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HAUS BOU 210440

FROM SPACE DISTURBANCE FORECAST CENTER BOULDER COLO

SDF NUMBER 317A ISSUED 0400Z 21 NOVEMBER 1970

CLASS C FLARES AND AN OCCASIONAL CLASS M FLARE CAN BE EXPECTED
DURING THE NEXT 13 HOURS.

A. SEVERAL CLASS C FLARES AND ONE CLASS M1 FLARE HAVE BEEN
OBSERVED DURING THE PAST 11 HOURS. THE REGION N08W35 APPEARS
TO BE THE MOST INTERESTING REGION ON THE DISK. THE REGION IS
GROWING RAPIDLY WITH THREE DEVELOPING PENUMBRAE. THE MAJORITY
OF ACTIVITY OBSERVED TODAY HAS BEEN FROM THIS REGION. THERE
HAS BEEN SLOW GROWTH IN SEVERAL OTHER REGIONS. THE GEOMAGNETIC
FIELD HAS BEEN EXTREMELY QUIET.

B. THE REGION N08W35 WILL CONTINUE ITS PRESENT PRODUCTION OF
FLARES, CLASS C AND AN OCCASIONAL CLASS M. THE REGION N15W52
IS ALSO LIKELY TO PRODUCE A FEW NON-ENERGETIC FLARES. THE
GEOMAGNETIC FIELD WILL REMAIN QUIET.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24
HOUR PERIODS BEGINNING 21 NOV/0400Z ENDING 24 NOV/1700Z.

CLASS M OR GREATER 80/75/70

CLASS X 20/15/10

PROTON EVENTS 0/10/10

D. OTTAWA 10.7CM FLUXES FOR 20/1700Z AND 20/2000Z WERE 178
AND 176 RESPECTIVELY.

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HAUS BOU 211810

FROM SPACE DISTURBANCE FORECAST CENTER BOULDER COLO
SDF NUMBER 317B ISSUED 1700Z 21 NOV 1970

CLASS-M FLARES ARE LIKELY DURING THE NEXT 11 HOURS.

A. THE FOLLOWING ENERGETIC EVENTS HAVE BEEN REPORTED DURING THE PAST 13 HOURS: IN, 21/0729Z, N03W42, CLASS-M1; SF, 21/0917Z, N03W33, CLASS-M2; NO OPTICAL OBSERVATIONS, 21/1108Z, CLASS-M2; IN, 21/1337Z, N06W43, CLASS-M4. IN ADDITION TO THE ABOVE EVENTS, AN UNOBSERVED CLASS-M9 FLARE OCCURRED AT 21/1513Z AND PRODUCED A RADIO BURST AT 2695 MHZ OF ABOUT 500 FLUX UNITS ABOVE THE BACKGROUND LEVEL OF 176 FLUX UNITS AT 1521Z; OPTICAL OBSERVATION AT BOULDER AT 1615Z SUGGEST THAT THE FLARE PROBABLY STRADDLED THE FILAMENT BETWEEN THE REGIONS AT N04W40 AND N08W42. NEUTRON COUNTING RATES ON THE DEEP RIVER MONITOR SHOWED A SLIGHT BUT PROBABLY SIGNIFICANT INCREASE OF APPROXIMATELY 2 PERCENT ABOUT TWENTY MINUTES AFTER THE RADIO BURST'S MAXIMUM AT 1521Z. ATS-1 PROTON COUNTING RATES ARE AT BACKGROUND LEVELS. A GEOMAGNETIC STORM BEGAN WITH AN APPARENT SUDDEN COMMENCEMENT AT 20/2058Z, BUT SIGNIFICANT DISTURBANCE DID NOT OCCUR UNTIL ABOUT 21/0720Z. MAGNETIC K-VALUES FOR 0600-0900Z, 0900-1200Z, AND 1200-1500Z WERE 5, 6, AND 6 RESPECTIVELY AT BOULDER. DISTURBANCE IS STILL CONTINUING BUT HAS DECREASED SOMEWHAT DURING THE PAST TWO HOURS.

B. OCCASIONAL CLASS-M FLARES ARE EXPECTED TO OCCUR AT THE N04W40 AND N08W42 REGIONS, AND THERE IS A FAIR CHANCE THAT A CLASS-X EVENT MAY OCCUR THERE BEFORE THE REGIONS PASS OVER THE WEST LIMB. PRELIMINARY DATA FROM THE 21/1520Z EVENT SUGGEST THAT A PROTON EVENT AND ANOTHER MAGNETIC STORM MAY OCCUR DURING THE NEXT TWO DAYS; THE PROTON EVENT, IF IT OCCURS, SHOULD BEGIN WITHIN A FEW HOURS AND THE MAGNETIC STORM SHOULD BEGIN BETWEEN 23/0000Z AND 24/0000Z. THE PRESENT MAGNETIC STORM IS EXPECTED TO CONTINUE FOR AT LEAST 12 HOURS, BUT DISTURBANCE IS EXPECTED TO DECREASE STEADILY.

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

CLASS M OR GREATER 99/95/90

CLASS X 20/20/15

PROTON EVENTS 40/15/10

D. OTTAWA 10.7 CM FLUX FOR 21/1400Z WAS NOT AVAILABLE. PREDICTED 10.7 CM FLUX FOR 22-24 NOV IS 169/160/150.

E. MAGNETIC A-FP FREDERICKSBURG FOR 20 NOV WAS 02. FOR 21 NOV ABOUT 34. PREDICTED AP FOR 22-24 NOV, 20/30/15.

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