

Daily Space Weather Summary (SUPARCO)

Monday, June 02, 2025, 15:45 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1 – R2	R2	R2 – R3	S0	S0	S0 / S1	G2	G1	G2 – G3

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

Critical Frequency of F2 layer (foF2)				6.30				
Virtual Height of F2 layer (h`F2)				480				
Total Electron Content (TEC)				20				
Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances								
Distance (Km)	100	200	400	600	800	1000	1500	3000
MUF (MHz)	6.5	6.9	7.4	8.2	10.5	14.3	18.7	21.1
FOT (MHz)	5.5	5.9	6.3	7.0	8.9	12.2	16.0	17.9

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

LOCAL GEOMAGNETIC CONDITIONS

K-index	5 (Storm)
Total Field (F) (Son/Isb)	45765/50675 nT

The local geomagnetic field is disturbed (Storm) at the moment.

LATEST SOLAR CONDITIONS

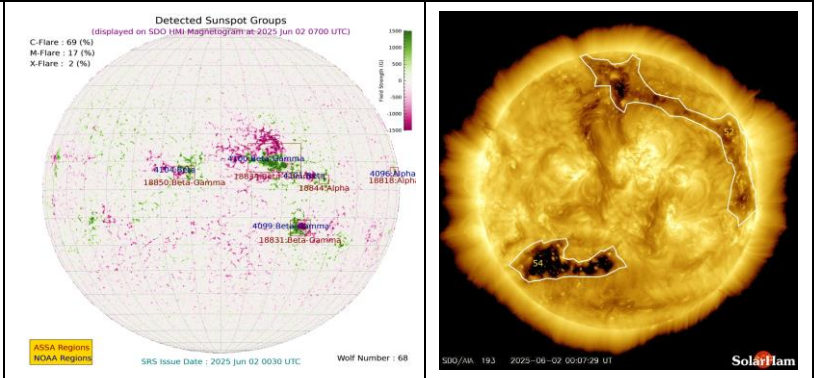
Sunspot Number (SN)	97
Solar radio flux (F10.7)	150 sfu
Solar wind speed	714.8 km/s (varied in the past 24 hrs between 613 & 1103 km/s)
Solar x-ray flares	C1.2 (max flare in the past 24 hrs (C9, 1443 UT)
Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)	+12.12 nT (varied in the past 12 hrs between +11.68 nT & +15.83 nT) _11.4 nT (varied in the past 12 hrs between -9.04 nT & +5.6 nT)

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

Daily Sun: 2 June 2025

There are two active regions AR4099 and AR4100 present on the Sun capable of producing strong M and X-class solar flares having chances of 17% and 2% respectively.

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



DISCUSSION:

Solar activity is expected to be at moderate to high levels. Multiple M-class solar flares, have occurred from the region mentioned above causing G2 level storm and R2-R3 levels radio blackouts. In case of more M/X-class solar flares, R2-R3 levels radio blackouts may be observed. G2-G3 (Moderate to Strong) levels of geomagnetic storms are expected. Moderate to slightly elevated solar wind speed is expected to prevail due to the presence of coronal hole. Geomagnetic activity is expected to be at disturbed (storm) levels. HF conditions are 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

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