

HFUS 3 BOU 282200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 028

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 28 JAN 1984

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 27/2100 TO 28/2100Z: SOLAR ACTIVITY HAS BEEN LOW FOR THE PAST 24 HOURS. THE LARGEST EVENT WAS A C4/SF FLARE FROM REGION 4398 (N14W16) AT 0736Z. REGION 4398 CONTINUED TO GROW IN WHITE LIGHT AND REMAINS EXTREMELY MAGNETICALLY COMPLEX (BETA-GAMMA-DELTA). REGION 4399 (N12E06) ALSO GREW SIGNIFICANTLY SO THAT THE COMBINED SPOT AREA (87 SPOTS) OF THE TWO REGIONS EXCEEDS 3000 MILLIONTHS OF THE SOLAR DISK. REGION 4399 HAS NOT YET PRODUCED AN M-CLASS FLARE BUT IT IS MAGNETICALLY COMPLEX (BETA-DELTA) AND HAS THE POTENTIAL FOR MAJOR ACTIVITY. BOTH REGIONS HAVE EXHIBITED PLAGE FLUCTUATIONS ACTIVE DARK FILAMENTS AND NUMEROUS SMALL FLARES. REGION 4403 (N13E31) GREW TO A C-TYPE GROUP AND PRODUCED A C-CLASS X-RAY FLARE AT 1918Z. A NEW REGION, 4404 (N16W37) EMERGED AS A B-TYPE GROUP. SURGING ON THE WEST LIMB INCLUDED A BSL TO .19 SOLAR RADIUS NEAR SOUTH 05 AT APPROXIMATELY 1820Z.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE FOR THE NEXT THREE DAYS WITH A GOOD POSSIBILITY FOR MAJOR FLARES FROM REGIONS 4398 AND 4399. BOTH REGIONS ARE IDEALLY SITUATED TO IMPACT THE EARTH WITH HIGH-ENERGY PROTONS IF THEY PRODUCE THEM.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 27/2100Z TO 28/2100Z: THE GEOMAGNETIC FIELD HAS BEEN ACTIVE DURING THE PAST 24 HOURS WITH PERIODS AT MINOR STORM LEVELS AT MID LATITUDES AND MAJOR STORM LEVELS AT HIGH LATITUDES. THIS ACTIVITY IS ATTRIBUTED TO RECENT FLARE ACTIVITY.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BE AT ACTIVE LEVELS TOMORROW INCREASING TOWARD GENERAL STORM CONDITIONS FOR THE NEXT TWO DAYS. THE SOURCE OF THIS ANTICIPATED DISTURBANCE IS A COMBINATION OF FLARE EJECTA, HIGH SPEED SOLAR WIND FROM A POSITIVE CORONAL HOLE CENTER DISK AT SOUTH 25 ON 27 JANUARY, AND FILAMENT ACTIVATIONS OBSERVED OVER THE PAST SEVERAL DAYS.

III. EVENT PROBABILITIES 29 JAN-31 JAN

CLASS M 90/90/90

CLASS X 15/15/15

PROTON 15/15/10

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 28 JAN 174

PREDICTED 29 JAN-31 JAN 175/175/170

90 DAY MEAN 28 JAN 098

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 27 JAN 005/009

ESTIMATED AFR/AP 28 JAN 020/025

PREDICTED AFR/AP 29 JAN-31 JAN 020/025-025/025-025/025

SOLTERWARN

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