

HFUS 1 BOU 041300
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 035A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 1300Z 04 FEB 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
03/1200Z TO 04/1200Z: SOLAR ACTIVITY HAS BEEN HIGH FOR THE PAST
24 HOURS. SEVEN M-CLASS X-RAY EVENTS HAVE OCCURRED, THE
LARGEST BEING AN M5 ASSOCIATED WITH EAST LIMB LOOPS APPARENTLY
FROM REGION 3594 (S09E75). THIS REGION IS STILL ROTATING OVER
THE LIMB BUT IS PRESENTLY SEEN TO BE AN E-TYPE SPOT GROUP.
THIS REGION HAS BEEN IDENTIFIED AS THE SOURCE OF THREE OTHER
M-CLASS EVENTS IN THIS REPORTING PERIOD. REGION 3583 (S18W09)
PRODUCED AN M1/1N FLARE WHICH MAXED AT 0615Z. 3583 HAS SHOWN
STEADY GROWTH AND IS INTERACTING WITH NEIGHBORING REGION 3584
(S13W04). A MAGNETIC DELTA MAY HAVE FORMED IN ITS CENTRAL
PORTION. REGION 3576 (S13W41) HAS RECENTLY PRODUCED ONLY
SUBFLARES. ITS LARGE LEADER SPOT IS FRAGMENTING BUT IT HAS
DEVELOPED A LARGE INTERIOR SPOT WHICH CONTAINS UMBRA OF BOTH
POLARITIES. IT CONTINUES TO THREATEN
MAJOR ACTIVITY. REGION 3573 (N10W48) HAS DECAYED IN BOTH WHITE
LIGHT AND H ALPHA BUT ITS MAGNETIC INVERSION LINE STILL HAS
NUMEROUS KINKS AND BRIGHT POINTS, FLUCTUATING PLAGE, AND AN
ARCH FILAMENT SYSTEM HAVE BEEN REPORTED HERE. REGIONS 3589
(S06E27) AND 3577 (S14W81) BOTH PRODUCED M EVENTS YESTERDAY AND
ARE EACH CAPABLE OF REPEATING THAT PERFORMANCE. REGION 3592
(N16W03) IS A GROWING, TRAILER DOMINANT REGION THAT MAY BECOME
ERUPTIVE SOON.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO
REMAIN HIGH WITH A GOOD PROBABILITY OF MAJOR FLARES FROM
REGIONS 3576 AND 3594. IN ADDITION, REGION 3583 SHOULD PRODUCE
M-CLASS X-RAY EVENTS, AND ISOLATED SIGNIFICANT FLARES ARE
POSSIBLE FROM REGIONS 3589, 3577, AND 3573.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN AT ACTIVE TO MINOR STORM LEVELS FOR THE PAST 24 HOURS.
THESE DISTURBED CONDITONS ARE EXPECTED TO INTENSIFY OVER THE
NEXT 24 HOURS IN RESPONSE TO THE X1/2B FLARE ON 03 FEB.
GEOMAGNETIC ACTIVITY SHOULD THEN SUBSIDE BY THE END OF THE
FORECAST PERIOD. THE SATELLITE PROTON EVENT WHICH BEGAN ON 31
JANUARY CONTINUES IN PROGRESS. FLUX VALUES DROPPED TO NEAR THE
EVENT THRESHOLD OF 10 AT 0345Z, BUT HAVE SINCE STABILIZED NEAR
30 PARTICLES/CM2/SEC/STER. IN THE ABSENCE OF FURTHER MAJOR
FLARE ACTIVITY, THE PROTON EVENT IS EXPECTED TO END WITHIN THE
NEXT 24 HOURS.

III. EVENT PROBABILITIES 05 FEB-07 FEB

CLASS M 95/95/95
CLASS X 50/50/50
PROTON 30/30/30
PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 03 FEB 279
ESTIMATED 04 FEB 270
PREDICTED 05 FEB-07 FEB 270/270/270
90 DAY MEAN 03 FEB 198

V. GEOMAGNETIC A INDICES

OBSERVED AFR 02 FEB 048 AP 03 FEB 029
ESTIMATED AFR 03 FEB 021 AFR/AP 04 FEB 030/035
PREDICTED AFR/AP 05 FEB-07 FEB 050/040-035/030-015/015

SOLTERWARN

BT

HFUS 3 BOU 042200
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 035B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 04 FEB 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
04/1200Z TO 04/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE. AN M4
XRAY MAX OCCURRED AT 04/1337Z WITH EMISSION ACROSS THE DISCRETE
CENTIMETRIC FREQUENCIES INCLUDING 620 F.U. AT 245 MHZ. REGION
3576 (S14W48) PRODUCED AN M1/1B FLARE MAX 04/1532Z AND AN M2/1B
MAX 04/1909Z. REGION 3594 (S10E67) HAS SHOWN ACTIVITY THIS
PERIOD LIMITED TO C CLASS XRAY. THE LARGEST EVENT WAS A C7/1N
MAX 04/1825Z. REGION 3594 IS A LARGE E TYPE REGION WITH BETA
GAMMA MAGNETIC CHARACTER. LIMITED ANALYSIS APPEARS TO INDICATE
LARGE GRADIENTS ALONG A N-S NEUTRAL LINE WITH THE POSSIBILITY
OF A DELTA IN THE TRAILER PART. REGION 3578 (S11W66) HAS SHOWN
ACTIVITY COINCIDENT WITH ACTIVITY IN REGION 3576. REGION 3576
REMAINS COMPLEX MAGNETICALLY WITH LARGE GRADIENTS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD REMAIN HIGH.
MAJOR FLARES ARE LIKELY FROM REGIONS 3576 AND 3594.
SIGNIFICANT FLARES ARE STILL POSSIBLE FROM REGIONS 3573
(N11W54) AND 3577 (S15W88).

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN ACTIVE. THE SATELLITE PROTON EVENT ENDED 04/1430Z. THE
GEOMAGNETIC ACTIVITY IS EXPECTED TO INTENSIFY WITHIN THE NEXT
FEW HOURS DUE TO THE X1/2B FLARE OF 03 FEB.

III. EVENT PROBABILITIES 05 FEB-07 FEB

CLASS M 95/95/95

CLASS X 50/50/50

PROTON 30/30/30

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 04 FEB 262

PREDICTED 05 FEB-07 FEB 265/260/250

90 DAY MEAN 04 FEB 198

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 03 FEB 029/029

ESTIMATED AFR/AP 04 FEB 036/040

PREDICTED AFR/AP 05 FEB-07 FEB 050/040-035/030-015/015

SOLTERWARN

BT

HXUS BOU 042200

PREDM 09505 09506 09507

PREDX 05005 05006 05007

PREDP 03005 03006 03007

PCAFT 00205

TENCM 26505 26006 25007

AFRED 05005 03506 01507

AFAPF 04005 03006 01507

BT