

Daily Space Weather Summary (SUPARCO)

Tuesday, July 22, 2025, 02:30 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 / G1

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)				12.7 MHz				
Virtual Height of F2 layer (h`F2)				318 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	13.3	15.2	17.4	19.8	22.9	25.4	26.5
FOT (MHz)	11.1	11.3	13.2	14.8	16.9	19.6	21.9	22.5

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

LOCAL GEOMAGNETIC CONDITIONS

K-index		4 (Quiet)						
Total Field (F) (Son/Isb)		45775/50710 nT						

The local geomagnetic field is quiet at the moment.

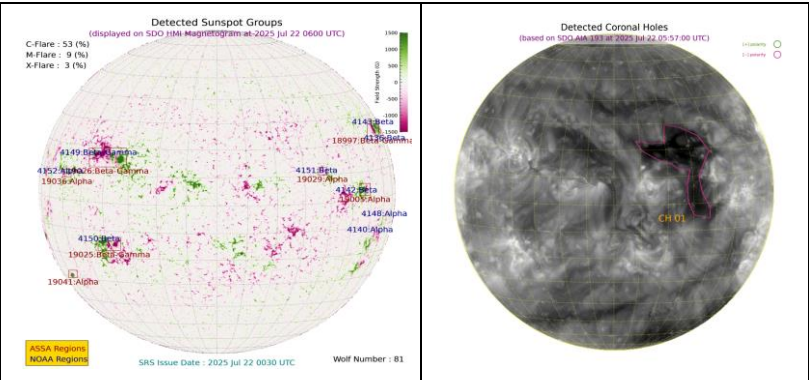
LATEST SOLAR CONDITIONS

Sunspot Number (SN)		130						
Solar radio flux (F10.7)		143 sfu						
Solar wind speed		332.0 km/s (varied in the past 24 hrs between 315 & 626 km/s)						
Solar x-ray flares		C1.4 (max flare in the past 24 hrs (C2, 0807 UT)						
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)		+7.64 nT (varied in the past 12 hrs between +6.63 nT & +9.67 nT) +6.52 nT (varied in the past 12 hrs between -0.38 nT & +7.31 nT)						

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

There is one active region AR4149 present on the Sun capable of producing strong M and X-class solar flares having chances of 9% and 3% 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. Slightly elevated levels of solar wind are expected to prevail due to the presence of coronal holes. Geomagnetic activity is expected to be at quiet to disturbed levels. HF conditions are normal.

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