

HFUS 3 BOU 252200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 116

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 25 APR 1984

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 24/2100 TO 25/2100Z: SOLAR ACTIVITY HAS BEEN HIGH THIS PERIOD. REGION 4474 (S13E30) PRODUCED A X12/3B FLARE AT 2354 UT ON 24 APRIL. SIGNIFICANT RADIO BURSTS AND RADIO SWEEPS ACCCOMPANIED THIS FLARE ( INCLUDING: A TYPE IV SWEEP OF IMPORTANCE THREE, A 245 MHZ RADIO BURST OF 220000 FLUX UNITS AND A 2695 MHZ RADIO BURST OF 7300 FLUX UNITS). THIS IS THE LARGEST FLARE OBSERVED SINCE A X12 WAS OBSERVED ON 15 DECEMBER 1982. REGION 4474 HAS MAINTAINED IT'S IMPRESSIVE F TYPE SPOT CLASSIFICATION AND BETA GAMMA DELTA MAGNETIC CONFIGURATION, SHOWING LITTLE SIGN OF RELINQUISHING IT'S COMPLEX STRUCTURE. REGION 4472 (S11W25) REMAINS STABLE, AND IS UNIMPRESSIVE. ONE REGION WAS NUMBERED THIS PERIOD, 4475, A B TYPE SPOT GROUP. THIS REGION IS LOCATED AT APPROXIMATELY N17W45. THE REMAINDER OF THE DISK APPEARS STABLE AT THIS TIME.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD REMAIN HIGH THROUGHOUT THE FORECAST PERIOD. REGION 4474 SHOULD REMAIN THE SOURCE REGION FOR ANY SIGNIFICANT FLARE ACTIVITY.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 24/2100Z TO 25/2100Z: THE GEOMAGNETIC FIELD HAS BEEN GENERALLY UNSETTLED TO STORM LEVELS, AT ALL LATITUDES, THIS PERIOD. PERIODS OF STORM LEVEL CONDITIONS BEGAN AT 1330 UT. A SATELLITE PROTON EVENT ( DEFINED AS 10 PARTICLES GREATER THAN 10 MEV AND HIGHER) BEGAN AT APPROXIMATELY 1330 UT AND IS STILL IN PROGRESS. A POLAR CAP ABSORBTION BEGAN AT APPROXIMATELY 1900 UT AND IS STILL IN PROGRESS.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD SHOULD BE AT ACTIVE TO STORM LEVELS, AT ALL LATITUDES, THROUGHOUT THE FORECAST PERIOD. THIS LEVEL OF ACTIVITY IS DUE TO THE COMBINED EFFECTS OF THE X12 FLARE AND RECURRENT CORONAL HOLE STREAMS IMPACTING THE MAGNETOSPHERE. SATELLITE PROTON AND POLAR CAP ABSORBTION EVENTS ARE POSSIBLE THROUGHOUT THE FORECAST PERIOD.

III. EVENT PROBABILITIES 26 APR-28 APR

CLASS M 99/99/99

CLASS X 40/40/40

PROTON 30/20/20

PCAF RED

IV. OTTAWA 10.7 CM FLUX

OBSERVED 25 APR 151

PREDICTED 26 APR-28 APR 154/156/158

90 DAY MEAN 25 APR 130

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 24 APR 006/010

ESTIMATED AFR/AP 25 APR 024/020

PREDICTED AFR/AP 26 APR-28 APR 040/050-050/030-028/030

SOLTERWARN

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