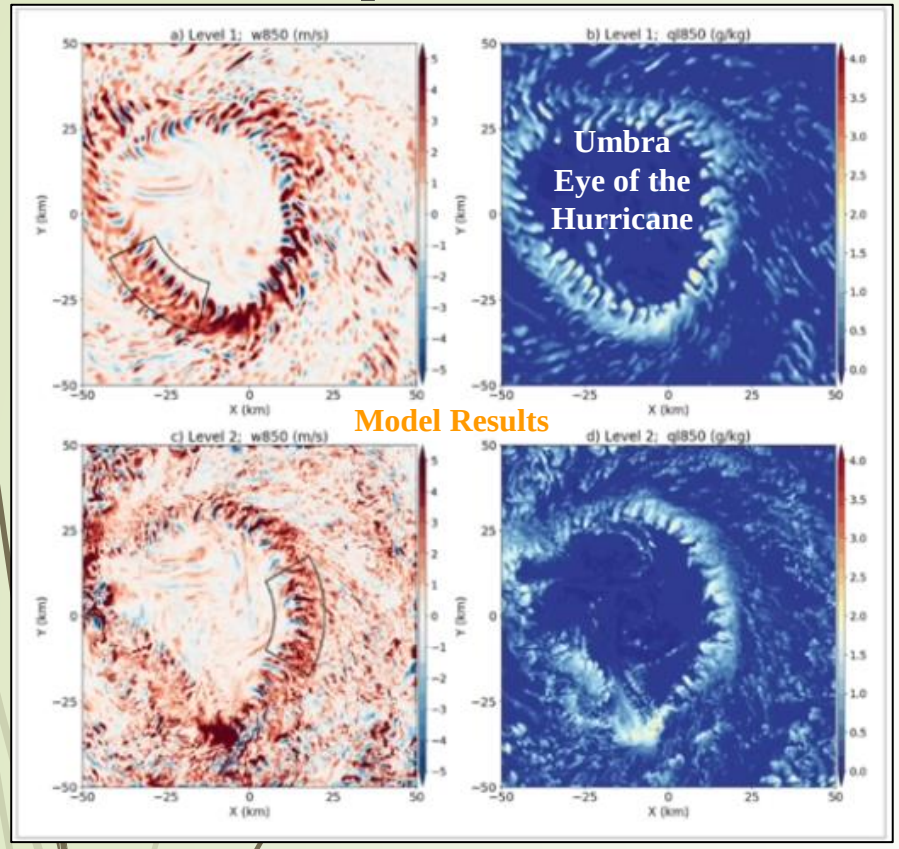




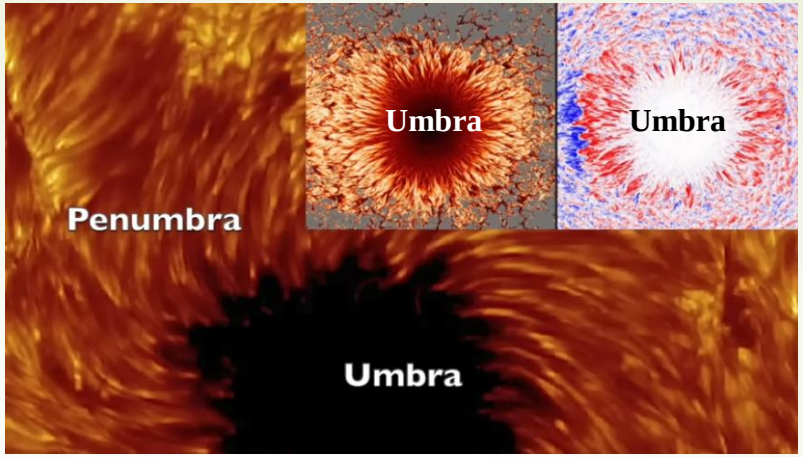
GSM – Grand Solar Minimum. The real "Climate Change" existential threat is right around the corner. Do the Research!

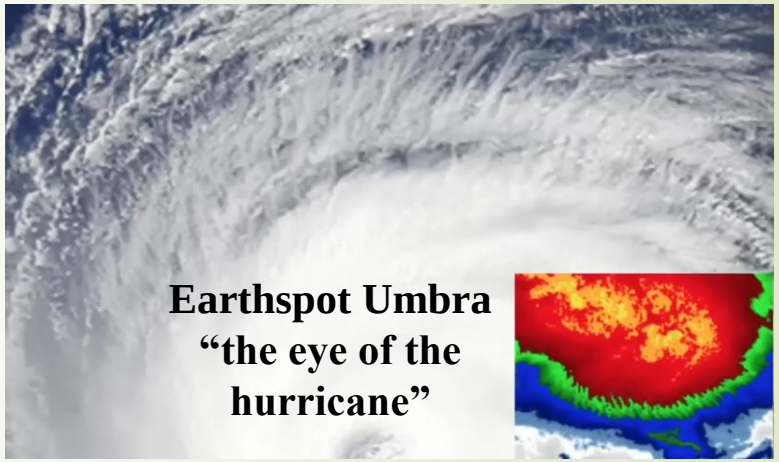
Earthspots – Umbra/Penumbra

3. Sunspot/Tropical Storm Shape/Energy



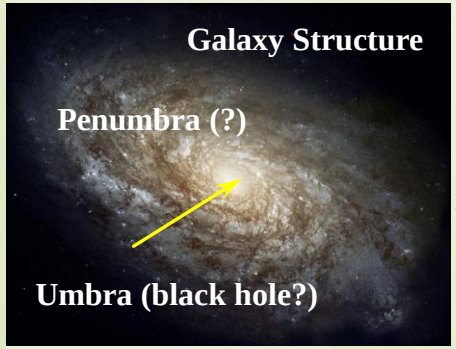
Model Results





Sunspots have a central eye called the umbra. The umbra is surrounded by magnetically induced streaks called the penumbra (i.e.: the plasma organizing along the magnetic flux/field lines). The umbra generally forms first and the penumbra develops around it (a process that takes a few hours). Sunspots can grow and/or dissipate over a few days. Hurricanes have a similar structure, an umbra (the eye) and the penumbra (the surrounding clouds). The clouds even form streaks that are similar in look to the streaks visible in the sunspot penumbras. Are the water molecules in the clouds loosely lining up with electromagnetic field lines? Could also be structurally related to the hurricane's rotation through the atmosphere.

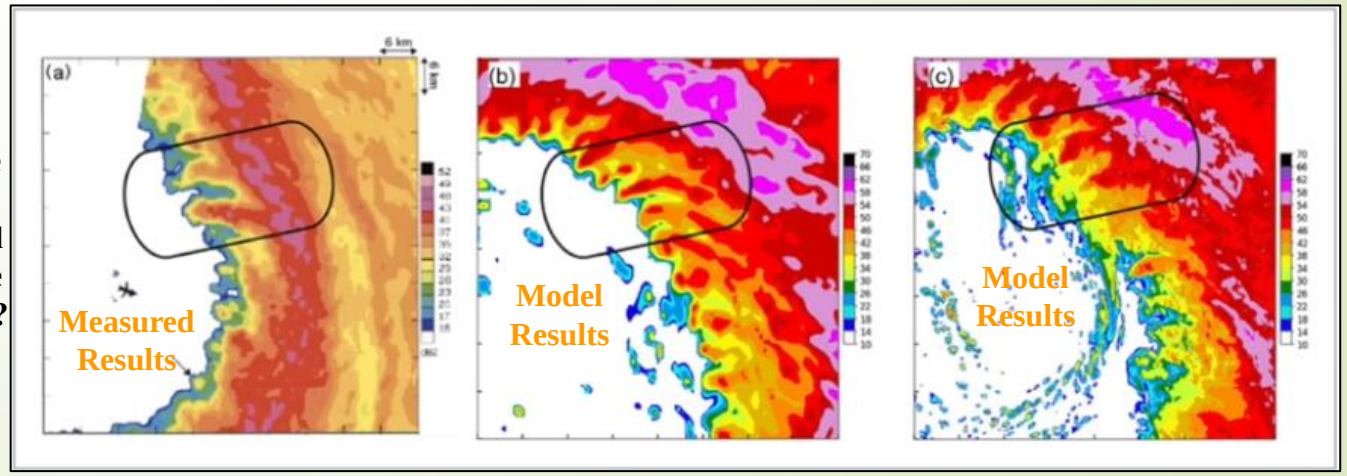
Earthspots
Penumbra
Umbra



Note the structural similarity between hurricanes and spiral arm galaxies. An electromagnetic manifestation on a much larger scale? Hurricanes have finger like clouds that look like the structures surrounding the sunspot umbra. The study below states they are "due to the shear instability associated with vertical distribution of the tangential wind in the inner-core region". Could there be a magnetic component also?

What Are the Finger-Like Clouds in the Hurricane Inner Core Region?

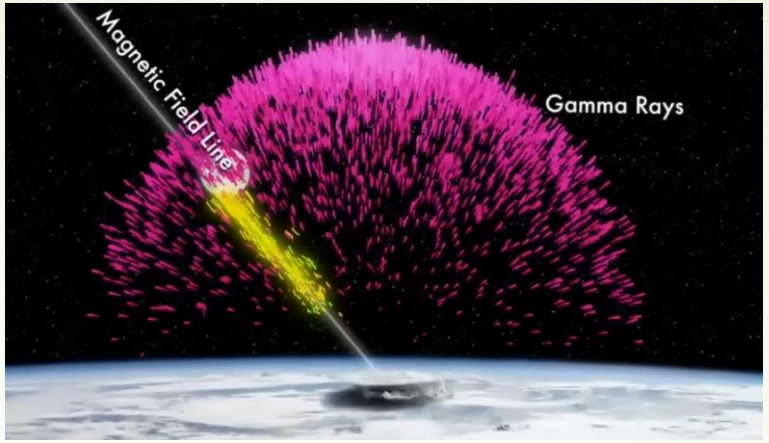
https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2024GL110810

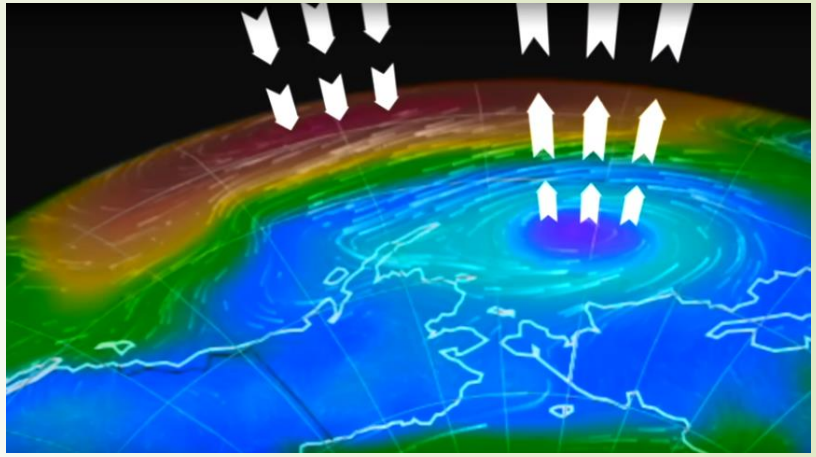


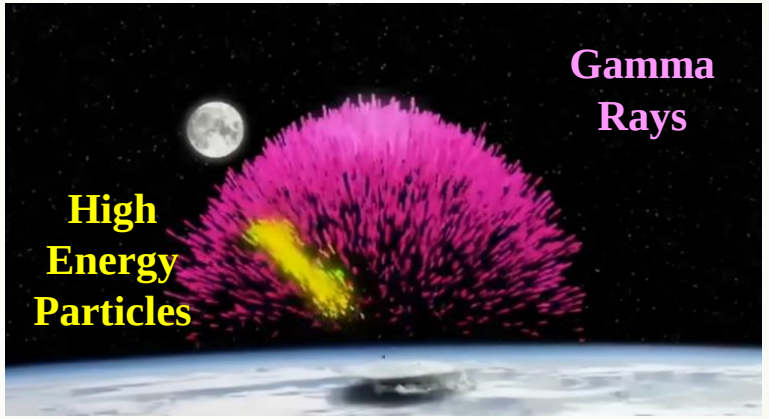
Earthspots – Electric Circuits

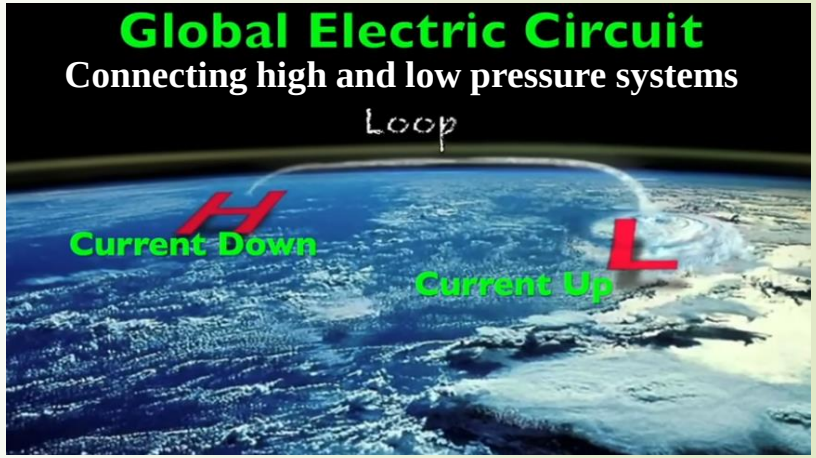
Hurricanes are loaded with energy, generating a lot of lightning. A similar expulsion of energy occurs in sunspots. These flashes of light are solar flares that eject energy (light and high energy particles) from the surface of the sun and out into the solar system. Solar flares come in a variety of strength. The 'C' Class flares (C1-C9) have the lowest energy levels (no noticeable consequences on earth). 'M' class flares (M1-M9) are stronger (radio blackouts and interference on earth). 'X" Class flares (X1-X?) are the strongest outbursts. Each increment is 10 times stronger than the last (i.e.: X2 is 10 times stronger than X1). X class flares can cause serious damage to electrical infrastructure on earth (blackouts to civilization destruction). The 1859 Carrington Event (X50 – X80) would likely have obliterated our electrical grids had it happened today. Especially since our electromagnetic field strength has declined in strength by ±30%. Hurricanes can produce terrestrial gamma flashes that eject gamma ray light and particle blasts (just like solar flares but not as strong). On a larger planetary base, there are electrical currents connecting low (hurricanes/storms) and high-pressure systems. The connections are not visible on earth, but they are there. On the sun, the electromagnetic field lines are visible where solar plasma rises from the corona, arcing up then back down to the surface. The loops are readily visible on a variety of frequencies. Sometimes those loops have enough energy to break free from the planet. These outbursts are called Coronal Mass Ejections (CMEs) and they too can cause damage to our electrical society. At lower levels they cause the auroral borealis (northern lights). At higher levels, they too can be civilization killers. The brilliant auroras we have experienced recently are greatly enhanced by our weaker magnetic fields. Some additional discussion can be found in my CSS-36 – Solar Flares and CMEs and OPS-62 – Weakening Electromagnetic Field/Solar Winds posts.

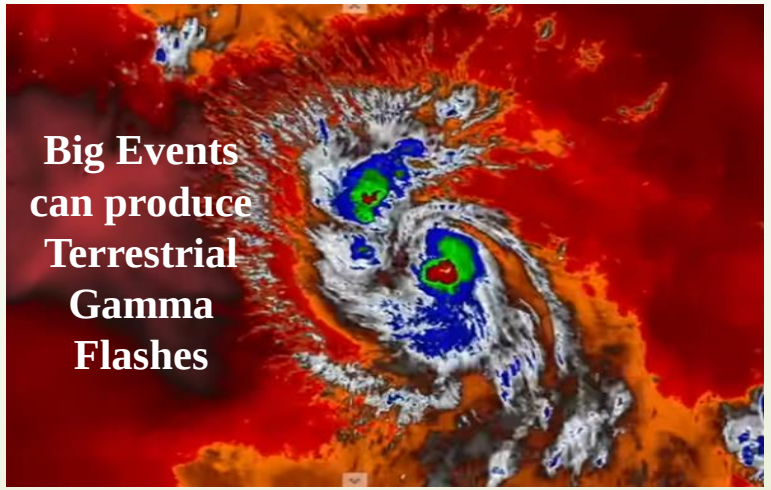
Earthspots Electric Circuits

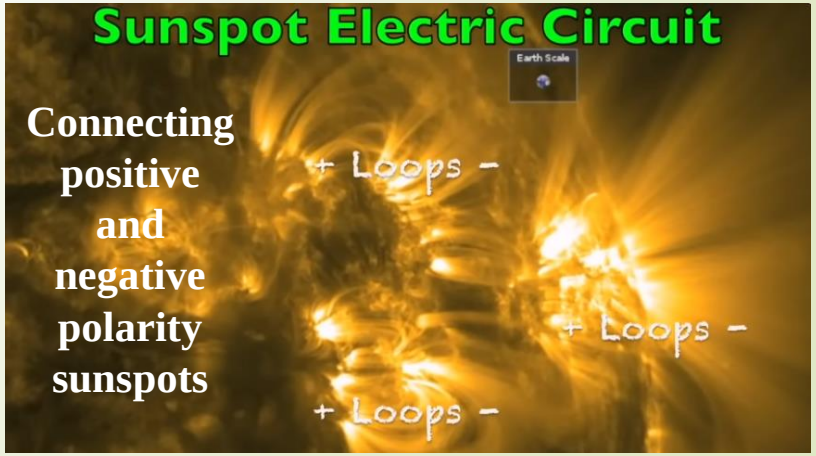












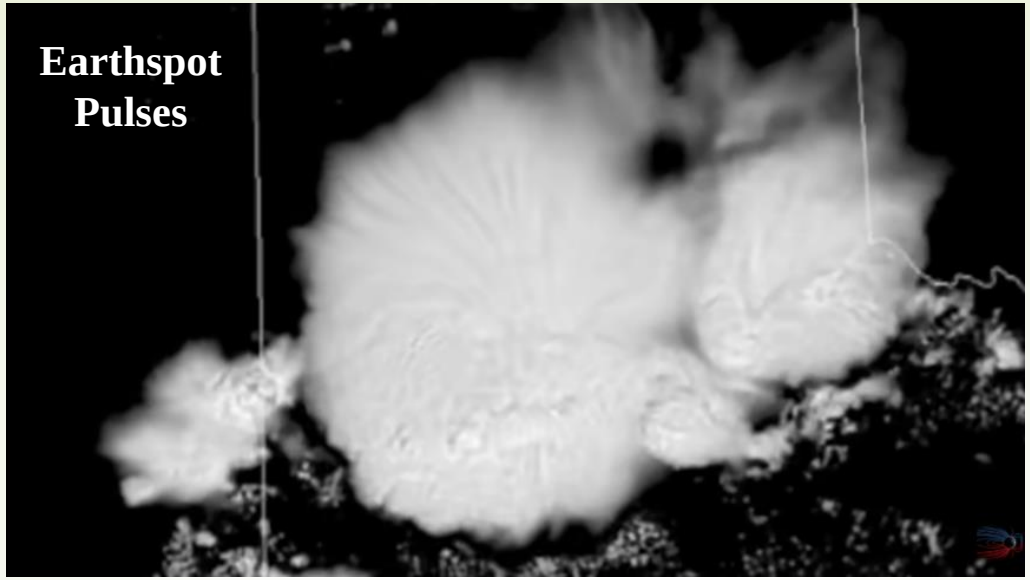
Earthspots – Internal Heartbeat

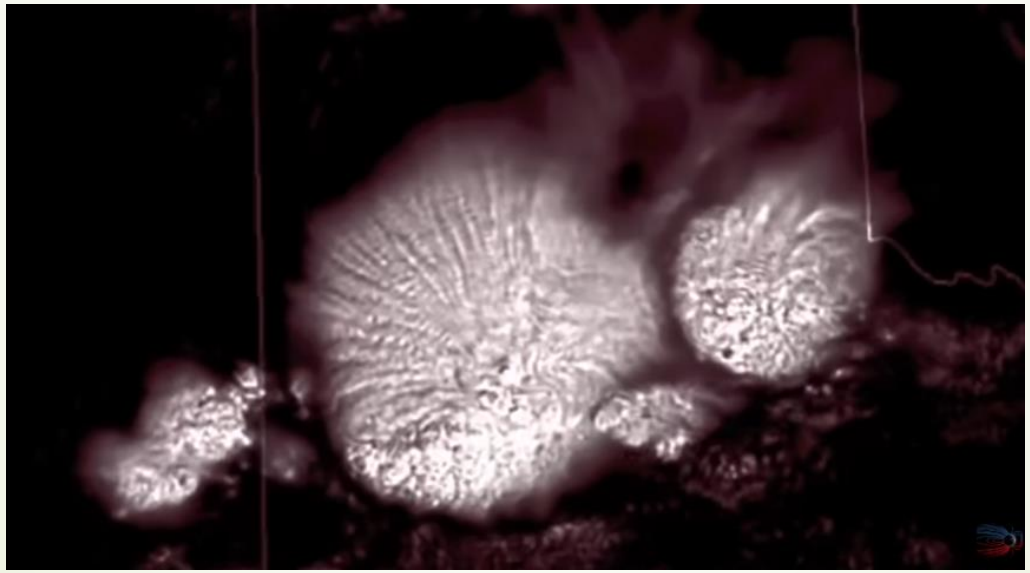
These images do not capture the regular pulses present in both the hurricanes/storms and sunspots. There are pulsations from the center that produce concentric waves moving outward from the center. The videos provided in the linked video on Slide CSS-66a are more representative. The pulses are between one and three minutes on both the earth and sun. One more similarity between sunspots and 'earthspots'. To summarize, earth (hurricanes) and sunspots have a lot of similarities and are very likely strongly influenced by their respective magnetic fields. The processes play out differently on the earth and the sun because they have very different compositions. The sun is very hot, gaseous plasma. The earth is relatively cold and consists of solids (continents/ice caps), liquids (oceans) and gases (atmosphere), at least on the surface. The question now becomes are they connected? As with any electromagnetic systems, they are. Those connections exist throughout the solar system. Those electromagnetic connections also play out on the galactic scale, but that is a discussion for another day. As indicated earlier, this is not established science and is not even contemplated in "climate science". The electromagnetic implications on the earth's climate are many and powerful. Until 'climate scientists' start including all the radiative forcings, their models will continue to "run way too hot", OPS-55 – The State of Climate Science.

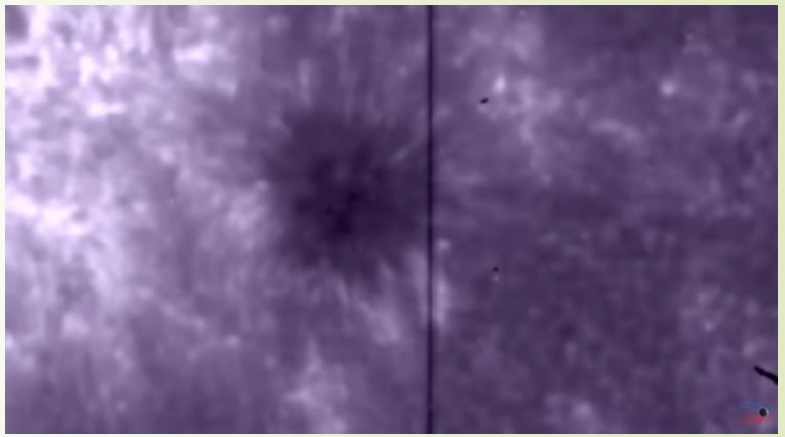
Sun/Earth Spots - The Heartbeat

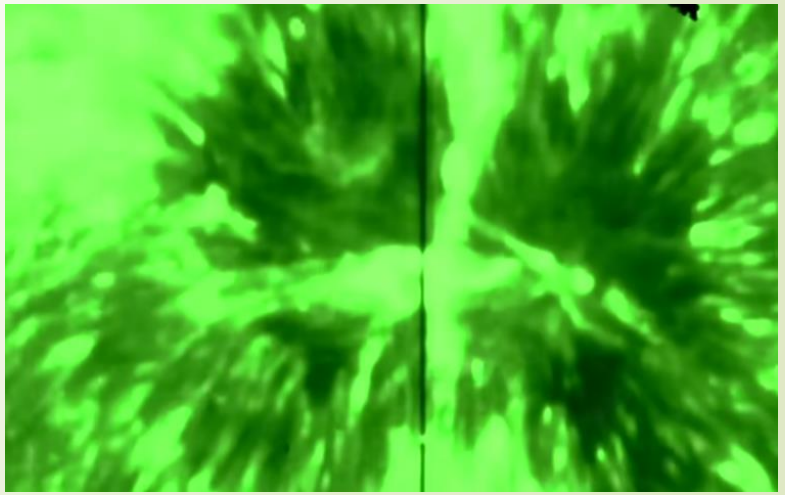
EARTHSPOTS

1. Same Field Structure
2. Sunspot/Tropical Storm Locations
3. Sunspot/Tropical Storm Shape/Energy
4. Sunspot/Tropical Storm Connections
5. Sunspot/Earthspot Pulses









CSS-66f

Earthspot – Sunspot Correlation

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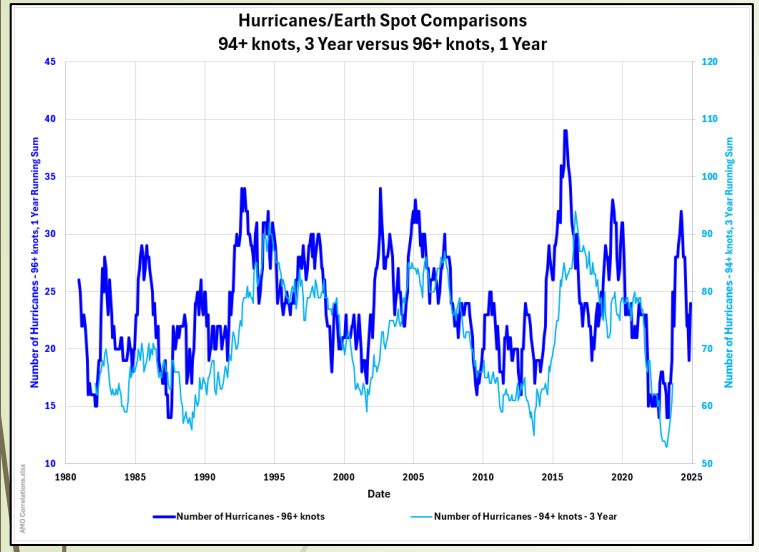
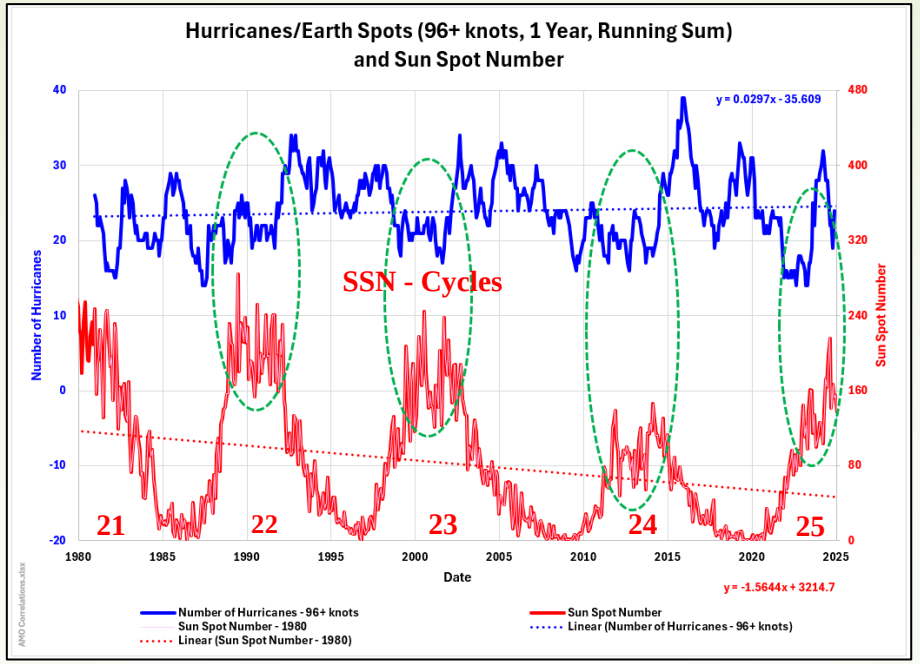
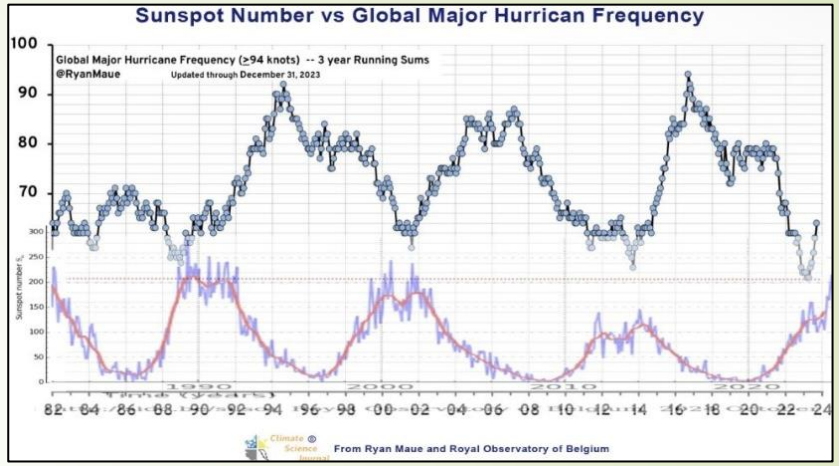


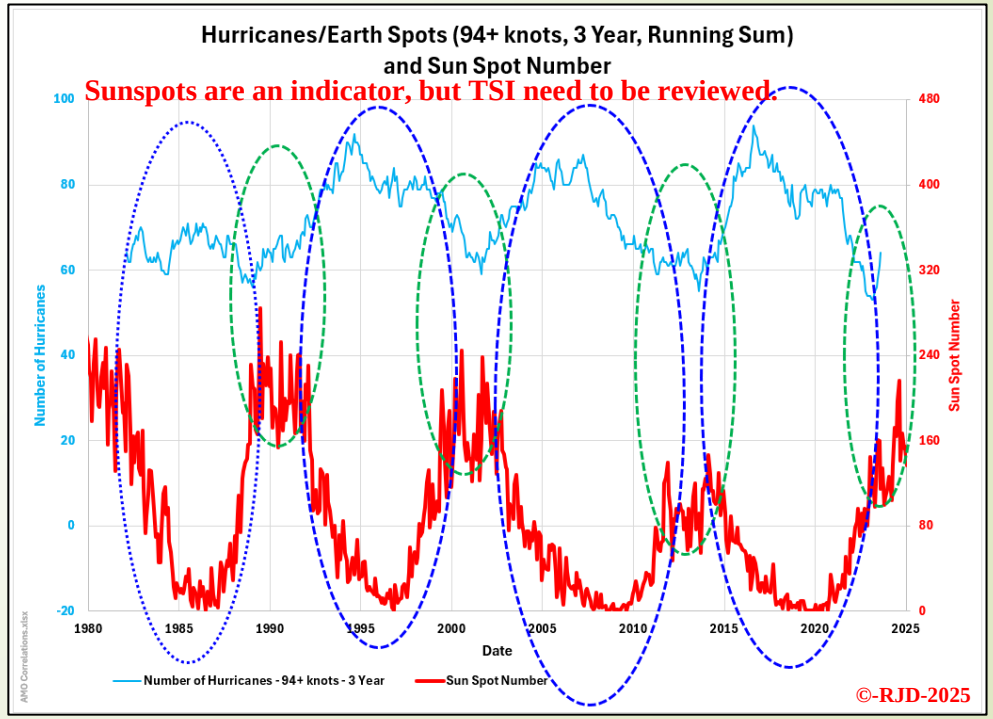


These plots show the empirical data and a very obvious connection between sunspots and hurricanes (earthspots). The plot below was presented by Joseph Fournier and shows the correlation between SunSpot Number (SSN) and Global Major Hurricane Frequency. The Hurricane frequency numbers are based on Ryan Maue's work.



That looks like a correlation to me. When sunspot activity is high, you get less major hurricane activity (and vice versa). The plot directly above shows both the 1 year and 3 year running sums from Ryan Maue's work. The 1 year running sum is plotted with the SSN data (the middle plot above). Note, the wind speed cutoff for the 1 year running sum is 96+ knots. The 3-year running sum has a 94+ knot cutoff. They are different, but not significantly different. The correlation to the original plot (upper right) is becoming visible in the data, but certainly not as prominent as the 3-year running sum. The sunspot numbers have been declining since 1980 (SSN – Cycle 21), despite the slightly more prolific Cycle 25. The Global Major Hurricane Frequency has been increasing marginally, effectively statistically flat over this 45-year period. On longer time scales, hurricane/tropical storm activity has been trending down. CO_2 has played at best only minor roles in storm activity. The solar influence is obviously more important. What mechanisms are driving this correlation? Temperatures rose over this period. When temperatures rise globally as they have over this period), the temperature gradient from the equator to the poles decreases, leading to less storm development and lower magnitude storms. The poles warm faster than the equator. The gradient drives atmospheric activity. The same process plays out over the 11-year Schwabe cycles. More energy hits the earth (temperatures rise) when solar activity is high, and less energy hits the earth (temperatures fall) when solar activity is lower. The cycles also coincide with Cosmic Ray Flux (CRF). When solar activity is high, solar wind strength is stronger, reducing CRF, leading to less cloud cover (which includes hurricanes) and higher temperatures/latitudinal gradients. The opposite is true when solar activity is lower. Solar activity is the driver.

Earthspot Sunspot Correlation



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