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HAUS BOU 210405

FROM SPACE DISTURBANCE FORECAST CENTER BOULDER COLO

SDF NUMBER 111A ISSUED 0400Z 21 APRIL 1971

CLASS M FLARES ARE LIKELY DURING THE NEXT 13 HOURS.

A. DURING THE PAST 11 HOURS, SOLAR ACTIVITY HAS CONSISTED OF OCCASIONAL CLASS C FLARES AND A CLASS M3 IMPORTANCE ONE-NORMAL FLARE THAT OCCURRED IN THE S04W57 REGION AT 20/1923Z. MODERATE IONOSPHERIC EFFECTS AND A SMALL RADIO BURST ACCOMPANIED THE M3 EVENT. THE S04W57 GROUP CONTAINS AN IRREGULAR LEADING PENUMBRA SURROUNDED BY A RING OF UMBRA AND PLAGE. THIS SOUTHWESTERN ACTIVE CENTER ALSO IS A RELATIVELY STRONG SOURCE OF 9.1 CM RADIO NOISE. THE REGION AT N20W29 IS MAGNETICALLY COMPLEX, WITH LEADING POLARITY SPOTS PROTRUDING INTO THE TRAILER SECTION. SOME DEVELOPMENT OF THE PLAGE AND SPOTS AT N19W42 HAS BEEN OBSERVED RECENTLY. OTHER REGIONS ARE GENERALLY UNIMPRESSIVE. PROTON COUNTING RATES ON THE ATS-1 SATELLITE BECAME SLIGHTLY ENHANCED AT APPROXIMATELY 20/2100Z ON THE 20-70 MEV CHANNEL, PROBABLY DUE EITHER TO THE CLASS X3 FLARE AT 20/0514Z OR TO THE CLASS M3 FLARE AT 20/1923Z. PRESENT COUNTING RATES ARE ABOUT 5 PARTICLES/CM<sup>2</sup>/SEC AT 5-20 MEV AND 1.5 PARTICLES/CM<sup>2</sup>/SEC AT 20-70 MEV. THE GEOMAGNETIC FIELD IS QUIET.

B. SOLAR ACTIVITY PROBABLY WILL REMAIN AT AN INTERMEDIATE LEVEL DURING THE NEXT THREE DAYS. CLASS C AND CLASS M FLARES ARE LIKELY TO BE PRODUCED BY THE ACTIVE CENTERS AT N20W29 AND S04W57, AND A FAIR CHANCE EXISTS THAT A CLASS X FLARE MAY OCCUR DURING THE 72-HOUR FORECAST PERIOD. THE GEOMAGNETIC FIELD IS EXPECTED TO REMAIN QUIET UNTIL 22 APRIL, WHEN A MINOR MAGNETIC STORM IS ANTICIPATED BEGINNING BETWEEN 1300 AND 1900Z. THE PRESENT ENHANCEMENT OF PARTICLE COUNTING RATES ON ATS-1 IS EXPECTED TO REMAIN MINOR, AND A SIGNIFICANT POLAR-CAP ABSORPTION EVENT PROBABLY WILL NOT BE OBSERVED.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24 HOUR PERIODS BEGINNING 21 APR/0400Z ENDING 24 APR/0400Z.

CLASS M OR GREATER 80/80/80

CLASS X 20/20/20

PROTON EVENTS 10/05/05

D. OTTAWA 10.7 CM FLUXES FOR 20/1700Z AND 20/2000Z WERE 135 AND 153 /FLARE ENHANCED/ RESPECTIVELY.

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FROM SPACE DISTURBANCE FORECAST CENTER BOULDER COLO

SDF NUMBER 111B ISSUED 1700Z 21 APR 1971

NO MORE THAN TWO M EVENTS ARE EXPECTED IN THE INTERIM BETWEEN MESSAGES.

A. SUBFLARE ACTIVITY AT THE RATE OF ABOUT ONE PER HOUR CONTINUES TO CHARACTERIZE OVERALL DISK CONDITIONS. IN WHITE LIGHT SOMEWHAT PECULAR DEVELOPMENT HAS BEEN NOTED IN THE TWO REGIONS NEAR N17W51 AND N19W48. MOREOVER, THE MOST ENERGETIC EVENT SINCE THE LAST MESSAGE OCCURRED IN THIS SAME GENERAL AREA ABOUT 21/0600Z, BEING CLASSIFIED SOMEWHERE BETWEEN AN M1 AND M2. THE PROTON FLUX ENHANCEMENTS INITIALLY OBSERVED YESTERDAY ON ATS-1 HAVE NOT EXCEEDED THE LEVEL REQUIRED TO PRODUCE GROUND LEVEL ABSORPTION AND VERY LIKELY WILL NOT DO SO. A PEAK FLUX OF ROUGHLY 150 PART/CM<sup>2</sup>/SEC ON PAULIKIS 5-21 MEV SENSOR WAS RECORDED ABOUT 21/0900Z. THE HIGHER ENERGY CHANNEL HAS NEVER BEEN MORE THAN A FEW TIMES BACKGROUND IN THE 20 HRS SINCE THE EVENT'S ONSET. NEAR 21/1700Z FLUXES WERE APPROXIMATELY 40 IN THE LOW ENERGY WINDOW WHILE NEAR BACKGROUND ON THE HIGH CHANNEL.

B. NO MAGNETIC STORM IN THE REAL SINCE OF THE WORD IS ANTICIPATED FROM THE DISK ACTIVITY OF THE PAST TWO DAYS. SOME MAGNETIC FIELD FLUCTUATIONS, HOWEVER, ARE EXPECTED ON THE 22ND WITH AN ONSET TIME BETWEEN 1300 AND 1900Z. IN TERMS OF POTENTIAL DISK ACTIVITY THE ANOMALOUSLY DEVELOPING REGIONS IN THE NW HOLD THE MOST PROMISE.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24 HOUR PERIODS BEGINNING 21 APR/1700Z ENDING 24 APR/1700Z.

CLASS M OR GREATER 60/65/80

CLASS X 10/10/20

PROTON EVENTS 10/10/35

D. OTTAWA 10.7 CM FLUX FOR 21/1400Z WAS 130. PREDICTED 10.7 CM FLUX FOR 22-24 APRIL IS 128/123/119.

E. MAGNETIC A-FREDERICKSBURG FOR 20 APR WAS 06. FOR 21 APR ABOUT 05 PREDICTED AP FOR 22-24 APR, 12/16/12.

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