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FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 053A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1200UT 22 FEBRUARY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
21/1200UT TO 22/1200UT:

SOLAR ACTIVITY HAS BEEN MODERATE. REGION 2941 (N19W81) PRO-
DUCED AN M2/SF FLARE AT 22/0250UT MAXIMUM WITH MINOR RADIO BURSTS
ON THE DISCRETE FREQUENCIES. REGIONS 2951 (N11W15) AND 2947
(N12W66) HAVE ALSO BEEN ACTIVE PRODUCING MODERATE LEVEL C-CLASS
SUBFLARES. REGION 2941 REMAINS A MATURE CENTER OF ACTIVITY WHILE
REGION 2951 CONTINUES ITS SLOW DEVELOPMENT. NEW REGION 2954
(S16E85) IS STILL TRANSITING THE EAST LIMB MAKING ANALYSIS DIF-
FICULT. SURGING AND SUBFLARE ACTIVITY HAVE BEEN OBSERVED IN THIS
REGION.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY SHOULD REMAIN MODERATE WITH M-CLASS EVENTS
POSSIBLE FROM REGIONS 2941, 2951 AND TO A LESSER EXTENT 2953
(S17E49) AND 2954. IF GROWTH CONTINUES, REGION 2951 COULD PRO-
DUCE AN ISOLATED MAJOR FLARE.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN QUIET. UNSETTLED TO ACTIVE
CONDITIONS ARE EXPECTED IN THE NEXT 24 HOURS IN RESPONSE TO THE
X2/2B FLARE WHICH OCCURRED ON THE 20TH OF FEB.

III. EVENT/PROBABILITIES: 23 FEBRUARY - 25 FEBRUARY

CLASS M 70/60/60

CLASS X 10/05/05

PROTON 10/05/01

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 21 FEB 188

ESTIMATED 22 FEB 194

PREDICTED 23-25 FEB 190/190/190

90 DAY MEAN 21 FEB 199

V. GEOMAGNETIC A INDICES

OBSERVED AFR 20 FEB 09 AP 21 FEB 09

ESTIMATED AFR 21 FEB 08 AFR/AP 22 FEB 05/08

PREDICTED AFR/AP 23-25 FEB 15/15 10/10 07/08

SOLTERWARN

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HFUS 3 BOU 222200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 053B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200UT 22 FEBRUARY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
22/1200UT TO 22/2200UT:

SOLAR ACTIVITY HAS BEEN LOW SINCE THE M2 SUBFLARE OF 0250Z TODAY.
REGION 2951 (N12W22) HAS GROWN TO A LARGE CLASS E SPOT GROUP OF
SIMPLE STRUCTURE BUT WITH VERY LARGE LEADER AND FOLLOWER SPOTS.
FURTHER GROWTH SEEMS LIKELY. REGION 2953 (S17E44) HAS DEVELOP-
ED ADDITIONAL SMALL SPOTS AND FLARE IN ITS TRAILING PORTION AND
REMAINS OF INTEREST BECAUSE OF ITS REVERSED POLARITY ARRANGEMENT.
REGION 2954 (S18E74) HAS ROTATED MORE FULLY INTO VIEW AND IS
NOW A COMPLEX AREA OF SMALL SPOTS WITH A LARGE, COMPLEX SPOT IN
ITS CENTER. THIS IS THE RETURN OF THE MOST ACTIVE PORTION OF A
LARGE COMPLEX OF THE PREVIOUS SOLAR ROTATION. FREQUENT SMALL
FLARES HAVE OCCURRED HERE TODAY. THE LEADING PORTION OF AN AD-
JACENT REGION (2955) HAS APPEARED AT S08E83. A SMALL REGION HAS
ROTATED INTO VIEW AT N17E84 (REGION 2956).

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO REMAIN LOW TO MODERATE WITH CLASS
M EVENTS LIKELY FROM REGIONS 2941 (FOR THE NEXT 12 HOURS), 2951,
2953 AND 2954. THE WEST LIMB PASSAGE OF THE COMPLEX OF REGIONS
IN THE NORTHWEST IS EXPECTED TO DROP THE OVERALL RADIO FLUX BUT
A SERIES OF REGIONS RETURNING AT EAST LIMB WILL TEND TO COMPENSATE
THIS DROP.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN VERY QUIET TODAY. UNSETTLED CONDIT-
TIONS ARE EXPECTED TO COMMENCE DURING THE NEXT 12 HOURS DUE TO A
LARGE CORONAL TRANSIENT OF 19 FEBRUARY. THE POLARITY ENVIRONMENT
OF THE DISAPPEARING SOLAR FILAMENT DOES NOT FAVOR A SUBSEQUENT
GEOMAGNETIC DISTURBANCE. CONDITIONS ON 24-25 FEB ARE EXPECTED
TO BE ONLY SLIGHTLY UNSETTLED TO QUIET.

III. EVENT PROBABILITIES: 23-25 FEB

CLASS M 70/60/60

CLASS X 10/05/05

PROTON 10/05/01

PCAF GREEN

IV. OTTAWA 10.7 FLUX

OBSERVED 22 FEB 204

PREDICTED 23-25 FEB 195/190/190

90 DAY MEAN 22 FEB 199

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 21 FEB 06/09

ESTIMATED AFR/AP 22 FEB 03/05

PREDICTED AFR/AP 23-25 FEB 15/15 10/10 07/08

SOLTERWARN

BT