

HFUS 7 80U 211300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF 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) PRO-
DUCED 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 IMPORTANT J 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
(S10⁶⁹) IS A LARGE D-TYPE GROUP WITH PLAGE FLUCTUATIONS AND
BRIGHT POINTS. LIMB 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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FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO
SDR NUMBER 202B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 21 JULY 1981.

IA. 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) REGION 3226

IB. 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.

II. 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.

III. EVENT PROBABILITIES 22 JULY - 24 JULY

CLASS M	95/90/85
CLASS X	40/35/30
PROTON	15/15/15
PCAF	YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED	21 JULY 219
PREDICTED	22-24 JULY 215/210/200
90-DAY MEAN	21 JULY 177

V. 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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