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FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 206A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 25 JULY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
24/1200Z TO 25/1200Z:

SOLAR ACTIVITY HAS BEEN LOW DURING THE PAST 24 HOURS. THE  
LARGEST EVENT WAS A C9/1B FLARE IN REGION 3224 (N16W48) AT  
25/0918UT. REGION 3224 ALSO PRODUCED HALF A DOZEN C-CLASS  
SUBFLARES. REGIONS 3221 (S07W17) AND 3234 (S13E35) ALSO  
PRODUCED THEIR SHARE OF C-CLASS FLARES. ALL THREE REGIONS  
ARE LARGE COMPLEX AND OMINOUS LOOKING. DESPITE THE RELATIVE  
LULL IN ACTIVITY, ANY OF THE THREE REGIONS MENTIONED ABOVE  
COULD PRODUCE A LARGE ENERGETIC FLARE AT ANY TIME. NEW  
REGIONS 3240 (S16W37) AND 3241 (N13E03) HAVE BEEN NUMBERED  
IN THE PAST 24 HOURS.

IB. SOLAR ACTIVITY FORECAST:

IT IS DIFFICULT TO BELIEVE THAT THE THREE AWESOME REGIONS NOW  
ON THE VISIBLE DISK WILL ROTATE OUT OF VIEW WITHOUT PRO-  
DUCING AT LEAST ONE EVENT OF MAJOR GEOPHYSICAL CONSEQUENCE.  
ALL THREE REGIONS ARE PROVEN X-RAY PRODUCERS. OF THE THREE  
REGION 3221 HAS BEEN THE LEAST ACTIVE. HOWEVER, OPPOSITE  
POLARITY STRONG SPOTS IN REGION 3221 ARE REPORTED TO BE  
DRAWING TOGETHER THEREBY INCREASING THE STRESS (MAGNETIC  
GRADIENT) IN THE REGION. THUS REGION 3221 APPEARS NOW TO  
BE THE BEST CANDIDATE TO PRODUCE A SPECTACULAR FLARE.  
REGIONS 3224 AND 3234 BOTH RETAIN SOME POTENTIAL FOR PRO-  
DUCING SIZEABLE FLARES.

II. GEOPHYSICAL SUMMARY AND FORECAST:

ENERGETIC PROTONS (MEASURED AT SATELLITE LEVELS) WERE OB-  
SERVED TO BE RISING SLOWLY AT 24/2300UT AND EVENT THRES-  
HOLD CRITERIA WERE MET AT 25/0600UT WITH FLUXES OF 10  
PARTICLES/SECOND AT ENERGY LEVELS GREATER THAN 10 MEV.  
PARTICLE FLUXES WERE HOLDING AT BARELY THRESHOLD LEVELS AT  
1200UT. THE SOURCE EVENT FOR THESE PROTONS IS UNKNOWN.  
FLUXES ARE EXPECTED TO FALL SLOWLY THROUGH THE DAY. A  
DISTINCT SHOCK WAS NOTED ON BOARD ISEE 3 SATELLITE FOLLOWED  
BY A MODERATELY STRONG SUDDEN COMMENCEMENT AT 25/0515UT  
SEEN ON GROUND-BASED MAGNETOMETERS. MIDDLE LATITUDE K-VALUES  
OF 5 WERE REPORTED 0300-0600UT AND 0600-0900UT. MAGNETIC  
ACTIVITY IS EXPECTED TO DECLINE SLOWLY THROUGH THE UT DAY.

III. EVENT PROBABILITIES: 26 JULY - 28 JULY 1981

CLASS M 90/90/85

CLASS X 30/30/25

PROTON 15/15/15

PCAF IN PROGRESS

IV. OTTAWA 10.7 FLUX

OBSERVED 24 JULY 250

ESTIMATED 25 JULY 254

PREDICTED 26-28 JULY 256/255/252

90 DAY MEAN 24 JULY 178

V. GEOMAGNETIC A INDICES

OBSERVED APR 23 JULY 25

AP 24 JULY 11

ESTIMATED

HFUS 3 BOU 252200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO  
SDF NUMBER 206B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY  
ISSUED 2200Z/25 JULY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 25/1200Z  
TO 25/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE. PRINCIPAL  
ACTIVITY CONSISTED OF AN M4/2B EVENT IN REGION 3234 (S13E28)  
MAX AT 1256Z. RELATIVELY LARGE 245MHZ BURSTS HAVE OCCURRED  
IN RECENT HOURS UNASSOCIATED WITH REGION ACTIVITY.

IP. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE  
MODERATE TO HIGH WITH ACTIVITY LIKELY FROM ANY OF THE REGIONS  
3221 (S07W24), 3224 (N16W55), AND 3234.

II. GEOPHYSICAL SUMMARY AND FORECAST: A PROTON EVENT AT SATELLITE  
ALTITUDE ENDED AT 1600Z PRODUCING MAXIMUM FLUXES OF ABOUT 18  
PARTICLES GREATER THAN 10 MEV AT 1320Z. A RELATED SMALL PCA  
ENDED AT 1630Z. THE GEOMAGNETIC SUDDEN COMMENCEMENT EARLY 25  
JULY WAS FOLLOWED BY MAJOR STORM LEVELS. A K-INDEX OF 8  
OCCURRED AT 1500Z AND K VALUES OF 6 FOLLOWED. MAGNETIC  
ACTIVITY IS EXPECTED TO CONTINUE AT OR NEAR STORM LEVELS.

III. EVENT PROBABILITIES 26 JULY - 28 JULY

CLASS M 90/90/85

CLASS X 30/30/25

PROTON 15/15/15

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 25 JULY 252

PREDICTED 26-28 JULY 256/255/252

90-DAY MEAN 25 JULY 179

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 24 JULY 14/11

ESTIMATED AFR/AP 25 JULY 84/100

PREDICTED AFR/AP 26-28 JULY 35/43 - 22/25 - 16/18

SOLTERWARN

BT