

HFUS 1 BOU 061300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 249A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 06 SEP 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 05/1200Z TO 06/1200Z: SOLAR ACTIVITY WAS MODERATE WITH THE OCCURRENCE OF AN M2/2B FLARE IN REGION 3886 (N14E06) AT 0154Z. THE MODEST CLASS D SPOT GROUP IN THIS VERY LARGE PLAGE IS GROWING SLOWLY. THE LONG ACTIVE HISTORY OF THIS AREA AND THE CONTINUED PRESENCE OF A LONG ACTIVE FILAMENT GIVE THIS REGION HIGH INTEREST FOR FURTHER FLARE ACTIVITY. NINE OTHER REGIONS SHOW LITTLE GROWTH OR STRUCTURE OF INTEREST. REGION 3895 (S09E68) IS THE RETURN OF REGION 3856 AND HAS A LARGE SYMMETRIC AND STABLE SPOT. ITS PLAGE IS LARGE AND MILDLY COMPLEX.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO CONTINUE LOW WITH OCCASIONAL ISOLATED CLASS M EVENTS FROM REGION 3886. PROTON EMISSION IS EXPECTED WITH ANY EVENT EXCEEDING M5 INTENSITY.

II. GEOPHYSICAL SUMMARY AND FORECAST: A MAJOR MAGNETIC STORM BEGAN WITH A SUDDEN COMMENCEMENT AT 05/2250Z. K-VALUES OF 8, 8 AND 9 HAVE BEEN RECORDED AT MIDLATITUDES FOR THE PAST THREE CONSECUTIVE 3-HOUR PERIODS. BRILLIANT AND COMPLEX AURORA HAVE BEEN OBSERVED OVER MUCH OF THE UNITED STATES WITH SOME STRUCTURES VISIBLE IN BRIGHT TWILIGHT. MAJOR STORM CONDITIONS ARE EXPECTED TO CONTINUE UNTIL EARLY 7 SEPTEMBER. MINOR STORM CONDITIONS ARE EXPECTED FOR THE SUBSEQUENT 24-HOUR PERIOD. ACTIVE TO UNSETTLED CONDITIONS SHOULD PREVAIL BY THE END OF THIS FORECAST PERIOD. A PROTON EVENT BEGAN AT 05/2205Z AND REACHED A BROAD PEAK 0100Z-0800Z AT ABOUT 60 CTS/SEC/CM<sup>2</sup> AT GT 10 MEV. THE EVENT IS EXPECTED TO END WITHIN THE NEXT 12 HOURS.

III. EVENT PROBABILITIES 07 SEP-09 SEP

CLASS M 60/60/60

CLASS X 10/10/10

PROTON 10/10/10

PCAF IN PROGRESS

IV. OTTAWA 10.7 CM FLUX

OBSERVED 05 SEP 177

ESTIMATED 06 SEP 177

PREDICTED 07 SEP-09 SEP 177/175/170

90 DAY MEAN 05 SEP 170

V. GEOMAGNETIC A INDICES

OBSERVED AFR 04 SEP 028 AP 05 SEP 037

ESTIMATED AFR 05 SEP 027 AFR/AP 06 SEP 160/140

PREDICTED AFR/AP 07 SEP-09 SEP 040/040-020/020-015/020

SOLTERWARN

RT

HFUS 3 BOU 062200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 249B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2203Z 06 SEP 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 06/1200Z TO 06/2100Z: SINCE THE M2/2B FLARE IN REGION 3883 (N13W00) AT 0146Z, SOLAR ACTIVITY HAS BEEN LOW. THIS REGION HAS DECREASED IN BOTH AREA AND MAGNETIC COMPLEXITY - IT NOW IS A SIMPLE BETA GROUP. REGION 3883 (S20W42) APPEARS TO BE DEVELOPING ISOLATED POLARITY STRUCTURE, INCREASING THE FLARE POTENTIAL FOR THIS REGION. REGION 3895 (S10E61) IS DOMINATED BY A LARGE SYMMETRICAL SPOT; HOWEVER, IT DOES HAVE A LARGE AND MILDLY COMPLEX PLAGE STRUCTURE. REGION 3897 (N19W18) WAS ADDED TODAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE GENERALLY LOW WITH ISOLATED CLASS M EVENTS STILL PROBABLE FROM REGION 3886.

II. GEOPHYSICAL SUMMARY AND FORECAST: FOLLOWING A SUDDEN COMMENCEMENT AT 05/2250Z, THE GEOMAGNETIC FIELD HAS BEEN AT MAJOR STORM LEVEL. A SLOW RECOVERY FROM STORM LEVEL IS EXPECTED THROUGH 07 SEPTEMBER, BUT ACTIVITY IS EXPECTED TO BE IN THE FORM OF ISOLATED SUBSTORMS. MULTICOLORED AURORA WAS OBSERVED IN COLORADO WITH SPECTACULAR AURORA REPORTED IN UPSTATE NEW YORK, VISIBLE RIGHT INTO MORNING TWILIGHT. A SATELLITE PROTON EVENT AT GREATER THAN 10 MEV BEGAN AT 05/2205Z. FLUX LEVELS REACHED AN INITIAL MAXIMUM OF 66 P/CM2/SEC/STER AT 06/0110Z WITH SUBSEQUENT MAXIMA OF 63 AT 0355Z AND 60 AT 0750Z. FLUX LEVELS DROPPED BELOW THRESHOLD AT 1400Z. A WEAK PCA BEGAN AT 06/0145Z, REACHED A MAXIMUM OF 1.0 DB ABSORPTION AT 0200Z, AND ENDED AT 1200Z.

III. EVENT PROBABILITIES 07 SEP-09 SEP

CLASS M 60/60/60

CLASS X 10/10/10

PROTON 10/10/10

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 06 SEP 169

PREDICTED 07 SEP-09 SEP 165/163/160

90 DAY MEAN 06 SEP 170

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 05 SEP 034/037

ESTIMATED AFR/AP 06 SEP 140/150

PREDICTED AFR/AP 07 SEP-09 SEP 020/030-015/020-012/020

SOLTERWARN

BT