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ARLP011 Propagation de K7RA

ZCZC AP11
QST de W1AW
Propagation Forecast Bulletin 11  ARLP011
>From Tad Cook, K7RA
Seattle, WA  March 13, 2015
To all radio amateurs

SB PROP ARL ARLP011
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For the second week in a row, average daily sunspot numbers were down. From ARRL Propagation Bulletins 6-10 the average sunspot numbers were 139, 81.6, 54.6, 59, and 54.1. Over the past week the number was all the way down to 32.

Also for the second week in a row, average daily solar flux had a trend, but this one was up. Average daily solar flux from ARRL Propagation Bulletins 6-11 were 151.1, 144.1, 121.4, 116.3, 122.9 and 127.8. These averages cover dates from January 29 through March 11.

Predicted solar flux is 128 on March 13-14, 130 on March 15-16, 135 on March 17-19, 125 on March 20, 120 on March 21, 115 on March 22-23, 110 on March 24-27 and 115 on March 28-31. Solar flux then goes to a high of 125 on April 2-15, then drops to a low of 110 again on April 20-23.

Predicted planetary A index is 30, 20 and 12 on March 13-15, then 10, 20, 15 and 10 on March 16-19, 5 on March 20-21, then 15, 20 and 8 on March 22-24, 5 on March 25-26, then 15, 30, 25, 12 and 10 on March 27-31, then 8, 10, 15, 12, 18 and 12 on April 1-6, 8 on April 7-8, and 10 on April 9-10.  Going all the way out toward the end of the 45 day forecast, planetary A index for April 24 is expected to be 30. As you can see, forecasters predict similar active geomagnetic conditions seen as previous solar cycles turned downward. The current sunspot cycle peaked about a year ago.

OK1MGW of the Czech Propagation Interest Group predicts geomagnetic conditions will be quiet to active March 13, mostly quiet March 14, quiet to unsettled March 15, quiet to active March 16-18, mostly quiet March 19-20, quiet to unsettled March 21, quiet to active March 22, active to disturbed March 23, quiet to unsettled March 24, mostly quiet March 25-26, quiet to unsettled March 27, active to disturbed March 28-29, quiet to unsettled March 30 through April 2, quiet to active April 3, quiet to unsettled April 4-5, quiet on April 6, and mostly quiet April 7-8.

OK1MGW believes most increases in solar wind are unpredictable during this period, but some peaks are expected March 16-17, 22-23 and 28-29.

Last Saturday, March 7 at 2222 UTC emerging sunspot 2297 produced a strong solar flare. Although not aimed toward Earth, it produced an extreme ultraviolet flash on our Sun's horizon, which ionized upper layers of Earth's atmosphere and caused an HF radio blackout over the Pacific below 10 MHz.

On March 8, Spaceweather.com reported, "It may seem strange, but solar flares can be both good and bad for radio communications. It all depends on the frequency. Below 10 MHz, signals were strongly attenuated. At higher frequencies, however, the reflectivity of the ionosphere was increased, allowing improved over-the-horizon communications. Ham radio operator Bob MacKenzie of Ottawa, Canada, shares this anecdote: 'Only minutes after the M9 flare on March 7th,

I was able to work three amateur stations in Japan using just 5 watts of single-sideband power and a single-element vertical antenna in my backyard. It's a rare event to work Japan so easily with such little power on phone and not Morse code. The annual ARRL International DX Phone contest was on at the time so there were plenty of DX stations on the air, making this observation of unusual propagation possible."'

Unfortunately, the report did not say what frequency this occurred on, or what Bob's callsign was, and searching a perhaps incomplete database of Canadian hams turned up nothing, so I could not contact him for more information.

Spaceweather.com also reported a flare at 2353 UTC on March 9, which produced an HF radio blackout over the South Pacific. They provided this map showing the area of the blackout:

http://spaceweather.com/images2015/09mar15/blackout.jpg?PHPSESSID=alissn9afq2fo83ra83v7hq8o4

They provided another map for a brief March 11 blackout at 1622 UTC:

http://spaceweather.com/images2015/11mar15/blackout.jpg?PHPSESSID=fk3snaqp9j5ruqi488fkmdbik2

Reader David Moore sent this link, referring to the Wednesday, March 11 flare:

http://www.space.com/28797-sun-unleashes-monster-solar-flare-x2.html

The Washington Post reported that high latitude aurora is possible today:

http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2015/03/12/active-sunspot-unleashes-x-class-solar-flare-high-latitude-aurora-possible-friday/
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This month marks a special milestone for your author. It was 50 years ago this month, in March 1965 when the FCC issued callsign WN7CSK to me at age 12. Back then, when I tried to interest some of my fellow students at Kellogg Junior High School (near Seattle) in amateur radio, a common response was, "Why would I want to go to all that effort to talk with a bunch of old men?"  Well, now I am one of those old men. But I still have a fascination for wireless communications and HF radio propagation. Even back 50 years ago there was the concern that the ranks of radio amateurs were aging, and it was tough to attract young people.

One of the joys of starting back then was the easy access to old timers who could tell me stories of the spark era. One amazing ham, over 50 years my senior, was Howard S. Pyle, W7OE who lived on Mercer Island. He was a prolific amateur radio author, and encouraged me to write. When cleaning out my mom's house last year I ran across a copy of a letter that W7OE wrote to Jim Fisk, W1DTY, introducing me and encouraging him to publish an article I wrote in 73 Magazine, which Jim edited at the time.

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 March 5 through 11 were 31, 37, 20, 23, 29, 42, and 42, with a mean of 32. 10.7 cm flux was 130, 127.4, 137.8, 124.2, 122.9, 120.9, and 131.7, with a mean of 127.8. Estimated planetary A indices were 6, 13, 20, 11, 6, 5, and 9, with a mean of 10. Estimated mid-latitude A indices were 5, 9, 17, 7, 6, 4, and 8, with a mean of 8.
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