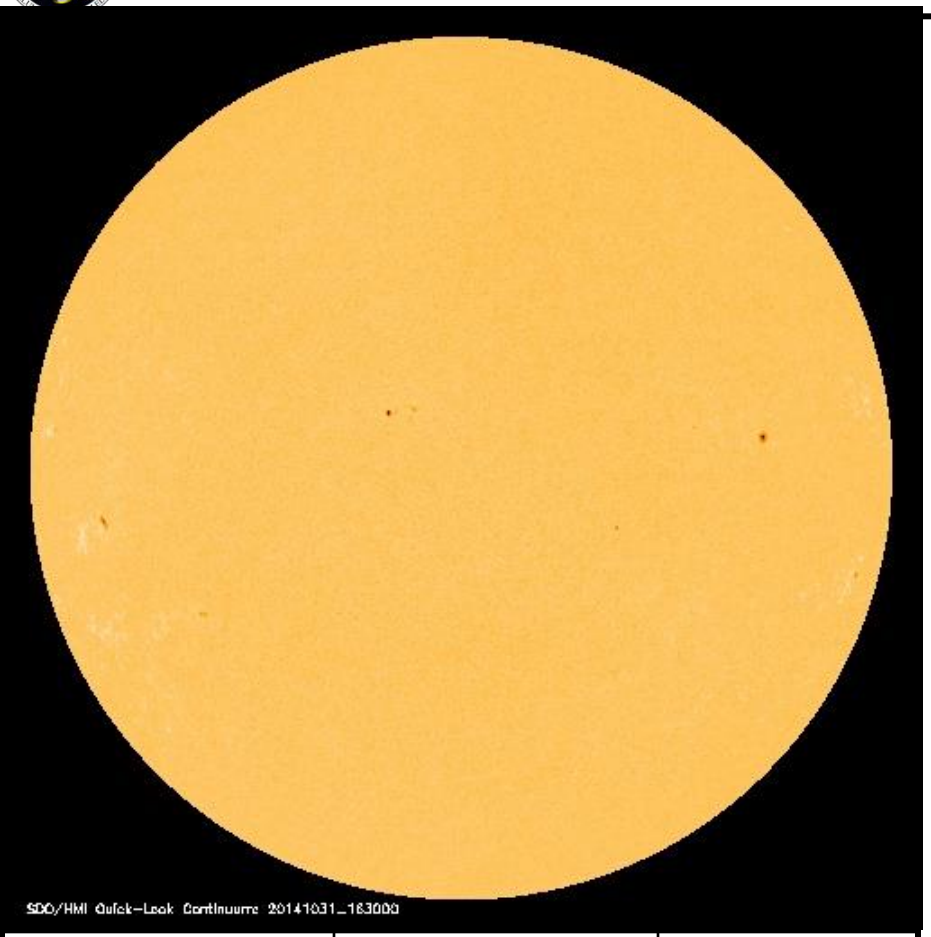
Solar Region Analysis VT: 31/18Z



Moderate (M) Flare Potential	Extreme (X) Flare Potential	Proton Potential
15%	01%	01%

Complex Region
Complex solar regions harbor the potential to produce significant flare activity.

NO COMPLEX REGIONS

FOR ADDITIONAL INFORMATION, PLEASE CALL DSN 272-8087

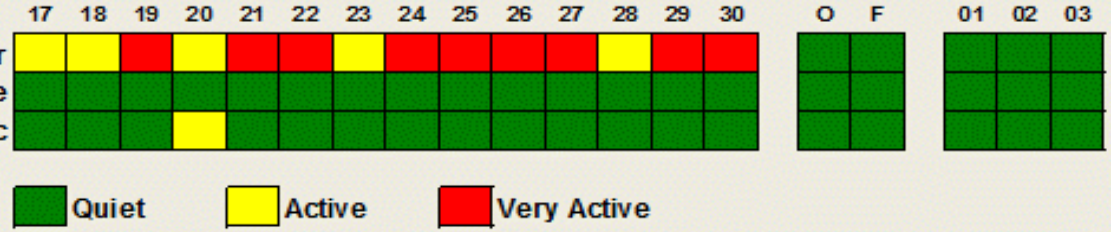
Comments:

M Flares Temporarily Degrade HF Communications in Sunlit Sector
X Flares Temporarily Black Out HF Communications in Sunlit Sector
Radio bursts are usually associated with flares.

Space Environment Global Situational Awareness

Valid: 31-Oct-2014 1800 Z

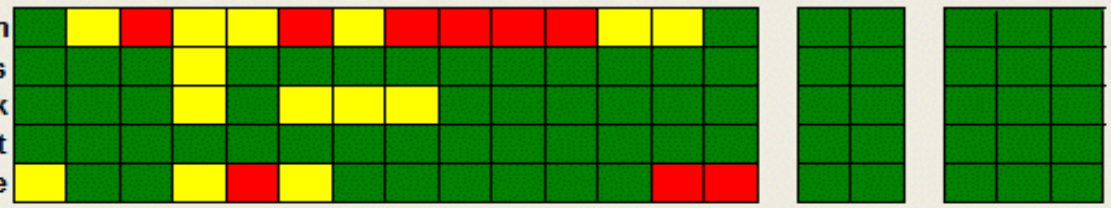
Observed Space Environmental EVENTS



Quiet Active Very Active

See Discussion and Events Slide for details

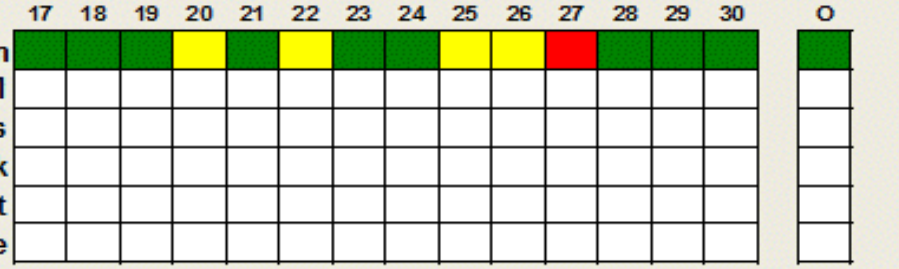
Probable Space Environmental IMPACTS



Favorable Marginal Unfavorable

See Discussion and Impacts Slide for details. Check regional products for specific details in your AOR.

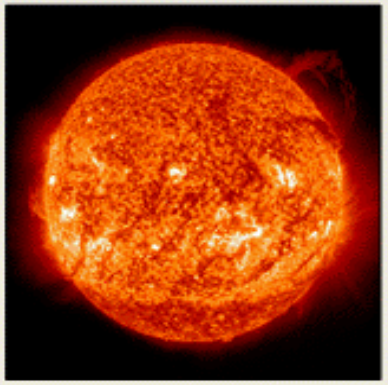
Reported Space Environmental IMPACTS



Favorable Marginal Unfavorable No Report

See Impacts Slide for details

Image Updated: 31 / 1730Z



Sadovsky / Manning

Valid: 31-Oct-2014 1800 Z

Prepared by 2 WS/WXZ DSN 272-8087 COMM (402) 232-8087

For more detailed and regional information go to:

https://weather.af.mil/confluence/display/AFWWEBSTBT/Space+Weather+Main+Page https://weather.afs.mil.mil/confluence/display/AFWWEBSTBT/Space+Weather+Main+Page

SPACE ENVIRONMENT DISCUSSION VT: 31/18Z

Space Weather Events/Impacts Summary

Solar Activity: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.
Flare Probabilities: M: 15% X: 01%

Charged Particle Environment: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

Geomagnetic: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

HF Comm: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

Satellite Operations/Health: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

Space Object Tracking/Satellite Drag: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

High Altitude Flight: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

Radar Interference/False Returns: Observed GREEN. Forecast GREEN 31 Oct – 03 Nov.

Potential Impacts to DoD Operations

HF Comm (when YELLOW or RED): temporary degraded or total loss of HF radio communications.

UHF SATCOM (when YELLOW or RED): temporary degraded or total loss of UHF radio communications.

Satellite Operations/Health (when YELLOW or RED): increased likelihood of spacecraft anomalies; degradation of spacecraft components due to radiation interference to communication satellite circuits.
Space Object Tracking/Satellite Drag (when YELLOW or RED): increased likelihood for space object tracking loss; increased drag on low earth orbiting spacecraft.

High Altitude Flight (when YELLOW or RED): increase in harmful radiation dosage to personnel in high altitude operations.

Radar Interference/False Returns: (when YELLOW or RED): increased interference or false returns to sunward and/or pole ward looking radars.

This slide provides a generalized situation awareness of past and future space environment impacts to war-fighters and weapon systems. The severity of the impacts due to the space environment may be more or less than indicated by the color coded assessment in a particular area. The impact variability is dependent on a variety of factors including, but not limited to, system location, geometry, and operating frequency. Please contact the 2 WS Space Weather Forecaster at DSN 272-8087 or 272-4317 (Commercial 402-232-8087 or 402-232-4317) to arrange mission-specific support or to report conditions experienced by your system that may be related to space weather disturbances.

RECENT SPACE WEATHER EVENTS VT: 31/18Z

31 Oct 14

No Recent Events

30 Oct 14

2258Z ~ Radio Burst on 245MHz with Peak of 19,000 SFU at 2259Z
0426Z ~ X-Ray Flare with M1.2 Max at 0428Z from Region 2192
0128Z ~ X-Ray Flare with M3.5 Max at 0135Z from Region 2192
0036Z ~ X-Ray Flare with M1.3 Max at 0037Z from Region 2192

29 Oct 14

2122Z ~ X-Ray Flare with M2.3 Max at 2122Z from Region 2192
1850Z ~ X-Ray Flare with M1.3 Max at 1850Z from Region 2192
1619Z ~ X-Ray Flare with M1.0 Max at 1620Z from Region 2192
1428Z ~ Radio Burst on 410MHz with Peak of 12,000 SFU at 1429Z
1427Z ~ X-Ray Flare with M1.2 Max at 1428Z and M1.4 Max at 1433Z from Region 2192
1000Z ~ X-Ray Flare with M1.2 Max at 1001Z from Region 2192
0820Z ~ X-Ray Flare with M1.0 Max at 0821Z from Region 2192

28 Oct 14

1400Z ~ X-Ray Flare with M1.6 Max at 1406Z from Region 2192
0220Z ~ X-Ray Flare with M6.6 Max at 0332Z from Region 2192

27 Oct 14

1737Z ~ X-Ray Flare with M1.4 Max at 1740Z from Region 2192
1418Z ~ X-Ray Flare with X2.0 Max at 1447Z from Region 2192
0919Z ~ X-Ray Flare with M2.2 Max at 0941Z, M6.7 at 1011Z, M2.0 at 1024Z, & M1.1 at 1209Z from Region 2192
0905Z ~ X-Ray Flare with M1.0 Max at 0907Z from Region 2192
0339Z ~ X-Ray Flare with M1.3 Max at 0341Z from Region 2192
0200Z ~ X-Ray Flare with M1.0 Max at 0202Z from Region 2192
0010Z ~ X-Ray Flare with M6.9 Max at 0026Z and M7.1 at 0034Z from Region 2192

26 Oct 14

2106Z ~ X-Ray Flare with M1.0 Max at 2106Z from Region 2192
2005Z ~ X-Ray Flare with M2.4 Max at 2021Z from Region 2192
1846Z ~ X-Ray Flare with M1.9 Max at 1849Z from Region 2192
1809Z ~ X-Ray Flare with M4.2 Max at 1815Z from Region 2192
1716Z ~ X-Ray Flare with M1.0 Max at 1718Z from Region 2192
1216Z ~ X-Ray Flare with M1.0 Max at 1217Z from Region 2192
1039Z ~ X-Ray Flare with X2.0 Max at 1056Z from Region 2192

25 Oct 14

1639Z ~ X-Ray Flare with X1.0 Max at 1708Z from Region 2192

REPORTED SPACE WEATHER IMPACTS VT: 31/18Z

(PLEASE REPORT ADDITIONAL IMPACTS TO DSN 272-8087)

31 Oct 14

No Impacts Reported

30 Oct 14

No Impacts Reported

29 Oct 14

No Impacts Reported

28 Oct 14

No Impacts Reported

27 Oct 14

1430Z ~ Navy ROTHR Reported Severe HF Degradation

26 Oct 14

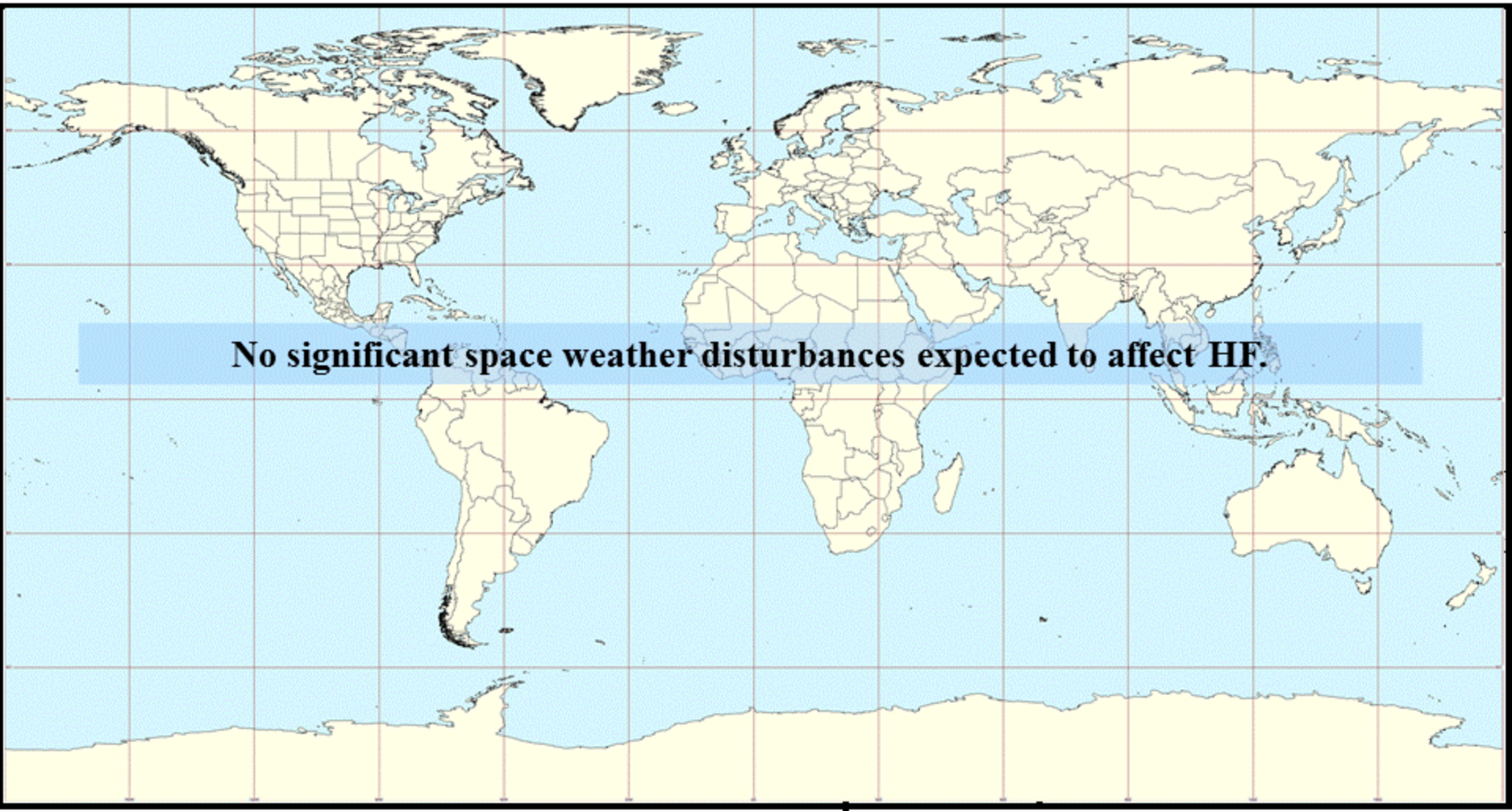
1815Z ~ Navy ROTHR Reported Moderate HF Degradation

25 Oct 14

1639Z ~ Navy ROTHR Reported Moderate HF Degradation

Ionospheric Conditions Impacting High Frequency (HF) Communications and Other HF Operations

Forecast Valid: 31/1800Z October - 01/0000Z November 14



Additional Comments:

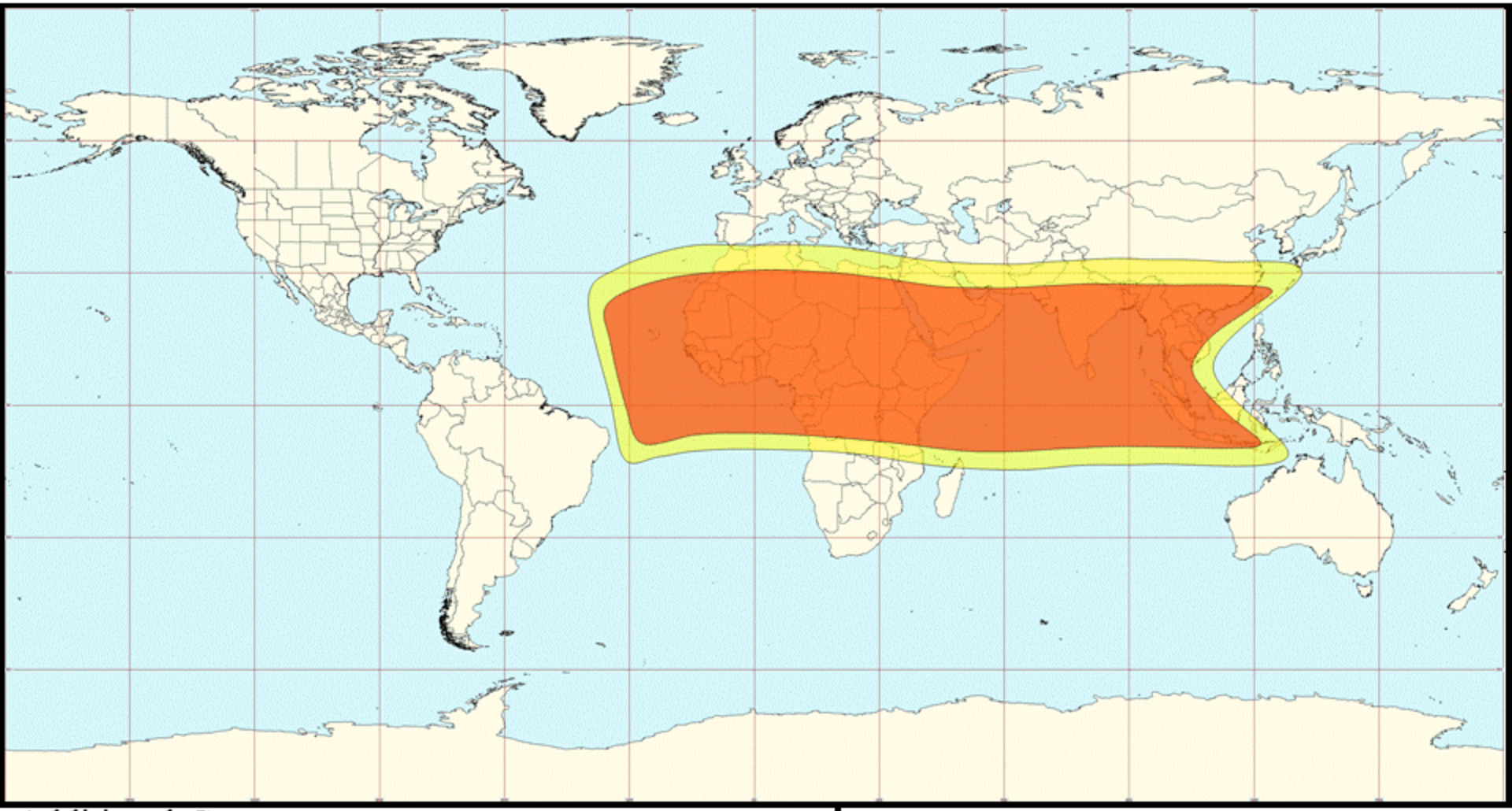
Marginal HF operations

Severely degraded HF operations

2 WS / WXZ

Ionospheric Conditions Impacting UHF SATCOM Operations

Forecast Valid: ***31/1800Z October - 01/0000Z November 14***



Additional Comments:

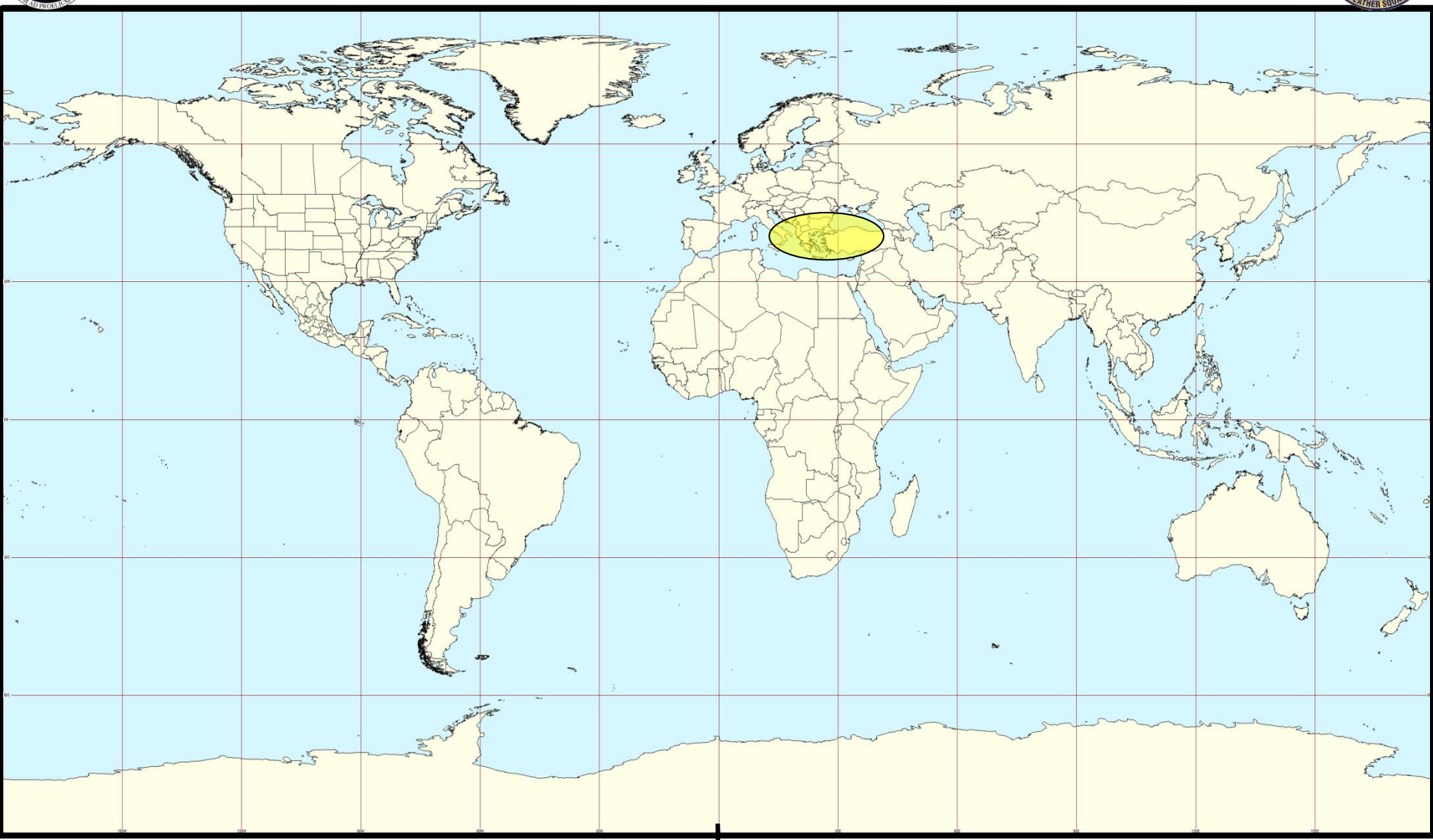
Marginal UHF operations: 4 – 10 dB fade

Severely degraded UHF operations: >10 dB fade

2 WS / WXZ

Estimated Single-Frequency GPS Error Forecast

VT: 31/18Z



Additional Comments:

Errors between 15-50 meters

Errors greater than 50 meters

2 WS/WXZ

Forecaster: Sadovsky / Manning