

HFUS 1 BOU 201300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 354A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 20 DEC 1982

I.A. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 19/1200Z TO 20/1200Z: SOLAR ACTIVITY HAS BEEN MODERATE WITH A M9/2B FROM REGION 4022 (N09W85) AT 19/1541UT, LOOPS WERE OBSERVED OUT TO .03 RADII. A PROTON INCREASE WAS OBSERVED AT 19/1930UT. REGION 4022 ALSO PRODUCED "M" EVENTS AT 19/2228UT A M1/SN, 20/0014UT A M2/SN AND AT 20/0215UT A M1/SF. A M1/NO OPTICAL WAS OBSERVED AT 20/0710UT. REGION 4025 (S08W58) HAS BEEN STABLE THIS PERIOD BUT IT STILL CONTAINS A DELTA MAGNETIC CONFIGURATION. REGION 4026 (S11W47) HAS DECAYED AND IS NOW A SIMPLE "D" TYPE GROUP OF 30 MILLIONTHS AREA. OLD REGION 4007 (S15 L285) MAY HAVE PRODUCED A TYPE II SWEEP AT 20/0129UT WHICH LASTED 19 MINUTES. REPORTS INDICATE THAT IT WAS FROM THE SE LIMB.

I.B. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE DURING THIS FORECAST PERIOD. REGIONS 4022 AND 4025 ARE THE PRIME CANDIDATES FOR LARGE EVENTS. IF OLD REGION 4007 RETURNS ACTIVE THEN THE PROBABILITY OF "X" CLASS EVENTS WILL INCREASE.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN AT ACTIVE LEVELS AT THE MID LATITUDE SITES WITH PERIODS OF MINOR STORM CONDITIONS OBSERVED AT THE HIGH LATITUDES. A SUDDEN COMMENCEMENT WAS OBSERVED AT 19/2219UT. WITH CONTINUING LARGE EVENTS THE FIELD IS EXPECTED TO REMAIN AT ACTIVE. WITH PERIODS AT MINOR STORM, LEVELS DURING THIS FORECAST PERIOD. A PROTON EVENT BEGAN AT 19/1920UT, EFFECTS FROM THE M9 EVENT, WITH A MAXIMUM OF 85 P/CM²/SEC/STER AT GREATER THAN 10MEV OBSERVED AT 20/0251UT. A POLAR CAP ABSORPTION BEGAN AT 20/0300UT AND IT ALSO CONTINUES IN PROGRESS.

III. EVENT PROBABILITIES 21 DEC-23 DEC

CLASS M 90/90/90

CLASS X 20/15/10

PROTON 40/15/12

PCAF IN PROGRESS

IV. OTTAWA 10.7 CM FLUX

OBSERVED 19 DEC 179

ESTIMATED 20 DEC 168

PREDICTED 21 DEC-23 DEC 158/156/158

90 DAY MEAN 19 DEC 178

V. GEOMAGNETIC A INDICES

OBSERVED AFR 19 DEC 035 AP 19 DEC 227

ESTIMATED AFR 19 DEC 025 AFR/AP 20 DEC 022/030

PREDICTED AFR/AP 21 DEC-23 DEC 025/025-025/025-020/020

SOLARWARN

BT

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HFUS 3 BOU 202200
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 354B
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 20 DEC 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 20/1200Z TO 20/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE THIS PERIOD. THE LARGEST XRAY EVENTS WERE CLASS M1. ONE OF THESE WAS FROM THE WEST LIMB WHERE 4022 (N29W92) ROTATED FROM THE DISK. THE OTHER WAS FROM AN ACTIVE SURGE REGION AT S214. REGION 4026 (S10W55) HAS CONTINUED TO DECAY IN WHITE LIGHT AREA, WHILE REGION (4332), A REGION THAT WAS NUMBERED TODAY, HAS SHOWN GROWTH IN WHITE LIGHT. A SECOND NEW REGION 4033 (S14E92) WAS NUMBERED FOR THE AREA OF THE LIME THAT PRODUCED THE M1 XRAY EVENT. REGION 4025 (S07W65), THE ONLY MAGNETICALLY COMPLEX REGION, IS A BETA-GAMMA DELTA GROUP.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO REMAIN MODERATE. REGIONS 4025 AND 4026 ARE STILL CAPABLE OF PRODUCING AN ISOLATED X CLASS XRAY EVENT. THEY ARE FAVORABLY SITUATED ON THE DISK SO ANY PARTICALS THEY EJECT HAVE A GOOD CHANCE OF REACHING THE EARTHS ENVIRONMENT.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN ACTIVE WITH PERIODS AT MINOR STORM LEVELS. THIS LEVEL OF ACTIVITY IS EXPECTED TO CONTINUE FOR THE NEXT TWO DAYS. THE FIELD IS EXPECTED TO BE AT ACTIVE CONDITIONS FOR THE LAST DAY OF THE FORECAST.

III. EVENT PROBABILITIES 21 DEC-23 DEC

CLASS M 90/90/90

CLASS X 20/15/10

PROTON 40/15/10

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 20 DEC 165

PREDICTED 21 DEC-23 DEC 158/156/158

90 DAY MEAN 20 DEC 178

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 10 DEC 028/027

ESTIMATED AFR/AP 20 DEC 028/036

PREDICTED AFR/AP 21 DEC-23 DEC 025/025-025/025-026/026

SOLTERWARN

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