

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

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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