

SB PROP @ ARL \$ARLP036  
ARLP036 Propagation de K7RA

ZCZC AP36  
QST de W1AW  
Propagation Forecast Bulletin 36 ARLP036  
>From Tad Cook, K7RA  
Seattle, WA September 5, 2014  
To all radio amateurs

SB PROP ARL ARLP036  
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Sunspot activity continued to weaken over the past seven days (August 28 through September 3). Average daily sunspot numbers declined from 113.4 to 85.1, and average daily solar flux went from 130.5 to 126.7. Geomagnetic activity was up recently, with average planetary A index increasing from 7.4 to 14.7, nearly double the values from the August 21 to 27 period week earlier.

The latest predicted solar flux values are 150 on September 5, 155 on September 6 and 7, 150 on September 8, 145 on September 9 to 11, 130 on September 12, 115 on September 13, 110 on September 14 and 15, 120 on September 16, 130 on September 17 to 19, 135 on September 20 and 21, then 130, 125 and 120 on September 22 to 24, and 115 on September 25 and 26.

Predicted planetary A index is 8, 10, 20, and 15 on September 4 to 7, 8 on September 8 and 9, 5 on September 10 to 12, 8 on September 13, and 5 on September 14 to 24.

One encouraging sign is the GOES-15 X-Ray Background flux has risen over the past few days. It was C1.2 on September 2 and C1.0 on September 3 and 4, and it hasn't had a C reading in quite some time. This is actually more significant than solar flux regarding effect on the ionosphere. You can see the background flux daily at <http://www.swpc.noaa.gov/ftpdir/latest/DSD.txt>. Checking the quarterly record, you can see that X-Ray background flux has not been this high since early July:

[http://www.swpc.noaa.gov/ftpdir/indices/quar\\_DSD.txt](http://www.swpc.noaa.gov/ftpdir/indices/quar_DSD.txt)

OK1MGW expects geomagnetic conditions will be quiet to active September 5 and 6, quiet to unsettled September 7 and 8, mostly quiet September 9, quiet on September 10 to 12, quiet to unsettled September 13, active to disturbed September 14 and 15, mostly quiet September 16 and 17, quiet September 18 to 21, quiet to active September 22, active to disturbed September 23 and 24, quiet to unsettled September 25 and 26, quiet to active September 27 and 28, and quiet to unsettled September 29 and 30.

OK1MGW expects an increased solar wind on September 5 to 8, 14 and 15, 22 and 23 and 26 to 29.

An interesting article from the phys.org science news portal about sunspots is at <http://phys.org/news/2014-09-clues-solar.html>.

Carl Zelich, AA4MI of Chuluota, Florida reports very poor conditions. A week ago he reported that for the previous week he worked Y4/AI5P, 9A6W, EU3DN, S51DX, OK1IF, LY5O, 9K2HN, HK1N, and

HA2NEP. He heard 3D2AC, and commented: "very sparse."

August has passed, so we can now look at our 3-month moving average of daily sunspot numbers. Average daily sunspot numbers for the three months ending August 31 was 109.2, the lowest since fall 2013. This last period was centered on July. For each of the three month periods in 2014 centered on January through July, the averages were 138.5, 146.4, 148.2, 129.6, 118.4, 112.8, and 109.2.

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>. More good information and tutorials on propagation are at <http://k9la.us/>.

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 28 through September 3 were 78, 73, 64, 90, 94, 105 and 92, with a mean of 85.1. 10.7 cm flux was 118.6, 120.1, 123.1, 124.8, 126.6, 136, and 138, with a mean of 126.7. Estimated planetary A indices were 21, 21, 15, 15, 11, 10, and 10, with a mean of 14.7. Estimated mid-latitude A indices were 17, 20, 11, 13, 12, 10, and 11, with a mean of 13.4.

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