Subject: [The Daily DX] W3LPL Propagation Forecast - October 30, 2023
From: "W3LPL Frank Donovan(posting)" <donovanf@starpower.net>
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Low and mid-latitude HF propagation is likely to be mostly normal but high latitude propagation is likely to be mildly disturbed during local night time hours through Tuesday October 31st by Frank Donovan, W3LPL

My propagation forecast derived from today's NOAA/SWPC web pages and twelve other online sources (the URLs included this forecast) is published five days a week (M-F) in The Daily DX. All days and times in this forecast are in UTC (Zulu) time.

NWRA's Table of Space Weather Indices is updated 40 minutes after every hour at https://spawx.nwra.com/spawx/env_latest.html

SILSO's Estimated International Sunspot Number is updated continuously at https://www.sidc.be/silso/DATA/EISN/EISNcurrent.png

SWPC's estimated planetary Kp Index is updated every three hours at https://services.swpc.noaa.gov/images/station-k-index.png

N0NBH's current HF Band Conditions report is updated regularly at https://www.hamqsl.com/solar.html

Near-real time maps and data about HF ionospheric propagation are generated every 15 minutes, from data usually 5 to 20 minutes old at https://prop.kc2g.com

Mid-latitude northern hemisphere sunrise is 37 minutes later and sunset is 55 minutes earlier than it was on September 23rd. Sunrise is about two hours earlier and sunset is about two hours later at the 300 km altitude of the F2 region than it is at ground level.

There is a slight chance of daytime radio blackouts caused by M-class solar flares through Tuesday.

The Penticton 10.7 cm solar flux index is 135 and is likely to remain unchanged through Tuesday. The solar flux index is updated daily at 1700, 2000 and 2300Z at:
https://www.spaceweather.gc.ca/forecast-prevision/solar-solaire/solarflux/sx-5-flux-en.php

The latest Estimated International Sunspot Number is 83 and is likely to remain about the same through Tuesday. The sun's visible disk continues to resemble solar minimum conditions with four tiny active regions containing 21 tiny sunspots with a total sunspot area of only 70 micro-hemispheres (about one third of the surface area of the Earth).
https://www.sidc.be/spaceweatherservices/applications/solarmap

Solar wind speed is likely to be mildly elevated to about 550km/second or less through Monday, waning to less than 500 km/second by Tuesday due to weakening coronal hole high speed stream effects.

Mostly unsettled to active geomagnetic conditions are likely through Tuesday due to weakening coronal hole high speed stream effects.

160 and 80 meter propagation from North America to VK/ZL and the South Pacific is likely to be normal through Tuesday.

40 meter short path propagation from North America to south Asia after about 2300Z is likely to be mostly normal through Tuesday. Short path propagation between North America and east Asia after about 0800Z is likely to be mildly degraded through Tuesday.

30 meter propagation crossing the auroral ovals and polar regions is likely to be mildly degraded through midday Monday improving to mostly normal through Tuesday. 30 meter propagation is always mildly to moderately degraded within several hours of local noon by E-region blanketing of long distance low angle F2 propagation.

20 meter propagation crossing the auroral ovals and polar regions is likely to be mildly degraded through midday Monday improving to mostly normal through Tuesday.

17 and 15 meter propagation crossing the auroral ovals and polar regions is likely to be mildly degraded through midday Monday improving to mostly normal through Tuesday. 17 and 15 meter long path propagation from North America to southeast and east Asia from about 1200Z to at least 1400Z is likely to be mostly normal through Tuesday.

12 and 10 meter long distance daytime propagation is likely to be mildly degraded through midday Monday improving to mostly normal through Tuesday. 12 and 10 meter long path propagation from North America to southeast and east Asia from about 1200Z to at least 1400Z is likely to be mostly normal through Tuesday.

There is a chance of 6 meter F2 trans-equatorial propagation (TEP) from mid-latitude U.S. states to South America from late afternoon through early evening. There is a slight chance of brief isolated propagation via the northern equatorial ionization anomaly from the mid-latitude US states to equatorial Africa, the Indian Ocean and the Atlantic coast of southern Africa (e.g., ZD7, D2 and 7Q) from late morning to mid-afternoon. There is a slight chance of oblique-TEP from the mid-latitude US states to the south Pacific and VK/ZL during early evening. There is a chance that more northerly U.S. stations may couple into TEP and oblique-TEP via geographically focused intervals of mid-latitude sporadic-E and intervals of low and mid-latitude F region ionization irregularities. TEP may be significantly enhanced during late afternoon through early evening onset of strong to severe solar flares and geomagnetic storms then significantly degrading after initial enhancement. See K6MIO's excellent article on 6 meter TEP, oblique-TEP, TEP-related and mid-latitude sporadic-E linking to TEP beginning on page 9 at: http://www.oh3ac.fi/QEX-2016-11.pdf

Southward orientation (-Bz) of the north-south component of the interplanetary magnetic field (IMF) plays a crucial but unpredictable role in triggering all geomagnetic storms. Brief minor to moderate geomagnetic storms may be gradually triggered when the IMF persists in a southward orientation (-Bz) with IMF field strength of about 5 nanoteslas for several hours coincident with the effects of an Earth directed coronal hole high speed stream. More frequent, longer duration, minor to severe geomagnetic storms may be triggered suddenly and unpredictably when the IMF persists in a southward orientation (-Bz) with IMF field strength mildly stronger than 5 nanoteslas for at least a few hours coincident with the effects of an Earth directed CME and solar wind speed exceeding 500 km/second.

Real time geomagnetic data including Bz orientation, IMF field strength, solar wind speed and short term k-index forecast are available at:
https://www.swpc.noaa.gov/products/geospace-geomagnetic-activity-plot

Today's three-day GFZ Planetary K Index forecast is updated every three hours at:
https://spaceweather.gfz-potsdam.de/fileadmin/ruggero/Kp_forecast/forecast_figures/KP_FORECAST_CURRENT.png

Today's SIDC Daily Bulletin on Solar and Geomagnetic Activity is updated daily at 1230Z at:
https://www.sidc.be/spaceweatherservices/data/ClassicalRWCproducts/meu

Today's SWPC Solar Activity Forecast Discussion is updated daily at 0030Z and 1230Z at:
https://www.swpc.noaa.gov/products/forecast-discussion

Today's Australian Space Forecast Centre Summary and Forecast is updated daily at 2330Z at:
https://www.sws.bom.gov.au/Space_Weather/1/1

Perhaps the most useful HF propagation pages for DXers can be found at: http://dx.qsl.net/propagation and https://www.solarham.net

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