

# Daily Space Weather Summary (SUPARCO)

Wednesday, December 20, 2023, 12:12 PST



## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

<b>Critical Frequency of F2 layer (foF2)</b>	10.5 MHz							
<b>Virtual Height of F2 layer (h`F2)</b>	290 km							
<b>Total Electron Content (TEC)</b>	43 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>	10.7	11.3	12.5	14.4	16.6	18.9	24.0	27.2
<b>FOT (MHz)</b>	9.1	9.1	10.6	12.4	14.1	16.1	20.4	23.1

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>	45609/50619 nT

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

<b>Sunspot Number (SN)</b>	144
<b>Solar radio flux (F10.7)</b>	179 sfu
<b>Solar wind speed</b>	558.7 km/s (varied in the past 24 hrs between 486 & 638 km/s)
<b>Solar x-ray flares</b>	C1.7 (max flare in the past 24 hrs (C7, 0603 UT))
<b>Interplanetary Magnetic Field (IMF) Total Field (Bt) Z Component of Field (Bz)</b>	+4.4 nT (varied in the past 12 hrs between +2.1 nT & +7.4 nT) -1.4 nT (varied in the past 12 hrs between -3.9 nT & +2.5 nT)

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

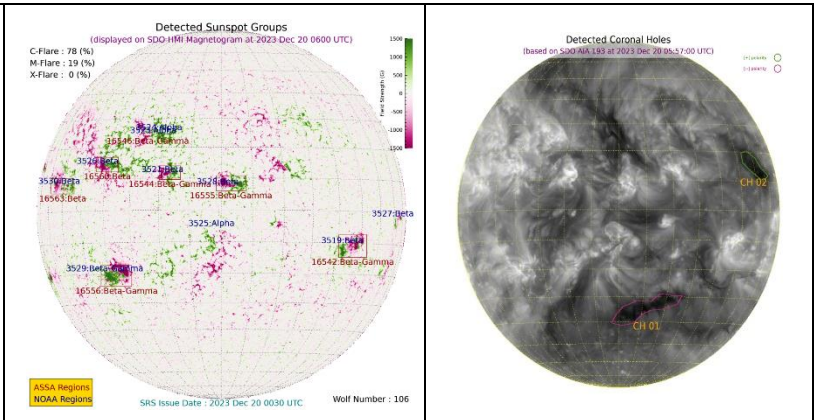
Sonmiani (SON): 25.2° N, 66.75° E, Islamabad (ISB): 33.7° N, 73.13° E

Notes: Credits: [www.spaceweather.go.kr](http://www.spaceweather.go.kr), [www.sws.bom.gov.au](http://www.sws.bom.gov.au), [www.spaceweather.com](http://www.spaceweather.com), [www.solen.info](http://www.solen.info)

## Daily Sun: 20 December 2023

There is one active region AR3529 present on the Sun capable of producing strong C and M-class solar flares having chances of 78% and 19% respectively.

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



### DISCUSSION:

Solar activity is expected to be at low to moderate levels. In case of solar flares, shortwave fadeouts may be observed. Moderate solar wind speed and quiet geomagnetic activity is expected. HF conditions are normal.