

HFUS 1 RCU 181300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER: 091A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 1300Z 18 OCT 1981

I. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

17/1200Z TO 18/1200Z:

SOLAR ACTIVITY WAS BARELY MODERATE THIS PERIOD WITH ONLY ONE SMALL M-CLASS EVENT, WHICH IS SURPRISING CONSIDERING THE LARGE, COMPLEX SPOT GROUPS NOW ON THE SOLAR DISK. REGIONS 3390/97 (S18W58) ARE STILL DECAYING AS THEY APPROACH THE WEST LIMB. REGION 3403 (S10E05) HAS CONTINUED TO PRODUCE MINOR FLARES, BUT ITS SIZE AND COMPLEXITY DEFINITELY SUGGEST MAJOR FLARE POTENTIAL. REGION 3402 (S20W43) HAS BEEN THE MOST ACTIVE FLARE PRODUCER AND HAS GROWN RAPIDLY DURING THE PAST 48 HOURS. THE ONLY M-CLASS EVENT OF THE DAY WAS AN M2/1B FLARE FROM REGION 3390 AT 18/1138Z, ACCOMPANIED BY 1300 EU AT 2695 MHZ.

1B. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS FORECAST TO BE MODERATE TO HIGH. EXPECT AN X-CLASS OR UPPER M-CLASS EVENT FROM REGIONS 3403 OR 3402 DURING THE NEXT 24 HOURS.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD SETTLED DOWN AFTER 18/0000Z AND QUIET TO UNSETTLED LEVELS OF ACTIVITY ARE FORECAST. PROTON FLUXES HAVE NOW DECLINED TO LESS THAN HALF OF EVENT THRESHOLDS (4 PARTICLES/CM²/SEC/STEP AT 18/1200Z).

III. EVENT PROBABILITIES: 19-21 OCT

CLASS M: 90/90/90

CLASS X: 30/30/30

PROTON: 30/30/30

PCAE: YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED: 17 OCT 305

ESTIMATED: 18 OCT 300

PREDICTED: 19-21 OCT 290/280/270

90 DAY MEAN: 18 OCT 222

V. GEOMAGNETIC A INDICES

OBSERVED AFR: 16 OCT 06 AP 17 OCT 13

ESTIMATED AFR: 17 OCT 12 AFR/AP 18 OCT 06/10

PREDICTED AFR/AP: 19/21 OCT 12/12 10/10 12/12

SOLTERWARN

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WFUS 3 00U 182200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER, COLORADO
SDF NUMBER 291B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 18 OCTOBER 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 18/1200Z
TO 18/2100Z: SOLAR ACTIVITY HAS BEEN LOW SINCE REGIONS 3390
(S18W58) AND 3402 (S20W46) TEAMED TO PRODUCE THE M1/1B AT
17/1132Z. 3390 HAS CONTINUED DECAYING SLOWLY AND MAXIMUM
GRADIENTS APPEAR TO BE SLACKENING. 3402 IS NOW A MODERATE SIZE
BIPOLAR SPOT GROUP AND GROWTH HAS SLOWED. REGION 3403 (S10E02)
HAS PRODUCED SEVERAL SUBFLARES BUT DISCERNIBLE CHANGES HAVE NO
PREDICTIVE VALUE.

IB. SOLAR ACTIVITY FORECAST: MODERATE LEVELS OF FLARE ACTIVITY
SHOULD BE OBSERVED DURING THE FORECAST PERIOD. THE LIKELIHOOD
OF A MAJOR FLARE FROM 3390/3402 AND 3403 REMAINS BUT HAS
DECREASED SLIGHTLY. NO SIGNIFICANT REGIONS ARE EXPECTED TO
RETURN DURING THE FORECAST PERIOD.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN QUIET. EARLY IN THIS PERIOD ISPE DATA INDICATED VERY
LOW SPEED SOLAR WIND IN THE EARTH'S NEIGHBORHOOD. NEAR 1730Z
AN ENHANCEMENT OF APPROXIMATELY 200 KM/S WAS OBSERVED. DUE TO
THIS OBSERVATION, AND RECURRENCE, UNSETTLED CONDITIONS
ARE EXPECTED FOR THE FORECAST PERIOD.

III. EVENT PROBABILITIES 19 OCTOBER - 21 OCTOBER

CLASS M 90/90/90

CLASS X 30/30/20

PROTON 30/30/20

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 18 OCTOBER 305 (SLIGHTLY FLARE ENHANCED)

PREDICTED 19-21 OCTOBER 290/280/270

90-DAY MEAN 18 OCTOBER 223

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 17 OCTOBER 13/13

ESTIMATED AFR/AP 18 OCTOBER 06/10

PREDICTED AFR/AP 19-21 OCTOBER 12/12 - 10/10 - 12/12

SOLTERWARN

BT