

HFUS , BOU 081300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 281A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 08 OCT 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
07/1200Z TO 08/1200Z:

SOLAR ACTIVITY REACHED A HIGH LEVEL WITH A X3/1B FLARE AT
07/2308Z FROM NEW REGION 3390 (S18E 85). THE EVENT HAD AN ASSO-
CIATED RADIO BURST ON ALL FREQUENCIES WITH 1400 FLUX UNITS ON
2695 MHZ, A SHORT WAVE FADE OF IMPORTANCE 3 AND TYPE II/IV
IMPORTANCE 3 SWEEP FREQUENCY BURSTS. A LOOP PROMINENCE SYSTEM
WAS OBSERVED AT S18E LIMB FROM 07/2335Z TO 08/0800Z. THE
REGION ALSO PRODUCED NUMEROUS SMALL FLARES IN THE PAST 12 HOURS.
IT IS NOT COMPLETELY ROTATED ONTO THE DISK BUT THE SPOT GROUP
APPEARS LARGE AND GROWING. REGION 3375 (N13W 66) AND 3388 (S10W 02)
CONTINUE TO GROW IN SPOT SIZE AND COMPLEXITY. MINOR FLARES WERE
OBSERVED IN BOTH REGIONS. REGION 3388 ALSO PRODUCED CLASS
M1 FLARES AT 1338Z, 1812Z AND 0233Z.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO REMAIN HIGH WITH CLASS M EVENTS
FROM REGIONS 3390, 3388 AND 3375. ANOTHER CLASS X EVENT IS
POSSIBLE FROM REGION 3390 AS IT TRANSITS THE DISK.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT ACTIVE TO MINOR STORM LEVELS
THROUGHOUT THE PAST 24 HOURS. UNSETTLED TO ACTIVE CONDITIONS ARE
EXPECTED DURING THE FORECAST PERIOD WITH THE FIRST GEOMAGNETIC
EFFECTS OF THE X3 EVENT BEGINNING LATE ON 11 OCT. ENHANCED PROTON
BACKGROUND LEVELS WERE OBSERVED FROM 08/0100Z AT SATELLITE ALTI-
TUDES BUT THEY REMAIN BELOW EVENT THRESHOLD OF 10/CM²/STER AT
GREATER THAN 10 MEV. LEVELS MAY REACH EVENT THRESHOLDS LATE ON
08 OCT OR 09 OCT.

III. EVENT PROBABILITIES: 09-11 OCT

CLASS M 80/80/80

CLASS X 10/10/10

PROTON 10/10/10

DCAF GREEN

IV. OTTAWA 10.7 FLUX

OBSERVED 07 OCT 207

ESTIMATED 08 OCT 212

PREDICTED 09-11 OCT 207/202/200

90 DAY MEAN 07 OCT 214

V. GEOMAGNETIC A INDICES

OBSERVED AFR 06 OCT 05 AP 07 OCT 28

ESTIMATED AFR 07 OCT 20 AFR/AP 08 OCT 22/25

PREDICTED AFR/AP 09-11 OCT 12/12 12/14 16/20

SOLTERWARN

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HFUS 3 BOU 082200
FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO
SDF NUMBER 281B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 08 OCTOBER 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 08/1200Z
TO 08/2100Z: SOLAR ACTIVITY HAS BEEN LOW SINCE THE X3 FLARE
AT 07/2308Z. REGION 3390 (S21E73) IS NOW ON THE DISK BUT IS
STILL TOO CLOSE TO THE LIMB TO ACCURATELY EVALUATE ITS POTENTIAL.
ITS SPOT AREA IS AT LEAST 700 MILLIONTHS. REGIONS 3375 (N14W71)
AND 3388 (S10W08) PRODUCED THE ONLY SIGNIFICANT FLARES OF THE
PERIOD: C4/1N AT 1452Z AND C6/SB AT 1610Z.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE
MODERATE. ALL THREE REGIONS MENTIONED ABOVE COULD PRODUCE A
MAJOR FLARE.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
CONTINUED AT ACTIVE LEVELS. PROTONS FROM THE X3 FLARE REACHED
EVENT THRESHOLD AT 08/1235Z (10 PARTICLES AT GT 10 MEV/CM²/
SEC/STER) AND DECLINED TO 5 PARTICLES AT 1400Z, BUT THE FLUX
IS CURRENTLY 13 PARTICLES AND APPEARS TO BE INCREASING. IT IS
POSSIBLE THAT THESE LOW LEVEL PROTON FLUXES WILL CONTINUE FOR
A FEW DAYS THEN, THE SLOWER MOVING PLASMA ASSOCIATED WITH THE
FLARE COULD ARRIVE AND POSSIBLY BRING ABOUT A GEOMAGNETIC STORM.

III. EVENT PROBABILITIES 09 OCTOBER - 11 OCTOBER

CLASS M 80/80/80

CLASS X 10/10/10

PROTON 10/10/10

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 08 OCTOBER 206

PREDICTED 09-11 OCTOBER 207/202/195

90-DAY MEAN 08 OCTOBER 215

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 07 OCTOBER 24/28

ESTIMATED AFR/AP 08 OCTOBER 24/30

PREDICTED AFR/AP 09-11 OCTOBER 15/20 - 12/14 - 25/25

SOLTERWARN

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