

# Daily Space Weather Summary (SUPARCO)

Wednesday, July 16, 2025, 02:20 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	G0

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)				10.4 MHz				
Virtual Height of F2 layer (h`F2)				405 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)	10.7	11.5	13.3	15.2	17.2	19.8	22.9	25.4
FOT (MHz)	9.1	9.8	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

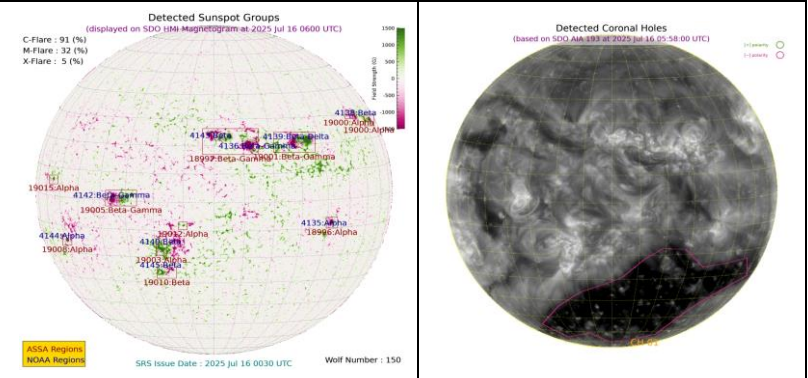
Sunspot Number (SN)		146						
Solar radio flux (F10.7)		139 sfu						
Solar wind speed		560.1 km/s (varied in the past 24 hrs between 492 & 752 km/s)						
Solar x-ray flares		C1.0 (max flare in the past 24 hrs (C5, 0358 UT)						
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)		+6.44 nT (varied in the past 12 hrs between +5.71 nT & +7.0 nT) -4.61 nT (varied in the past 12 hrs between -5.12 nT & +4.05 nT)						

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

Daily Sun: 16 July 2025

There are three active regions AR4136, AR4139 and Ar4142 present on the Sun capable of producing strong M and X-class solar flares having chances of 32% 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. In case of M/X-class solar flares, minor to moderate levels radio blackouts may be observed. Low to moderate solar wind is expected to prevail due to the presence of coronal hole. 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	Moderate	Strong	Severe	Extreme
R1	R2	R3	R4	R5
Solar Radiation Storms				
Minor	Moderate	Strong	Severe	Extreme
S1	S2	S3	S4	S5
Geomagnetic Storms				
Minor	Moderate	Strong	Severe	Extreme
G1	G2	G3	G4	G5