

SB PROP @ ARL \$ARLP015  
ARLP015 Propagation de K7RA

ZCZC AP15  
QST de W1AW  
Propagation Forecast Bulletin 15 ARLP015  
>From Tad Cook, K7RA  
Seattle, WA April 10, 2015  
To all radio amateurs

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Solar activity continues to weaken. Average daily sunspot numbers dropped 27.8 points to 50.1 on April 2 to 8, compared to the previous seven days. Average daily solar flux declined 17.3 points to 118.4 over the same period.

The latest prediction has solar flux at 115 on April 10 to 16, 110 on April 17, 145 on April 18 and 19, 135 on April 20, 130 on April 21 and 22, 125 on April 23, 120 on April 24, and 125 on April 25 and 26. Solar flux goes down to 115 on April 30 through May 2, then rises to 145 on May 7 to 10.

The same prediction has planetary A index at 15 and 8 on April 10 and 11, 5 on April 12 to 16, 12 on April 17, 20 on April 18 and 19, 12 on April 20 and 21, 8 on April 22 to 24, 25 on April 25, 29 on April 26 and 27, then 15, 12, 18 and 12 on April 28 through May 1, and 8 on May 2 and 3.

These predictions are revised daily, and come from 45-day forecasts at <ftp://ftp.swpc.noaa.gov/pub/forecasts/45DF/> . I am also now making available my archives of these predictions, with planetary A index at

<http://www.filedropper.com/filemanager/public.php?service=filest=be2a0a69fb6392907dc3d9a017dcace1>  
and solar flux at  
<http://www.filedropper.com/filemanager/public.php?service=filest=326dd41340bab1066cf91d13df36b8fd>

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These are Microsoft Excel spreadsheets, and if you don't have that program, you can download a free Excel Viewer at  
<http://www.microsoft.com/en-us/download/details.aspx?id=10> .

I hope to update these as often as once daily. You will see how the solar flux forecasts have been weakening over time.

OK1HH predicts the geomagnetic field will be mostly quiet April 10 to 12, active to disturbed April 13, disturbed April 14, active to disturbed April 15, quiet to active April 16, active to disturbed April 17, quiet to unsettled April 18, quiet to active April 19, quiet on April 20, quiet to unsettled April 21, mostly quiet April 22, quiet to unsettled April 23, mostly quiet April 24, quiet to active April 25 and 26, quiet April 27, mostly quiet April 28, active to disturbed April 29, and quiet to unsettled April 30 through May 1.

At 2346 UTC on April 8, Australia's IPS Radio and Space Services issued a geomagnetic disturbance warning for April 9 and 10, due to a CME and solar wind from a coronal hole. Geomagnetic conditions may be at active levels over the two days.

The Japan International CW DX Contest is this weekend. Check it out at <http://jidx.org/> .

Rich Zwirko, K1HTV wrote, "Despite the relatively low solar flux number in the low 100's there is still life in the higher HF bands. In the past few days conditions to deep Asia have been excellent. On Tuesday morning April 7th, with 100 Watts and a wire antenna from my

VA QTH, I worked HS0LSE and heard E21EJC, both in Thailand on 12 meter CW. I moved to 15 meters and in less than an hour, with 100 watts and a triband yagi I was able to work:

CW - V85TL - Brunei  
SSB - HS1JNB - Thailand  
SSB - AT150ITU - India (special call)  
CW - HS3XVP - Thailand  
SSB - HS0ZIN - Thailand  
SSB - HS0ZLE - Thailand  
SSB - VU2DED - India

Other stations heard coming through included 9M2MSL, DU1/JA3FJE, XU7TZG on SSB and XV5HS on RTTY. The polar path was great between 1530 and 1630Z that day. The next morning, April 8th, I was only able to get down to the shack for a half hour. Between 1400 and 1430Z I worked three more stations in Thailand, E21EJC on 12M as well as HS4ROI and HS0ZCW on 15M SSB. Conditions were so good that CO2IR in Cuba, running QRP 10 Watts, worked HS0ZCW in Thailand. Later that afternoon I was able to work all 6 continents in 30 minutes!

As UTC April 9th started, at 0001Z on 20M CW I snagged JT1AA/5 plus a number of Asiatic Russian stations. Fifteen hours later JT1AA/5 in Mongolia with a booming signal was worked again, this time on 15 meters.

Around the vernal equinox, despite the low SFI numbers, with relatively low 'A' and 'K' indexes, conditions over the polar routes can be great.

Enjoy the DX while the conditions are good as we are now on the downward slope of this solar cycle."

On April 8, Scott Bidstrup, TI3/W7RI wrote: "Don't know if you have seen this yet, but in case you haven't, it's some new research that suggests that the sun has 'seasons' of about two years that affect the activity within a solar cycle:

<http://www2.ucar.edu/atmosnews/news/15037/sun-experiences-seasonal-changes-new-research-finds>

Ted Leaf, K6HI reported a similar article:

<http://earthsky.org/space/scientists-report-seasonal-variability-on-sun>

I also found this:

[http://www.dailycamera.com/news/boulder/ci\\_27861091/new-study-from-boulders-ncar-details-suns-seasonal](http://www.dailycamera.com/news/boulder/ci_27861091/new-study-from-boulders-ncar-details-suns-seasonal)

TI3/W7RI continues:

Not a lot to report here on HF propagation; haven't been on HF much due to health issues, and only getting on six meters when the squelch breaks. But there has been a bit of activity on six.

Six meters has been showing the usual equinox-related TEP activity here in the low magnetic latitudes, with nightly openings into South America from here in Costa Rica and the Caribbean. There have been no Es openings into the States for quite some time from here, but the last several days have seen some afternoon TEP openings from the States into South America, as usual going right over our heads, but with nothing to show for it here on the ground. With the fellas in the States reporting S9+30 signals, there hasn't been even a trace on the waterfall here.

There was a spectacular F2 opening into Iberia and northwest Africa

a couple of weeks ago from here, and many of us got several new ones during an opening that lasted several hours. It was my first success in working Europe from here with my modest 90 watts and a 5/8 vertical, and I got four new countries in just one opening. Towards the end of the opening, I nailed Western Sahara for an all-time new one (never expected that to happen on 6 meters!), as did Mike, TI5XP. Phil, TI5/N5BEK heard him, but wasn't able to complete a Q before he was gone into the noise. The 'tragic' band strikes again!"

Spaceweather.com reports that early today, April 10, a G2 Class geomagnetic storm erupted. "Northern Lights spilled across the Canadian border into the USA, where auroras were photographed as far south as Colorado. At the time of this alert, storm conditions are still underway with a possibility for more storming when a belated CME arrives later in the day. Visit <http://spaceweather.com> for more information and updates."

At <ftp://ftp.swpc.noaa.gov/pub/indices/DGD.txt> I can see that the first two of eight three hour periods today (April 10) have a planetary K index of 5 and 6, which is high.

David Moore sends this article and image from Southern Iceland:

[http://www.esa.int/spaceinimages/Images/2015/04/Colourful\\_cosmic\\_curtains](http://www.esa.int/spaceinimages/Images/2015/04/Colourful_cosmic_curtains)

G3CJC has a weekly report on 10 meter activity from England:

[http://www.southgatearc.org/bands/10metres/2015/april/april\\_09.htm](http://www.southgatearc.org/bands/10metres/2015/april/april_09.htm)

He even has some sports commentary at the end on soccer, but over there they call it football, just as the rest of the world does.

Mike Carter, K8CN of Durham, New Hampshire sent this article from NBC about lightning:

<http://www.nbcnews.com/science/science-news/bright-idea-map-shows-where-lightning-strikes-most-worldwide-n336806>

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/wlaw-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 April 2 through 8 were 31, 29, 68, 66, 78, 39, and 40, with a mean of 50.1. 10.7 cm flux was 121.3, 119.9, 122.4, 122.2, 125.6, 111.2, and 106, with a mean of 118.4. Estimated planetary A indices were 13, 14, 12, 8, 7, 5, and 4, with a mean of 9. Estimated mid-latitude A indices were 22, 14, 10, 8, 8, 6, and 4, with a mean of 10.3.

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