

# Daily Space Weather Summary (SUPARCO)

Thursday, October 02, 2025, 12:46 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 – G1	G1	G1 – G2

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)	12.1 MHz
Virtual Height of F2 layer (h`F2)	253 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)	12.3	13.0	17.6	20.4	23.2	25.4	27.7	30.2
FOT (MHz)	10.5	11.1	15.0	17.3	19.7	21.6	23.5	25.7

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

## LOCAL GEOMAGNETIC CONDITIONS

K-index	5 (Storm)
Total Field (F) (Son/Isb)	45770/50714 nT

The local geomagnetic field is disturbed at the moment.

## LATEST SOLAR CONDITIONS

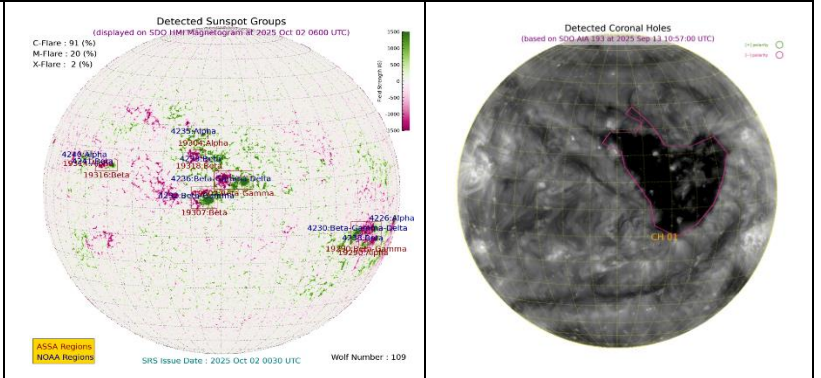
Sunspot Number (SN)	161
Solar radio flux (F10.7)	184 sfu
Solar wind speed	742.8 km/s (varied in the past 24 hrs between 537 & 905 km/s)
Solar x-ray flares	C2.5 (max flare in the past 24 hrs (M1, 1650 UT)
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+6.56 nT (varied in the past 12 hrs between +2.97 nT & +8.31 nT) -2.01 nT (varied in the past 12 hrs between -7.01 nT & +6.43 nT)

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

## Daily Sun: 2 October 2025

There are three active regions AR4230, AR4232 and AR4236 present on the Sun capable of producing strong M and X-class solar flares having chances of 20% and 2% respectively.

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



### DISCUSSION:

Solar activity is expected to be at moderate levels. Multiple M-class solar flares, have already occurred from the regions present on the solar disk. In case of M/X-class solar flares, minor to moderate level HF radio blackouts may be observed. Moderate to slightly elevated solar wind speed is expected to prevail due to the effect of coronal hole high speed stream (CH HSS). Geomagnetic activity is expected to be at unsettled to disturbed levels. 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 <b>R1</b>	Moderate <b>R2</b>	Strong <b>R3</b>	Severe <b>R4</b>	Extreme <b>R5</b>
<u>Solar Radiation Storms</u>				
Minor <b>S1</b>	Moderate <b>S2</b>	Strong <b>S3</b>	Severe <b>S4</b>	Extreme <b>S5</b>
<u>Geomagnetic Storms</u>				
Minor <b>G1</b>	Moderate <b>G2</b>	Strong <b>G3</b>	Severe <b>G4</b>	Extreme <b>G5</b>