

HEUS 1 BOU 121400  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 102A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY  
ISSUED 1200UT 12 APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
11/1200UT TO 12/1200UT:

SOLAR ACTIVITY HAS BEEN MODERATE FOR THE PAST 24 HOURS.  
OWING TO A HIGH X-RAY BACKGROUND LEVEL, NINE M-CLASS X-RAY  
EVENTS HAVE OCCURRED. FIVE OF THE M-EVENTS WERE ATTRIBUTED  
TO REGION 3035 (N14E10), WHICH IS PRESENTLY THE MOST COMPLEX  
AND DYNAMIC REGION ON THE VISIBLE DISK. THE LARGEST FLARE  
WAS AN M2/2B EVENT FROM 3035 MAXING AT 0000 UT ON 12 APRIL.  
A STRONG TYPE IV RADIO NOISE STORM ASSOCIATED WITH THIS FLARE  
CONTINUED FOR APPROXIMATELY 5 HOURS. OTHER REGIONS PRODUCING  
M-CLASS ACTIVITY WERE 3027 (N18W32) AND 3038 (N09E38). REGIONS  
3026 (N07W49) AND 3027 HAVE SIMPLIFIED MAGNETICALLY BUT 3035  
RETAINS ITS POTENTIAL FOR MAJOR FLARES.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE HIGH. X-CLASS FLARES  
ARE LIKELY FROM 3035 AND M-CLASS FLARES ARE PROBABLE FROM 3035,  
3027, 3026, AND 3025 (N08W61).

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT MINOR STORM LEVELS SINCE  
11/1330UT. ACTIVE TO MINOR STORM CONDITIONS ARE EXPECTED TO  
PERSIST FOR AT LEAST THE NEXT 48 HOURS IN RESPONSE TO MAJOR  
FLARE ACTIVITY. THE SMALL PROTON EVENT WHICH BEGAN APRIL  
10/1830 PEAKED AT 46 PARTICLES/CM<sup>2</sup>/SEC/STER AT ENERGIES  
GREATER THAN 10-MEV ON APRIL 11/1450UT. AT FORECAST TIME,  
THE PROTON LEVELS WERE FLUCTUATING NEAR THE EVENT THRESHOLD  
OF 10 FLUX UNITS.

III. EVENT PROBABILITIES: 13 - 15 APRIL

CLASS M 95/95/95

CLASS X 50/35/35

PROTON 35/35/35

PCAF 100% YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 11 APR 271

ESTIMATED 12 APR 265

PREDICTED 13-15 APR 260/250/240

90 DAY MEAN 11 APR 203

V. GEOMAGNETIC A INDICES

OBSERVED AFR 10 APR 114 AP 11 APR 22

ESTIMATED AFR 11 APR 29 AFR/AP 12 APR 45/55

PREDICTED AFR/AP 13-15 APR 45/55 35/30 25/25

SOLTERWARN

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WEUS 3 BOU 122200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 102B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY  
ISSUED 2200UT 12 APRIL 1981

I.A. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
12/1200UT TO 12/2200UT:

SOLAR ACTIVITY HAS BEEN MODERATE DURING THE FORECAST PERIOD.  
TWO M-CLASS EVENTS HAVE BEEN RECORDED, A M1/1B FROM REGION  
3035 (N13E17) AT 1250UT AND AN M1 (NO OPTICAL) WITH MAXIMUM AT  
2007 UT. MINOR RADIO BURSTS HAVE BEEN REPORTED. NEW REGIONS  
TODAY 3043 (N24 E76), H TYPE, 3044 (S11W26) SIMPLE A TYPE.  
NEW REGION 3045 (S06E62) IS A B TYPE GROUP WITH ARCH FILAMENTS.

I.B. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE HIGH. REGION 3035 IS CAPABLE  
OF PRODUCING AN X-CLASS EVENT. REGIONS 3027, 3026, AND 3025  
ARE CAPABLE OF M-CLASS EVENTS.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN NEAR MAJOR STORM LEVELS. ACTIVE  
TO MINOR STORM CONDITIONS ARE EXPECTED TO PERSIST FOR THE  
NEXT 48 HOURS. THE PROTON EVENT WHICH BEGAN APRIL 10/1830 UT  
PEAKED AT .46 PARTICLES/CM<sup>2</sup>/SEC/STER AT ENERGIES GREATER THAN  
10 MEV ON APRIL 11/1450 UT. THE PROTON LEVELS ARE FLUCTUATING  
NEAR EVENT THRESHOLD OF 10 FLUX UNITS. THE PROTON LEVELS ARE  
EXPECTED TO DECREASE BELOW EVENT LEVELS IN THE NEXT 3 TO 4 HOURS.

III. EVENT PROBABILITIES: 13-15 APRIL

CLASS M 95/95/95

CLASS X 50/35/35

PROTON 35/35/35

PCAF 11 YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 12 APR 25.1

PREDICTED 13-15 APR 242/234/230

90 DAY MEAN 204

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 11 APR 33/22

ESTIMATED AFR/AP 12 APR 48/60

PREDICTED AFR/AP 13-15 APR 45/55/35/30/25/25

SOLTERWARN

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