

# Daily Space Weather Summary (SUPARCO)

Wednesday, October 30, 2024, 13:28 PST



Radio Blackouts			Solar Radiation Storms			Geomagnetic Storms		
-24 Hr	Current	Predicted	-24 Hr	Current	Predicted	-24 Hr	Current	Predicted
R1	R0	R1 – R2	S2	S1	S0 / S1	G0	G0	G0

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

<b>Critical Frequency of F2 layer (foF2)</b>	14.9 MHz							
<b>Virtual Height of F2 layer (h`F2)</b>	368 km							
<b>Total Electron Content (TEC)</b>	75 TECU							
<b>Maximum Usable Frequency (MUF) and Optimum Traffic Frequency (FOT) for various distances</b>								
<b>Distance (Km)</b>	<b>100</b>	<b>200</b>	<b>400</b>	<b>600</b>	<b>800</b>	<b>1000</b>	<b>1500</b>	<b>3000</b>
<b>MUF (MHz)</b>	15.0	15.4	16.9	19.1	21.6	24.3	30.9	36.5
<b>FOT (MHz)</b>	12.8	13.1	14.4	16.2	18.4	20.7	26.3	31.0

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

## LOCAL GEOMAGNETIC CONDITIONS

<b>K-index</b>	4 (Unsettled)
<b>Total Field (F) (Son/Isb)</b>	45676/50723 nT

The local geomagnetic unsettled is quiet at the moment.

## LATEST SOLAR CONDITIONS

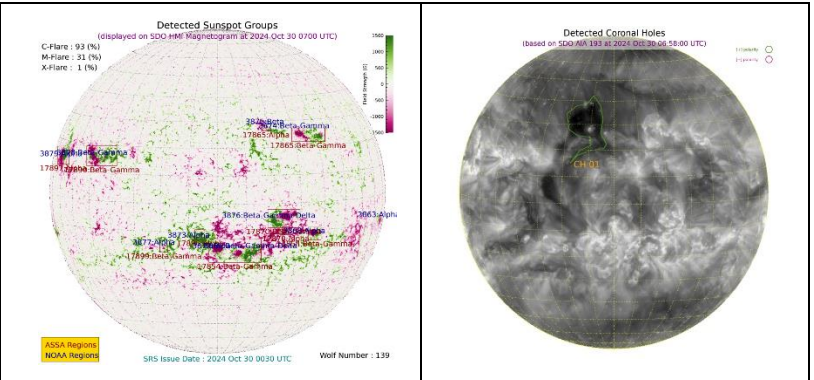
<b>Sunspot Number (SN)</b>	220
<b>Solar radio flux (F10.7)</b>	266 sfu
<b>Solar wind speed</b>	536.6 km/s (varied in the past 24 hrs between 400 & 583 km/s)
<b>Solar x-ray flares</b>	C3.1 (max flare in the past 24 hrs (M1, 1633 UT)
<b>Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)</b>	+7.64 nT (varied in the past 12 hrs between +5.87 nT & +7.81 nT) -6.45 nT (varied in the past 12 hrs between -6.23 nT & +3.41 nT)

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

**Daily Sun: 30 October 2024**

There is one active region AR3863 present on the Sun capable of producing strong C and M-class solar flares having chances of 61% and 11% respectively.

01 Coronal Hole (CH) is detected on the solar disk.



**DISCUSSION:**

Solar activity is expected to be at moderate to high levels. Few M-class solar flares occurred from the regions mentioned above. In case of more M/X-class solar flares, minor to moderate level radio blackouts may be observed. Moderate to elevated solar wind speed is expected due to the combined effect of CME and coronal holes. Quiet to unsettled geomagnetic activity is expected. HF conditions are enhanced.

**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**

<b><u>Radio Blackouts</u></b>				
Minor	Moderate	Strong	Severe	Extreme
R1	R2	R3	R4	R5

<b><u>Solar Radiation Storms</u></b>				
Minor	Moderate	Strong	Severe	Extreme
S1	S2	S3	S4	S5

<b><u>Geomagnetic Storms</u></b>				
Minor	Moderate	Strong	Severe	Extreme
G1	G2	G3	G4	G5