

SB PROP @ ARL \$ARLP048
ARLP048 Propagation de K7RA

ZCZC AP48
QST de W1AW
Propagation Forecast Bulletin 48 ARLP048
>From Tad Cook, K7RA
Seattle, WA November 28, 2014
To all radio amateurs

SB PROP ARL ARLP048
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It seemed to me that solar activity perked up again over the past week, but the numbers are about the same as last week. Average daily sunspot numbers went from 98.9 to 97.4, but on Thursday, November 26 (our reporting week runs from Thursday through Wednesday) the sunspot number was 155, and the day before it was 177.

One new sunspot region appeared on November 20, another on November 23, three more on November 24, two more on November 26 and one (after the reporting week) on November 27, the Thanksgiving holiday.

Average daily solar flux rose from 164.4 (in last week's bulletin) to 168.9. The day after the end of the reporting week solar flux was up to 178.8.

On November 24, the Penticton observatory in British Columbia reported an unusually high solar flux number for the noon reading. As I recall, it was around 300 or higher, and when we see an outlier like this which is inconsistent with readings before and after that time, we always check the NOAA archive at <http://www.swpc.noaa.gov/ftpd/indices/DSD.txt>.

NOAA changed it to 172. But then a few days later the Penticton reading at noon for November 24 was reduced to 144.4, which is far below readings near that time.

Not sure what all this means, but we're sticking with the NOAA estimate. These numbers are changed when the hardware at Penticton gets swamped with energy from a solar flare, and so the flux reading is meaningless.

10.7 cm solar flux is measured in British Columbia three times per day, at 1800 UTC (10:00 AM local time), 2000 UTC (noon local time) and 2200 UTC (2:00 PM local time). But the local noon reading is always the official solar flux for the day.

On November 24 the morning reading at 1800 UTC was 170.1 and the 2200 UTC afternoon reading was 168.4, so the 172 estimate seems more likely than 144.4.

You can see all of those readings at,
<http://www.spaceweather.gc.ca/solarflux/sx-5-flux-eng.php> and
ftp://ftp.geolab.nrcan.gc.ca/data/solar_flux/daily_flux_values/fluxtable.txt

The latest solar flux prediction from Thursday, November 27 is 180 on November 28, 185 on November 29 through December 1, 180 on December 2, 170 on December 3-4, then 160 and 150 on December 5-6, 140 on December 7-8, 145 on December 9-10, 140 on December 11-13, 150 on December 14, and 155 on December 15-16. Flux values peak at 170 on December 18-20, then drop to 115 on December 31 through January 2, 2015.

Expected planetary A index is 5 on November 28-30, 18 on December 1, 15 on December 2, 8 on December 3-4, 10 on December 5, 8 on December 6, 5 on December 7-10, then 10, 15 and 20 on December 11-13, 10 on December 14-15, then 8, 10 and 12 on December 16-18 and 10 on

December 19-20.

Petr Kolman, OK1MGW gives us his outlook for geomagnetic conditions. He says to expect quiet to unsettled conditions November 28-29, quiet to active November 30, active to disturbed December 1, quiet to active December 2, quiet to unsettled December 3-4, mostly quiet December 5, quiet to active December 6-7, quiet to unsettled December 8, mostly quiet December 9-10, quiet to unsettled December 11, quiet to active December 12-13, quiet to unsettled December 14-15, quiet to active December 16-17, quiet to unsettled December 18-20, quiet on December 21-23, and mostly quiet on December 24.

Petr expects increases in solar wind on November 30 through December 2 and December 11-13.

I received an email from Bill Paul, KD6JUI of Dixon, California. He wrote, "Due to the high solar flux predictions I've been doing a little bicycle mobile work on 10m. Amazing what one can do with 5 watts and a hamstick on 10m. See attached photo. Had a couple 5-9 reports on the east coast the other day. Wow. (Was using the metal guardrail as the radial or counterpoise.)"

"I have a ham friend in Germany, DL2MFJ (I'm in California) and I have tried a couple times to reach him on 10m at 10 a.m. Pacific time with no luck. That's 1800 hours UTC. I guess I'm too lazy to do all the research on this -- but here's a question you may be able to help me with: what band and at what time would you recommend me trying to reach him?"

I replied, "Doesn't look too promising at this time of year, but it might be possible around 1630-1700 UTC on 10 meters.

"Also looks pretty weak a month from now (Christmas Eve) but possible around 1700 UTC.

"3 months from now looks a little better, 1700-2000 UTC.

"Around the first day of Spring, 1600-2200 UTC has possibilities, with 1830-2000 UTC the best bet.

"For today, I think 15 or 17 meters would be much better. 15 meters around 1630-1730 UTC, and 17 meters (much better bet) 1530-1900 UTC. Get a 17 meter hamstick (I've used these) and clamp your ground on to that metal guardrail in the photo for a counterpoise. I've done this sort of thing in my car, but of course you cannot actually be moving when you do this."

There is nothing magic about those times and frequencies, just probabilities suggested by running the numbers with W6ELprop. For more info on that free program check <http://www.k9la.us/> and specifically <http://www.k9la.us/html/tutorials.html> .

Jon Jones, N0JK in Kansas wrote on November 25, "It appears the Winter sporadic-E season has started this month. On November 22 and 23 there was extensive Es on 6 meters from the Midwest to Florida and Gulf Coast states.

"XE2JS DL68 Mexico was into Kansas November 24 UTC on 6 meters via Es around 0230z. I worked Julian at 0240z."

Jon also said CE2AWW worked the Pacific Northwest via Es-TEP/F2 links on November 24, and from 0219 UTC to 0241 UTC XE2JS worked NW0W (EM47qu), W4HLR (EM56ic), K2DRH (EN41, see <http://k2drh.yolasite.com/>) and N0JK (EM17be).

Pete Corp, K2ARM of Fort Edward, New York (FN33eg) wrote on November 26, "Tad, I finally had some Es on 6M. I have seen very few openings, if any since August. I know the South and West have been experiencing many but it seldom gets to my location in the Northeastern part of New York. I am back to using a dipole because the leaves are gone and no longer hide my EDZ (Extended Double

Zepp).

"On 11-17-14 there were good signals from the South and Southwest but few hams on the CW portion, many SSB signals for about 4 hours. Then on 11-21-14 it opened again but for only a couple of hours. On 11-22-14 it opened for a good 4 hours.

"What I have found when we start getting Es it seems to occur every 5 days. Maybe the 27th will have some Es and turkey. This seemed to happen in the summer too. Thanks for the information you provide on propagation."

Jon Jones, N0JK sent further info on the November 10 opening:

"6 meters opened from Colorado, Texas and states further west to VK and ZL after the Hawaiian states began fading out around 2300z. In the Midwest -- the band closed to Hawaii after 2215z.

"The Nov. 10, 2014 6 meter F2 opening is reminiscent of the 6 meter F2 opening on Nov. 09, 2013. (Almost exactly a year ago!) There was a strong F2 opening from the Midwest and Gulf Coast states to the Caribbean and northern South America the morning of Nov. 9, 2013. (1500-1600z)."

Pat Dyer, WA5IYX said of the 2013 November F2 opening - "The unexpectedly high F2 MUF from a rather minor amount of geomagnetic activity at the right time of the year with enough solar flux gave perhaps the first morning 50-MHz paths from here to the Caribbean of this poor Cycle 24. A similar situation occurred on November 10, 2014.

"But instead of the Caribbean, 6 meters opened to the Pacific in the afternoon.

"This was not a 'single hop' F2 opening for many in North America. Single hop F2 is usually out to approximately 4,800 to 5,000 km.

"KH6/K6MIO to EM28 Kansas is 6,100 km. More than the usual one hop distance. The Hawaiian stations worked even further east as far as W3 and W8. K7BV FM04 North Carolina heard KH6HI BL01 at 2130z on the 10th."

And finally, it's back! See <http://www.space.com/27834-monster-sunspot-solar-flares-video.html> .

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/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 November 20 through 26 were 83, 68, 64, 66, 111, 120, and 170, with a mean of 97.4. 10.7 cm flux was 168.1, 162.5, 166.6, 173.1, 172, 169.4, and 170.9, with a mean of 168.9. Estimated planetary A indices were 11, 15, 10, 10, 7, 5, and 5, with a mean of 9. Estimated mid-latitude A indices were 8, 10, 8, 9, 5, 4, and 4, with a mean of 6.9.

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