

Daily Space Weather Summary (SUPARCO)

Thursday, July 10, 2025, 02:15 PST



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

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)				10.2 MHz				
Virtual Height of F2 layer (h`F2)				385 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)	10.5	11.3	13.3	15.2	17.2	19.8	22.9	25.4
FOT (MHz)	9.0	9.9	11.3	13.2	14.9	16.9	19.6	22.1

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

LOCAL GEOMAGNETIC CONDITIONS

K-index		2 (Quiet)						
Total Field (F) (Son/Isb)		45775/50710 nT						

The local geomagnetic field is quiet at the moment.

LATEST SOLAR CONDITIONS

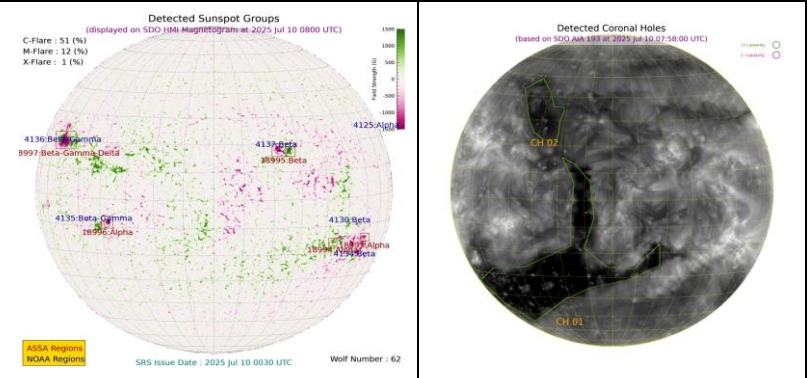
Sunspot Number (SN)		83						
Solar radio flux (F10.7)		115 sfu						
Solar wind speed		387.7 km/s (varied in the past 24 hrs between 383 & 450 km/s)						
Solar x-ray flares		C1.0 (max flare in the past 24 hrs (C3, 0642 UT)						
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)		+1.25 nT (varied in the past 12 hrs between +0.31 nT & +3.76 nT) -0.49 nT (varied in the past 12 hrs between -3.24 nT & +2.68 nT)						

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

Daily Sun: 10 July 2025

There are two active regions AR4135 and AR4136 present on the Sun capable of producing strong M and X-class solar flares having chances of 12% and 1% respectively.

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



DISCUSSION:

Solar activity is expected to be at low to moderate levels. Few M-class solar flares, have already occurred from the regions mentioned above. In case of more M/X-class solar flares, minor to moderate levels radio blackouts may be observed. Slightly elevated solar wind is expected to prevail due to the presence of coronal holes. Geomagnetic activity is expected to be at quiet levels. HF conditions are slightly depressed.

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