

HFUS 1 BOU 261330  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 207A  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY  
ISSUED 1300Z 26 JULY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
25/1200Z TO 26/1200Z:

SOLAR ACTIVITY HAS BEEN HIGH DURING THE PAST 24 HOURS. REGION 3234 (S13E22) HAS BEGUN PRODUCING ENERGETIC FLARES AT A RAPID RATE. THE LARGEST WAS AN X1/2B FLARE AT 0757 UT. THIS FLARE WAS ACCOMPANIED BY MODERATE DISCRETE FREQUENCY RADIO BURSTS FROM 245 TO 15400 MHZ BUT NO SWEEP FREQUENCY EVENTS WERE REPORTED. STRONG SHORTWAVE FADES WERE NOTED TO 22 MHZ. REGION 3234 ALSO PRODUCED AN M2/1B FLARE AT 0401, AN M1/1B FLARE AT 0558, AN M2/SB FLARE AT 0834 AND AN M4/1B FLARE AT 1111 UT. REGION 3221 (S07W31) ALSO CONTRIBUTED TO THE ACTIVITY WITH AN M2/1N FLARE AT 0834 UT. THESE M-CLASS EVENTS WERE ACCOMPANIED BY MINOR RADIO BURSTS AND, OCCASIONALLY, MODERATE SHORTWAVE FADES. REGION 3224 (N16W60), THE ACTIVITY LEADER FOR THE PAST TWO DAYS, HAS PRODUCED ONLY C-CLASS SUBFLARES DURING THE PAST 24 HOURS. REGION 3242 (N09E05) AND REGION 3243 (S06E59) HAVE BEEN NUMBERED DURING THE PAST DAY.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO CONTINUE MODERATE TO OCCASIONALLY HIGH. REGION 3234 IS VERY PRODUCTIVE AND HAS PROVEN ITS CAPACITY TO PRODUCE AN X-CLASS FLARE. HOWEVER, THE REGION TO BE CONCERNED ABOUT IS RELATIVELY QUIET REGION 3221. ITS PRINCIPAL SPOTS ARE AS STRONG AS 2400 GAUSS AND THEY ARE MOVING CLOSER TOGETHER, THUS INCREASING THE MAGNETIC GRADIENT. THERE HAVE ALSO BEEN REPORTS OF TORSIONAL MOTIONS IN THE REGION WHICH INDICATE ADDITIONAL STRESS. THUS, THERE IS REASON TO EXPECT A MAJOR FLARE FROM REGION 3221 DURING THE NEXT THREE DAYS. REGIONS 3234 AND 3224 ALSO RETAIN SOME X-CLASS FLARE POTENTIAL.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT MAJOR STORM LEVELS FOR THE PAST 24 HOURS. MID-LATITUDE K-VALUES AS HIGH AS 8 WERE REPORTED. THE MAGNETIC ACTIVITY IS EXPECTED TO SUBSIDE GRADUALLY TO ACTIVE LEVELS THIS UT DAY. THE RECENT FLURRY OF M-CLASS FLARES AT OR NEAR CENTRAL MERIDIAN IS EXPECTED TO PRODUCE ANOTHER SUBSTANTIAL DISTURBANCE BEGINNING LATE ON 28 JULY OR EARLY THE NEXT DAY.

III. EVENT PROBABILITIES: 27 - 29 JULY 1981

CLASS M 85/85/85

CLASS X 35/35/35

PROTON 25/25/25

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 25 JUL 252

ESTIMATED 26 JUL 253

PREDICTED 27-29 JUL 252/248/241

90 DAY MEAN 25 JUL 179.

V. GEOMAGNETIC A INDICES

OBSERVED AFR 24 JUL 14 AP 25 JUL 113

ESTIMATED AFR 25 JUL 93 AFR/AP 26 JUL 47/75

PREDICTED AFR/AP 27-29 JUL 22/25 27/15 35/30

SOLTERWARN

BT

HFUS 3 BOU 262200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO  
SDF NUMBER 207B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY  
ISSUED 2200Z 26 JULY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 26/1200Z  
TO 26/2100Z: SOLAR ACTIVITY HAS BEEN HIGH. REGION 3234 (S13E15)  
HAS BEEN PRIMARILY RESPONSIBLE. WITH CONTRIBUTIONS FROM REGIONS  
3232 (S07W27), 3221 (S07W38), 3224 (N15W68), 3236 (S19E18). AN  
X3/2B OCCURRED IN 3234 MAX AT 1353Z, AN M2/1B AT 1535Z MAX, AN  
M1/1B AT 1819Z MAX, AN M1/SB AT 1920Z MAX. IN ADDITION TO  
NUMEROUS SMALLER FLARES. MODEST CENTIMETRIC BURSTS WERE OBSERVED  
WITH THESE EVENTS. INCLUDED WERE A 210 FLUX UNIT BURST AT  
245 MHZ AT 1644Z, AND 380 FLUX UNIT AT 2695 MHZ AT 1350Z.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY MAY BE EXPECTED TO  
REMAIN HIGH IN VIEW OF CURRENTLY VISIBLE MAJOR REGIONS.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE MAJOR GEOMAGNETIC  
STORM IS SUBSIDING TOWARD MINOR STORM LEVELS DURING THE PERIOD.  
ACTIVE TO MINOR STORM LEVELS ARE EXPECTED TO CONTINUE WITH  
POSSIBLE BRIEF RETURNS TO MAJOR STORM LEVELS DUE TO RECENT  
ACTIVITY OBSERVED.

III. EVENT PROBABILITIES 27 JULY - 29 JULY

CLASS M 95/95/95

CLASS X 35/35/35

PROTON 25/25/25

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 26 JULY 255

PREDICTED 27-29 JULY 252/248/241

90-DAY MEAN 26 JULY 179

V. GEOMAGNETIC INDICES

OBSERVED AFR/AP 25 JULY 113/113

ESTIMATED AFR/AP 26 JULY 80/75

PREDICTED AFR/AP 27-29 JULY 22/25 - 27/28 - 35/30

SOLTERWARM

BT