

HFUS 1 BOU 071325

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 008A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 1300Z 27 JULY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

26/1200Z TO 27/1200Z:

SOLAR ACTIVITY HAS BEEN HIGH DURING THE PAST 24 HOURS. REGION 3234 (S13E10) CONTINUED AS THE ACTIVITY LEADER. THE REGION PRODUCED AN X3/2B FLARE AT 26/1346 UT WHICH WAS ACCCOMPANIED BY MINOR DISCRETE FREQUENCY RADIO NOISE BURSTS AND WEAK SHORT WAVE FADES TO 22 MHZ. THE REGION PRODUCED 8 M-CLASS FLARES DURING THE PAST 24 HOURS AT 26/1529, 1811, 1909, 2126, 2346, 27/0111, 0628 AND 1133 UT. MANY OF THE M-CLASS EVENTS WERE ACCOMPANIED BY MODERATELY STRONG RADIO NOISE BURSTS AND SHORT-WAVE FADES. AS REGION 3234 FLARED IT MANAGED TO GROW SUBSTANTIALLY IN SPOT STRENGTH AND MAGNETIC COMPLEXITY. REGION 3221 (S07W44) ALTHOUGH RELATIVELY QUIET, DID PRODUCE AN M1/SB AT 27/0411UT. REGIONS 3244 (S06W14) AND 3246 (N23W06) WERE NUMBERED DURING THE PAST DAY.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO CONTINUE MODERATE TO OCCASIONALLY HIGH. REGION 3234 HAS PRODUCED AN OVERWHELMING AMOUNT OF ENERGETIC FLARE ACTIVITY OVER THE PAST 36 HOURS AS IT GREW IN STRENGTH. THE REGION NOW SEEMS READY TO STABILIZE AND PERHAPS THE FLARE PRODUCTION WILL SUBSIDE UNTIL THE REGION BEGINS TO DISINTEGRATE. THE MOST OMINOUS REGION IS STILL REGION 3221. IT HAS A TWISTED LOOK IN H-ALPHA THAT HAS PRESAGED MAJOR FLARES FROM OTHER REGIONS IN THE PAST. REGION 3221 SEEMS TO BE HARROPING ITS ENERGY FOR ONE VERY LARGE FLARE WHICH SHOULD OCCUR SOME TIME IN THE NEXT THREE DAYS.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT ACTIVE TO MINOR GEOMAGNETIC STORM LEVELS FOR THE PAST 24 HOURS. MAGNETIC ACTIVITY HAS NOT DIMINISHED AS RAPIDLY AS IT WAS THOUGHT IT WOULD FROM THE MAJOR STORM THAT BEGAN ON 25 JULY. THE RECENT FLURRY OF M-CLASS FLARES AT OR NEAR CENTRAL MERIDIAN IS EXPECTED TO PRODUCE ANOTHER DISTURBANCE BEGINNING LATE ON 28 JULY OR EARLY THE NEXT DAY.

III. EVENT PROBABILITIES: 28 - 30 JULY

CLASS M 95/95/80

CLASS X 45/40/35

PROTON 30/30/30

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 26 JUL 255

ESTIMATED 27 JUL 254

PREDICTED 28-30 JUL 250/243/240

90 DAY MEAN 26 JUL 179

V. GEOMAGNETIC ACTIVITY INDICES

OBSERVED AFR 25 JUL 113 AP 26 JUL 65

ESTIMATED AFR 26 JUL 87 APR/AP 27 JUL 31/30

PREDICTED AFR/AP 28-30 JUL 27/28 35/40 32/45

SOLTERWARN

BT

HFUS 3 FOU 272200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO

SDF NUMBER 208B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200Z 27 JULY 1981

I.A. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 27/1200Z TO 27/2100Z: SOLAR ACTIVITY HAS BEEN HIGH. REGION 3234 (S12E00) HAS REMAINED THE PRINCIPAL SOURCE OF ACTIVITY WITH A C5/1B MAXIMUM AT 1226Z WITH MODERATE BURST EMISSION AND AN X1/1B MAXIMUM AT 1726Z ACCCOMPANIED BY A CLASSIC CASTELLI-U PATTERN OBSERVED IN THE DISCRETE FREQUENCY EMISSION. 4000 FLUX UNITS WERE OBSERVED AT 245 MHZ, 1800 AT 8800 MHZ AND 420 AT 2695 MHZ. A 1B FLARE OCCURRED IN REGION 3221 (S06W51) AT 1456Z MAXIMUM. A SMALL NUMBER OF SUBFLARES WERE OBSERVED.

I.B. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO REMAIN HIGH WITH MAJOR ACTIVITY LIKELY IN REGIONS 3221 AND 3234. POTENTIAL APPEARS VERY HIGH IN 3234 AND INCREASING IN 3221. WITH GREAT COMPLEXITY EVIDENT IN BOTH REGIONS AND INCREASING MAGNETIC GRADIENTS REPORTED IN 3221.

I.I. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD ACTIVITY FELL BELOW MINOR STORM LEVELS LATE IN THIS REPORT INTERVAL AND IS NOW AT ACTIVE LEVELS. STORM LEVELS ARE EXPECTED TO RESUME IN THE FORECAST INTERVAL DUE TO RECENT SOLAR ACTIVITY.

III. EVENT PROBABILITIES 28 JULY - 30 JULY

CLASS M 95/95/95

CLASS X 45/45/45

PROTON 30/30/30

PCAF 100/100/100 YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 27 JULY 254

PREDICTED 28-30 JULY 250/243/240

90-DAY MEAN 27 JULY 180

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 26 JULY 89/65

ESTIMATED AFR/AP 27 JULY 35/30

PREDICTED AFR/AP 28-30 JULY 27/28 - 35/40 - 32/45

SOLAR/TERR. WARN.

RT