

Daily Space Weather Summary (SUPARCO)

Tuesday, September 02, 2025, 14:36 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	G2	G0	G2 – G3

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)	12.8 MHz
Virtual Height of F2 layer (h`F2)	353 km
Total Electron Content (TEC)	68 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	13.4	17.6	20.4	23.2	25.4	27.7	30.2
FOT (MHz)	11.1	11.4	15.0	17.3	19.7	21.6	23.5	25.7

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

LOCAL GEOMAGNETIC CONDITIONS

K-index	4 (Unsettled)
Total Field (F) (Son/Isb)	45770/50714 nT

The local geomagnetic field is unsettled at the moment.

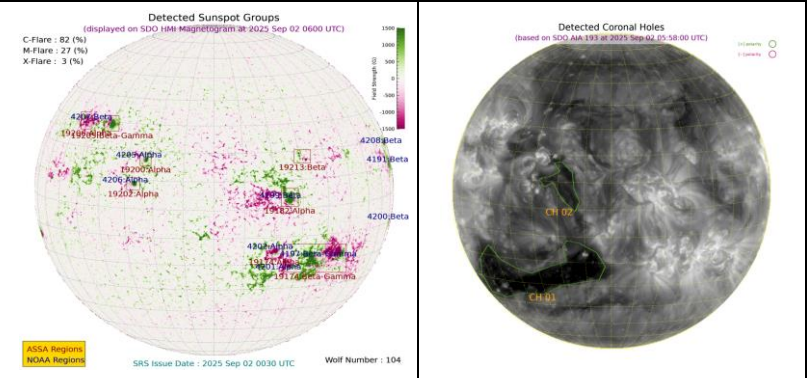
LATEST SOLAR CONDITIONS

Sunspot Number (SN)	165
Solar radio flux (F10.7)	202 sfu
Solar wind speed	593.4 km/s (varied in the past 24 hrs between 371 & 693 km/s)
Solar x-ray flares	C1.4 (max flare in the past 24 hrs (C3, 1922 UT)
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+7.97 nT (varied in the past 12 hrs between +5.6 nT & +23.26 nT) +1.0 nT (varied in the past 12 hrs between -11.05 nT & +19.13 nT)

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

There is one active region AR4197 present on the Sun capable of producing strong M and X-class solar flares having chances of 27% and 3% respectively.

02 Coronal Holes (CHs) are detected on the solar disk.



DISCUSSION:

Solar activity is expected to be at low to moderate levels. In case of M/X-class solar flares, minor to moderate level radio blackouts may be observed. A CME hit Earth’s magnetic field on 2 Sep at 0200 PST that cause moderate (G2) level geomagnetic storm. Moderate to slightly elevated solar wind speed is expected to prevail due to the impact of ongoing storm activity. Quiet to disturbed levels of geomagnetic activity is expected. Slightly disturbed 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

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