Daily Space Weather Summary (SUPARCO)

Monday, December 11, 2023, 13:24 PST

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)	
Critical Frequency of F2 layer (foF2)	10.0 MHz
Virtual Height of F2 layer (h`F2)	280 km
Total Electron Content (TEC)	40 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)	10.2	10.4	11.4	12.5	14.8	17.1	20.4	23.0
FOT (MHz)	8.7	8.9	9.7	10.6	12.6	14.5	17.3	20.0

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

LOCAL GEOMAGNETIC CONDITIONS	
K-index	0 (Quiet)
Total Field (F) (Son/Isb)	45515/50025 nT

The local geomagnetic field is quiet at the moment.

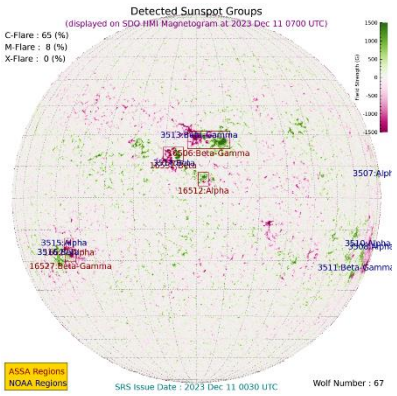
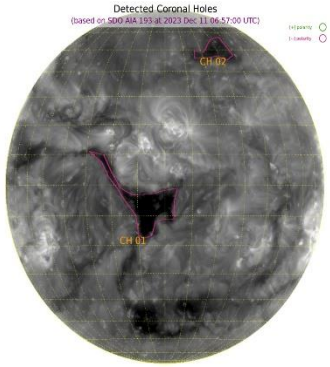
LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	120
Solar radio flux (F10.7)	127 sfu
Solar wind speed	451.6 km/s (varied in the past 24 hrs between 329 & 472 km/s)
Solar x-ray flares	B7.5 (max flare in the past 24 hrs (M1, 2243 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+3.2 nT (varied in the past 12 hrs between +3.2 nT & +3.8 nT) -2.2 nT (varied in the past 12 hrs between -1.8 nT & +2.5 nT)

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

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

Notes: *Credits:* www.spaceweather.go.kr,www.sws.bom.gov.au,www.spaceweather.com,www.solen.info

Daily Sun: 11 December 2023

There are two active regions AR3511 and AR3513 present on the Sun capable of producing strong C and M-class solar flares having chances of 65% and 8% respectively. 02 Coronal Holes (CHs) are detected on the solar disk.		

DISCUSSION:

Solar activity is expected to be at low to moderate levels. M class flares have already occurred from the regions present on the solar limb. In case of more M/X-class solar flares, minor to moderate radio blackouts may be observed. Low to moderate solar wind speed is expected due to the presence of coronal holes. Geomagnetic activity is expected to be quiet. HF conditions are depressed.