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ARLP007 Propagation de K7RA

ZCZC AP07  
QST de W1AW  
Propagation Forecast Bulletin 7 ARLP007  
>From Tad Cook, K7RA  
Seattle, WA February 14, 2014  
To all radio amateurs

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We did see unsettled geomagnetic conditions though on February 8 when the planetary A index reached 23, caused by a CME the day before.

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The latest forecast from NOAA/USAF has planetary A index at 25 on February 14, 40 on February 15, 18 on February 16, 12 on February 17, 5 on February 18-24, 8 on February 25, 5 on February 26 through March 1, 12 on March 2, 5 on March 3-6, and 8 on March 7-9, before dropping back to 5 until March 16, when it rises to 8 on March 17-18.

Predicted solar flux values are 165 on February 14, 160 on February 15-17, then 155, 145 and 140 on February 18-20, 145 on February 20-21, then 150, 160, 170, 180, 185, 190 and 200 on February 23 through March 1, then 195, 200, 205 and 210 on March 2-5, before declining to a low of 130 on March 14, then rising to 200 on March 28.

OK1HH sees quiet to active geomagnetic conditions February 14, active to disturbed February 15, quiet to unsettled February 16-18, quiet February 19-20, quiet to unsettled February 21, quiet February 22, quiet to unsettled February 23, mostly quiet February 24, quiet to active February 25, mostly quiet February 26, quiet February 27 through March 1, mostly quiet March 2, quiet to unsettled March 3, quiet March 4-6, mostly quiet March 7, quiet to unsettled March 8-10, mostly quiet March 11, and quiet on March 12.

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The one I am accustomed to seeing is the prediction in the Weekly Preliminary Report and Forecast, such as the one on page 21 of a recent issue at <http://www.swpc.noaa.gov/weekly/pdf/prf2005.pdf>.

The numbers in parenthesis represent uncertainty, or the range of the prediction. Since these are numbers smoothed from data over a year, the numbers for July 2013 and earlier are known, so there is no uncertainty. The predicted value for August 2013 of 68 has a one in the parenthesis, so it could be from 67-69. There is very little uncertainty, because there is only one month of data that would figure into the smoothed value that is unknown at the time of publication, presumably February 2014. As months progress, the uncertainty becomes larger. You can see that with the prediction method used in the Weekly report, the maximum range is plus or minus ten. The forecast method used here is a combination of several methods, decided on by the Cycle 24 Prediction Panel.

The results are the same as in the table at <http://www.swpc.noaa.gov/ftpdir/weekly/Predict.txt> but resolved to whole numbers.

This consensus method is described on page 14 of the user guide at [http://www.swpc.noaa.gov/weekly/Usr\\_guide.pdf](http://www.swpc.noaa.gov/weekly/Usr_guide.pdf) .

The reason the numbers are different in the table that N9WL asked about is the prediction method is one developed in 1949, the McNish-Lincoln technique. You can see that the bounds, or uncertainty a few years into the future varies widely from the method used by the Cycle 24 panel, which go no higher than 10.

The McNish-Lincoln technique is described at [ftp://ftp.ngdc.noaa.gov/STP/space-weather/solar-data/solar-indices/sunspot-numbers/predicted/documentation/Hildner-Greer\\_SolarTerrestrialPredictions-1989.pdf](ftp://ftp.ngdc.noaa.gov/STP/space-weather/solar-data/solar-indices/sunspot-numbers/predicted/documentation/Hildner-Greer_SolarTerrestrialPredictions-1989.pdf)

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