SOLAR WEATHER
3 FEB 2026

Lewis Thompson
W5IFQ

Taken by Jessica Fridrich on January 21, 2026 @ Binghamton, NY

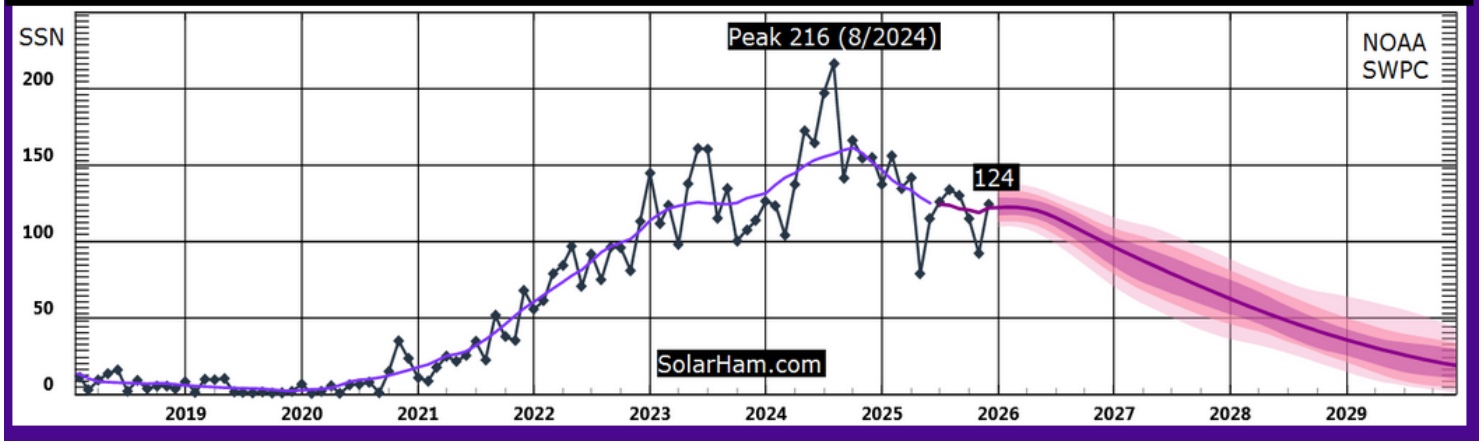
Taken by Thomas McCarty on October 30, 2022 @ Fairbanks Alaska

Solar Cycle 25 Progression

(Updated January 13, 2026)

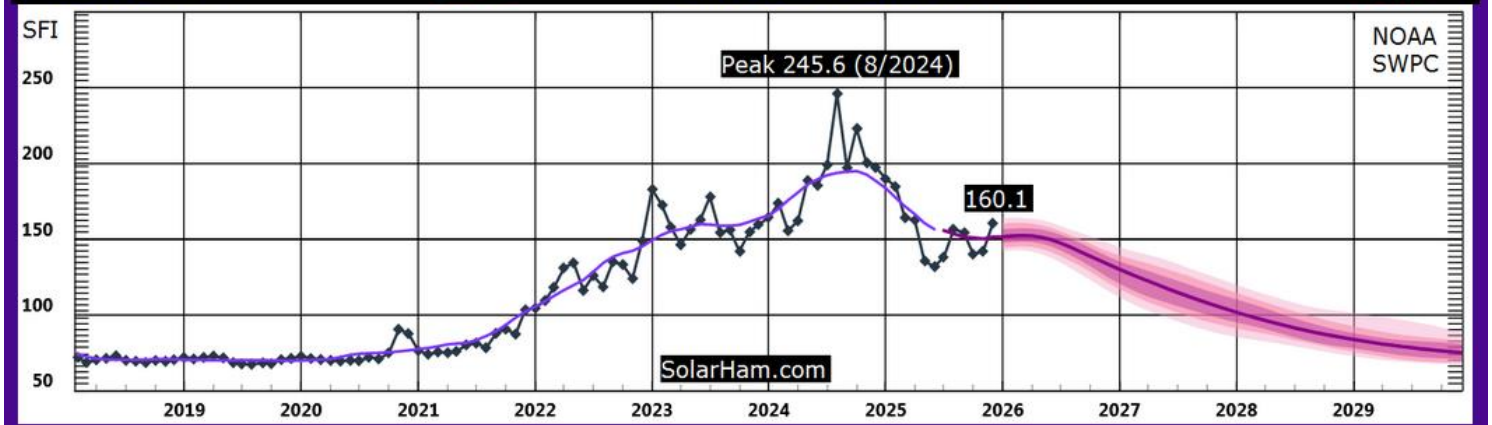
Sunspot Number Progression (December 2025)

Predicted SSN: **121.6** Actual: **124** Latest Smoothed Predicted SSN (6/2025): ---.- Actual: **124.7**



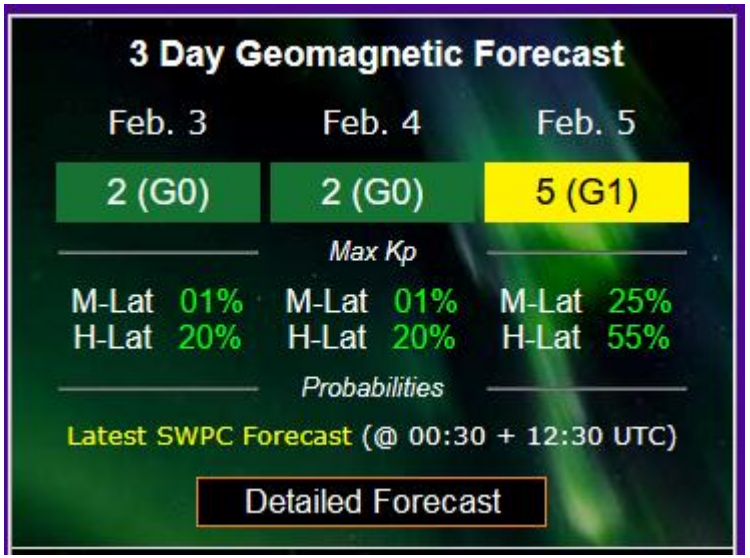
10.7cm Solar Flux Progression (December 2025)

Predicted SFI: **151** Actual: **160.1** Latest Smoothed Predicted SFI (6/2025): ---.- Actual: **156.2**



SolarHam

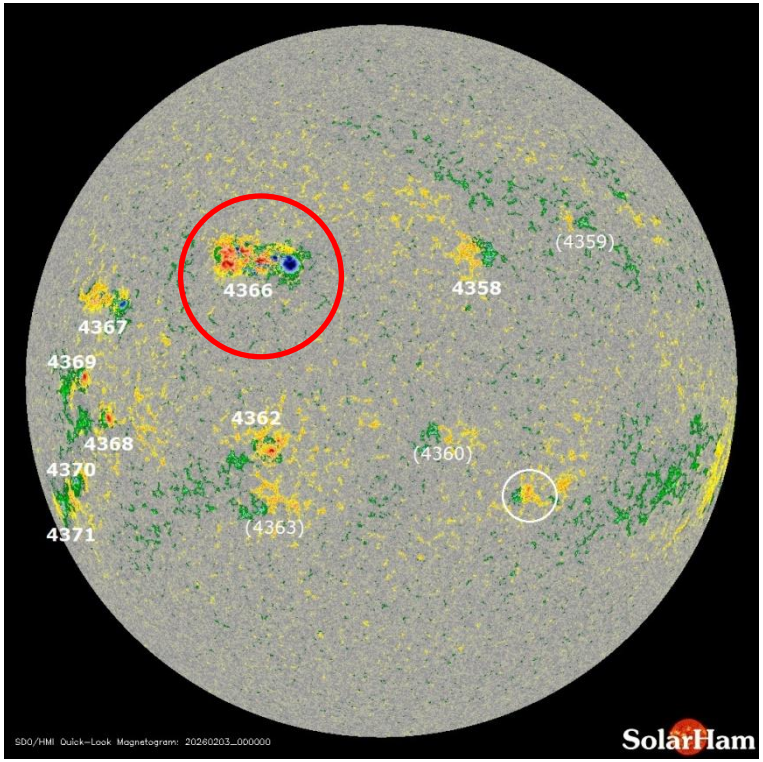

Indices: (2/3 @ 00:35 UTC)
SFI 174 ▲ 12 SSN 131


3 Day Geomagnetic Forecast
Feb. 3
Feb. 4
Feb. 5
2 (G0)
2 (G0)
5 (G1)
Max Kp
M-Lat 01%
H-Lat 20%
M-Lat 01%
H-Lat 20%
M-Lat 25%
H-Lat 55%
Probabilities
Latest SWPC Forecast (@ 00:30 + 12:30 UTC)
Detailed Forecast

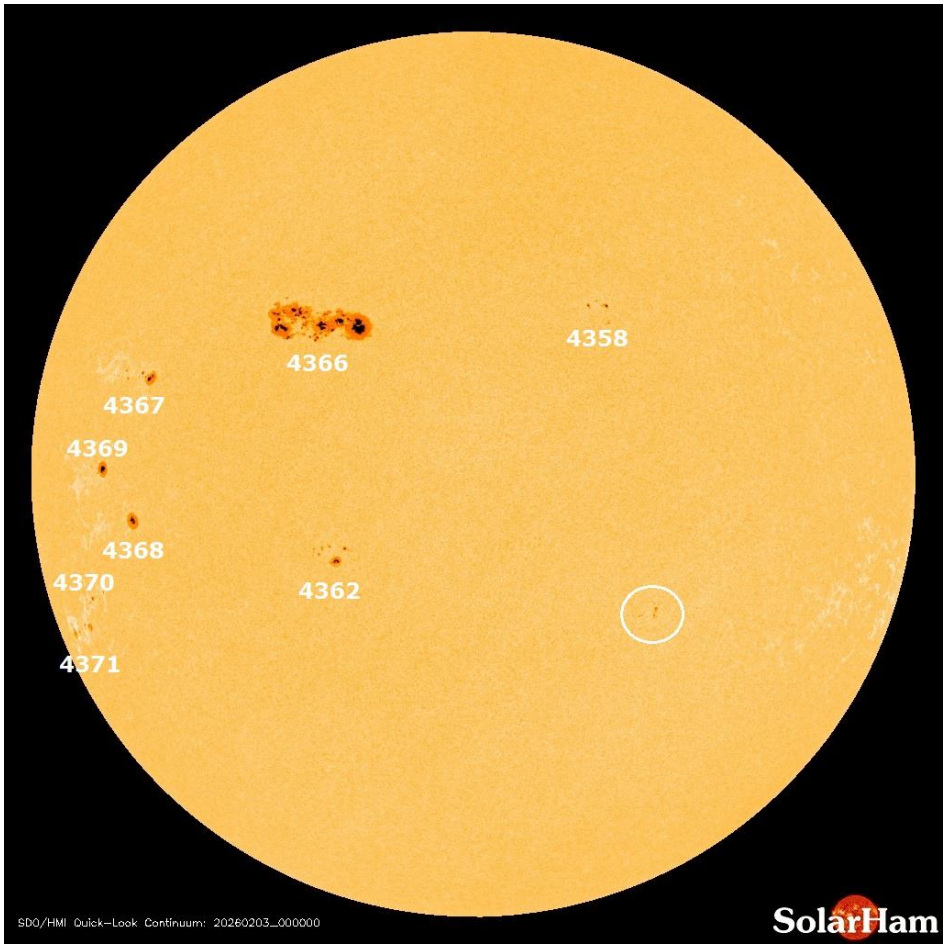
SolarHam

Flare Events (M3+) Past 72 Hours

X1.5	AR 4366	2/3/26 @ 14:08 UTC
M3.6	AR 4366	2/3/26 @ 10:12 UTC
M7.2	AR 4366	2/3/26 @ 07:01 UTC
M3.3	AR 4366	2/2/26 @ 21:08 UTC
M4.0	AR 4366	2/2/26 @ 15:01 UTC
M6.7	AR 4366	2/2/26 @ 11:24 UTC
X1.6	AR 4366	2/2/26 @ 08:13 UTC
M3.0	AR 4366	2/2/26 @ 04:47 UTC
M5.2	AR 4366	2/2/26 @ 02:50 UTC
M4.4	AR 4366	2/2/26 @ 02:42 UTC
X2.8	AR 4366	2/2/26 @ 00:36 UTC
X8.1	AR 4366	2/1/26 @ 23:57 UTC
M5.1	AR 4366	2/1/26 @ 16:07 UTC
M5.8	AR 4366	2/1/26 @ 12:50 UTC
X1.0	AR 4366	2/1/26 @ 12:33 UTC
M6.7	AR 4366	2/1/26 @ 12:12 UTC
M6.6	AR 4366	2/1/26 @ 10:02 UTC



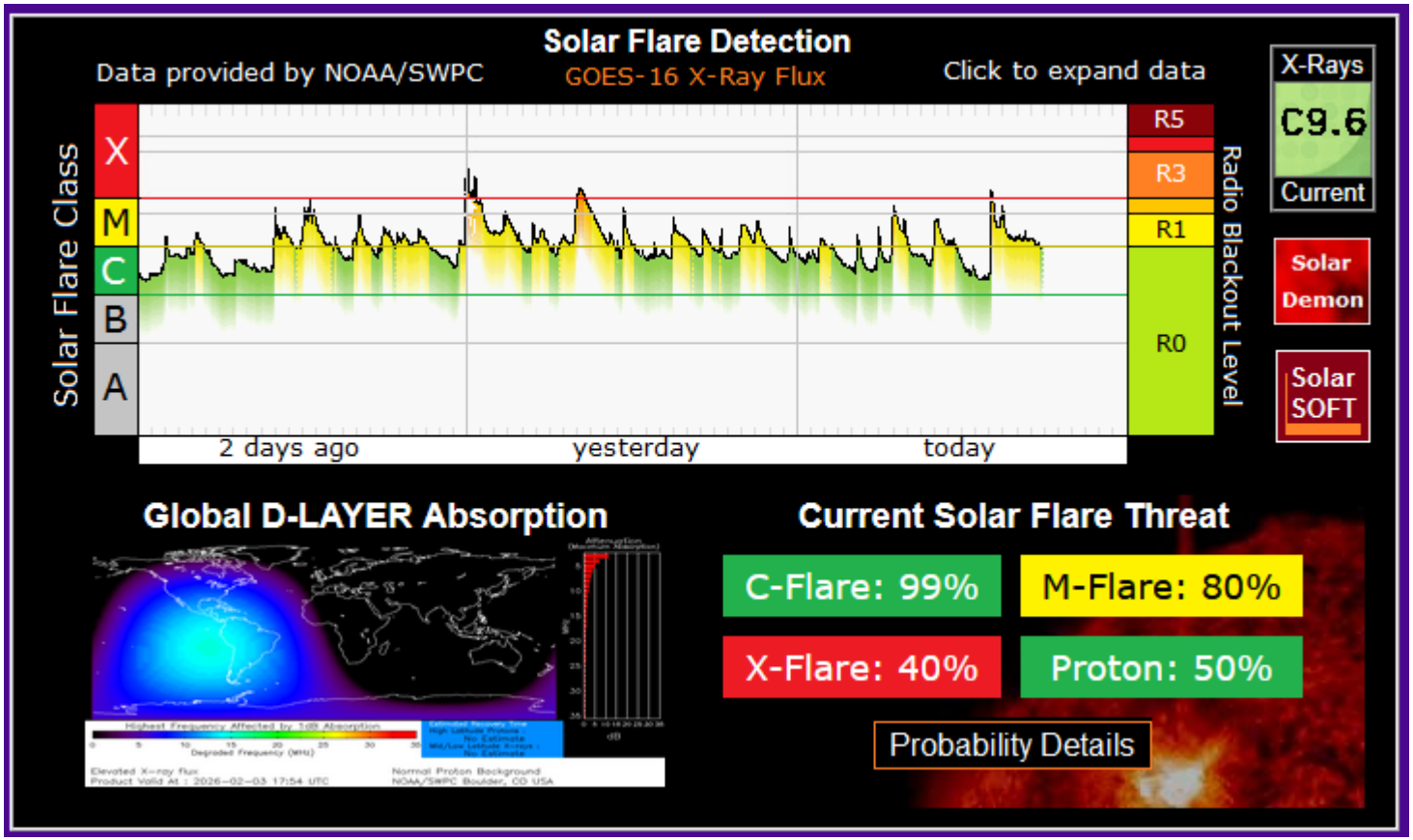
SolarHam



Visible Sunspot Regions

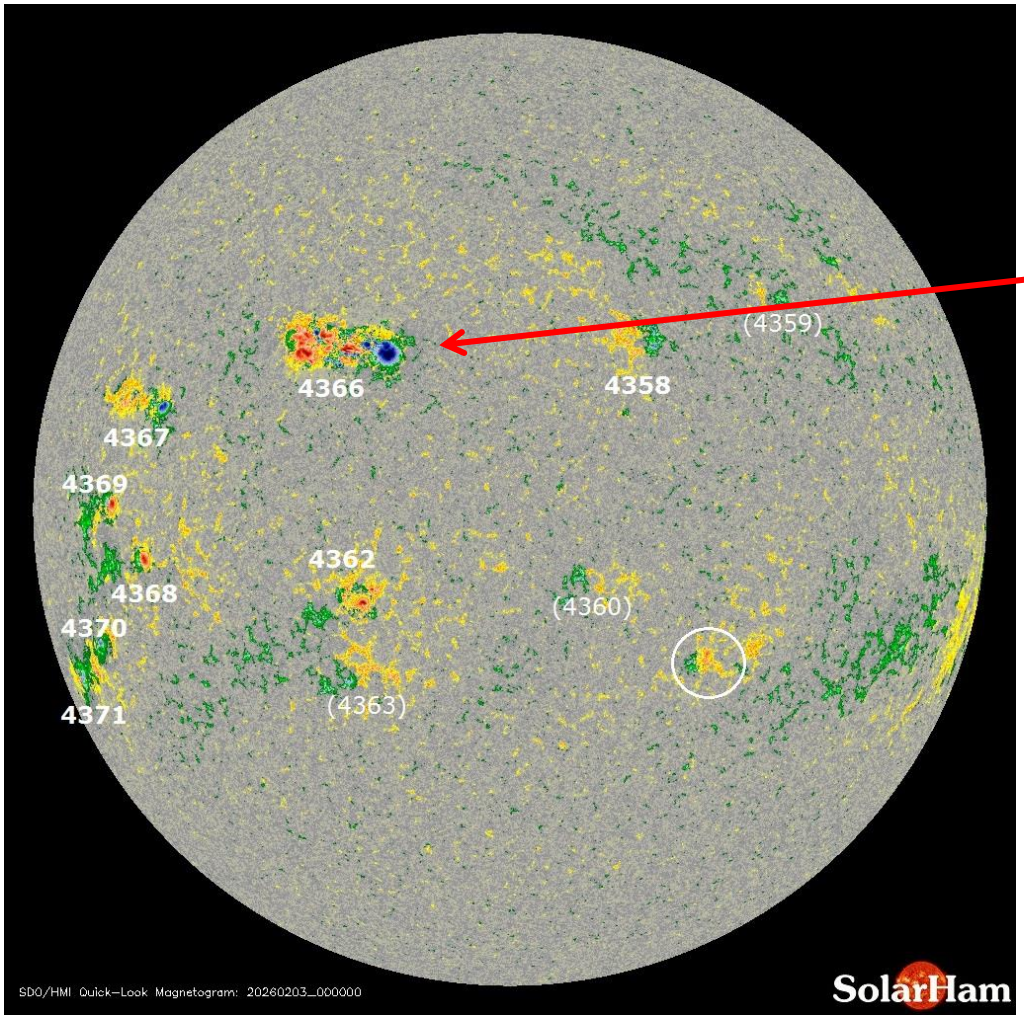
Sunspot Summary		SRS	
AR 4371	B	S22E70	-
AR 4370	B	S18E64	-
AR 4369	A	S02E57	*Stable*
AR 4368	A	S10E51	*Stable*
AR 4367	B	N09E50	*Growing*
AR 4366	BGD	N14E21	*Growing*
AR 4362	A	S17E18	*Growing*

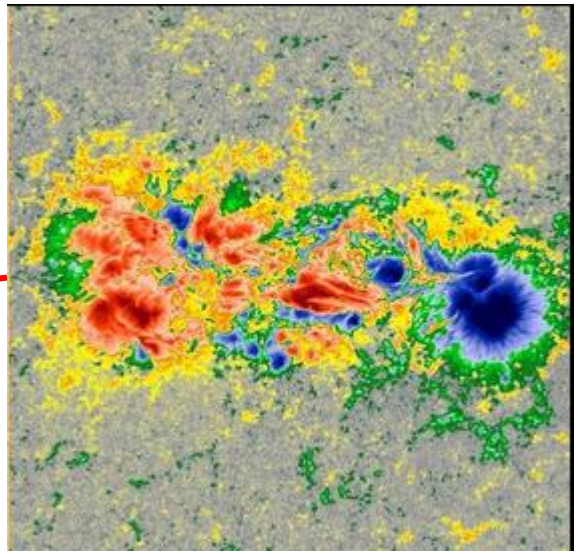
SolarHam


Solar Flare Detection
Data provided by NOAA/SWPC
GOES-16 X-Ray Flux
Click to expand data
Solar Flare Class
X
M
C
B
A
2 days ago
yesterday
today
R5
R3
R1
R0
Radio Blackout Level
X-Rays
C9.6
Current
Solar Demon
Solar SOFT
Global D-LAYER Absorption
Current Solar Flare Threat
C-Flare: 99%
M-Flare: 80%
X-Flare: 40%
Proton: 50%
Probability Details

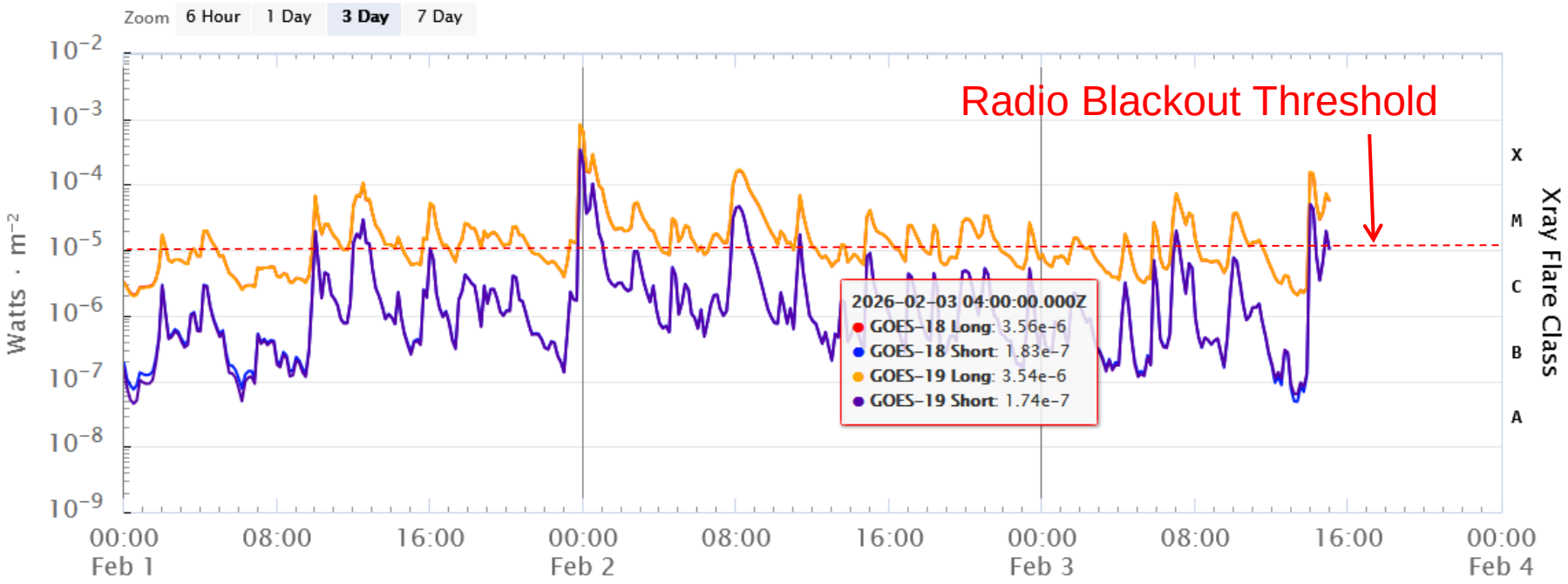
Sun Spots

Magnetogram Image (Updated February 3, 2026)

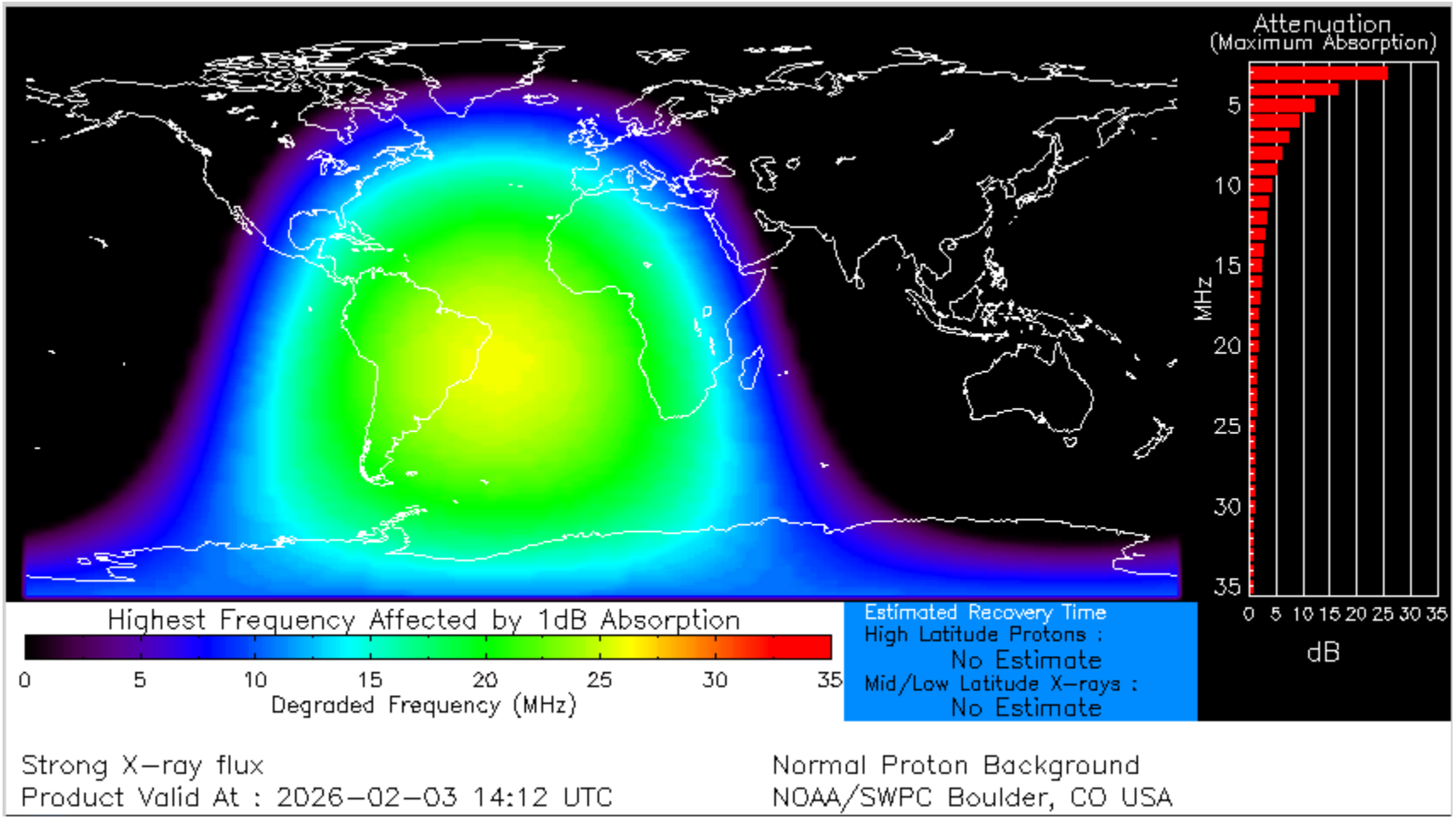




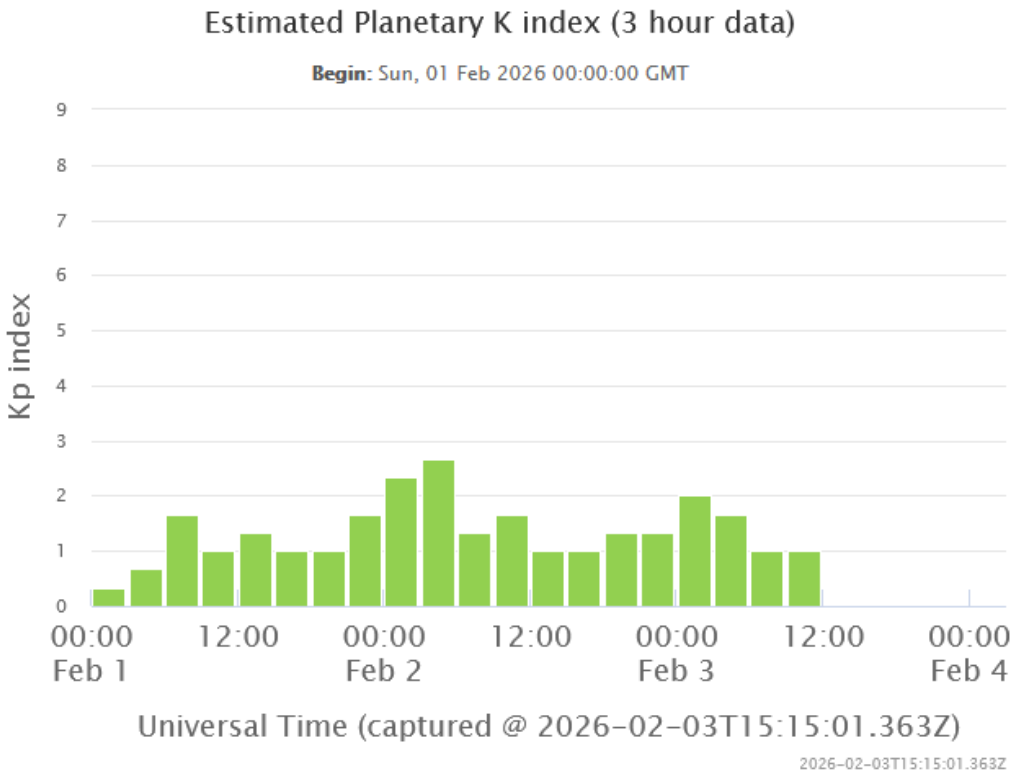
Solar X-Ray Flux: 1 – 3 FEB 2026



NOAA – D-Region Absorption Predictions



Earth’s Geomagnetic Activity



Generally, as planetary K-Index rises, critical frequency is suppressed.

K-Index	Effect
0-2	Inactive/Quiet, no impact on HF
3-4	Unsettled/Active, minor HF fade in higher latitudes
5-6	HF fade at higher latitudes
7-8	HF sporadic
9	HF impossible above 40M

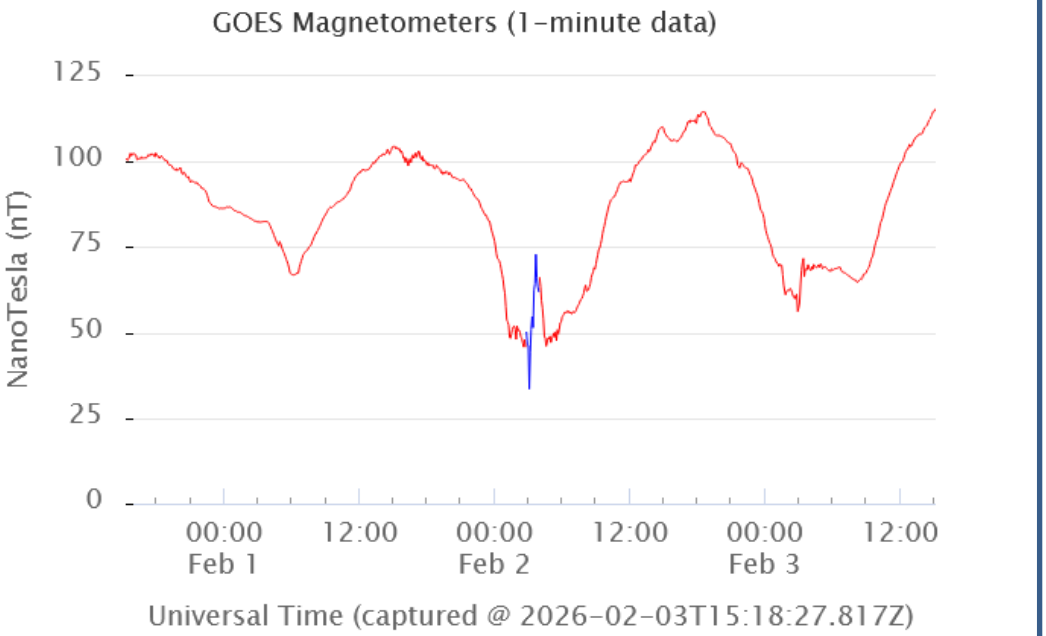
Geomagnetic Conditions: 3 FEB 2026

Solar wind:
Bz = -2.99 nT
speed = 299 km/sec
density = 4.33 protons/cm^3

(From – NOAA DSCOVR
In L1, Lagrange Point)

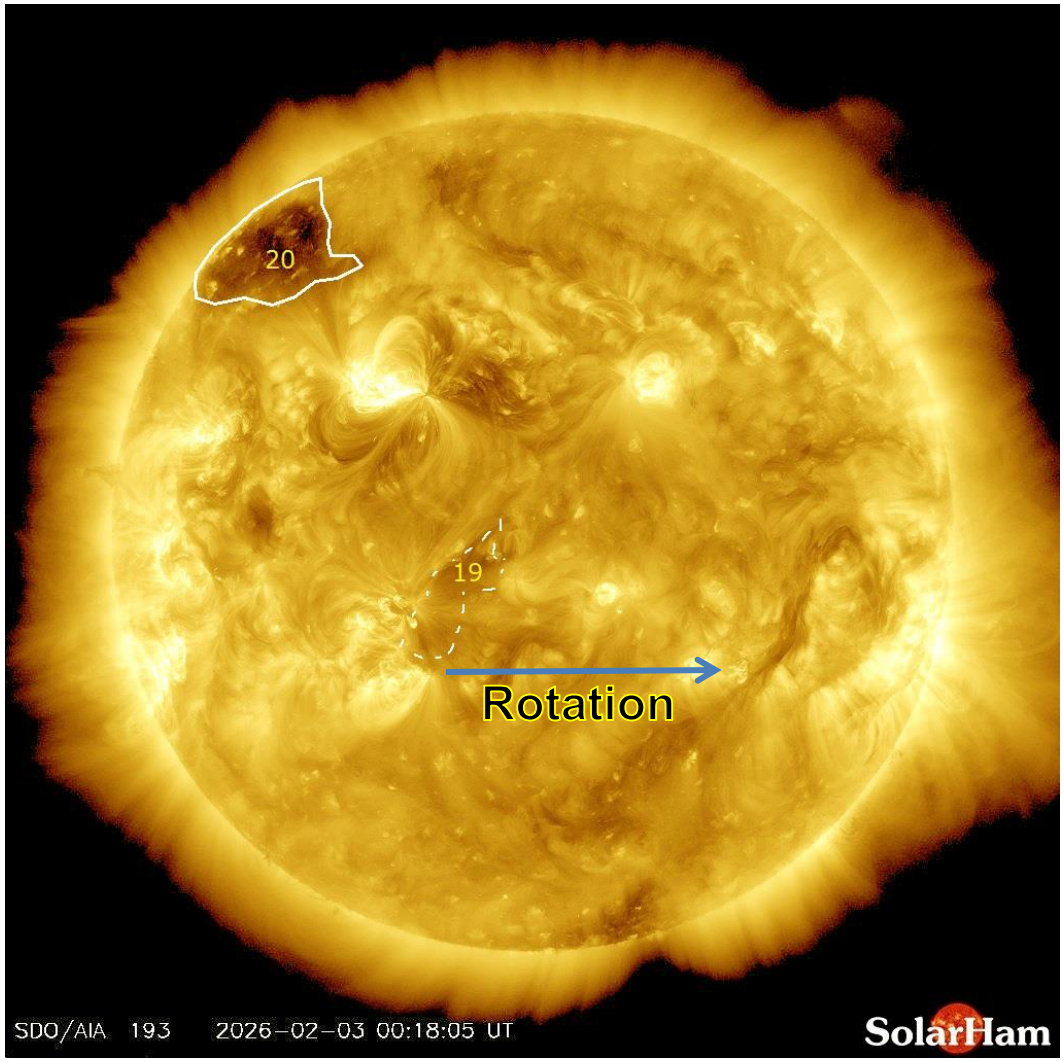
Dst = 5 nT (Ring Field)

(From – Data Analysis Center
For Geomagnetics and Space
Magnetism – Kyoto University)



From – GOES 16
In geostationary orbit

Coronal Holes – 3 FEB 2026

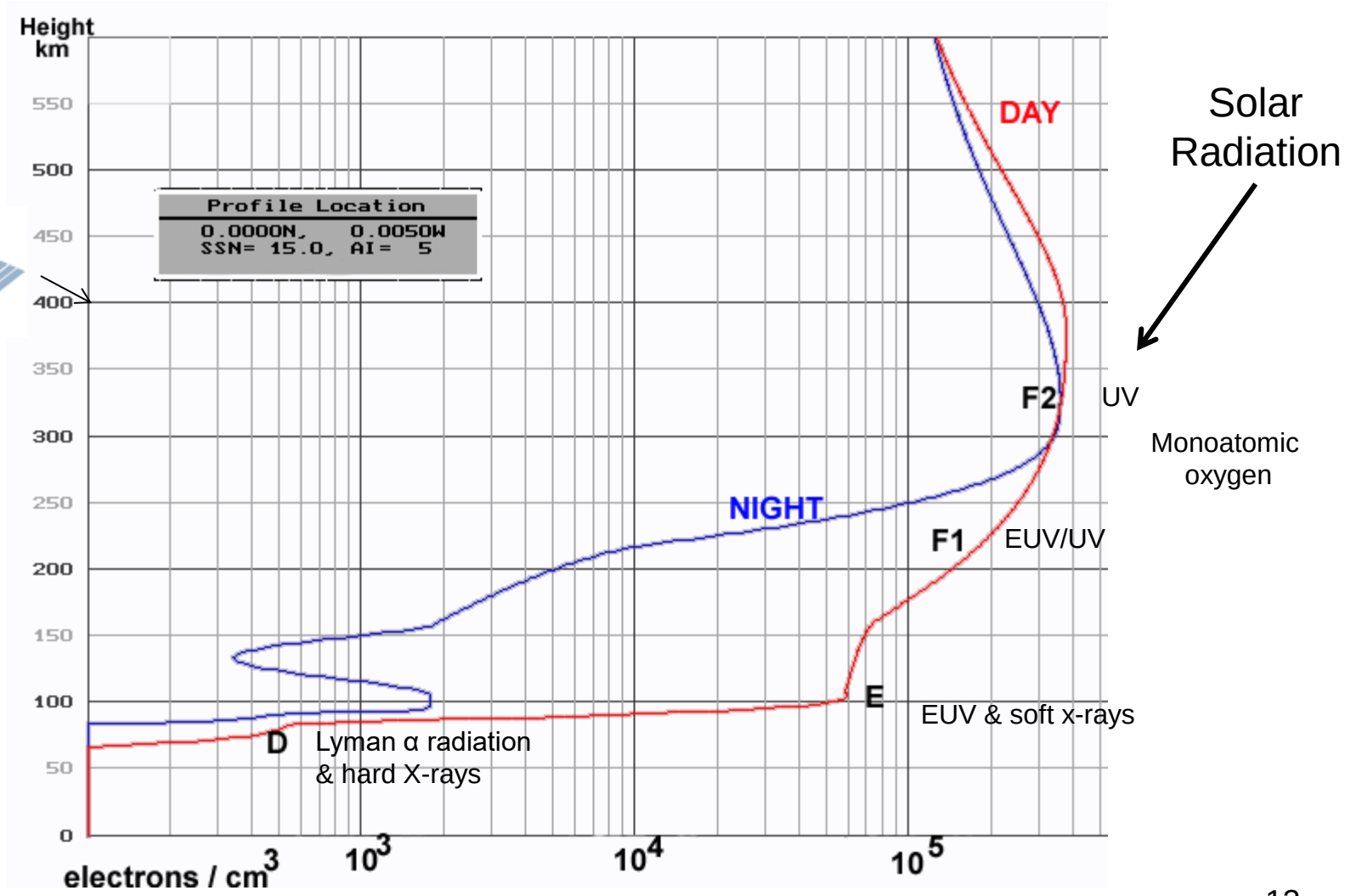


Analysis

There are currently no large coronal holes facing Earth.

Ionosphere Creation

Gravity



Solar Radiation

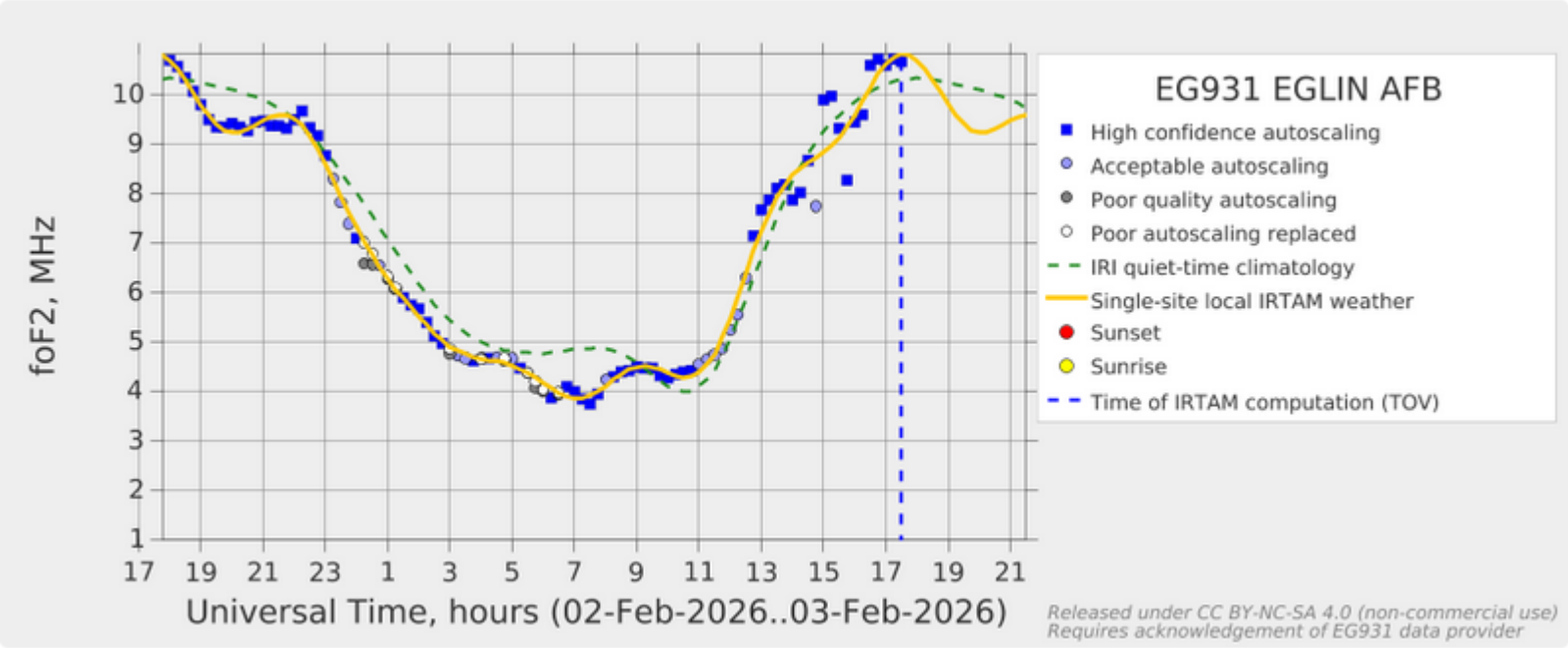
Monoatomic oxygen

Austin Ionosonde Status

- Austin Ionosonde is now sending data to GIRO, but is still scheduled to shut down. Date unknown.
- I recommend that all users move to the Eglin AFB Ionosonde, EG931.

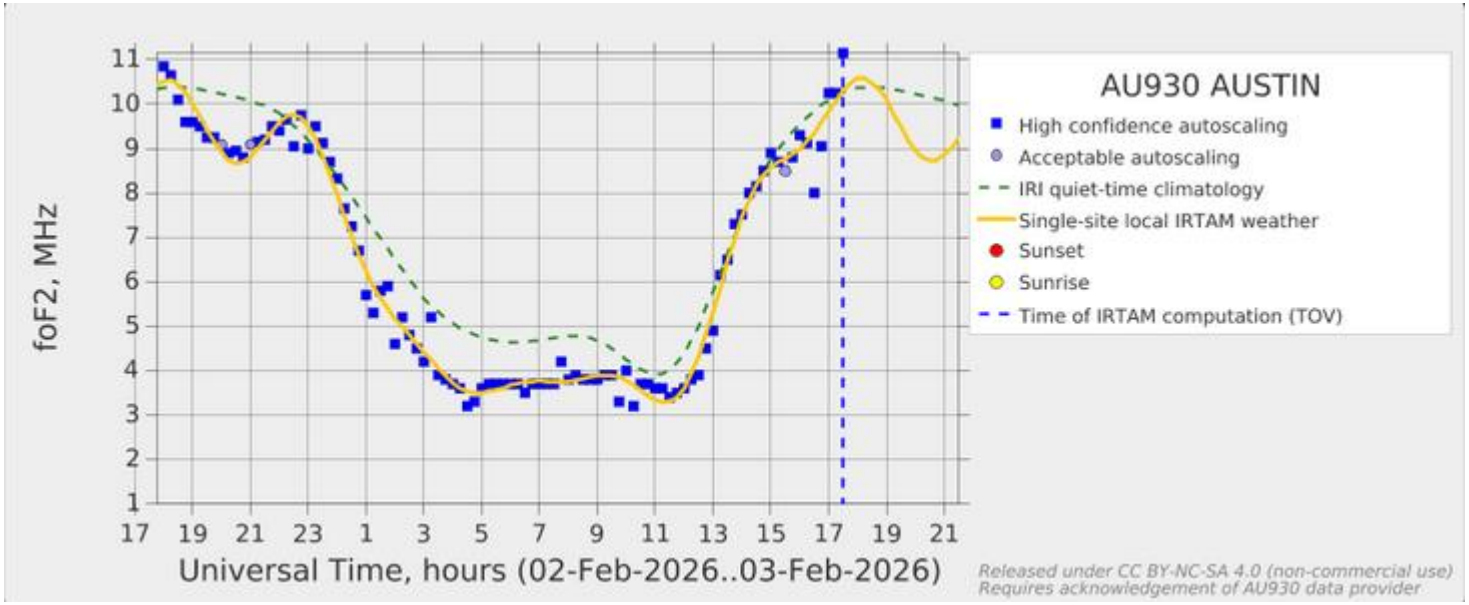
GAMBIT foF2 Trending Chart for Eglin Ionosonde

https://www.region6armymars.org/resources/solarweather.php



GAMBIT foF2 Trending Chart for Austin Ionosonde

https://www.region6armymars.org/resources/solarweather.php

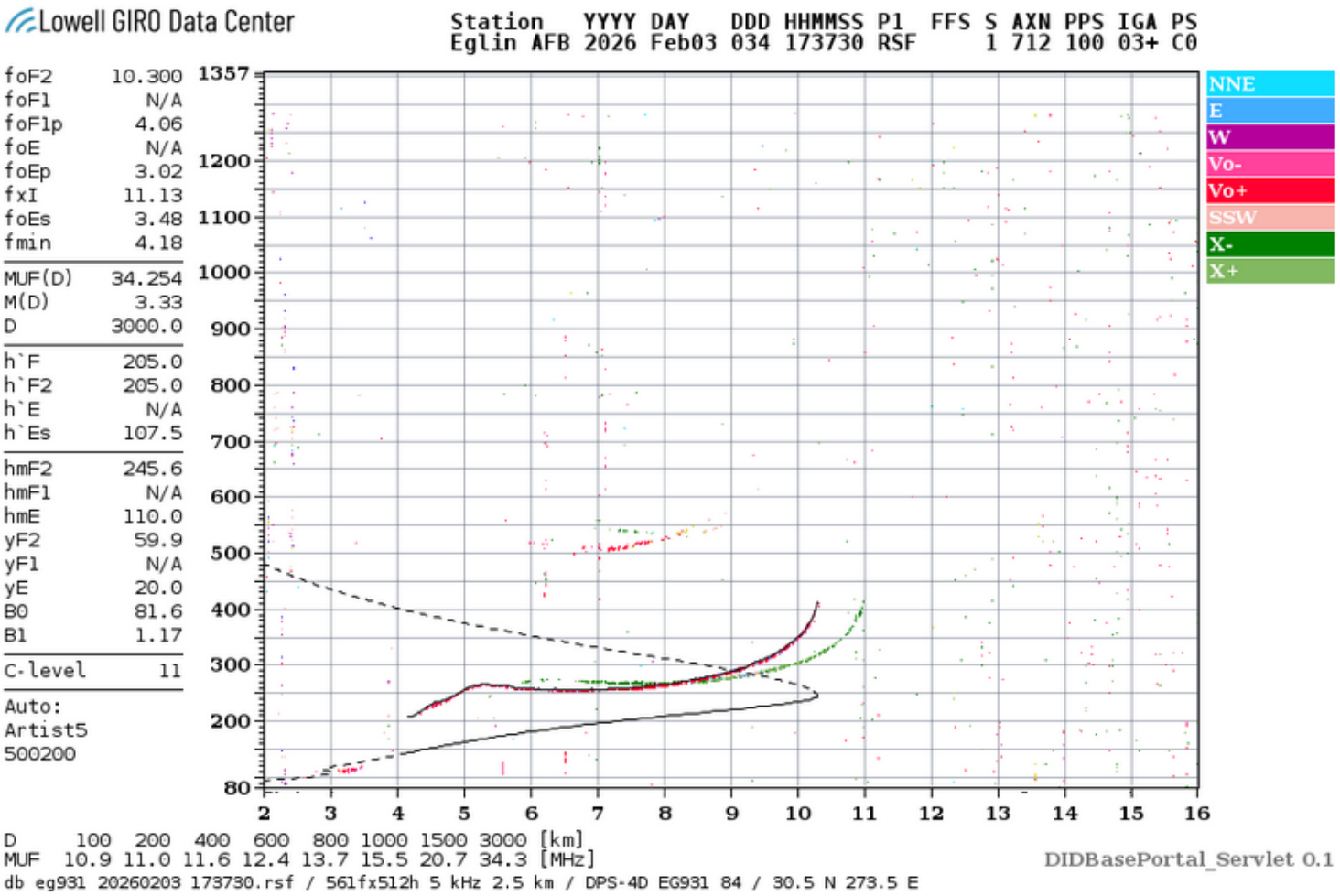


Use of GIRO DIDBASE

https://giro.uml.edu/didbase/

Eglin AFB
Or
Austin

Eglin Ionosonde – 1737Z (1147 CST)



Time Shift for Eglin Ionosonde

- Eglin AFB Ionosonde is east of Austin at about the same Latitude so sun angle is about the same (same solar insolation).
- What happens to the Ionosphere over Eglin will occur over Austin about 45 minutes later.
- This is simply a Longitude difference converted to time.
- So look at Eglin's foF2 45 minutes earlier to see what is going to happen over Austin.
- The most rapid change in foF2 occurs as the sun is rising and setting (morning and evening).

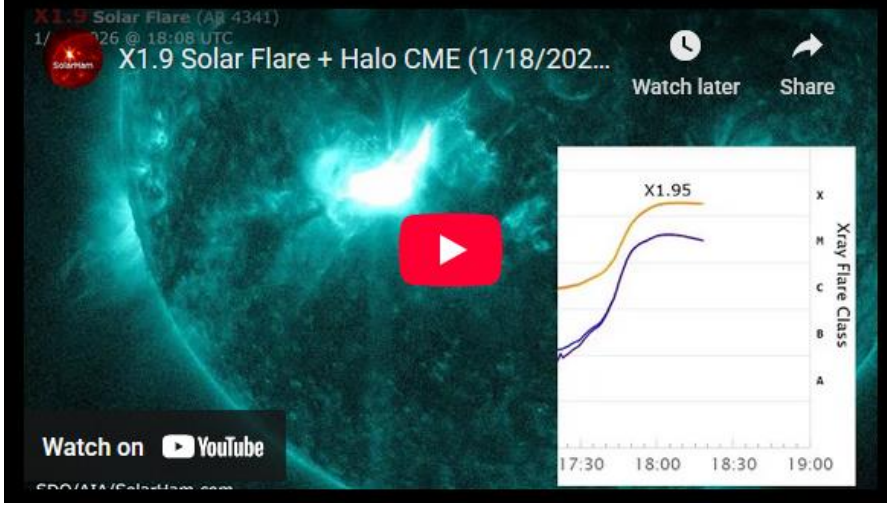
Notable Solar WX Events in JAN

X-Flare / Earth Directed Halo CME

January 18, 2026 @ 18:25 UTC (UPDATED)

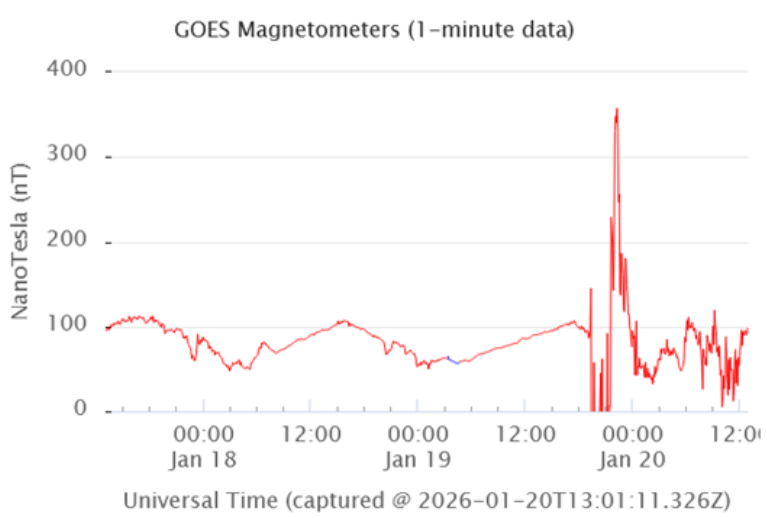
A strong X1.9 solar flare was observed around AR 4341 on Sunday (Jan 18) at 18:08 UTC and was associated with a Type II radio emission (693 km/s), along with a 10cm Radio Burst (TenFlare) lasting 122 minutes and measuring 3200 solar flux units (SFU). A noteworthy coronal mass ejection (CME) **is associated** and contains a full halo signature. It appears that the main bulk of plasma is headed just to the east, however with the halo present, an Earth directed component is almost for certain with an impact likely within 24-48 hours. I would expect a geomagnetic storm watch of at least the strong (G3) threshold to be issued once a tracking model is issued by NOAA/SWPC. More to come.

UPDATE: Proton levels streaming past Earth are creeping higher and a minor (S1) radiation storm watch is now in effect. Furthermore, an updated CME tracking model by NASA is showing a passage past Earth by 06:00 UTC on January 20th. Click **HERE** to watch.

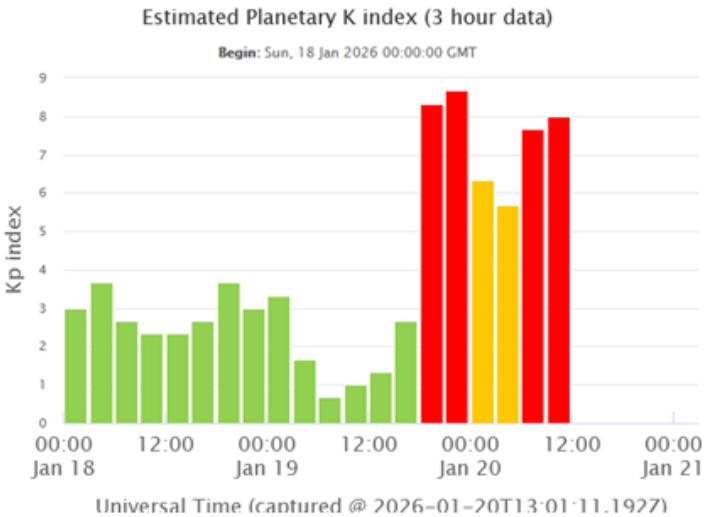


Geomagnetic effects of CME of Jan 20

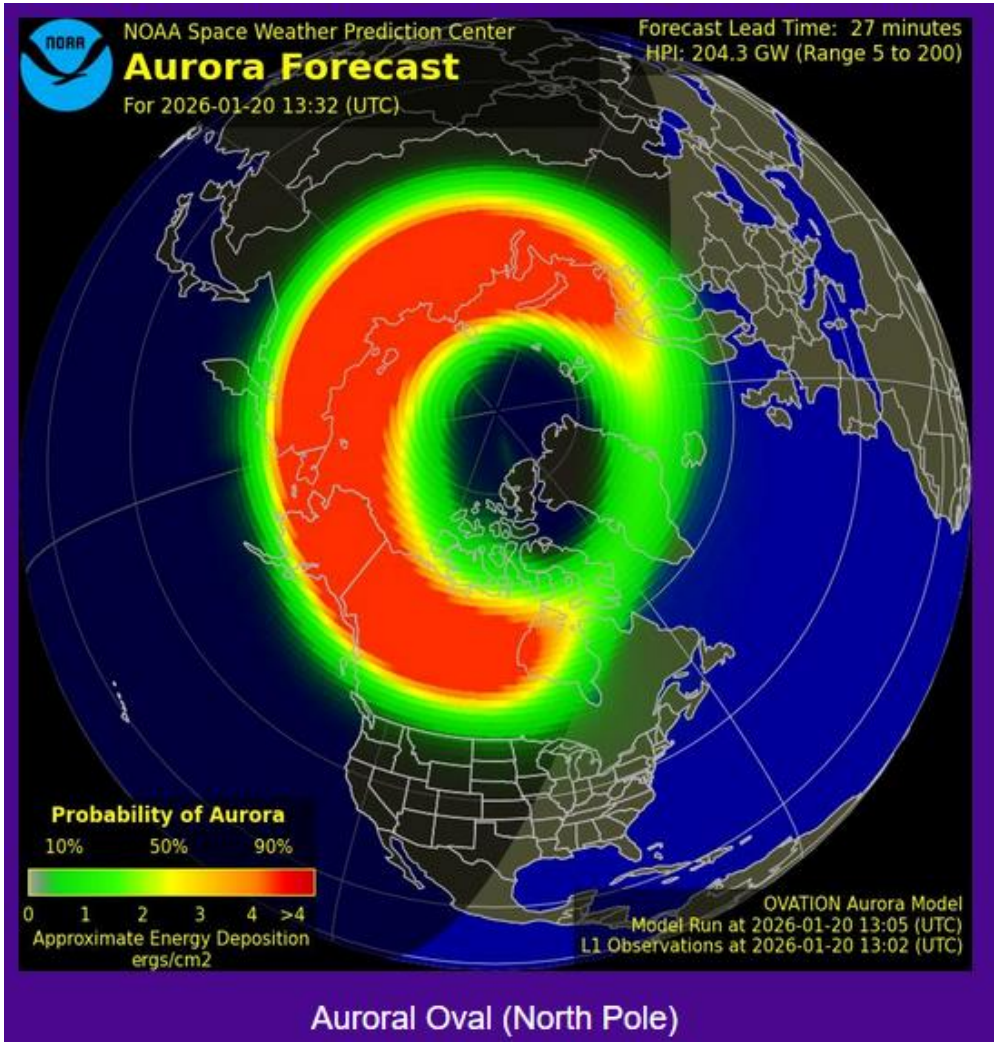
GOES HP



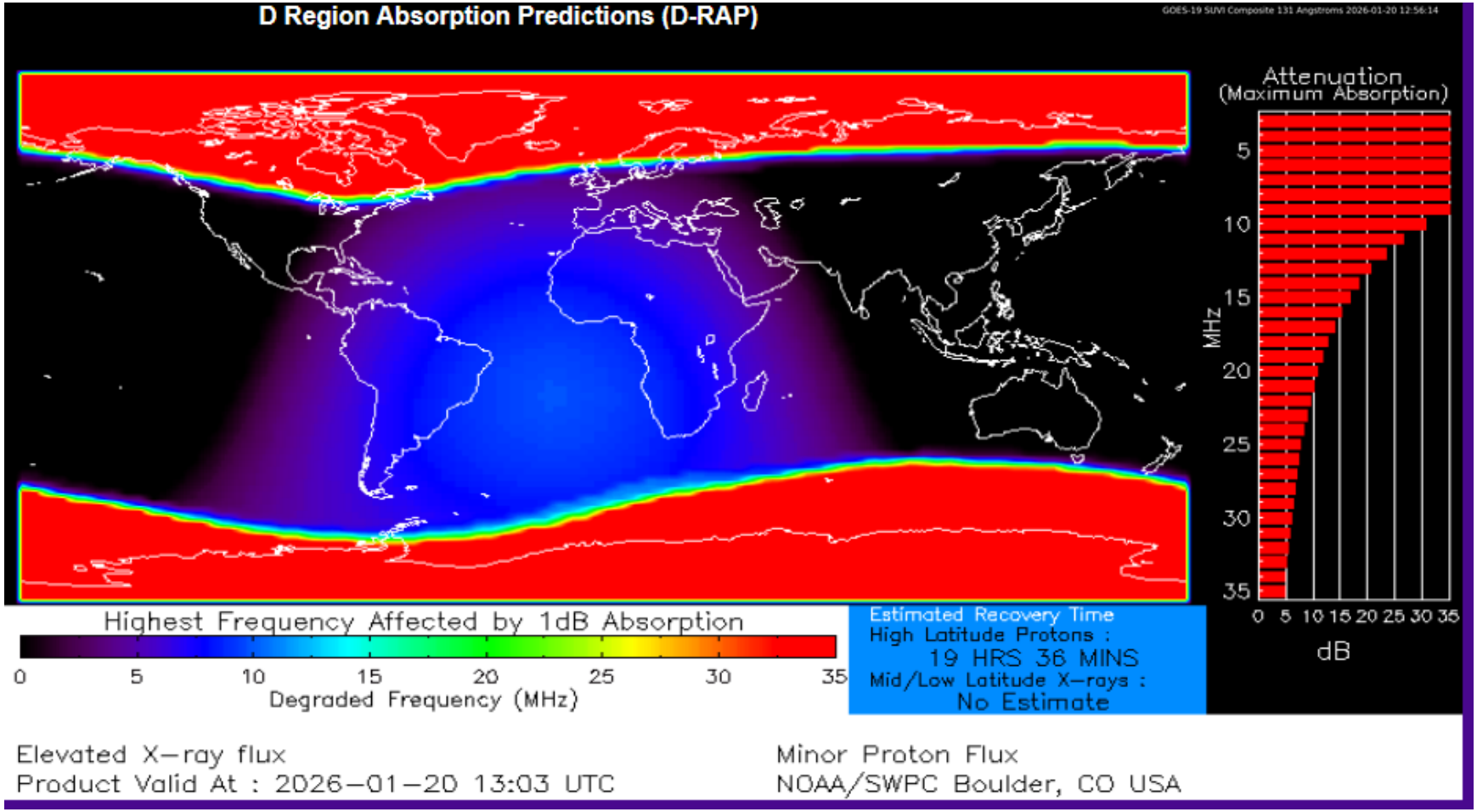
PLANETARY K INDEX



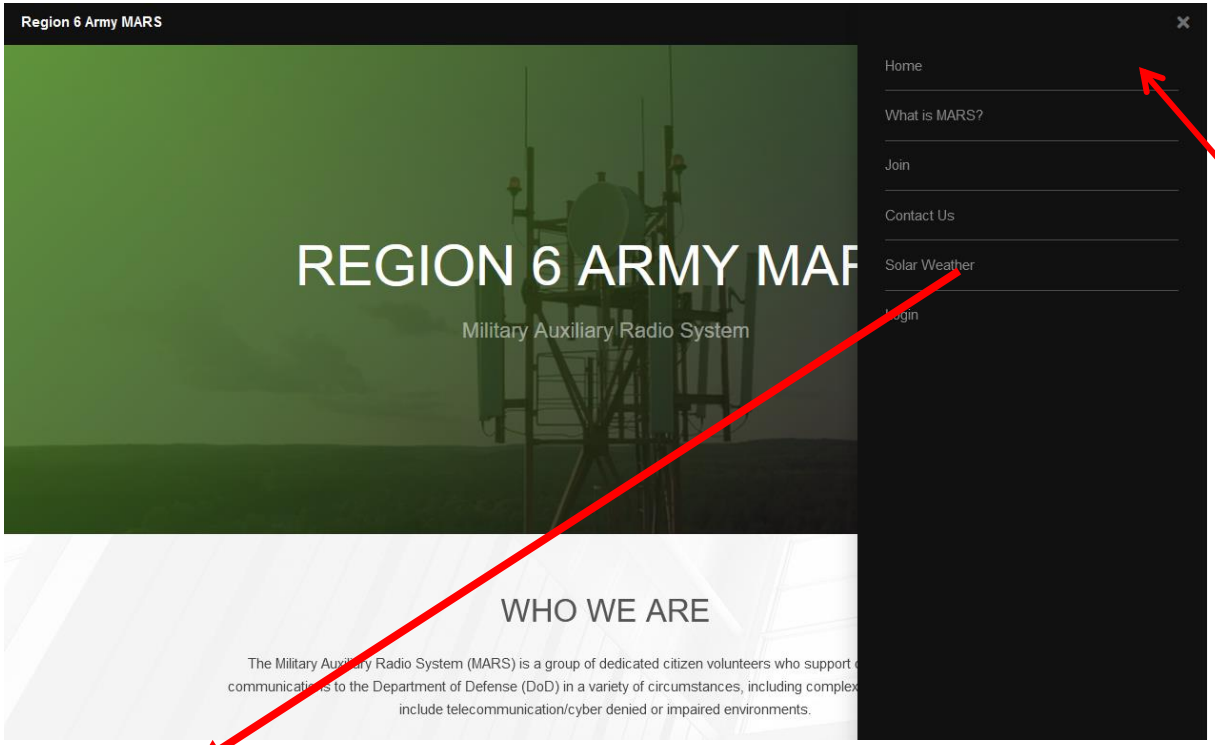
Geomagnetic effects of CME



CME Proton Event



Solar Weather Data



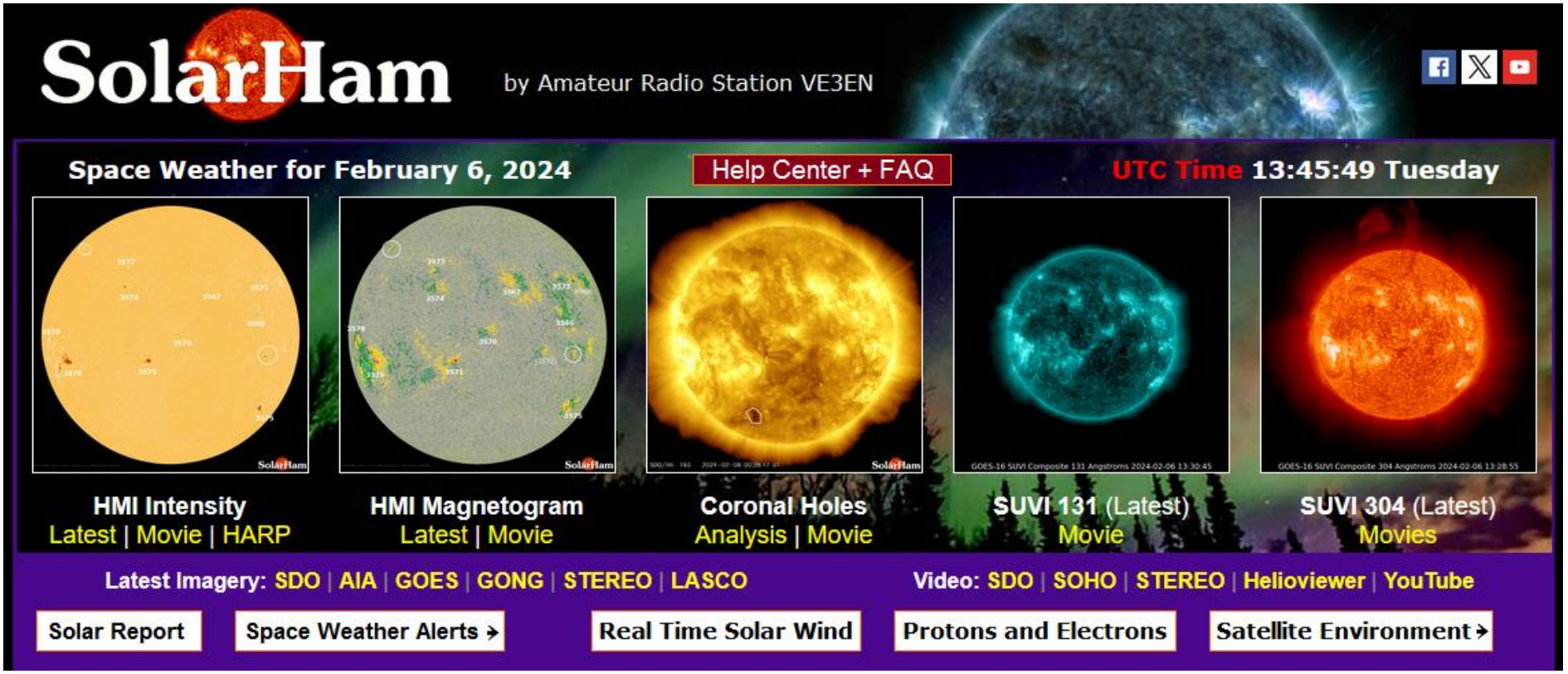
Menu

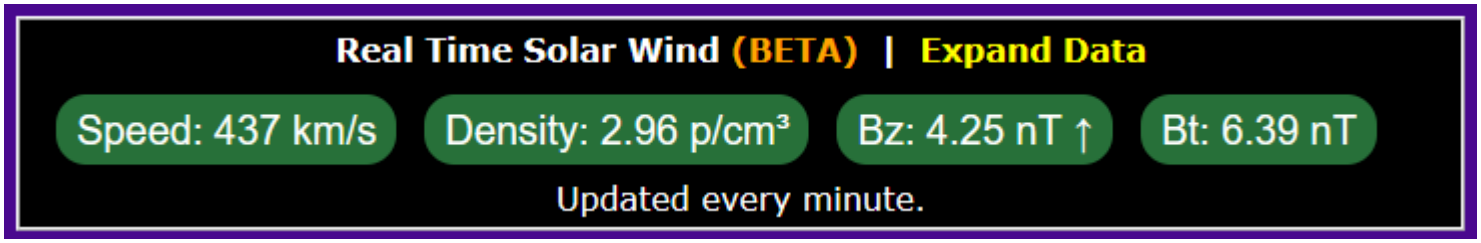
Solar Weather

All Ionosondes_
GAMBIT URL

- GAMBIT - Global Assimilative Model of Bottomside Ionosphere Timeline
  - Boulder
  - Eglin

- NOAA Solar Weather - Solar Weather plots of Kp and X-Ray and other solar emissions.
- Solen Solar Weather - Good general solar forecast from an individual.
- Solar Ham - SolarHam provides real time solar news, as well as consolidated data from various sources.


SolarHam
by Amateur Radio Station VE3EN
Space Weather for February 6, 2024
Help Center + FAQ
UTC Time 13:45:49 Tuesday
HMI Intensity
Latest | Movie | HARP
HMI Magnetogram
Latest | Movie
Coronal Holes
Analysis | Movie
SUVI 131 (Latest)
Movie
SUVI 304 (Latest)
Movies
Latest Imagery: SDO | AIA | GOES | GONG | STEREO | LASCO
Video: SDO | SOHO | STEREO | Helioviewer | YouTube
Solar Report
Space Weather Alerts
Real Time Solar Wind
Protons and Electrons
Satellite Environment


Real Time Solar Wind (BETA) | Expand Data
Speed: 437 km/s
Density: 2.96 p/cm³
Bz: 4.25 nT ↑
Bt: 6.39 nT
Updated every minute.

spaceweather.com

News and information about the Sun-Earth environment

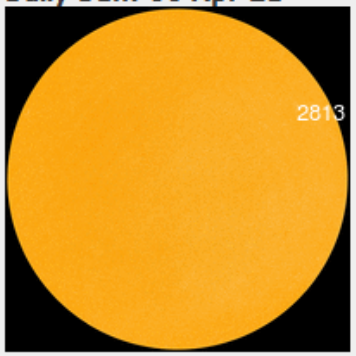
https://www.spaceweather.com/

Current Conditions

Solar wind
speed: **314.8** km/sec
density: **9.9** protons/cm^3
more data: ACE, DSCOVR
Updated: Today at 1225 UT

X-ray Solar Flares
6-hr max: **A1** 1027 UT Apr06
24-hr: **A1** 1515 UT Apr05
explanation | more data
Updated: Today at: 1230 UT

Daily Sun: 06 Apr 21



Sunspot AR2813 is decaying, and poses no threat for strong flares.
Credit: SDO/HMI

FLYING TO THE VOLCANO: Iceland's Geldingadalur volcano has turned into an popular tourist attraction---especially since auroras were sighted above the glowing lava. Early this morning, Tuesday, April 6th, Brian Emfinger saw auroras before he even reached the Reykjanes peninsula:

QUESTIONS?

Lewis Thompson

W5IFQ@att.net

512-587-9944