

SB PROP @ ARL \$ARLP028
ARLP028 Propagation de K7RA

ZCZC AP28
QST de W1AW
Propagation Forecast Bulletin 28 ARLP028
>From Tad Cook, K7RA
Seattle, WA July 11, 2014
To all radio amateurs

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Solar activity strengthened recently, with average daily sunspot numbers for the seven days ending June 25 at 72.3, rising 43.3 points to 115.6 for the seven days ending July 2, then rising 89.5 to an average of 205.1 for the period ending July 9.

Similarly, average daily solar flux for the seven days ending on June 25 was 98.8, which rose 30.7 points to 129.5 on July 2, and then rose 64.4 points to 193.9 on July 9.

We don't have predictions for daily sunspot numbers, but the predicted average solar flux for the seven days following July 9 is 152.5, a decline of 41.4 points from the previous seven days.

Predicted solar flux for the near term is 175, 160, and 150 on July 11-13, then 140, 135 and 130 on July 14-16, then 125, 110 and 105 on July 17-19, 100 on July 20-21, 95 on July 22-23, then 100, 110, 125, 135 and 140 on July 24-28, and 160 on July 29-30. Solar flux then peaks at 205 on August 3-5, and declines to 95 on August 18-19, before rising again in the following days.

Predicted planetary A index is 5 on July 11-12, then 10, 8, 12 and 8 on July 13-16, 5 on July 17-25, 8 on July 26, 5 on July 27 through August 4, and 8 on August 5-10, and 12 on August 11.

F.K. Janda, OK1HH predicts the geomagnetic field will be quiet to active on July 11, mostly quiet July 12-13, quiet to active July 14, quiet to unsettled July 15, quiet to active July 16-17, quiet July 18-20, quiet to active July 21-22, mostly quiet July 23-24, quiet to unsettled July 25-26, quiet July 27-28, mostly quiet July 29, quiet to unsettled July 30-31, quiet August 1-2, quiet to unsettled August 3, quiet to active August 4, and mostly quiet August 5-6.

Phil Russo, N8XA of Dayton, Ohio reported hearing EA8DBM (Canary Islands) for over two hours on 50.157 MHz on July 5 at 40dB over S9.

Ray Soifer, W2RS of Green Valley, Arizona also had an EA8DBM report:

"Yesterday (July 5) started out frustrating. From here in DM41 I heard W5s and W0s working all sorts of 50 MHz DX that I could not hear. I worked a few East Coast stations on double-hop Es, but that was all.

"Finally (1747Z), I worked EA8DBM, a new one for me on 6 and the only DX station I heard all day. I wonder, though, about the propagation mode. I gave him a 55 report, but his signal later built up to S8. That seems awfully strong for 4- or 5-hop Es (the distance is 5456 miles). With the solar flux so high, could it have

been F2?

"On 6 meters I am running 150 watts to a multi-band vertical (Hy-Gain AV620)."

John Geiger, AF5CC of Lawton, Oklahoma also speculated: "I was wondering the same thing about EA8DBM. He was a real S7 on the meter here around 1840Z. Seemed very loud for multihop Es and the flux and SSN was pretty high. Is F2 possible on 6m in July?"

No, this was probably linked sporadic-E layer propagation, because solar activity has not been nearly high enough to support F2 on 6 meters.

Jim Henderson, KF7E of Queen Creek, Arizona wrote on July 6:

"No doubt the great improvement in SFI, low solar winds, etc, will prompt a raft of comments from happy long-weekend DXers.

"Simply put, from here in Arizona the combination of high solar flux (best since January 2014?) low solar winds (under 300 Km/S) and generally quiet geomagnetic conditions have put fireworks back into HF and 6m.

"Just when bands sounded empty and 'dead,' something most unusual would show up to get the fun meter going. From Arizona, several Lil Pistols worked EA8 and others on 6m. And 28, 24, and 21 MHz have been sterling performers.

"On 12m, A65CB, HZ1BW, JY9FC, as well as a host of EUR, Zone 16 and 17, all wafting through the ionosphere. At times propagation was all the way from JY to E51.

"15m had S01WS, UN6GDX, 9H1EJ, some 4Z stations, and many semi rare ones from all points of the compass. And 17m after sunset here continues to dazzle the listener.

"Let us see, by the time you publish this week, if the SFI stays up all week, as it did in January (200 - 220)."

Well, no the solar flux did not stay up, but I appreciate the enthusiasm, and let's hope for more surprises.

On July 7, Dan Soderland, KB0EO of Northfield, Minnesota wrote:

"There were reports of operators in the black hole of the upper Midwest making QSOs on 6 meters into Africa and Europe on Saturday. I spent a fair amount of time on Sunday waiting for a possible opening and was able to score EA8 and D4 on 6 meter CW from southern Minnesota. It took a number of calls to get through as I am only running 100 watts and a 5 element Yagi at 85 feet.

"I called CQ a little later and to my surprise, LZ2HM came back to me with an S5 solid signal. Thinking it might have been a slim, I emailed Andy in Bulgaria, who confirmed the QSO was legit - my first EU QSO on 6 meters! The opening to Europe lasted no more than 30 seconds - no other stations in EU worked or heard. The band was really hopping all day around North America - great conditions to east coast and west coast. Numerous KL7 stations were spotted on the cluster, but I was not able to hear them."

For photos of Dan's station, videos including one of his antennas in a windstorm, and a photo of Dan playing banjo while wearing a fake

beard, visit <http://www.qrz.com/db/kb0eo> .

Jim White, WD0E of Parker, Colorado wrote, "Just worked KL7 then 10 minutes later CT1 (7/7/14 2000UTC). Both 59 from DM79. Yesterday was the wildest opening I've ever heard on 6. I worked EA8 early then a pileup of both Midwest and NE US stations for two hours in the morning and could have all day but my voice gave out. Heard nearly every possible propagation mode on the same day, sometimes within minutes in one direction or another. Only thing left out was aurora."

Scott Bidstrup, TI3/W7RI didn't benefit from the recent 6 meter propagation, but he sent this interesting article about signals and ion trails from fireballs in the sky:

<http://phys.org/news/2014-07-scientists-radio-emissions-fireballs.html>

Dave Greer, N4KZ of Frankfort, Kentucky wrote on July 9, "Solar Cycle 24 -- the little cycle that wouldn't quit. What else is there to say?"

"Propagation on 12 meters has been interesting, even entertaining in recent days. At 1459 UTC on July 5, I called CQ on 12 meter SSB and JK4CHT replied. Signals were about 5x6 both ways. Hide said his local time in Japan was midnight -- mid-morning at my Kentucky QTH -- and he was amazed to hear 12 meters open and an American station coming through at that.

"A day later, I again called CQ on 12 meter SSB at 0235 UTC and WB0TVY in nearby Missouri answered. Kent noted how short the skip was. Ten minutes into our QSO, Jeff, N8II in West Virginia joined us. All signals were strong and now we had three stations in Missouri, Kentucky and West Virginia all talking with one another like it was 75 meters. But it wasn't. It was 12 meters where E-skip signals that close in aren't normally heard. It was the first time each of the three of us had worked those states on 12.

"And 6 meters has finally gotten lively again. The 2013 E-skip season was a major disappointment here in grid EM78. Domestic E-skip was sparse last year and I only heard Europe once and then only briefly. Previous years had provided many domestic and DX multihop E-skip contacts on 6 across the U.S., Europe, the Caribbean and the Canary Islands.

"But 2014 is proving to be a return to the good times of previous years. Already, I have worked into Europe a couple of times. One CW QSO was with SM7FJE in Sweden at 2054 UTC on July 3. That was a new one for me -- my 72nd entity on 6 meters. A second Swedish station was heard a few minutes later but not worked. Scandinavia is very rare from here on 6.

"July 6 yield three QSOs into the Canary Islands -- a location I've been fortunate enough to have worked numerous times before on 6 meters. Starting at 1421 UTC I worked EA8DBM on phone and CW and EA8BPX on SSB.

"My HF station runs 500 watts to an 8-element log periodic at 60 feet. On 6 meters, it's a more modest 100 watts to a 5-element Yagi at 65 feet. But my Frankfort, KY QTH is fortunate to be on a nice hilltop with steeply sloping terrain down 150 feet in nearly all directions but due south. I've had a dozen QTHs in my 45 years on the air and this one is by far the best."

Rick Radke, W9WS of Balsam Lake, Wisconsin sent in a Field Day report.

"I did a single op set-up from my 20 foot pontoon boat from the middle of Balsam Lake in N.W. Wisconsin. Running class 1C, W9WS/MM WI. I tried at the starting gun on Saturday but a stiff wind and whitecaps drove me off the lake. It also eliminated erecting a 20 meter inverted V, fed with ladder line at 20 feet. A contest operation while tending a boat is almost impossible. Sunday was almost ham heaven. On the water by 8:30 with full Sun, light winds, and excellent propagation. Running a 17 foot whip and tuner against a 8x20 piece of aluminum floating on water was spectacular. 20 was wide-open, but wall to wall stations made contacts difficult. 40 was much better, and made many contacts out 500-700 miles. At 10:00 I switched to 15 and worked anything I could hear, both coasts, and the gulf. Nothing heard on 10 and 6. Had a blast, but still want to try the inverted V."

David Moore is always on the lookout for interesting articles about our Sun, and sent in this from Australia and New Zealand Science Alert about a new assessment of the solar atmosphere:

<http://sciencealert.com.au/news/20143006-25777-2.html>

Here is a nice comparison of smoothed sunspot cycles:

<http://www.stce.be/newsletter/images/2013/19SolarCycleFC2.png>

Scott Avery, WA6LIE of Salinas, California wrote on July 6, "AFTER Field Day, 6 meters picked up a lot.

"Have been using JT65 and JT9 to shoot fish in a barrel!

"Been working a lot of east coast stuff not heard on CW or SSB.

"As we all know 6 meters is the 'magic band' and one needs to just listen or look at DX spots.

"We need MORE JT65 and JT9 stations out there for DX and propagation experiments!

"Download WSJT-X and give it a whirl.

"<http://physics.princeton.edu/pulsar/K1JT/wsjsx.html>

"Hope to see more JT65 activity!"

Today, Friday July 11 (UTC), Scott added these updates: "6 meter opening to east coast now! Started around 2300z and still going on! 6 is HOT!!" (This was sent at 0100z)

"6 meters wide open to Japan now! Band is nuts! 0500z Japan EVERYWHERE SSB and CW!"

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 July 3 through 9 were 179, 199, 213, 256, 197, 209, and 183, with a mean of 205.1. 10.7 cm flux was 178.1, 187.6, 193, 201, 197.9, 201.4, and 198.4, with a mean of 193.9. Estimated planetary A indices were 6, 5, 4, 5, 6, 6, and 7, with a mean of 5.6. Estimated mid-latitude A indices were 8, 6, 5, 6, 5, 8, and 8, with a mean of 6.6.

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