

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO  
SDF NUMBER 717A ISSUED 0400Z 13 AUG 1970  
CLASS M EVENTS ARE EXPECTED AND CLASS X EVENTS ARE POSSIBLE  
DURING THE NEXT 13 HOURS.

A. EAST LIMB ORIGIN OF THE 11/2320Z EVENT DESCRIBED IN SDF  
716A AND B IS CONFIRMED BY THE CULGOORA, AUSTRALIA 80 MHZ  
HELIOPHOTOGRAPH WHICH OBSERVED RAPIDLY MOVING TYPE IV EMISSION  
OFF THE EAST LIMB BEGINNING 11/2320Z. WHAT IS POSSIBLY THE  
LARGEST CLASS X EVENT OBSERVED SINCE WE ADOPTED THE M-X  
CLASSIFICATION OCCURRED AT 12/2010Z BEHIND THE EAST LIMB NEAR  
N12. OPTICALLY ONLY A 1B FLARE WAS OBSERVED, BUT IN ALL  
PROBABILITY ONLY THE TOP OF THE EVENT WAS OBSERVED. COMPLETE  
X-RAY DATA ARE NOT YET AVAILABLE, BUT EARLY INDICATIONS ARE  
THAT THE ASSOCIATED IONOSPHERIC DISTURBANCE MAY HAVE BEEN  
THE MOST SEVERE OF THIS SOLAR CYCLE. HF COMMUNICATIONS WERE  
ESSENTIALLY OBLITERATED FOR NEARLY 40 MINUTES. THE PEAK  
RADIO BURST LUX WAS ABOUT 900 FLUX UNITS AT 2700 MHZ AND  
5600 FLUX UNITS AT 15400 MHZ. AFTER THE 12/2010Z FLARE,  
IMPORTANCE 1-PLUS LOOPS WERE OBSERVED AT 2145Z CENTERED AT  
NE13; THESE LOOPS COVERED A LATITUDINAL EXTENT OF AT LEAST  
10 DEGREES. A WELL-DEVELOPED ACTIVE REGION IS BELIEVED TO  
EXIST SEVERAL DEGREES BEHIND THE LIMB NEAR NE13. THE REGION  
AT N17W52 HAS SHOWN PENUMBRAL DEVELOPMENT IN THE LEADER AND  
MID-SECTION, BUT THE EASTERNMOST FOLLOWER PORTION HAS DECAYED;  
THIS REGION HAS EXHIBITED ENHANCED, FLUCTUATING PLAGE, BUT  
NO ENERGETIC FLARES HAVE OCCURRED AT THIS SITE DURING THE  
PAST 11 HOURS. THE GEOMAGNETIC FIELD HAS REMAINED RELATIVELY  
QUIET DURING THE PAST 24 HOURS, EXCEPT FOR A PRONOUNCED  
CROCHET THAT ACCOMPANIED THE 2010Z FLARE.

B. SOLAR ACTIVITY IS EXPECTED TO INCREASE SIGNIFICANTLY DURING  
THE FORECAST PERIOD. OCCASIONAL ENERGETIC EVENTS ARE EXPECTED  
TO OCCUR FROM THE REGION NOW BEHIND THE NORTHEAST LIMB; SOME  
OF THESE EVENTS MAY REACH CLASS-X INTENSITY. THE REGION AT  
N17W52 MAY PRODUCE SPORADIC ENERGETIC ACTIVITY IF DEVELOPMENT  
CONTINUES. THE GEOMAGNETIC FIELD IS EXPECTED TO REMAIN  
RELATIVELY QUIET DURING THE NEXT 24 HOURS.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24  
HOUR PERIODS BEGINNING 13 AUG/0400Z ENDING 16 AUG/0400Z.

CLASS M OR GREATER 90/90/90

CLASS X 40/30/30

PROTON EVENTS 10/10/10

E. OTTAWA 10.7CM FLUX FOR 12/1700Z WAS 132.

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HAUS BOU 131720Z

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO

SDF NUMBER 717B ISSUED 1700Z 13 AUG 1970

CLASS-M EVENTS ARE EXPECTED AND CLASS-X EVENTS ARE NOT UNLIKELY DURING THE NEXT 11 HOURS.

A. SOLAR ACTIVITY HAS REMAINED MODERATE DURING THE PAST 13 HOURS; FOUR CLASS-M EVENTS HAVE BEEN REPORTED SINCE 0400Z. SINCE SEVERAL SUB-NORMAL FLARES FROM THE N17W59 REGION HAVE MORE OR LESS COINCIDED WITH THESE CLASS-M EVENTS, IT IS DIFFICULT TO DETERMINE WHETHER THESE CLASS-M EVENTS WERE PRODUCED BY THE N17W59 REGION OR BY UNOBSERVED FLARES OCCURRING IN THE ACTIVE REGION BEHIND THE LIMB NEAR NE10. PRESENTLY AN H-TYPE SPOT WITH AN AREA OF AT LEAST 100 MILLIONTHS IS VISIBLE AT N09E89, AND MORE SPOTS ARE EXPECTED TO BECOME VISIBLE THIS ZULU DAY. THE REGION AT N17W59 HAS EXHIBITED SIGNIFICANT SPOT GROWTH NORTH OF THE MIDSECTION, AND THE PLAGE OF THIS REGION HAS REMAINED BRIGHTLY ENHANCED WITH CHANGING ABSORPTION FEATURES. DEVELOPMENT ALSO HAS BEEN NOTED IN THE REGION NEAR N21W21. OTHER DISK REGIONS HAVE REMAINED RELATIVELY INACTIVE. ATS-1 SATELLITE PROTON COUNTING RATES HAVE INCREASED TO APPROXIMATELY 14 PARTICLES/CM<sup>2</sup>/SEC ON THE 5-21 MEV CHANNEL AND 3 PARTICLES/CM<sup>2</sup>/SEC ON THE 21-70 MEV CHANNEL; THESE COUNTING RATES CONSTITUTE A COUNTING RATE OF ONLY ABOUT SIX TIMES THE NORMAL BACKGROUND COUNTING RATE. THE GEOMAGNETIC FIELD HAS REMAINED RELATIVELY STABLE DURING THE PAST 13 HOURS.

B. SOLAR ACTIVITY IS LIKELY TO BE AT A MODERATE TO HIGH LEVEL DURING THE FORECAST PERIOD; THE REGION NOW NEAR THE LIMB AT NE10 IS EXPECTED TO PRODUCE ENERGETIC FLARES, AND OCCASIONAL CLASS-M EVENTS ALSO MAY BE PRODUCED AT THE N21W21 AND N17W59 SITES. THE GEOMAGNETIC FIELD IS EXPECTED TO REMAIN RELATIVELY QUIET, AND A MAJOR PROTON EVENT IS NOT ANTICIPATED NEAR EARTH.

C. FLARE AND PROTON EVENT PROBABILITIES FOR THE NEXT THREE 24 HOUR PERIODS BEGINNING 13 AUG/1700Z ENDING 16 AUG/1700Z.

CLASS M OR GREATER 95/95/95

CLASS X 40/30/30

PROTON EVENTS 15/10/10

D. OTTAWA 10.7CM FLUX FOR 13/1400Z WAS 148. PREDICTED 10.7CM FLUX FOR 14-16 AUG IS 155/160/170.

E. MAGNETIC A-FREDERICKSBURG FOR 12 AUG WAS 09. FOR 13 AUG ABOUT 07. PREDICTED AP FOR 14-16 AUG IS 13/19/14.

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