

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 072

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 13 MAR 1989

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 12/2100Z  
TO 13/2100Z: SOLAR ACTIVITY WAS HIGH. REGION 5395 (N34W16)  
PRODUCED AN M6/2N AT 12/2103Z AND AN X1/3N AT 13/0137Z.  
ONLY MINOR TO MODERATE CENTIMETER BURSTS ACCOMPANIED THESE  
FLARES. REGION 5395 ALSO PRODUCED CLASS M1 FLARES AT  
12/2338Z, 13/0137Z, 13/0631Z, 13/1316Z, AND 13/1820Z. THIS  
REGION APPEARS TO BE STABILIZING AT A LARGE 3000 MILLIONTHS  
AREA GROUP. PROPER MOTION AND SPOT ROTATION APPEAR TO BE  
OCCURRING IN THIS REGION, MAINTAINING A HIGH LEVEL OF FLARE  
PRODUCTION IN THE ABSENCE OF SIGNIFICANT GROWTH. SMALL REGION  
5405 (N15W37) WAS NUMBERED.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD CONTINUE  
HIGH. REGION 5395 SHOULD CONTINUE TO PRODUCE 1-2 MAJOR EVENTS  
PER DAY FOR THE DURATION OF ITS DISK TRANSIT.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 12/2100Z TO 13/2100Z:  
THE GEOMAGNETIC FIELD WAS AT SEVERE STORM LEVELS. A 79  
NANOTESLA SUDDEN IMPULSE WAS OBSERVED AT 13/0128Z FOLLOWED BY  
ANOTHER SUDDEN IMPULSE OF 22 NANOTESLA AT 13/0747Z. K INDICES  
OF 6 OR GREATER FOLLOWED THE FIRST IMPULSE. AT MIDDAY, K INDICES  
OF 8 AND 9 WERE PREDOMINANT. THE 10 MEV PROTON EVENT CONTINUED,  
REACHING A PEAK FLUX OF 5300 PFU (APPROXIMATE) AT 13/0745Z.  
BY 13/1500Z THE PARTICLE FLUX DECREASED TO BELOW 100 PFU. THE  
POLAR CAP ABSORPTION EVENT CONTINUED WITH A PEAK ABSORPTION OF  
6 DB OBSERVED NEAR 13/0800Z. A FORBUSH DECREASE OF  
APPROXIMATELY 13 PERCENT WAS IN PROGRESS AT 13/2100Z.

IIIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD  
SHOULD BE AT MINOR TO MAJOR STORM LEVELS FOR 14 MAR. IN THE  
ABSENCE OF FURTHER GEOEFFECTIVE FLARE ACTIVITY, ACTIVE TO  
MINOR STORM LEVELS ARE PREDICTED FOR 15-16 MAR.

III. EVENT PROBABILITIES 14 MAR-16 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 13 MAR 256

PREDICTED 14 MAR-16 MAR 255/253/250

90 DAY MEAN 13 MAR 227

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 12 MAR 016/022

ESTIMATED AFR/AP 13 MAR 175/175

PREDICTED AFR/AP 14 MAR-16 MAR 040/065-025/030-019/020