

SB PROP @ ARL \$ARLP018
ARLP018 Propagation de K7RA

ZCZC AP18
QST de W1AW
Propagation Forecast Bulletin 18 ARLP018
>From Tad Cook, K7RA
Seattle, WA May 1, 2015
To all radio amateurs

SB PROP ARL ARLP018
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There were no new sunspots over the past week (April 23-29), even though in the previous seven days there were new sunspots every day, and one day, April 21 had two new ones. The day after the reporting week, April 30, saw two new spots.

Both solar flux and daily sunspot numbers declined. The average daily sunspot number dropped from 120.9 to 60.7, and average daily solar flux went down from 150.4 to 119.8.

We currently are experiencing a very quiet Sun, but looking at the STEREO mission at <http://stereo.gsfc.nasa.gov/> there is activity just over the solar horizon.

You can see the weakening outlook in the NOAA/USAF 45 day forecast for solar flux. I have an archive of these in spreadsheet form at <http://www.filedropper.com/filemanager/public.php?service=files&t=326dd41340bab1066cf91d13df36b8fd>. Just click "Download This File" and select "Yes" to ignore the warning.

Take a look at the weakening solar flux forecasts for May 1, which began on March 17 at 120, then rose to 130 on March 23, then to 140 on March 30, but on April 6 dropped to 115. It rose again to 125 on April 13, then 135 on April 20, then began to decline again to 125 on April 23, 115 on April 24, 110 on April 26, 100 on April 27 and 95 on April 28-29.

Predicted solar flux for May 1 is 100, 105 on May 2-3, 110 on May 4, 115 on May 5-6, 120 on May 7, 135 on May 8-9, 130 and 125 on May 10-11, 130 on May 12-14, then 125, 130 and 125 on May 15-17, 120 on May 18-19, and 115 on May 20-23. Flux values are then forecast to drop to 110 on May 27-29, then rise to 135 on June 3-5.

Predicted planetary A index is 10 on May 1, 8 on May 2, 5 on May 3-11, 25 on May 12, 20 on May 13-14, then 12, 8, 12, 20, 12 and 8 on May 15-20, 5 on May 21-25, 8 on May 26, and 10 on May 27-28. The next predicted increase is to 25 on June 8.

F.K. Janda, OK1HH of the Czech Propagation Interest Group sees active to disturbed geomagnetic conditions on May 1, quiet to active conditions May 2, mostly quiet May 3-6, active to disturbed May 7-8, quiet to active May 9, mostly quiet May 10, quiet on May 11, active to disturbed May 12, disturbed on May 13-14, quiet to active May 15, quiet to unsettled May 16-18, and mostly quiet May 19-20.

OK1HH believes that increases in solar wind are difficult to predict, but some peaks are expected May 3-5, May 15-18 and May 20.

The days are lengthening, and we sure notice it here at 47.67 degrees latitude. Compared to April 1, on May 5 the Sun rises 60 minutes earlier and sets about 47 minutes later. I'm looking at both days with W6ELprop using a solar flux of 100 over the path from Seattle to Japan, and can see that 20 meters is open about two and a half hours later in the evening of May 5.

Also notable is the path from Seattle to Atlanta on both dates, with 17 meters opening 90 minutes later on May 5 and shutting down about two hours later in the night than April 1.

Jon Jones, N0JK of Lawrence, Kansas reports that he encountered an unusual 10 meter opening on April 25 around 1800Z. Signals from Europe were extremely loud. He was mobile running 50 watts SSB, and worked 9A9A in Croatia on 28.432 MHz at 1741Z. Signals were S9 with considerable QSB. Then at 1758Z he worked TMOGA in France on 28.446 MHz with loud signals.

At 1713Z W8HF in Ohio worked 9A9A running just 5 watts, and got an S9+10dB report. At 1721Z KA2OFM reported that 9A9A was booming into New York.

Jon wrote, "I am curious regarding the propagation mode. F2 is possible, but April is late for North America to European openings via F2 on 10 and the solar flux was not high. Some sporadic-E was present on the April 25 on 6 meters, but mostly to the south. Multi-hop sporadic-E occurs to Europe from North America on 10 meters, but April is early in the Summer sporadic-E season for it. Another possibility is a combination of sporadic-E linking to F2. The heavy QSB on the Europeans reminded me of sporadic-E. I wonder if your readers have any comments."

David Moore sent a link to a video from the new 1.6-meter telescope at the Big Bear Observatory showing a twisting solar magnetic structure.

<http://www.space.com/29259-suns-flux-rope-shreds-never-before-seen-hi-res-video.html>

Another article out of Big Bear:

<http://www.scienceworldreport.com/articles/24963/20150430/new-solar-telescope-captures-interior-dark-cores-sunspot.htm>

This report is from April 24 from Jeff, N8II: "USA mobile signals seemed louder than ever on 30 meters from about 200 miles out to over 1000 miles in MO, NE, and IA including many S9+ during the mornings and afternoons even when the K index was 3-4! 40 was not nearly as good.

"Today the K index is finally down to 1! XV9NPS was an honest S9 on 15 CW today at 1422Z. Also worked this AM with one call as well YB4IR/8 on Wamar Island OC-249 and YB2BBY/9 (New Guinea or surrounding Is.) on 15 SSB. Also worked at 1424Z E21EJC in Thailand on 12 CW about S5 and 4X67VF (special prefix) on 10 meter CW S7. EU openings are almost over until the fall season on 10 meters, but I am still getting some good EU signals on 12 meters."

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

For more information concerning radio propagation, see the ARRL Technical Information Service web page 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/wlaw-bulletins-archive-propagation>. More good information and tutorials on propagation are at <http://k9la.us/>.

Archives of the NOAA/USAF daily 45 day forecast for solar flux and planetary A index are at

<http://www.filedropper.com/filemanager/public.php?service=files&t=326dd41340bab1066cf91d13df36b8fd>

and

<http://www.filedropper.com/filemanager/public.php?service=files&t=be2a0a69fb6392907dc3d9a017dcace1>

. Click on "Download this file" to download the archive and view in spreadsheet format.

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 April 23 through 29 were 110, 79, 77, 55, 42, 36, and 26, with a mean of 60.7. 10.7 cm flux was 140.5, 134.5, 125.9, 118.5, 107.5, 107.7, and 104, with a mean of 119.8. Estimated planetary A indices were 7, 5, 3, 4, 5, 6, and 4, with a mean of 4.9. Estimated mid-latitude A indices were 6, 5, 2, 3, 5, 7, and 4, with a mean of 4.6.

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