Daily Space Weather Summary (SUPARCO)

Tuesday, January 20, 2026, 15:03 PST

Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1 – R2	R0	R1 – R2	S4	S1	S0 / S1	G4	G2	G3 / G4

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	10.7 MHz
Virtual Height of F2 layer (h`F2)	300 km
Total Electron Content (TEC)	88 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)	11.0	11.3	12.5	14.3	16.4	18.4	23.1	28.7
FOT (MHz)	9.4	9.6	10.6	12.2	13.9	15.6	19.6	24.4

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

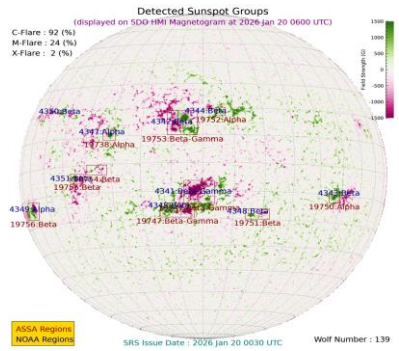
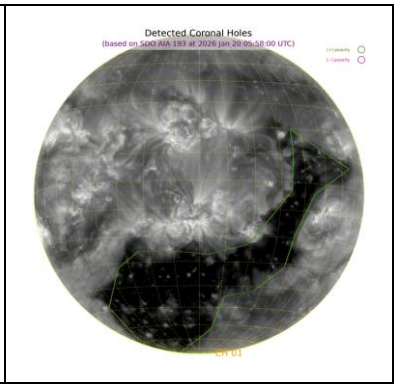
LOCAL GEOMAGNETIC CONDITIONS	
K-index	6 (Storm)
Total Field (F) (Son/Isb)	44414/50425 nT

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

LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	162
Solar radio flux (F10.7)	173 sfu
Solar wind speed	909.0 km/s (varied in the past 24 hrs between 265 & 1178 km/s)
Solar x-ray flares	C1.4 (max flare in the past 24 hrs (M1, 1119 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+22.39 nT (varied in the past 12 hrs between +26.38 nT & +88.75 nT) -17.21 nT (varied in the past 12 hrs between -22.34 nT & +73.53 nT)

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

Daily Sun: 20 January 2026

There is one active region AR4341 present on the Sun capable of producing strong M and X-class solar flares having chances of 30% and 15% respectively. 01 Coronal Hole (CH) is detected on the solar disk.		

DISCUSSION:

Solar activity is expected to be at high levels. Few M/X-class solar flares, occurred from the regions present on the solar disk causing R1-R2 level HF radio blackouts. In case of more M/X-class solar flares, minor to moderate level HF radio blackouts may be observed. A coronal mass ejection (CME) hit earth in the late hours of 19th Jan causing G4 (Severe) level geomagnetic storm. Currently G2 (Moderate) level geomagnetic storm is undergoing. Elevated levels of solar wind speed are expected to prevail due to the combined effect of coronal mass ejection (CME) and coronal hole high speed stream (CH HSS). Geomagnetic activity is expected to be at disturbed levels. HF conditions may face disruptions.

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**