

HFUS 1 BOU 201300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 140A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1200UT 20 MAY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 19/1200UT TO 20/1200UT:

SOLAR ACTIVITY APPROACHED THE MODERATE LEVEL FOR THE FIRST TIME IN THREE DAYS WITH THE OCCURRENCE OF A C9.9/1N FLARE IN REGION 3106 (N12W43) AT 0308Z MAXIMUM. THIS FLARE WAS NOT PARTICULARLY ENERGETIC WITH ONLY 33 FLUX UNITS REPORTED AT 2695MHZ. THE REMAINDER OF THE ACTIVITY DURING THE PAST 24 HOURS CONSISTED OF LOW LEVEL C-CLASS SUBFLARES FROM 3106, REGION 3112 (N15W32) AND REGION 3113 (S25W02). THE SLOW DECAY IN REGION 3106 APPEARS TO HAVE STOPPED, WHILE REGION 3113 NOW SHOWS TRENDS OF REINTENSIFYING WITH A DELTA MAGNETIC CONFIGURATION AND SPOT GROWTH. THE REMAINING DISK REGIONS ARE LITTLE CHANGED WITH NO NEW DISK OR LIMB DEVELOPMENT.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE LOW TO MODERATE. REGIONS 3106 AND 3112 RETAIN A SMALL POTENTIAL FOR M-CLASS EVENTS. WITH REGION 3106'S HISTORY OF PROTON PRODUCTION AND CURRENT DISK LOCATION, THE POSSIBILITY OF A SMALL PROTON FLARE CANNOT BE OVERLOOKED.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD WAS BASICALLY UNSETTLED UNTIL 0609Z, WHEN A SUDDEN COMMENCEMENT OF 62 GAMMAS WAS RECORDED AT BOULDER. A K INDEX OF SIX WAS THEN RECORDED FOR THE 06-09Z PERIOD. THE SOURCE OF THIS DISTURBANCE IS UNKNOWN. ACTIVE CONDITIONS ARE EXPECTED FOR THE NEXT 24 HOURS WITH BRIEF PERIODS AT MINOR STORM LEVELS.

III. EVENT PROBABILITIES: 21 MAY - 23 MAY

CLASS M 65/50/45

CLASS X 15/15/10

PROTON 15/15/10

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 19 MAY 189

ESTIMATED 20 MAY 185

PREDICTED 21-23 MAY 180/178/175

90 DAY MEAN 19 MAY 215

V. GEOMAGNETIC A INDICES

OBSERVED AFR 18 MAY 38 AP 19 MAY 22

ESTIMATED AFR 19 MAY 15 AFR/AP 20 MAY 25/40

PREDICTED AFR/AP 21-23 MAY 15/25 - 20/25 - 20/25

SOLTERWARN

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HFUS 3 BOU 202200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO

SDF NUMBER 140B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200 UT 20 MAY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 20/1200 UT TO 20/2200 UT: SOLAR ACTIVITY HAS REMAINED LOW. X-RAY EVENTS HAVE NOT EXCEEDED C1 FOR THE PAST 30 HOURS. REGIONS 3106 (N11W53) AND 3112 (N15W42) HAVE DECAYED CONSIDERABLY DURING THE PAST TWO DAYS. MINOR PLAGE GROWTH HAS OCCURRED AROUND THE LEADER SPOT IN REGION 3106. NUMEROUS NEW SPOTS HAVE APPEARED IN THE TRAILING-POLARITY AREA OF REGION 3113 (S25W09). ITS LEADER SPOT HAS BECOME COMPLEX AS UMBRAE HAVE MOVED APART. A DELTA CONFIGURATION CONTINUES ON THE EDGE OF THE LARGE PENUMBRA. ITS ASSOCIATED FILAMENT IS ACTIVE. SMALL SPOTS HAVE APPEARED IN AN OLD PLAGE AREA AT S09W40 (REGION 3118). A SMALL SPOT HAS ROTATED INTO VIEW AMIDST AN EXTENSIVE AREA OF FAINT PLAGE AT S08E74 (REGION 3117). SMALL SURGES HAVE OCCURRED AT N03 AND N28 EAST LIMB.

IB. SOLAR ACTIVITY FORECAST: THE PROBABILITY OF A CLASS M EVENT IS NOW DUE PRIMARILY TO REGION 3113. DECAY IN REGIONS 3106-3112 AND LOSS OF REGIONS OVER WEST LIMB ARE EXPECTED TO EXCEED THE INCREASE IN ACTIVITY DUE TO EAST LIMB REGIONS.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN UNSETTLED TO SLIGHTLY ACTIVE SINCE THE STORMY PERIOD AT 06/09Z. SIMILAR CONDITIONS ARE EXPECTED THROUGHOUT THE NEXT THREE DAYS.

III. EVENT PROBABILITIES 21 MAY - 23 MAY

CLASS M 50/45/40

CLASS X 05/05/05

PROTON 05/05/05

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 20 MAY 176

PREDICTED 21-23 MAY 173/170/167

90-DAY MEAN 20 MAY 215

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 19 MAY 15/22

ESTIMATED AFR/AP 20 MAY 29/35

PREDICTED AFR/AP 21-23 MAY 15/25 - 20/25 - 20/25

SOLTERWARN

BT