

SDF NUMBER 103A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 1200UT 13 APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

12/1200UT TO 13/1200UT:

SOLAR ACTIVITY HAS BEEN MODERATE FOR THE PAST 24 HOURS. REGION 3035 (N14E10) HAS CONTINUED TO BE THE CENTER OF ATTENTION WITH TWO M-CLASS EVENTS INCLUDING A SIGNIFICANT M4/1B FLARE MAXING AT 2147UT ON 12 APRIL. THIS EVENT CAUSED A VERY STRONG TYPE IV METER-WAVE STORM WHICH LASTED FOR MORE THAN EIGHT HOURS. REGION 3035 HAS RETAINED ITS COMPLEX ACTIVE STRUCTURE AND IT APPEARS TO BE INTERACTING WITH REGIONS 3033 (N21W06) AND 3038 (N10E23). REGIONS 3026 (N07W63) AND 3027 (N18W46) ARE SHOWING ACTIVE DARK FILAMENTS AND EVIDENCE OF SLOW GROWTH AND RESTRUCTURING. AN ACTIVE SURGE REGION ON THE NORTH EAST LIMB MAY BE SIGNALING THE RETURN OF OLD REGION 2993 WHICH WAS PRODUCING M-CLASS ACTIVITY UPON ITS WEST LIMB PASSAGE.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH. REGION 3035 IS CAPABLE OF X-CLASS FLARES AND 3026 AND 3027 ARE EXPECTED TO PRODUCE M-CLASS ACTIVITY.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT MAJOR STORM LEVELS FOR THE PAST 24 HOURS. BRILLIANT RED AURORAL DISPLAYS WERE SIGHTED IN BOULDER (40 DEGREES NORTH LATITUDE). THE DST INDEX IS ESTIMATED TO BE GREATER THAN 100. GEOMAGNETIC CONDITIONS ARE EXPECTED TO REMAIN ACTIVE TOMORROW, POTENTIALLY INCREASING AGAIN TO MINOR STORM LEVELS ON THE SECOND AND THIRD DAY IN RESPONSE TO THE M4 FLARE OF 12 APRIL. THE PROTON EVENT WHICH BEGAN ON 11 APRIL HAS CONTINUED TO SLOWLY DECLINE AND PROTONS OF GREATER THAN 10 MEV ENERGIES HAVE BEEN BELOW EVENT THRESHOLD OF 10 PARTICLES/CM²/SEC/STER SINCE 12/2235UT.

III. EVENT PROBABILITIES: 14 - 16 APRIL

CLASS M 95/95/95

CLASS X 50/40/30

PROTON 40/40/30

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 12 APR 251

ESTIMATED 13 APR 242

PREDICTED 14-16 APR 234/227/218

90 DAY MEAN 12 APR 204

V. GEOMAGNETIC A INDICES

OBSERVED AFR 11 APR 33 AP 12 APR 62

ESTIMATED AFR 12 APR 55 AFR/AP 13 APR 80/80

PREDICTED AFR/AP 14-16 APR 25/30 30/35 30/35

SOLTERWARN

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FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 103B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200UT 13 APRIL 1981

I A. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
13/1200UT TO 13/2200UT:

SOLAR ACTIVITY HAS BEEN MODERATE DURING THIS FORECAST PERIOD.
A MI, NO OPTICAL, WITH MAXIMUM AT 13/1918UT. REGION 3038
(N10E25) PRODUCED A C7/1N EVENT AT 13/1345UT.

I B. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH. REGION
3035 (N14E04) CONTINUES TO HAVE THE POTENTIAL FOR X-CLASS
ACTIVITY WITH TWO DELTA'S. REGION 3026 (N07W70) AND 3027
(N18W53) BOTH COULD PRODUCE M-CLASS ACTIVITY.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT MAJOR STORM LEVELS. THE
GEOMAGNETIC FIELD IS EXPECTED TO DECREASE TO ACTIVE LEVELS
ON 14 APRIL THEN RE NEAR MINOR STORM LEVELS DURING THE
REST OF THE FORECAST PERIOD.

III. EVENT PROBABILITIES: 14-16 APRIL

CLASS M 95/95/95

CLASS X 50/40/30

PROTON 40/40/30

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBERVED 13 APR 257

PREDICTED 14-16 APR 245/235/225

50 DAY MEAN 13 APR 205

V. GEOMAGNETIC A₁ INDICES

OBERVED AFR/APR 12 APR 57/62

ESTIMATED AFR/APR 13 APR 105/80

PREDICTED AFR/APR 14-16 APR 125/130/130/135/130/135

SOLAR/WARN

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WRONG