Daily Space Weather Summary (SUPARCO)
On Emergency Basis (Storm Condition)

Sunday, May 12, 2024, 15:08 PST

SUPARCO

LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)								
Critical Frequency of F2 layer (foF2)	6.0 MHz							
Virtual Height of F2 layer (h`F2)	252 km							
Total Electron Content (TEC)	48 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)	6.2	6.6	7.7	9.2	10.7	12.3	15.8	17.7
FOT (MHz)	5.3	5.6	6.5	7.8	9.1	10.5	13.4	15.0
Local HF conditions are depressed as compared to the predicted monthly median MUF. Satellite operators are advised to monitor the health of sensors on board.								

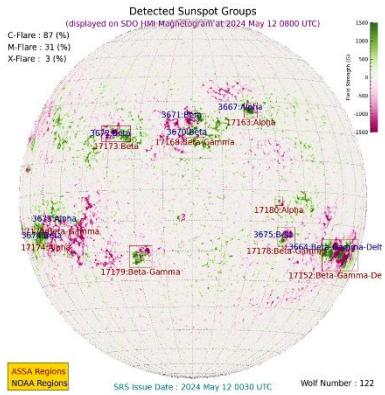
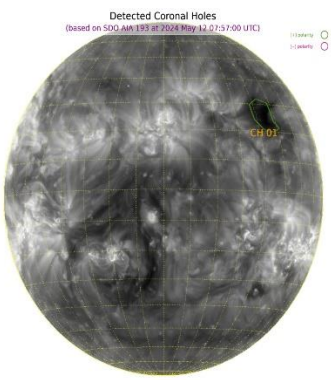
LOCAL GEOMAGNETIC CONDITIONS	
K-index	3 (Quiet)
Total Field (F) (Son/Isb)	45938/50948 nT
The local geomagnetic field is quiet at the moment. The conditions may prevail for the next 24 to 48 hours.	

LATEST SOLAR CONDITIONS	
Sunspot Number (SN)	148
Solar radio flux (F10.7)	214 sfu
Solar wind speed	908.9 km/s (varied in the past 24 hrs between 608 & 993 km/s) (Extremely High, Average value is 400km/sec)
Solar x-ray flares	C6.2 (max flare in the past 24 hrs (X1, 1144 UT)
Interplanetary Magnetic Field (IMF) **Total Field (Bt)** **Z Component of Field (Bz)**	+11.1 nT (varied in the past 12 hrs between +4.8 nT & +14.4 nT) +6.5 nT (varied in the past 12 hrs between -3.2 nT & +11.0 nT)
Solar conditions are at high levels with background X-ray flux at C-class level. More Coronal Mass Ejections (CMEs) are expected to arrive in next 24 to 48 hours.	

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: 12 May 2024

There is one active region AR3664 present on the Sun capable of producing strong M and X-class solar flares having chances of 31% and 3% respectively. 01 Coronal Hole (CH) is detected on the solar disk.		

DISCUSSION:

Solar activity is expected to be at high levels. Multiple M and X-class solar flares, have already occurred from the region mentioned above causing minor to moderate radio blackouts and extreme geomagnetic storms (G4/G5). In case of more M/X-class solar flares, minor to moderate radio blackouts and disturbed geomagnetic conditions are expected. High solar wind speed is expected due to the effect of CME. Some more CMEs are expected to sideswipe Earth's magnetic field on late hours of 12th May 2024 and 13th May 2024 which may cause severe geomagnetic storms. Satellite operators may face some minor changes to the LEOs orbit and communication disruption. Depressed HF conditions are expected.