

HFUS 1 BOU 221300  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 356A  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 22 DEC 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 21/1200Z TO 22/1200Z: SOLAR ACTIVITY WAS HIGH THIS PERIOD DUE TO A X2/SB EVENT FROM REGION 4025 (S03W80) AT 22/0824UT A SPRAY OUT TO .5 RADII WAS OBSERVED WITH THE EVENT. DISCRETE RADIO BURSTS, 900 FLUX UNITS AT 2695MHZ, ALONG WITH SHORT WAVE FADES UP TO 18MHZ ALSO ACCOMPANIED THIS EVENT.

NO TYPE II/IV SWEEPS WERE OBSERVED WITH THE EVENT. A LARGE FILAMENT (S24E23) TO (S42E39) DISAPPEARED SOME TIME BEFORE 22/0000UT BRIGHTNING OF THE AREA JUST NEXT TO FILAMENT WAS OBSERVED GIVING IT THE CHARACTERISTICS OF A HYDROFLARE. REGION 4033 (S15E60) HAS SHOWN SOME GROWTH IN SIZE HOWEVER IT STILL IS A SIMPLE BETA MAGNETIC CONFIGURATION. THE REST OF REGIONS HAVE SHOWN LITTLE CHANGE THIS PERIOD.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE DURING THIS FORECAST PERIOD. REGIONS 4025 AND 4033 HAVE THE BEST POTENTIAL FOR M CLASS EVENTS, REGION 4025 MAY PRODUCE AN ISOLATED X CLASS EVENT DURING THE NEXT 36 HOURS AS IT TRANSITS THE WEST LIMB. DUE TO THE LOCATION OF THE X2 EVENT ONLY A MINOR INCREASE IN PROTONS IS EXPECTED DURING THE NEXT 12 HOURS.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN GENERALLY AT MINOR STORM LEVELS DURING THIS PERIOD. A SHORT PERIOD OF MAJOR STORM CONDITIONS WAS OBSERVED MID LATITUDES FROM 22/0300 TO 0500UT. A SUDDEN COMMENCEMENT WAS OBSERVED AT 22/0100UT. MAJOR STORM LEVELS AT HIGH LATITUDES WERE RECORDED FROM 22/0130 TO 0600UT. DUE TO THE NUMEROUS LARGE FLARES WHICH HAVE OCCURRED DURING THE PAST THREE DAYS THE FIELD IS EXPECTED TO BE ACTIVE WITH SHORT PERIODS AT MINOR STORM LEVELS DURING THE FORECAST PERIOD. THE FILAMENT WHICH DISAPPEARED BEFORE 22/0200UT MAY PRODUCE AN INCREASE IN THE GEOMAGNETIC FIELD ON THE LAST DAY OF THIS FORECAST PERIOD.

III. EVENT PROBABILITIES 23 DEC-25 DEC

CLASS M 90/87/60  
CLASS X 10/05/35  
PROTON 10/05/05  
PCAF GREEN

IV. OTTAWA 17.7 CM FLUX  
OBSERVED 21 DEC 154  
ESTIMATED 22 DEC 153  
PREDICTED 23 DEC-25 DEC 153/153/157  
90 DAY MEAN 21 DEC 179

V. GEOMAGNETIC A INDICES

OBSERVED AFR 22 DEC 237 AP 21 DEC 535  
ESTIMATED AFR 21 DEC 923 AFR/AP 22 DEC 326/035  
PREDICTED AFR/AP 23 DEC-25 DEC 326/326-222/026-225/025  
SOLTERWARN  
BT

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HFUS 3 BOU 222200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 356B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 22 DEC 1982

I A. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 22/1200Z TO 22/2100Z: SOLAR ACTIVITY HAS BEEN LOW THIS PERIOD. TWO SMALL CLASS C XRAY EVENTS OCCURRED, BUT NEITHER WAS CORRELATED WITH AN OPTICAL REPORT. REGION 4033 (S14E66) HAS CONTINUED TO INCREASE SIGNIFICANTLY IN WHITE LIGHT AREA AND HAS NOW DEVELOPED INTO A MAGNETIC CLASS BETA-GAMMA GROUP. ONE SMALL REGION, NUMBER 4037 (N14W00) WAS NUMBERED TODAY. THE REST OF THE REGIONS REMAIN ESSENTIALLY UNCHANGED.

I B. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE THIS PERIOD. ANY M CLASS EVENTS THAT OCCUR ARE EXPECTED TO COME FROM REGION 4033.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS GENERALLY BEEN AT MINOR STORM LEVELS THIS PERIOD. ANOTHER FILAMENT, THIS ONE CENTERED AT APPROXIMATELY N17°E17 HAS DISAPPEARED SINCE YESTERDAY. THE GEOMAGNETIC FIELD IS EXPECTED TO BE ACTIVE DURING THE FIRST TWO DAYS OF THE FORECAST IN RESPONSE TO RECENT FLARE ACTIVITY. ACTIVITY IS EXPECTED TO INCREASE SLIGHTLY ON THE THIRD DAY BECAUSE OF THE FILAMENT DISAPPEARANCES.

III. EVENT PROBABILITIES 23 DEC-25 DEC

CLASS M 90/80/60

CLASS X 10/05/05

PROTON 10/05/05

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 22 DEC 161

PREDICTED 23 DEC-25 DEC 165/168/170

90 DAY MEAN 22 DEC 179

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 21 DEC 226/335

ESTIMATED AFR/AP 22 DEC 240/035

PREDICTED AFR/AP 23 DEC-25 DEC 220/220-220/020-025/025

SOLTERWARN

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