

Propagation de K7RA

18 August, 2012

ARLP033

There was a big drop in solar activity over the past week, with the average daily sunspot numbers declining nearly 42 points to 77.6, and average daily solar flux down 20 points to 114.7. Solar flux has dropped below 100, where it is expected to remain through August 22.

NOAA/USAF predicted solar flux on August 16 and 17 at 100, but it was actually 98.3 on August 16. The prediction for August 18 is 95, then 90 on August 19-22, then 100, 120 and 130 on August 23-25, then 135 on August 26-29. It is expected to drop below 100 again on September 12-15. This is almost exactly the forecast that was in the ARRL Letter on Thursday, with the August 23-24 sunspot numbers dropped by five points on each day.

Predicted planetary A index is 10 on August 17, 14 on August 18, 12 on August 19-20, then 8 on August 21, 5 on August 22-23, 8 on August 24-25, 12 on August 26, followed by 5 on August 27 through September 7, then 8 on September 8-10, and 5 on September 11-14. This is identical to the forecast in Thursday's ARRL Letter.

The weekly prediction of geomagnetic indicators from OK1HH says to watch for quiet to unsettled conditions August 17-20, mostly quiet August 21, quiet on August 22-24, quiet to active August 25-26, mostly quiet August 27-28, active to disturbed August 29-30, and quiet again on August 31 through September 1.

Many readers have commented that the short term view of the solar cycle has a recent peak around Fall 2011, yet predictions still focus on Spring 2013 for the peak of Cycle 24.

It is interesting to look back over the past two solar rotations, which is 55 days, and see an average compared with the same 55 days last year, June 23 through August 16. The average daily sunspot numbers for those dates in 2009-2012 are 3.3, 26.5, 61.2, and 91.6.

If we want to look at last Fall's peak we can cherry pick the data, and chose the 55 day period of November 7 through December 31, 2011.

The average daily sunspot number then was 119.3, about 30% higher than current values.

This week N7QR, Russ Mickiewicz, of Portland, Oregon (and later reader David Moore, and others) sent information on a new method for predicting solar flares, by tracking decay rates in gamma radiation from radioactive elements. Read about it at <http://phys.org/news/2012-08-solar-flares-advance.html>.

Randy Crews, W7TJ of Spokane, Washington offered some opinions on future solar activity and propagation. He writes, "Reading K9LA's excellent article in QST this past July, the graph on the cover pretty well confirms the good HF propagation bestowed on DXers for now, and if one 'connects the dots' the HF propagation following the years after the peak (sometime in 2013) will be considerably different from what we all have experienced in the past 30+ years.

Cycles 21, 22 and 23 were good strong normal sunspot cycles. As we all can conclude from the numerous forecasts, Cycle 24 will be a very low one. There will be much lower highs to drop from once the decline begins, and the low point of Cycle 24 will occur much sooner, unlike the many years of previous cycles where solar activity declined from solar flux values of 200+. Carl is right.

Enjoy and make the most of propagation now. Once the cycle turns, everyone will be surprised at the swiftness of the decline of high band propagation."

George Kutcher, K3GWK of Jenkinsburg, Georgia mentioned that "There is a simple sunspot data app for the iPhone, iPad and iPod Touch.

The app is called 'Sunspot' by AMI Mobile. There is a cost for the app. 'Sunspot' is a simple application to display 3-hour WWV space weather and NOAA sunspot data on your iPhone, etc. Data is updateable on demand, as well as current trending from the previous data set."

Brendan Wahl, WA7HL of Bisbee, Arizona likes the N0HR Propfire program for the Firefox web browser. It displays the geophysical and solar data that WWV transmits at 18 minutes after each hour, and can also display sunspot number. You can get it for free at,

<http://www.n0hr.com/Propfire.htm>.

N0AX reports that DX Sherlock has a new URL at, <http://www.dxmaps.com/>.

Turns out our Sun is not perfectly round. Check it out at

http://www.cbsnews.com/8301-205_162-57494899/the-suns-strange-shape-revealed/.

If you would like to make a comment or have a tip for our readers, mail the author at, k7ra@arrl.net.

For more information concerning radio propagation, see the ARRL Technical Information Service at

<http://arrl.org/propagation-of-rf-signals>.

For an explanation of the numbers used in this bulletin, see

<http://arrl.org/the-sun-the-earth-the-ionosphere>.

An archive of past propagation bulletins is at

<http://arrl.org/w1aw-bulletins-archive-propagation>.

Find more good information and tutorials on propagation at

<http://myplace.frontier.com/~k9la/>.

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://arrl.org/propagation>.

Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for August 9 through 15 were 124, 105, 98, 76, 62, 46, and 32, with a mean of 77.6. 10.7 cm flux was 131.2, 125.4, 119.7, 112.3, 108.1, 105.8, and 100.7, with a mean of 114.7.

Estimated planetary A indices were 6, 4, 4, 7, 9, 7, and 6, with a mean of 6.1. Estimated mid-latitude A indices were 7, 4, 5, 7, 8, 7, and 7 with a mean of 6.4.

Source: [The American Radio Relay League](#)