

**Space Science Seminar**  
**Tuesday, 2018 December 4**  
**10:30 a.m.**  
**NSSTC/2096**

**Termination of Solar Cycles and Correlated  
Tropospheric Variability**

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Host: Dr. Alphonse Sterling  
(Sponsored by ST13)

The Sun provides the energy required to sustain life on Earth and drive our planet's weather. Over the past few years a new picture to describe solar variability has developed, based on observing bands of magnetism that belong to the Sun's \*22-year\* magnetic activity cycle, and migrate from high latitudes towards the equator. One of the most important events in the progression of these bands is their death, or termination, at the solar equator that signals a global increase in magnetic activity that becomes the new solar cycle. Their death is NOT dragged out, but VERY abrupt. Indeed, the triggering of growth in the new solar cycle is almost immediate. Here we show solar-cycle termination events and major oceanic oscillations are correlated, going back many decades. Should current projections of solar magnetism hold, we expect the current solar cycle termination to occur in 2020, and thus we expect to see La Niña conditions in the Pacific at that time. These observations can help us to explore the capability of the Sun to dynamically drive the Earth's atmosphere.

<https://solarscience.msfc.nasa.gov/colloquia/>