

Daily Space Weather Summary (SUPARCO)

Wednesday, October 15, 2025, 12:55 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R0 – R1	R0 / R1	R1 – R2	S0	S0	S0	G0	G0	G1 / G2

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)	12.8 MHz
Virtual Height of F2 layer (h`F2)	323 km
Total Electron Content (TEC)	78 TECU

Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances

Distance (Km)	100	200	400	600	800	1000	1500	3000
MUF (MHz)	13.0	13.6	15.1	17.6	20.4	23.2	25.4	27.7
FOT (MHz)	11.1	11.6	12.8	15.0	17.3	19.7	21.6	23.5

Local HF conditions are normal as compared to the predicted monthly median MUF.

LOCAL GEOMAGNETIC CONDITIONS

K-index	2 (Quiet)
Total Field (F) (Son/Isb)	45770/50714 nT

The local geomagnetic field is quiet at the moment.

LATEST SOLAR CONDITIONS

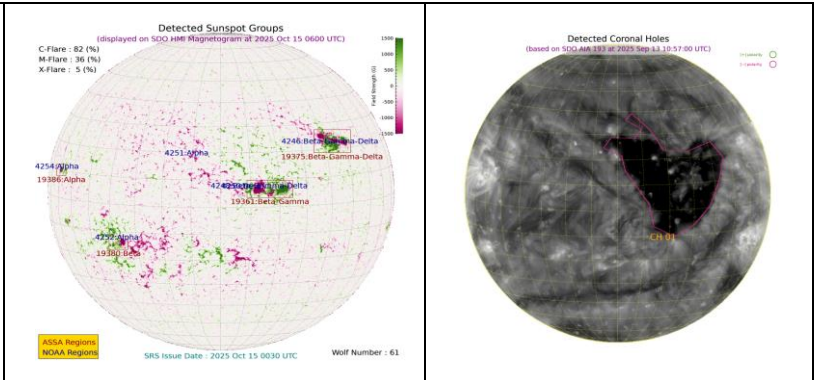
Sunspot Number (SN)	108
Solar radio flux (F10.7)	141 sfu
Solar wind speed	531.7 km/s (varied in the past 24 hrs between 281 & 639 km/s)
Solar x-ray flares	C2.6 (max flare in the past 24 hrs (M4, 0415 UT)
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+4.31 nT (varied in the past 12 hrs between +3.3 nT & +5.27 nT) -2.26 nT (varied in the past 12 hrs between -3.04 nT & +1.34 nT)

Solar conditions are at low to moderate levels with background X-ray flux at C-class level.

Daily Sun: 15 October 2025

There are two active regions AR4246 and AR248 present on the Sun capable of producing strong M and X-class solar flares having chances of 36% and 5% respectively.

01 Coronal Hole (CH) is detected on the solar disk.



DISCUSSION:

Solar activity is expected to be at low to moderate levels. Multiple M-class solar flares, have already occurred from the regions mentioned above. In case of more M/X-class solar flares, minor to moderate level HF radio blackouts may be observed. A coronal mass ejection (CME) arrival is expected today which may cause disturbed (G1-G2) level geomagnetic storm. Slightly elevated solar wind speed is expected to prevail due to the effect of coronal hole high speed stream (CHHS). Normal HF conditions are expected.

Credits:

Solar conditions courtesy to SOHO, DSCOVR and GOES-16 missions.

NOAA SWPC is acknowledged for solar radio flux conditions.

Korean Space Weather Centre is acknowledged for solar disk and coronal hole images.

Sonmiani (SON): 25.2° N, 66.75° E

Islamabad (ISB): 33.7° N, 73.13° E

RSG SCALES

<u>Radio Blackouts</u>				
Minor R1	Moderate R2	Strong R3	Severe R4	Extreme R5
<u>Solar Radiation Storms</u>				
Minor S1	Moderate S2	Strong S3	Severe S4	Extreme S5
<u>Geomagnetic Storms</u>				
Minor G1	Moderate G2	Strong G3	Severe G4	Extreme G5