

Space Weather News for April 11, 2019

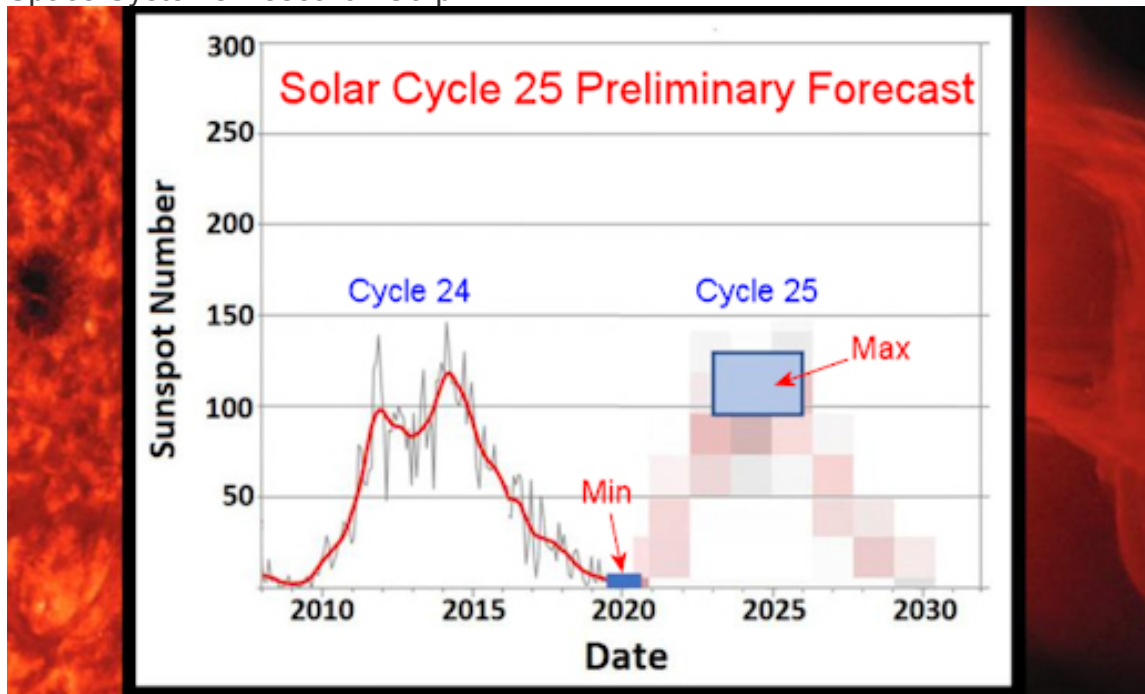
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SOLAR CYCLE UPDATE: An international panel of researchers led by NASA and NOAA has released a new prediction for the solar cycle. According to their analysis, the current solar minimum is going to deepen, potentially reaching a century-class low in the next year or so. This will be followed by a new Solar Max in the years 2023-2026.

EXPERTS PREDICT A LONG, DEEP SOLAR MINIMUM: If you like solar minimum, good news: It could last for years. That was one of the predictions issued last week by an international panel of experts who gathered at NOAA's annual Space Weather Workshop to forecast the next solar cycle. If the panel is correct, [already-low sunspot counts](#) will reach a nadir sometime between July 2019 and Sept 2020, followed by a slow recovery toward a new Solar Maximum in 2023-2026.

"We expect Solar Cycle 25 will be very similar to Cycle 24: another fairly weak maximum, preceded by a long, deep minimum," says panel co-chair Lisa Upton, a solar physicist with Space Systems Research Corp.



The solar cycle is like a pendulum, swinging back and forth between periods of high and low sunspot number every 11 years or so. Researchers have been tracking the cycle since it was discovered in the 19th century. Not all cycles are alike. Some are intense, with lots of sunspots and explosive solar flares; the Space Age began with a big booming solar maximum. Others are weak, such as the most recent, Solar Cycle 24, which peaked in 2012-2014 with relatively little action.

Researchers are still learning to predict the ebb and flow of solar activity. Forecasting techniques range from physical models of the sun's inner magnetic dynamo to statistical methods akin to those used by stock market analysts.

"We assessed ~61 predictions in the following categories: Climatology, Dynamo, Machine Learning/Neural Networks, Precursor Methods, Spectral/Statistical Methods, Surface Flux Transport, and Other," says Upton. "The majority agreed that Solar Cycle 25 would be very similar to Solar Cycle 24."

"Here," she says, "is a figure showing the last minimum and where we are with the current minimum."



"As you can see – we haven't quite reached the lowest levels of the last cycle – where we experienced several consecutive months with no sunspots. However, the panel expects that we should reach those levels [between now and the end of 2020]."

In recent years, the Internet has buzzed with the idea that a super-deep solar minimum such as the 70-year [Maunder Minimum](#) of the 17th century might cool the Earth, saving us from climate change. That's not what the panel is saying, however. "There is **no indication** that we are currently approaching a Maunder-type minimum in solar activity," says Upton. Solar minimum will be deep, but not *that* deep.