

# Daily Space Weather Summary (SUPARCO)

Thursday, October 23, 2025, 14:53 PST



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

## LOCAL CURRENT IONOSPHERIC CONDITIONS (SON)

|                                       |          |
|---------------------------------------|----------|
| Critical Frequency of F2 layer (foF2) | 14.0 MHz |
| Virtual Height of F2 layer (h`F2)     | 285 km   |
| Total Electron Content (TEC)          | 78 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)     | 14.2 | 14.8 | 17.0 | 20.1 | 23.4 | 26.9 | 34.8 | 39.6 |
| FOT (MHz)     | 12.1 | 12.6 | 14.5 | 17.1 | 19.9 | 22.9 | 29.6 | 33.7 |

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

## LOCAL GEOMAGNETIC CONDITIONS

|                           |                |
|---------------------------|----------------|
| K-index                   | 1 (Quiet)      |
| Total Field (F) (Son/Isb) | 45770/50714 nT |

The local geomagnetic field is quiet at the moment.

## LATEST SOLAR CONDITIONS

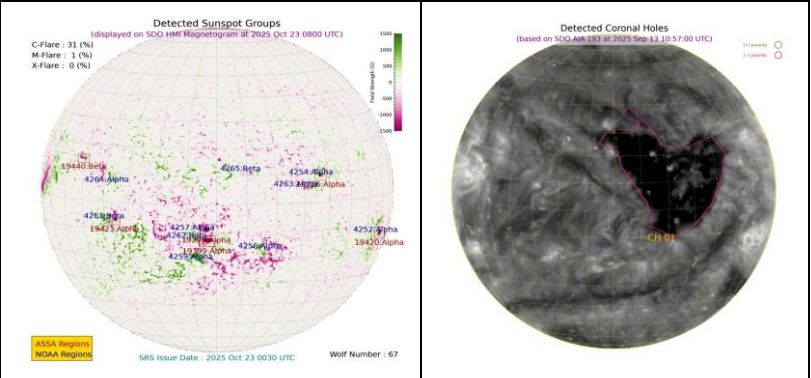
|                                                                                      |                                                                                                                                     |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Sunspot Number (SN)                                                                  | 117                                                                                                                                 |
| Solar radio flux (F10.7)                                                             | 133 sfu                                                                                                                             |
| Solar wind speed                                                                     | 408.3 km/s (varied in the past 24 hrs between 372 & 465 km/s)                                                                       |
| Solar x-ray flares                                                                   | B8.9 (max flare in the past 24 hrs (C3, 0508 UT)                                                                                    |
| Interplanetary Magnetic Field (IMF)<br>Total Field (Bt)<br>Z Component of Field (Bz) | +9.28 nT (varied in the past 12 hrs between +7.99 nT & +9.7 nT)<br>+0.33 nT (varied in the past 12 hrs between -3.49 nT & +3.52 nT) |

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

Daily Sun: 23 October 2025

There is no active region present on the Sun capable of producing strong solar flares.

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



DISCUSSION:

Solar activity is expected to be at moderate levels. In case of M/X-class solar flares, minor level HF radio blackouts may be observed. Low to moderate levels of solar wind speed and quiet geomagnetic activity is expected. HF conditions are 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

| Radio Blackouts        |          |        |        |         |
|------------------------|----------|--------|--------|---------|
| Minor                  | Moderate | Strong | Severe | Extreme |
| R1                     | R2       | R3     | R4     | R5      |
| Solar Radiation Storms |          |        |        |         |
| Minor                  | Moderate | Strong | Severe | Extreme |
| S1                     | S2       | S3     | S4     | S5      |
| Geomagnetic Storms     |          |        |        |         |
| Minor                  | Moderate | Strong | Severe | Extreme |
| G1                     | G2       | G3     | G4     | G5      |