

HFUS-1 BOU 011400

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 091 A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 1200UT . APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
31/1200UT TO 01/1200UT:

SOLAR ACTIVITY HAS BEEN MODERATE TO HIGH. REGION 3022 (NOSE 74) APPEARED ON THE EAST LIMB YESTERDAY AND PROMPTLY PRODUCED AN M1 XRAY BURST AT 311351 U.T. (MAX). REGION 3022 HAS SO FAR ONLY REVEALED A SIMPLE H TYPE SPOT GROUP. REGION 2999 (S43W57) STARTED THIS ZULU DAY WITH THE PRODUCTION OF AN X2 FLARE AT 010153Z (MAX) THAT WAS CLASSED OPTICALLY AS A 2B UPWARD TO A 3B BY VARIOUS OBSERVATORIES. RADIO EMISSION WITH THIS EVENT WAS SIGNIFICANT AT BOTH FIXED AND SWEEP FREQUENCIES. TYPE II, III AND IV EMISSION WAS REPORTED AS STRONG ON SWEEP FREQUENCIES AND 2000 FLUX UNITS WAS REPORTED AT 2695 MHZ. THE LARGEST BURST WAS OBSERVED ON 606 MHZ WHERE 14000 FLUX UNITS WERE REPORTED. REGION 2999 RETAINS THOSE CHARACTERISTICS NORMALLY ASSOCIATED WITH ENERGETIC ACTIVITY AND IS LIKELY TO PRODUCE ADDITIONAL FLARES OF AT LEAST M MAGNITUDE BEFORE CROSSING WEST LIMB. NONE OF THE OTHER DISK REGIONS APPEAR THREATENING AT PRESENT.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY SHOULD BE AT MODERATE LEVELS FOR THE NEXT 24 HOURS. THE PRESENCE OF REGION 2999 WILL CONTINUE TO POSE A THREAT UNTIL ITS WEST LIMB PASSAGE.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN UNSETTLED. UNSETTLED CONDITIONS ARE EXPECTED FOR THE NEXT THREE DAYS. THE X2 FLARE AT 010153Z HAS RESULTED IN THE DETECTION OF A SMALL NUMBER OF LOW ENERGY PARTICLES AT SATELLITE ALTITUDES. THIS PARTICLE PRECIPITATION IS LIKELY TO THREATEN THE EVENT THRESHOLD FOR THE NEXT 18 TO 24 HOURS.

III. EVENT PROBABILITIES: 02 - 04 APRIL

CLASS M 50/50/50

CLASS X 01/01/01

PROTON 01/01/01

PCAF RED

IV. OTTAWA 10.7 FLUX

OBSERVED 31 MAR 219

ESTIMATED 01 APRIL 219

PREDICTED 02-04 APR 217/215/214

90 DAY MEAN 31 MAR 195

V. GEOMAGNETIC A INDICES

OBSERVED AFR 30 MAR-15 AP 31 MAR 21

ESTIMATED AFR 31 MAR 17 AFR/AP 01 APR 15/20

PREDICTED AFR/AP 02-04 APR 12/15 12/15 12/15

SOLTERWARN

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HFUS 3 BOU 012200
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 091B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200UT 1 APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

01/1200UT TO 01/2200UT:

SOLAR ACTIVITY HAS BEEN MODERATE FOR THE PAST 10 HOURS. AN UNUSUALLY LONG M4 X-RAY EVENT BEGAN AT 1405 UT, MAXED AT 1437 AND SLOWLY DECAYED TO HALF-POWER AT 1539 UT. LARGE, SPECTACULAR FLARE LOOPS WERE OBSERVED ABOVE THE NORTHWEST LIMB AND ARE STILL FAINTLY VISIBLE AT FORECAST TIME. REGION 2993 (N15W110) IS ASSUMED TO BE THE SOURCE OF THIS FLARE. IN ADDITION, BRIGHT CORONAL MATERIAL (CORONAL RAIN) HAS BEEN OBSERVED THROUGHOUT THE DAY ABOVE THE EAST LIMB AT NORTH 11. A LARGE EAST-WEST FILAMENT CENTERED AT THE CENTRAL MERIDIAN AT S40 ON 31 MARCH DISAPPEARED BEFORE 1500 UT TODAY. FAINTLY ENHANCED PLAGE PARALLELED EACH SIDE OF THE FILAMENT'S FORMER POSITION.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE WITH REGION 2993 AND POTENTIAL EAST LIMB REGIONS CONTRIBUTING TO THE PROBABILITIES.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN UNSETLED TO MINOR STORM LEVELS FOR THE PAST 10 HOURS. A TRICKLE OF PROTONS (MEASURABLE BUT LESS THAN EVENT THRESHOLDS) BEGAN NEAR 0400 UT AND HAS CONTINUED THROUGH THE DAY. THESE ARE ATTRIBUTED TO TODAY'S X2/2B FLARE. THE GEOMAGNETIC FIELD IS EXPECTED TO BE UNSETLED TO ACTIVE FOR THE NEXT TWO DAYS, INCREASING TO MAJOR STORM LEVELS ON THE THIRD DAY IN RESPONSE TO FLARE ACTIVITY AND AN INFERRED CORONAL TRANSIENT ASSOCIATED WITH THE FILAMENT DISAPPEARANCE. PROTON LEVELS MAY INCREASE TOMORROW AS A RESULT OF THE FLARE BEYOND THE WEST LIMB.

III. EVENT PROBABILITIES 02 - 04 APRIL

CLASS M 55/60/65

CLASS X 01/01/01

PROTON 30/01/01

PCAF RED

IV. OTTAWA 10.7 FLUX

OBSERVED 01 APR 228

PREDICTED 02-04 APR 230/230/235

96 DAY MEAN 01 APR 195

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 31 MAR 20/21

ESTIMATED AFR/AP 01 APR 22/20

PREDICTED AFR/AP 02-04 APR 12/20 18/20 40/30

SOLTERWARN

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