

SB PROP @ ARL \$ARLP042
ARLP042 Propagation de K7RA

ZCZC AP42
QST de W1AW
Propagation Forecast Bulletin 42 ARLP042
>From Tad Cook, K7RA
Seattle, WA October 17, 2014
To all radio amateurs

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Solar activity declined this week, with average daily sunspot numbers going from 98 last week to 55.1 in the week ending Wednesday, October 15. Average daily solar flux went from 131.9 to 117.4.

Average planetary A index rose from 6.4 to 10.4. The most unsettled geomagnetic day was Tuesday, October 14, when the planetary A index was 18, and the planetary K index reached 5 for 9 hours overnight. In Alaska, the college A index reached 21, but this was because the same 9 hour period of activity all occurred by the end of the day (in UTC), while the planetary K index reached 5 for six hours at the end of the day on Tuesday and 3 hours at the beginning of the day on Wednesday.

The latest prediction for solar flux is 150 and 160 on October 17 and 18, 170 on October 19 to 23, 140 on October 24 and 25, 135 and 130 on October 26 and 27, 125 on October 28 and 29, 120 on October 30 and 31, 125 on November 1 and 2, 120 on November 3 and 4, 115 on November 5 and 6, and 110 on November 7 to 9. The November 7 to 9 value is a low for the near term, which then rises to a high of 140 on November 18 to 21 before declining again.

Predicted planetary A index is 8 on October 17 to 20, 15 on October 21 to 24, 10 on October 25 to 28, 8 on October 29, 5 on October 30 to November 3, then 8 and 10 on November 4 and 5, 8 again on November 6 and 7, 5 on November 8 and 9, and 8 on November 10 to 12. What follows are many days with unsettled geomagnetic conditions, with the greatest being an Ap (planetary A index) of 20 on November 17.

OK1HH offers his insight on geomagnetic activity over the next 3 to 4 weeks, and he thinks that it will be quiet on October 17 and 18, mostly quiet on October 19, quiet to active October 20 and 21, mostly quiet October 22 and 23, quiet to unsettled October 24, quiet October 25, active to disturbed October 26, quiet to active October 27, mostly quiet October 28, quiet to unsettled October 29, quiet on October 30 to November 1, mostly quiet November 2, quiet to unsettled November 3, quiet to active November 4, quiet to unsettled November 5, mostly quiet November 6 and 7, quiet again on November 8 and 9, quiet to unsettled November 10, quiet to active November 11, and finally active to disturbed conditions on November 12.

OK1HH expects increased solar wind on October 19 and 20.

NW7US has some great stuff on TEC (Total Electron Content) on one of his Facebook pages at <https://www.facebook.com/spacewx.hfradio> .

Lee Gordy, W4KUT of Cartersville, Georgia wrote: "My friend KC4YCM, and I recently observed WWV on 25 MHz (04OCT2014, around 12 noon EDT). May not be a big deal to many, but I hadn't heard WWV on 25 MHz in a very long time. It was S7-9 on a 'scotch S-meter' (Icom IC 781).

I've been watching the ongoing cycle, and looking for peaks... ol' sol is truly unpredictable. BTW, my friend and I sent sig reports

to WWV.

A quote from TI3/W7RI in Costa Rica in your last report:

'Conditions on 10 meters have been much better, and the band has been producing good results during the morning hours, particularly to Europe, and W6 and W7 later in the day. 20 meters here is back to being open around the clock, and even 10 will open as soon as the sun hits the ionosphere in the morning.'

And that's been my observation.

I hope WWV 25 MHz remains on... I use it as a real-time propagation tool (as well as a freq/time standard).

Even though I'm a 'layman' when it comes to propagation, I'm fascinated by all the up-and-down stuff that's been going on since your reports began."

Thanks. Yes, the 25 MHz WWV signal has been off the air since 1977, but recently back on, provisionally. This article mentioned it:

<http://www.arrl.org/news/wwv-s-25-mhz-signal-back-on-the-air>

Scott Bidstrup, TI3/W7RI wrote:

"Don't know if you have seen this, but some interesting new discoveries offer some new insight on how the sunspot cycle works. No real prediction, though, on how the next one will be:

<http://qrznow.com/researchers-discover-new-clues-determining-solar-cycle/>

Propagation here in the single-digit latitudes has been lackluster lately, with the sunspot number, solar flux and 304a indexes both pretty much in the tank. Even though the 304a index has shown some improvement in the last two days, the far-side image from the remaining functional STEREO spacecraft indicates that there isn't much activity that is about to rotate into view, so I'm not sanguine that it will improve by much or last very long.

The unimpressive solar activity has had its effect on propagation - ten meters has still been open daily, but never wide open. We'll see maybe half a dozen signals at any given moment, mostly eastern and central Europe, little activity into the States. One thing I have noticed is that when I am seeing a lot of Stateside signals on 10 meters in the morning, we're likely to have a TEP opening in the afternoon into South America - 6m aficionados might find 10m worth watching in the morning for South America TEP later in the day.

The 10m through 20m bands have been rather poor, with 20m itself closing up shop mid-day and not reopening until about two in the afternoon, and pretty much gone a couple of hours after sunset. The noise floor during the 20m mid-day fadeout has been rising occasionally a bit too - something we often see here at solar minimums. Not a good sign.

Even six meters has been affected by all this - our recent spate of TEP openings into South America has continued, but with fewer and much reduced signal levels. The one surprising aspect is that they've been beginning much earlier in the day - often before noon. And they have been beginning with a bang - all of a sudden, like someone just flipped a switch, really strong signal levels that last a minute or two and then settle down to scattered, weak signals in and out for the rest of the afternoon. One morning, I was startled when CO8DM broke my squelch, very loud, and by the time I got to the radio, he'd faded down to almost nothing, and was in and out very weakly for an hour - never did manage to work him.

Just a few weak signals from Argentina and Brazil the rest of the day, and that's been the pattern for most of the last two weeks. The South Pacific and Atlantic has been in occasionally; I worked

FK8CP and TI5/N5BEK heard a ZD7 yesterday break his squelch during a football game, came running into the shack and snagged it for a new one - just before it was gone. But little else - just the scattered, relatively weak PYs and LUs otherwise - and beacons. Lots and lots of beacons.

Regards and 73 from rainy Costa Rica, Scott Bidstrup TI3/W7RI"

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 October 9 through 15 were 65, 54, 38, 28, 41, 70, and 90, with a mean of 55.1. 10.7 cm flux was 119, 121, 112, 111, 113, 120, and 126, with a mean of 117.4. Estimated planetary A indices were 14, 8, 10, 5, 7, 18, and 11, with a mean of 10.4. Estimated mid-latitude A indices were 10, 7, 8, 2, 5, 12, and 8, with a mean of 7.4.

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