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KMSC

HAUS BOU 290625Z

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO

SDF NUMBER 521A ISSUED 0400Z 29 JAN 1970

AT LEAST ONE LARGE X-RAY EVENT (CLASS X FLARE) IS EXPECTED DURING THE NEXT 24-HOUR PERIOD.

A. THE DELTA (BETA SUB P) REGION, REFERRED TO EARLIER AS MCMATH REGION#539, HAS PRODUCED SIX M FLARES AND AN X EVENT DURING THE PAST GREENWICH DAY. TWO OF THESE FLARES WERE ACCOMPANIED BY RADIO BURSTS GREATER THAN 75 UNITS (A) AND ABOUT HALF INITIATED ASSORTED SID'S WITH IMPORTANCES RANGING FROM ONE MINUS TO THREE. THE MOST INTENSE OUTBURST OCCURRED AT 28/1910 UT NEAR S14W31 - A CLASS X FLARE OF OPTICAL IMPORTANCE 2B WITH A 15 MINUTE RISE TIME AND A SLOW DECAY (72 MIN DUR). NO NEUTRON ENHANCEMENT WAS DISCERNABLE. THE RADIO BURST'S CHARACTERISTIC SPECTRUM DISPLAYED ONLY THE HIGH-FREQUENCY WING OF THE CLASSICAL INVERTED U; PEAK FLUX WAS APPROXIMATELY 2000 UNITS (A) NEAR 5000 MHZ; METER WAVELENGTH EMISSIONS WERE NEGLIGIBLE AND NO TYPE IV WAS OBSERVED. AFTER ABOUT A 3-HOUR DELAY SOLAR COSMIC RAYS WERE DETECTED BY THE ATS-1 GEOSTATIONARY SATELLITE. FLUXES AS OF 29/0400Z ARE: LESS THAN 1 PARTICLE/CM<sup>2</sup>/SEC FOR THE 20-70 MEV WINDOW AND APPROXIMATELY 15 PARTICLES/CM<sup>2</sup>/SEC AT 5-20 MEV. THESE REPRESENT 2 TIMES AND 7 TIMES BACKGROUND RESPECTIVELY. PRESENT COUNTING RATES ARE ROUGHLY 2 ORDERS OF MAGNITUDE BELOW THE LEVEL REQUIRED FOR GROUND-BASED RIOMETER RESPONSES. THE PRESENT CLASS/AREA OF #539 IS E/680 - MODERATE BY EVEN CURRENT SOLAR CYCLE STANDARDS - AND CONSISTS IN WHITE LIGHT OF A SIMPLE-STRUCTURED LEADER COUPLED WITH A CONTORTED FOLLOWER. CONTINUOUS POINT BRIGHTENINGS AND FLUCTUATIONS ARE BEING REPORTED IN ITS CENTRAL PORTION. THE MOST RECENT ACTIVITY HAS TAKEN THE FORM OF AN IMPORTANCE 1 OR 2N FLARE BEGINNING ABOUT 29/0204Z.

(A) ONE FLUX UNIT EQUALS 10 TO THE MINUS 22 WATTS/M<sup>2</sup>/HZ.

B. A HIGH BACKGROUND OF M ACTIVITY WITH ONE OR TWO CLASS X EVENTS SUPERPOSED IS EXPECTED THESE NEXT 24 HOURS. THE ANTICIPATED ENERGETIC FLARES FROM THIS ACTIVE CENTER (#539) ARE NOT EXPECTED TO PRODUCE PROTON FLUXES OF SUFFICIENT INTENSITY TO REGISTER ON RIOMETERS. DUE TO THE FAVORABLE SOLAR WIND GEOMETRY W/R #539 A MINOR MAGNETIC DISTURBANCE SHOULD BEGIN IN ABOUT 15 TO 20 HOURS.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24 HOUR PERIODS BEGINNING 29 JAN/0400Z ENDING 01 FEB/0400Z.

CLASS M OR GREATER 100/100/100

CLASS X 100/80/70

PROTON EVENTS 15/10/05

D. OTTAWA 10.7 CM FLUXES FOR 28/1700 AND 2000Z WERE 174 AND 173 RESPECTIVELY

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HAUS BOU 291718Z

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO

SDF NUMBER 521B ISSUED 1700Z 29 JAN 1970

CLASS X FLARES ARE EXPECTED DURING THE NEXT 11 HOURS.

A. SOLAR ACTIVITY HAS DECREASED SLIGHTLY WITH THE MAJORITY OF THE FLARES STILL COMING FROM THE COMPLEX REGION AT S15W43. TWO CLASS M FLARES WERE OBSERVED IN THIS REGION AT 29/1021Z (IMP SN) AND AT 29/1421Z (IMP IN). THIS REGION ALSO PRODUCED AN IMPORTANCE 2N AT 29/0204Z AND A 1B FLARE AT 29/0715Z WHICH WERE BOTH CLASS C EVENTS. THE TRAILING PORTION HAS LOST CONSIDERABLE PENUMBRAL AREA, BUT NEW PENUMBRAL GROWTH HAS OCCURRED BETWEEN TWO STRONG LEADER SPOTS AND THE MIDDLE PORTION OF THE SPOT GROUP. ITS PLAGE AREA IS BRIGHT AND FLUCTUATING. THE REMAINING REGIONS ARE STABLE AND INACTIVE. THE ATIS-1 SATELLITE SHOWED A FURTHER ENHANCEMENT OF THE MINOR PROTON EVENT AT 29/1340Z WITH A CURRENT READING ON THE 20-70 MEV RANGE OF 3.4 PARTICLES PER SQ CM PER SEC AT 29/1430Z. THE LOW ENERGY CHANNEL (5-20 MEV) IS ONLY SLIGHTLY ABOVE BACKGROUND.

B. THE COMPLEXITY OF THE S15W43 REGION STILL INDICATES THAT A CLASS X FLARE IS VERY PROBABLE DURING THE NEXT 24 HOURS. FREQUENT CLASS M FLARES ARE EXPECTED FROM THIS REGION. A GEOMAGNETIC STORM IS EXPECTED TO BEGIN EARLY ON 30 JAN.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24 HOUR PERIODS BEGINNING 29/1700Z ENDING 01/1700Z.

CLASS M OR GREATER 100/100/100

CLASS X 80/70/70

PROTON EVENTS 15/15/10

D. OTTAWA 10.7 CM FLUX AT 1400Z WAS 168. PREDICTED 170/170/170.

E. MAGNETIC A-FREDERICKSBURG FOR 28 JAN WAS 04. FOR 29 JAN

ABOUT 08. PREDICTED AP FOR 30 JAN - 01 FEB, 30/15/10.

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