

BT
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 339

ESTIMATED AFR 18 DEC 035 AFR/AP 19 DEC 235/045

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 SIMPLY 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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