

HFXS 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

PCAF 00124

TENCM 18524 19525 20026

AFRED 00724 03025 04026

AFAPF 01024 03025 03526

KKK 32333 22222 35543

BT

HFXUS 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

HFXUS BOU 232200

PREDM 04024 06025 08026

PREDX 00224 00425 00526

PREDP 00224 00425 00526

PCAF 00124

TENCM 18524 19525 20026

AFRED 00724 03025 04026

AFAPF 01524 03025 03526

BT