

SB PROP @ ARL \$ARLP014
ARLP014 Propagation de K7RA

ZCZC AP14
QST de W1AW
Propagation Forecast Bulletin 14 ARLP014
>From Tad Cook, K7RA
Seattle, WA April 2, 2015
To all radio amateurs

SB PROP ARL ARLP014
ARLP014 Propagation de K7RA

This bulletin is being posted a day early because ARRL headquarters is closed tomorrow April 3 for Good Friday.

This week's numbers have average daily solar flux and sunspot numbers headed in opposite directions.

For the March 26 through April 1 period, average daily sunspot numbers fell 6 points to 77.9, and average daily solar flux increased 13.3 points to 135.7, compared to the previous seven days.

Geomagnetic indices were quieter, with average daily planetary A index declining 10.7 points to 8.7, and average daily mid-latitude A index dropping 6.6 points to 7.7.

We saw four new sunspot regions over the past week, one each on March 26, 28, 29 and April 1.

The latest short term prediction for solar flux has 130 and 135 for April 2 and 3, 125 on April 4 to 6, 130 on April 7 and 8, 140 on April 9, 145 on April 10 to 13, 140 on April 14, 135 on April 15 to 18, 130 on April 19, and 125 on April 20 to 22. Then solar flux sinks to a low of 120 on April 23 to 25 and hits a high of 150 on April 28 before declining again.

Predicted planetary A index is 12, 20 and 15 on April 2 to 4, 8 on April 5 to 8, 5 on April 9 to 11, then 15 and 30 on April 12 and 13, 20 on April 14 to 16, 15 on April 17, 20 on April 18 and 19, 12 on April 20, 5 on April 21 and 22, 8 on April 23 and 24, 25 on April 25 and 29 on April 26 and 27.

At 2328 UTC on March 31 the Australian Space Forecast Centre issued a geomagnetic disturbance warning. Increased geomagnetic activity is expected due to a high speed solar wind from a coronal hole. The geomagnetic activity forecast is for active conditions on April 2 and unsettled conditions April 3.

At the beginning of April we can look back at various averages of daily sunspot numbers ending on March 31.

For monthly averages, the period since December 2014 shows a steady decline. The monthly averages for daily sunspot numbers in the past four months were 120, 101.3, 70.7 and 61.7. Our three month moving averages of daily sunspot numbers centered on February 2014 (averaging for the period January 1 through March 31) through February 2015 were 146.4, 148.4, 129.6, 118.4, 112.8, 109.2, 115.6, 108.4, 107, 104.7, 107.8, 98.2 and 78.1.

What does this lower activity mean in practical terms for HF? It means that on average, the HF bands, particularly at the higher end (20 to 30 MHz) will be open less often and less reliably. Of course we can see big differences from day to day.

Using W6ELprop to get a general picture, on today's date last year we would see a path from Atlanta to Germany on 15 meters with an A

rating (75 percent or better chance of communication) from 1230 UTC to 2330 UTC with signals at 29 db above a half microvolt at 1230 to 1800 UTC, then increasing to 33 db at 2030 to 2100 UTC and 38 db at 0030 UTC.

For today, although there is a small possibility of an opening after 1200 UTC, (especially at 1330 UTC) the opening begins with a 50 percent chance of reliable communication at 1500 UTC with signals at just 16 db and gradually increasing to 20 db at 2000 UTC.

This propagation model has a funny anomaly though, with possibly stronger signals on 20 and 17 meters than last year during early morning hours on the Atlanta end. I don't know why this is.

For instance, last year at this time on 20 meters at 1130 UTC (around sunrise) we see signals at 12 db with an A rating, declining to 7 db at 1330 UTC and 6 db from 1400 to 1530 UTC. But for today we see 20 meter signals at 1130 UTC with an A rating at 15 db, declining to 10 db at 1430 to 1530 UTC. But signals really pick up at 2230 UTC (around sunset in Atlanta) with signals at 37 db last year and 25 db this year.

For a graphic comparison of the latest four solar cycles, check http://www.solen.info/solar/images/comparison_recent_cycles.png .

At <http://www.solen.info/solar/> are many other comparisons.

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 March 26 through April 1 were 103, 109, 82, 73, 56, 53, and 69, with a mean of 77.9. 10.7 cm flux was 136.1, 137.8, 145.6, 144.5, 133.6, 128.1, and 124.1, with a mean of 135.7. Estimated planetary A indices were 8, 9, 9, 14, 5, 9, and 7, with a mean of 8.7. Estimated mid-latitude A indices were 7, 7, 9, 11, 5, 7, and 8, with a mean of 7.7.

NNNN
/EX

To unsubscribe or subscribe to this list. Please send a message to

imailsrv@njdx.org

In the message body put either

unsubscribe dx-news

or

subscribe dx-news

This is the DX-NEWS reflector sponsored by the NJDXA <http://njdx.org>

