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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
SUBLARES. 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 AFR 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