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HFUS 1 BOU 191300  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 353A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 19 DEC 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
18/1200Z TO 19/1200Z: SOLAR ACTIVITY HAS CONTINUED HIGH THIS  
PERIOD WITH AN X1/2E FROM REGION 4026 (S12W33) AT 18/1501UT  
STRONG SHORT WAVE FADE THRU 15MHZ ALONG WITH 240 FLUX UNITS AT  
2695MHZ ACCOMPANIED THIS EVENT. AT 19/0903UT REGION 4026  
PRODUCED THE NEXT LARGEST EVENT OF THE PAST 24 HOURS A C9/1N,  
ONLY MINOR RADIO WAS OBSERVED. REGIONS 4026, 4022 (N09W71) AND  
4025 (S07W44) HAVE ALL SHOWN MINOR AREA DECAY HOWEVER REGIONS  
4022 AND 4025 MAINTAIN THEIR DELTA MAGNETIC CONFIGURATIONS  
WHILE REGION 4026 APPARENTLY HAS LOST THE DELTA BUT IT IS STILL  
A BETA-GAMMA. REGION 4031 (S17E51) CONTINUES TO GROW SLOWLY AND  
CONTAINS AN ARCH FILAMENT SYSTEM.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO  
CONTINUE AT A HIGH LEVEL DURING THIS PERIOD. REGIONS 4025 AND  
4026 CONTINUE TO APPARENTLY HAVE THE POTENTIAL FOR CONTINUED X  
CLASS EVENTS.

OLD REGION 4007 (S15L285), WHICH PRODUCED AN X2 EVENT ON 07  
DEC, IS DUE TO RETURN ON 21 DEC THIS REGION WAS GROWING AS IT  
TRANSITED THE WEST LIMB AND MAY RETURN AS A LARGE ACTIVE  
REGION.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS  
BEEN AT MINOR STORM LEVELS DURING THE PAST 24 HOURS. A SHORT  
PERIOD OF MAJOR STORM CONDITIONS WAS OBSERVED 19/0730 TO 0900UT  
AT MID LATITUDE SITES. DUE TO THE CONTINUED LARGE FLARES,  
DURING THE PAST 4 DAYS, THE GEOMAGNETIC FIELD IS EXPECTED TO  
FLUCTUATE BETWEEN MINOR AND MAJOR STORM LEVELS DURING THIS  
FORECAST PERIOD.

PROTONS AT 1200UT WERE RECORDED AT 14 P/CM2/SEC/STER AT GREATER  
THAN 10MEV.

III. EVENT PROBABILITIES 20 DEC-22 DEC

CLASS M 90/90/90

CLASS X 40/20/15

PROTON 40/40/15

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 18 DEC 193

ESTIMATED 19 DEC 179

PREDICTED 20 DEC-22 DEC 168/164/160

90 DAY MEAN 18 DEC 178

V. GEOMAGNETIC A INDICES

OBSERVED AFR 17 DEC 041 AP 13 DEC 039

ESTIMATED AFR 18 DEC 035 AFR/AP 19 DEC 035/045

PREDICTED AFR/AP 20 DEC-22 DEC 040/040-040/030-030/025

SOLTERWARN

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HFUS 3 BOU 192200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 353B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 19 DEC 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
19/1200Z TO 19/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE THIS  
PERIOD. THE LARGEST FLARE WAS A 2B/M9 FROM REGION 4022  
(N10W78) WITH XRAY MAXIMUM TIME OF 1600Z. THIS FLARE WAS  
ACCOMPANIED BY WEAK TO MODERATE DISCRETE RADIO BURSTS AND A  
SHORT WAVE FADE TO 15 MHZ. THE ONLY OTHER FLARES THIS PERIOD  
WERE OPTICALLY SUB FAINTS FROM REGION 4023 (S12W43).  
MAGNETICALLY REGION 4022 IS A BETA-DELTA, 4026 IS A BETA-GAMMA  
AND 4025 (S07W51) IS A BETA-GAMMA-DELTA. REGION 4031 (S17E46)  
REMAINS A SIMPLE BETA GROUP BUT IT HAS GROWN SIGNIFICANTLY IN  
WHITE LIGHT SINCE YESTERDAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO  
REMAIN MODERATE. REGIONS 4025, AND 4026 STILL HAVE THE  
POTENTIAL FOR ISOLATED X CLASS EVENTS DURING THE EARLY PART OF  
THE FORECAST PERIOD, HOWEVER.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD  
STARTED THE PERIOD AT MINOR STORM LEVELS, BUT HAS SINCE  
DECREASED TO ACTIVE CONDITIONS. THE FIELD IS EXPECTED TO  
FLUCTUATE BETWEEN THESE TWO LEVELS FOR THE FIRST DAY OF THE  
FORECAST AND THEN TO REMAIN AT ACTIVE LEVELS FOR THE REMAINDER  
OF THE FORECAST. A PROTON EVENT ENDED AT 1405Z DURING THIS  
PERIOD, BUT AT 1900Z PROTONS AT GEOSYNCHRONOUS ALTITUDES AGAIN  
WENT THROUGH THE EVENT THRESHOLD OF 10 / CM2-SEC-STER AT  
GREATER THAN 10 MEV. THIS WAS THE RESULT OF PROTONS FROM THE  
M9 FLARE ADDING TO THE ALREADY HIGH BACKGROUND LEVEL.

III. EVENT PROBABILITIES 20 DEC-22 DEC

CLASS M 90/90/90

CLASS X 30/20/15

PROTON 40/40/15

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 19 DEC 179

PREDICTED 20 DEC-22 DEC 168/164/160

90 DAY MEAN 19 DEC 173

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 18 DEC 035/039

ESTIMATED AFR/AP 19 DEC 028/028

PREDICTED AFR/AP 20 DEC-22 DEC 025/032-025/025-025/025

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