

# Daily Space Weather Summary (SUPARCO)

Tuesday, December 30, 2025, 12:58 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
<b>R0 / R1</b>	<b>R0</b>	<b>R0 / R1</b>	<b>S0</b>	<b>S0</b>	<b>S0</b>	<b>G0</b>	<b>G0</b>	<b>G1 – G2</b>

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

<b>Critical Frequency of F2 layer (foF2)</b>	11.3 MHz
<b>Virtual Height of F2 layer (h`F2)</b>	280 km
<b>Total Electron Content (TEC)</b>	60 TECU

## Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances

Distance (Km)	100	200	400	600	800	1000	1500	3000
<b>MUF (MHz)</b>	11.6	12.1	14.0	16.6	19.5	22.4	29.1	32.2
<b>FOT (MHz)</b>	9.9	10.3	11.9	14.1	16.6	19.0	24.7	27.4

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

## LOCAL GEOMAGNETIC CONDITIONS

<b>K-index</b>	2 (Quiet)
<b>Total Field (F) (Son/Isb)</b>	45703/50718 nT

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

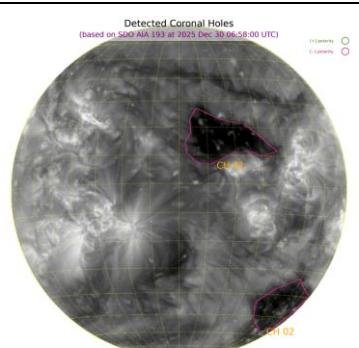
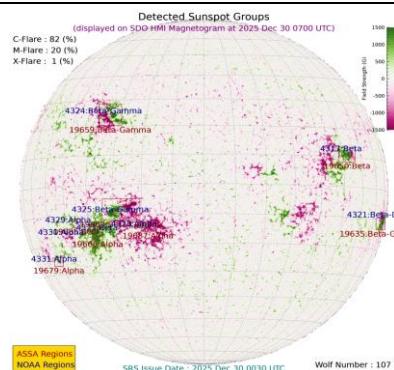
<b>Sunspot Number (SN)</b>	138
<b>Solar radio flux (F10.7)</b>	188 sfu
<b>Solar wind speed</b>	397.6 km/s (varied in the past 24 hrs between 382 & 491 km/s)
<b>Solar x-ray flares</b>	C3.5 (max flare in the past 24 hrs (C6, 2040 UT)
<b>Interplanetary Magnetic Field (IMF)</b> <b>Total Field (Bt)</b> <b>Z Component of Field (Bz)</b>	+5.29 nT (varied in the past 12 hrs between +4.74 nT & +6.67 nT) +0.07 nT (varied in the past 12 hrs between -2.68 nT & +5.32 nT)

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

## Daily Sun: 30 December 2025

There are three active regions AR4321, AR4324 and Ar4325 present on the Sun capable of producing strong M and X-class solar flares having chances of 22% and 4% respectively.

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



### DISCUSSION:

Solar activity is expected to be at moderate to high levels. Multiple M-class solar flares, occurred causing R1 level HF radio blackouts. In case of more M/X-class solar flares, minor level HF radio blackouts may be observed. A coronal mass ejection (CME) is expected to hit Earth in late hours of today, potentially causing G1-G2 level geomagnetic activity. Low to moderate levels of solar wind speed and unsettled to disturbed levels of geomagnetic activity is expected. HF conditions are expected to be 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

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