

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 071

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 12 MAR 1989

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 11/2100Z TO 12/2100Z: SOLAR ACTIVITY WAS HIGH. REGION 5395 (N34W04) CONTINUED MAJOR FLARE PRODUCTION. THE LARGEST REACHED M7/2B LEVELS EARLY IN THE PERIOD WITH ASSOCIATED TYPE IV RADIO SWEEP. THE REGION RETAINED MOST OF ITS IMPRESSIVE CHARACTERISTICS, BUT ALSO BEGAN SHOWING EARLY SIGNS OF DECAY. OTHER FLARES DURING THE PERIOD FROM REGION 5395 CONTAINED SIGNIFICANT RADIO BURSTS AND SWEEPS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE HIGH. REGION 5395 PROVIDES A GOOD CHANCE OF A PROTON PRODUCING FLARE, AS WELL AS A VERY GOOD CHANCE OF CONTINUED MAJOR FLARE PRODUCTION.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 11/2100Z TO 12/2100Z: THE GEOMAGNETIC FIELD WAS AT ACTIVE TO MINOR STORM LEVELS. THIS DISTURBANCE MAY BE THE CONSEQUENCE OF THE X15 FLARE OF 6 MAR 89. THE 10 MEV PROTON EVENT CONTINUED IN PROGRESS WITH A PEAK OF 440 PFU VERY LATE IN THE PERIOD. THIS WAS PROBABLY THE CONTRIBUTORY ACCUMULATION OF THE X4/3B FLARE OF 10 MAR 89 ENHANCING THE DECAYING 10 MEV PROTON EVENT THAT INITIALLY STARTED 08/1735Z. THE PCA EVENT ALSO CONTINUED IN PROGRESS AT THE END OF THE PERIOD. IT ALSO PEAKED OUT WITH A 4.8 DB LEVEL VERY LATE IN THE PERIOD.

IIIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BE AT MINOR STORM TO ACTIVE LEVELS. THE X4/3B FLARE OF 10 MAR IS EXPECTED TO GENERATE A DISTURBANCE THE FIRST AND SECOND DAYS.

III. EVENT PROBABILITIES 13 MAR-15 MAR

CLASS M 99/99/99

CLASS X 80/80/80

PROTON 50/50/50

PCAF IN PROGRESS

IV. OTTAWA 10.7 CM FLUX

OBSERVED 12 MAR 249

PREDICTED 13 MAR-15 MAR 245/234/223

90 DAY MEAN 12 MAR 226

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 11 MAR 012/018

ESTIMATED AFR/AP 12 MAR 020/035

PREDICTED AFR/AP 13 MAR-15 MAR 025/030-025/030-019/025