

HFUS P BOU 211300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SEF NUMBER 202A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 21 JULY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
20/1200Z TO 21/1200Z:

SOLAR ACTIVITY HAS BEEN MODERATE DURING THIS PERIOD. REGION 3204 (S28W85) PRODUCED A M5/1B PROTON EVENT AT 20/1329UT. THIS EVENT HAD A 650 FLUX UNIT BURST AT 2695 MHZ, A WEAK TYPE II DEKAMERIC BURST AND A SHORT WAVE FADE THROUGH 22 MHZ. A BRIGHT SURGE, OUT TO .16 RADII, AND A LARGE LOOP PROMINENCE SYSTEM WAS ALSO REPORTED WITH THIS EVENT. REGION 3219 (S08W82) PRODUCED A M3/SN EVENT AT 20/1734UT, MINOR RADIO BURSTS WERE ALSO RECORDED. A M2, NO OPTICAL OR RADIO REPORTED, OCCURRED AT 20/2347 UT. REGION 3224 (N16E05) PRODUCED TWO M2/1B EVENTS AT 21/0403 UT AND 21/0854UT, BOTH WITH MINOR RADIO RESPONSE, AN IMPORTANCE I TYPE IV WAS RECORDED WITH THE 0854 EVENT. THE LARGE U SHAPED FILAMENT IN THE SOUTHWEST QUADRANT, EAST OF 3204, DISRUPTED SOME TIME AFTER 20/1400UT. NEW REGION 3234 (S10E69) IS A LARGE D-TYPE GROUP WITH PLAGE FLUCTUATIONS AND BRIGHT POINTS. LIMP PROXIMITY PREVENTS DETAILED ANALYSIS.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH DURING THE FORECAST PERIOD. REGION 3221 (S07E35) CONTINUES TO HAVE THE POTENTIAL FOR X-CLASS EVENTS. REGION 3224 SHOULD PRODUCE A FEW MORE M-CLASS EVENTS WITH AN OUTSIDE CHANCE FOR AN X-CLASS EVENT. REGION 3204 ALSO REMAINS A THREAT FOR A POSSIBLE PROTON EVENT DURING THE NEXT 36 HOURS. NEW REGION 3234 MAY BEAR WATCHING.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN GENERALLY UNSETTLED DURING THIS PERIOD. DUE TO THE EFFECTS OF THE SEVERAL ENERGETIC EVENTS ALONG WITH THE FILAMENTS THAT HAVE DISAPPEARED THE GEOMAGNETIC FIELD IS EXPECTED TO BE ACTIVE, WITH SHORT PERIODS OF MINOR STORM CONDITIONS DURING THE FORECAST PERIOD. SATELLITE PROTON FLUXES GREATER THAN 10 MEV CROSSED THRESHOLD AT 20/1430UT. PEAK FLUX WAS 100 P/CM²/SEC/STER AT 20/1825UT. THE PROTON EVENT CONTINUES IN PROGRESS AND IS EXPECTED TO CONTINUE FOR THE NEXT 3 TO 6 HOURS.

III. EVENT PROBABILITIES: 22-24 JULY

CLASS M 95/95/95

CLASS X 40/40/40

PROTON 15/15/20

PCAF IN PROGRESS

IV. OTTAWA 10.7 FLUX

OBSERVED 20 JULY 218

ESTIMATED 21 JULY 225

PREDICTED 22-24 JULY 220/210/200

90 DAY MEAN 20 JULY 177

V. GEOMAGNETIC A INDICES

OBSERVED AFR 19 JULY 12 AP 20 JULY 13

ESTIMATED AFR 20 JULY 14 AFR/AP 21 JULY 11/11

PREDICTED AFR/AP 22-24 JULY 18/20 15/15 15/15

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HEUS 3 BOU 212200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO

SDR NUMBER 202B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200Z 21 JULY 1981

I. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 21/1200Z TO 21/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE SINCE 21/1200Z DUE TO TWO M1 FLARES, ONE UNASSOCIATED FLARE AT 21/1652Z AND A SB/M1 AT 21/1910Z FROM REGION 3221 (S07E29). THE FIRST HAD A VERY SLOW RISE AND FALL. REGION 3221 HAS RETAINED ITS DELTA MAGNETIC CONFIGURATION BUT HAS LOST SOME SPOT AREA. REGION 3224 HAS ACQUIRED A WEAK DELTA. TWO NEW REGIONS WERE NUMBERED, 3234 (S11E75) AND 3235 (N04W57) **REF ID: 3226**

II. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO CONTINUE MODERATE DUE TO THE PROVEN POTENTIAL OF REGIONS 3221 AND 3224 AND APPARENT POTENTIAL IN REGION 3234.

III. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN UNSETTLED FOR THE PAST 24 HOURS AND IS EXPECTED TO BECOME ACTIVE WITH BRIEF PERIODS OF MINOR STORM CONDITIONS IN RESPONSE TO NUMEROUS ENERGETIC EVENTS AND DISAPPEARED FILAMENTS. THE PROTON EVENT, WHICH REACHED A PEAK FLUX OF 100-P/(CM²/SEC/STER) AT 20/1825Z, ENDED AT 21/1615Z.

IV. EVENT PROBABILITIES: 22 JULY - 24 JULY

CLASS M 95/90/85

CLASS X 40/35/30

PROTON 15/15/15

PCAF YELLOW

V. OTTAWA 10.7 CM FLUX

OBSERVED 21 JULY 219

PREDICTED 22-24 JULY 215/210/200

90-DAY MEAN 21 JULY 177

VI. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 20 JULY 17/13

ESTIMATED AFR/AP 21 JULY 10/11

PREDICTED AFR/AP 22-24 JULY 18/20 - 15/18 - 15/15

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