

HFUS 1 BOU 231300  
 FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
 SDF NUMBER 113A  
 JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
 ISSUED 1300Z 23 APR 1982  
 IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
 22/1200Z TO 23/1200Z: SOLAR ACTIVITY WAS MODERATE WITH THE  
 OCCURRENCE OF A SINGLE CLASS M EVENT. A LARGE ERUPTING  
 FILAMENT EMBEDDED IN REGION 3702 AND EXTENDING INTO REGIONS  
 3707 AND 3701 RESULTED IN A M1/2B FLARE AT 1331Z ON 22 APRIL.  
 RADIO BURSTS WERE WEAK AND NO TYPE II OR IV ACTIVITY WAS  
 RECORDED. NUMEROUS SPOTS HAVE GROWN DURING THE PAST 24 HOURS  
 IN REGION 3707(N09E25) VERY NEAR REGIONS 3701(N05E22) AND  
 3702(N12E27) AND DIRECTLY UNDER THE LARGE FILAMENT WHICH  
 ERUPTED. SIMULTANEOUS RAPID GROWTH OF SPOTS HAS OCCURRED IN THE  
 SOUTHERN PORTION OF REGION 3703(N18E10) AND IN THE NEW REGION  
 3706(N22E44). THESE FIVE BRIGHT AND HEAVILY SPOTTED REGIONS  
 FORM A MAJOR ACTIVITY COMPLEX AT THE HELIOGRAPHIC COORDINATES  
 WHERE MAJOR EVENTS HAVE OCCURRED ON EACH OF THE PAST SIX SOLAR  
 ROTATIONS(FIVE MONTHS). LARGE-SCALE MAGNETIC PATTERNS  
 SURROUNDING THE COMPLEX SHOW MOVEMENT THAT DEFINES A LOCAL  
 MAXIMUM IN SHEAR, CONVERGENCE AND VORTICITY CENTERED ON THIS  
 ACTIVITY COMPLEX. MINOR NEW REGIONS 3705(N08E01) AND  
 3708(N01W12) ARE GROWING. MINOR SURGES AT SE26 MAY MARK THE  
 RETURN OF REGION 3683.  
 IB. SOLAR ACTIVITY FORECAST: CONTINUED GROWTH AND PROPER  
 MOTIONS WITHIN THE NE ACTIVITY COMPLEX ARE EXPECTED TO LEAD TO  
 MORE FREQUENT FLARE ACTIVITY. CLASS M EVENTS ARE EXPECTED.  
 EVENTS LATER THIS DISK PASSAGE MAY PRODUCE ENERGETIC PARTICLES.  
 II. GEOPHYSICAL SUMMARY AND FORECAST: GEOMAGNETIC ACTIVITY WAS  
 UNSETTLED DURING THE PAST 24 HOURS UNTIL THE PAST THREE HOURS  
 WHEN MILDLY ACTIVE CONDITIONS DEVELOPED. CONDITIONS ARE  
 EXPECTED TO RETURN TO UNSETTLED FOR THE NEXT 24 HOURS. THE  
 GREAT ERUPTIVE FILAMENT EVENT IS EXPECTED TO PRODUCE A MAJOR  
 MAGNETIC STORM COMMENCING ON 25 APRIL AND REACHING A PEAK EARLY  
 ON 26 APRIL. K-INDICES OF SIX SHOULD BE EXPECTED.  
 III. EVENT PROBABILITIES 24 APR-26 APR  
 CLASS M 40/60/80  
 CLASS X 02/04/05  
 PROTON 02/04/05  
 PCAF GREEN  
 IV. OTTAWA 10.7 CM FLUX  
 OBSERVED 22 APR 153  
 ESTIMATED 23 APR 170  
 PREDICTED 24 APR-26 APR 185/195/200  
 90 DAY MEAN 22 APR 201  
 V. GEOMAGNETIC A INDICES  
 OBSERVED AFR 21 APR 027 AP 22 APR 021  
 ESTIMATED AFR 22 APR 018 AFR/AP 23 APR 012/012  
 PREDICTED AFR/AP 24 APR-26 APR 007/010-030/030-040/035  
 SOLTERWARN  
 BT

HXUS BOU 231300  
 PREDM 04024 06025 08026  
 PREDX 00224 00425 00526  
 PREDP 00224 00425 00526  
 PCAFT 00124  
 TENCM 18524 19525 20026  
 AFRED 00724 03025 04026  
 AFAPF 01024 03025 03526  
 KKK 32333 22222 35543  
 BT

HFUS 3 BOU 232200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 113B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 23 APR 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
23/1200Z TO 23/2100Z: SOLAR ACTIVITY HAS BEEN LOW DURING THE  
PAST 9 HOURS. ONLY 4 SMALL C-CLASS SUBFLARES HAVE BEEN OBSERVED  
DURING THAT TIME, MAINLY FROM REGION 3706 (N22E36) WHICH IS  
GROWING AND CONTAINS A STRONG ARCH FILAMENT SYSTEM. THE REGION  
3701/3702/3703/3707 COMPLEX CENTERED AROUND REGION 3707  
(N10E16) HAS SHOWN CONSIDERABLE GROWTH TODAY. NEW REGION 3709  
(S03W35) EMERGED ON THE DISK TODAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO  
CONTINUE LOW TO OCCASIONALLY MODERATE. FURTHER GROWTH IN THE  
NORTHEAST COMPLEX WILL INCREASE THE PROBABILITY FOR M-CLASS  
FLARES BUT MAJOR GROWTH WOULD BE NECESSARY BEFORE MAJOR  
ENERGETIC FLARES CAN BE EXPECTED.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS  
BEEN GENERALLY UNSETTLED DURING THE PAST 9 HOURS. CONDITIONS  
ARE EXPECTED TO TREND TOWARD QUIETER VALUES ON 24 APRIL. A  
MAJOR GEOMAGNETIC STORM IS NOW PREDICTED TO BEGIN BETWEEN 1200Z  
AND 1800Z ON 25 APRIL AND LAST APPROXIMATELY 24 HOURS. IF THE  
PREDICTED GEOMAGNETIC STORM MATERIALIZES, A MID-LATITUDE  
24-HOUR A-INDEX VALUE OF 70 WOULD BE EXPECTED. HOWEVER, WITH  
THE MOST DISTURBED PORTIONS OF THE STORM SPLIT BETWEEN TWO UT  
DAYS (APRIL 25TH AND 26TH), THE FORECAST VALUES ARE NOT AS  
IMPRESSIVE.

III. EVENT PROBABILITIES 24 APR-26 APR

CLASS M 40/60/80  
CLASS X 02/04/05  
PROTON 02/04/05  
PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 23 APR 173  
PREDICTED 24 APR-26 APR 185/195/200  
90 DAY MEAN 23 APR 202

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 22 APR 016/021  
ESTIMATED AFR/AP 23 APR 011/011  
PREDICTED AFR/AP 24 APR-26 APR 007/015-030/030-040/035

SOLTERWARN

BT

HXUS BOU 232200  
PREDM 04024 06025 08026  
PREDX 00224 00425 00526  
PREDP 00224 00425 00526  
PCAFT 00124  
TENCM 18524 19525 20026  
AFRED 00724 03025 04026  
AFAPF 01524 03025 03526  
BT