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FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 250A

JOINT USAF/NOAA REPORT OF SOLAR FD GEOPHYSICAL ACTIVITY

ISSUED 1300Z 07 SEP 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 06/1200Z

TO 07/1200Z:

SOLAR ACTIVITY HAS BEEN MODERATE DURING THE PAST 24 HOURS. DURING THAT PERIOD 5 M-CLASS FLARES HAVE BEEN OBSERVED, THE LARGEST BEING AN M9.1B FROM REGION 3317 (N07E43) WITH MAXIMUM AT 07/0513Z. THIS FLARE WAS ACCCOMPANIED BY MODERATE STRENGTH SHORTWAVE FADES TO .15 MHZ AND SOME REPORTS OF MICROWAVE RADIO NOISE BURSTS. REGIONS 3300 (S13W80), 3310 (S11W30) AND 3314 (S17W22) REMAIN IMPRESSIVE BUT, FOR THE TIME BEING HAVE BEEN RELATIVELY QUIET.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO REMAIN MODERATE THROUGH THE FORECAST PERIOD. ALL OF THE 4 REGIONS LISTED ABOVE HAVE M-CLASS POTENTIAL BUT ONLY REGION 3317 IS LIKELY TO PRODUCE M-CLASS FLARES IN THE NEXT 24 HOURS. THE REGION HAS STRONG SPOTS (2400 GAUSS) AND STEEP GRADIENTS AND APPEARS TO BE GROWING STRONGER. A SMALL ISOLATED X-CLASS FLARE IS INCREASINGLY LIKELY.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN ESSENTIALLY QUIET FOR THE PAST 24 HOURS. A HIGH SPEED STREAM HAS BEEN DETECTED IN THE SOLAR WIND WHICH SHOULD REACH THE EARTH ON THE 9TH OR 10TH OF SEPTEMBER; HOWEVER, LOW ENERGY PLASMA GENERATED BY THE M-CLASS ACTIVITY OF THE PAST SEVERAL DAYS COULD CAUSE AN INCREASE IN ACTIVITY LEVELS AT ANY TIME.

III. EVENT PROBABILITIES 08-10 SEP

CLASS M 85/85/85

CLASS X 20/20/20

PROTON 15/15/10

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 06 SEPT 260

ESTIMATED 07 SEPT 268

PREDICTED 08-10 SEPT 272/272/267

90-DAY MEAN 06 SEPT 197

V. GEOMAGNETIC A INDICES

OBSERVED AFR 05 SEPT 201 AP 06 SEPT 11

ESTIMATED AFR 06 SEPT 101 AFR/AP 07 SEPT 07/10

PREDICTED AFR/AP 08-10 SEPT 12/12 - 16/18 - 23/23

SOLTERWARN

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HFUS 3 BOU 072200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO
SDF NUMBER 250B

JOINT USAF/NCAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200Z 07 SEPTEMBER 1981

I. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 07/1200Z TO 07/2100Z: SOLAR ACTIVITY HAS REMAINED MODERATE. REGION 3317 (N10E34) PRODUCED AN M2/SR AT 1219Z WHICH CAUSED A STRONG SWF AT 12 MHZ. REGION 3317 HAS ALSO PRODUCED MANY LESSER EVENTS SINCE THAT TIME. A LARGE INCREASE IN UMBRAL AREA HAS BEEN OBSERVED IN THE CENTRAL AND TRAILING PORTION OF THIS REGION ALONG WITH A LARGE INCREASE IN THE OBSERVED NUMBER OF SPOTS. THE LARGEST EVENT OF THE PERIOD WAS AN M7/IN FROM REGION 3300 (S13W86). REGION 3300 IS SHOWING ACTIVE SURGING AT THE LIMB. REGION 3310 (S10W37) HAS PRODUCED SEVERAL SUBFLARES TODAY BUT HAS SHOWN LITTLE EVOLUTION.

II. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD REMAIN MODERATE WITH MAJOR FLARES POSSIBLE. REGION 3317 SHOULD PRODUCE SEVERAL CLASS M FLARES PER DAY. REGIONS 3300 AND 3310 RETAIN M-CLASS FLARE CHARACTERISTICS AND SHOULD ADD TO OVERALL ACTIVITY LEVELS BUT AT A LOWER FREQUENCY OF OCCURRENCE.

III. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN QUIET. GENERALLY UNSETTLED CONDITIONS ARE EXPECTED TOMORROW BECOMING ACTIVE FOR THE LAST TWO DAYS OF THE FORECAST PERIOD. THE LIKELIHOOD OF TERRESTRIAL EFFECTS FROM REGION 3317 FLARES IS INCREASING AS THIS REGION ROTATES TOWARD CENTRAL MERIDIAN. A SMALL PARTICLE ENHANCEMENT BEGAN AT APPROXIMATELY 1200Z WITH A SLOW INCREASE IN THE GREATER THAN 5 MEV PARTICLES. AT 1610Z AND 1935Z APPROXIMATELY 9 P/(CM SQ/S/STER) WERE OBSERVED AT GREATER THAN 10 MEV BUT ONLY FOR VERY SHORT PERIODS. THESE MINOR PARTICLE FLUXES ARE CONTINUING AT JUST BELOW EVENT LEVELS. A MAXIMUM OF .% DB ABSORPTION (DAYTIME) WAS RECORDED BY THE THURST RIOMETER TODAY.

IV. EVENT PROBABILITIES 08 SEPTEMBER - 10 SEPTEMBER

CLASS M 90/90/90

CLASS X 20/20/20

PROTON 20/20/20

PCAF YELLOW

V. OTTAWA 10.7 CM FLUX

OBSERVED 07 SEPTEMBER 255

PREDICTED 08-10 SEPTEMBER 257/259/259

90-DAY MEAN 07 SEPTEMBER 198

VI. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 06 SEPTEMBER 10/11

ESTIMATED AFR/AP 07 SEPTEMBER 07/10

PREDICTED AFR/AP 08-10 SEPTEMBER 12/12 - 16/18 - 23/23

SOLAR/WARN

PT