

HFUS 1 BOU 141300
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 195A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 1300Z 14 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
13/1200Z TO 14/1200Z: SOLAR ACTIVITY HAS BEEN MODERATE. ALTHOUGH
A DECLINE IN ACTIVITY WAS NOTED, THE POTENTIAL APPEARS
UNABATED. REGION 3804 (N13E09) IS SLOWLY FRAGMENTING BUT ITS
SIZE, COMPLEXITY AND DYNAMIC CHARACTERISTICS REMAIN FAR IN
EXCESS OF THOSE NORMALLY THOUGHT TO BE ESSENTIAL FOR
SIGNIFICANT FLARE PRODUCTION. POCKETS OF TIGHT GRADIENTS
CONTINUE TO BE OBSERVED THROUGHOUT THE REGION AND PLAGE
FLUCTUATIONS TO INTENSITY 4 ARE COMMON. REGION 3806 (S24W08)
REMAINS A BETA GAMMA DELTA MAGNETIC TYPE AND ITS PLAGE IS
BRIGHT, COMPACT AND FLUCTUATING. A CLASS M FLARE FROM THIS
REGION AT 132156Z (MAX) WAS THE MOST ENERGETIC OF THE 10 OR SO
SUBFLARES THIS REGION HAS PRODUCED IN THE PAST 24 HOURS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD BE MODERATE
TO HIGH. THE DECAYING PHASE OF 3804 IS LIKELY TO PRODUCE X
CLASS ACTIVITY WHILE THE GROWTH IN REGION 3806 IS INCREASING
THE THREAT FOR X CLASS FLARES FROM THIS REGION.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD IS
SEVERELY DISTURBED. A SUDDEN COMMENCEMENT AT 131618Z RESULTED
IN A STORM OF SUFFICIENT MAGNITUDE TO PRODUCE AURORA AT LEAST
AS FAR SOUTH AS BOULDER. PARTICLE FLUXES WHICH INCREASED
DRAMATICALLY AT THE TIME OF THE SSC AND MAXED AT 2900
PARTICLES/CM2/SEC/STER HAVE NOW DECLINED TO ABOUT 30 PARTICLES.
THE OBSERVED POLAR CAP ABSORPTION DECAYED BELOW 2 DB AT
140300Z. A CONTINUED DECAY OF THE OVERALL GEOPHYSICAL
CONDITIONS IS EXPECTED WITH NEAR NORMAL CONDITIONS BEING
OBSERVED BY 17 JULY.

III. EVENT PROBABILITIES 15 JUL-17 JUL

CLASS M 99/99/99

CLASS X 70/70/70

PROTON 30/30/30

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 13 JUL 250

ESTIMATED 14 JUL 255

PREDICTED 15 JUL-17 JUL 256/250/240

90 DAY MEAN 13 JUL 158

V. GEOMAGNETIC A INDICES

OBSERVED AFR 12 JUL 039 AP 13 JUL 133

ESTIMATED AFR 13 JUL 100 AFR/AP 14 JUL 115/130

PREDICTED AFR/AP 15 JUL-17 JUL 040/040-020/040-015/025

SOLTERWARN

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HFUS 3 BOU 142200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 195B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 14 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
14/1200Z TO 14/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE FOR THE
PAST 9 HOURS. REGION 3804 (N14E01) PRODUCED 3 M-CLASS EVENTS
INCLUDING A LONG-LIVED 2B OPTICAL FLARE WHICH HAD AN M1 X-RAY
MAXIMUM AT 1331Z AND SECOND MAXIMUM, M3, AT 1521Z. REGION 3804
CONTINUES TO RETAIN ITS COMPLEXITY AND HAS MANAGED TO REGAIN
SOME OF THE SPOT AREA WHICH IT LOST YESTERDAY. THE LARGEST
EVENT OF THIS REPORTING PERIOD WAS AN M7/2B FLARE MAXING AT
1748Z FROM REGION 3812 (N21E43). REGION 3812 HAS DOUBLED IN
SPOT COUNT AND AREA AND IS NOW THE SECOND MOST ACTIVE REGION ON
THE DISK. REGION 3806 (S24W16) HAS CLEARLY DECAYED IN H-ALPHA
AND MAGNETIC COMPLEXITY AND IS NO LONGER A THREAT FOR A MAJOR
FLARE. NEW REGIONS ARE 3814 (N21E17) AND 3815 (S20E43). BOTH
ARE B-TYPE GROUPS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE
HIGH BASED ON FLARE POTENTIAL IN REGION 3804. REGION 3812 IS
CAPABLE OF SUSTAINED M-CLASS ACTIVITY AND AN ISOLATED M-CLASS
FLARE IS POSSIBLE FROM REGION 3806.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN AT MINOR STORM LEVELS FOR THE PAST 9 HOURS. THE MAXIMUM
DST INDEX FOR THIS STORM WHICH BEGAN 13 JULY AT 1618Z WAS
ESTIMATED IN EXCESS OF 300 GAMMAS AT 0300Z ON 14 JULY. HOWEVER,
THE DISTURBANCE HAS DIMINISHED FROM THE SEVERE LEVELS
EXPERIENCED EARLIER TODAY, AND IT IS EXPECTED TO CONTINUE TO
DECLINE TO OVERALL MINOR STORM CONDITIONS TOMORROW AND ACTIVE
CONDITIONS FOR THE REMAINDER OF THE FORECAST PERIOD. THE PROTON
EVENT HAS DECLINED TO NEAR THRESHOLD LEVELS. THE FLUX AT
FORECAST TIME WAS 15 PROTONS/CM2/ SEC/STER. THIS PROTON EVENT
IS EXPECTED TO END WITHIN THE NEXT 24 HOURS UNLESS ADDITIONAL
MAJOR FLARES OCCUR.

III. EVENT PROBABILITIES 15 JUL-17 JUL

CLASS M 99/99/99
CLASS X 70/70/70
PROTON 30/30/30
PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 14 JUL 262
PREDICTED 15 JUL-17 JUL 265/260/255
90 DAY MEAN 14 JUL 160

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 13 JUL 133/133
ESTIMATED AFR/AP 14 JUL 000/115
PREDICTED AFR/AP 15 JUL-17 JUL 040/040-020/040-015/025
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HXUS BOU 142200

PREDM 09915 09916 09917
PREDX 07015 07016 07017
PREDP 03015 03016 03017
PCAFT 00215
TENCM 26515 26016 25517
AFRED 04015 02016 01517
AFAPF 04015 04016 02517
BT