

HFUS 3 BOU 292200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 029

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 29 JAN 1984

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 28/2100 TO 29/2100Z: SOLAR ACTIVITY HAS BEEN LOW FOR THE PAST 24 HOURS. THE BIGGEST EVENT WAS A C3/SB FROM REGION 4398 (N14W29) MAXING AT 28/2157Z. REGION 4398, AN EXTREMELY COMPLEX REGION WHICH HAS CONTINUED TO GROW IN WHITE LIGHT, PRODUCED NUMEROUS OTHER LOW C-CLASS FLARES BUT HAS NOT YET LIVED UP TO ITS POTENTIAL.

REGION 4399 (N12W07), THE OTHER REGION ON THE DISK OF AWESOME PROPORTIONS, GREW ENOUGH PENUMBRA TO TOTALLY ENCLOSE THE LEADER AND TRAILER SPOTS AND IS NOW ALSO OF THE HIGHEST MAGNETIC CLASS - BETA-GAMMA-DELTA. BUT REGION 4399 HAS PRODUCED ONLY ONE C-CLASS FLARE IN THE PAST 70 HOURS, A C1/SF MAXING TODAY AT 1915Z. REGION 4404 (N15W50) CONTINUED TO GROW AND PRODUCED SOME C-CLASS SUBFLARES. NEW REGIONS 4405 (S18W06) AND 4406 (S15E29) EMERGED TODAY AS C-TYPE AND A-TYPE GROUPS, RESPECTIVELY. LIMB ACTIVITY HAS BEEN CONFINED TO SURGING FROM THE SOUTHWEST LIMB (SW05) LATE ON 28 JANUARY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE WITH A HIGH PROBABILITY OF M-CLASS FLARES FROM BOTH 4398 AND 4399. MAJOR, X-CLASS FLARES WHICH WOULD LIKELY PRODUCE ENERGETIC PROTONS, ARE ALSO POSSIBLE.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 28/2100Z TO 29/2100Z: THE GEOMAGNETIC FIELD HAS BEEN GENERALLY ACTIVE FOR THE PAST 24 HOURS WITH ISOLATED PERIODS AT MINOR STORM LEVELS AT BOTH MID AND HIGH LATITUDES. THIS ACTIVITY IS ATTRIBUTED TO MODERATE FLARES WHICH OCCURRED ON 26 AND 27 JANUARY.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BECOME INCREASINGLY ACTIVE OVER THE NEXT 48 HOURS, APPROACHING GENERAL MINOR TO MAJOR STORM CONDITIONS. THE SOURCE OF THIS ANTICIPATED DISTURBANCE IS A COMBINATION OF FLARE EJECTA, HIGH SPEED SOLAR WIND FROM A POSITIVE CORONAL HOLE CENTERED AT SOUTH 25 ON 27 JANUARY, AND FILAMENT ACTIVATIONS OBSERVED OVER THE PAST SEVERAL DAYS. OVERALL GEOMAGNETIC ACTIVITY SHOULD BEGIN TO SUBSIDE BY THE END OF THE FORECAST PERIOD.

III. EVENT PROBABILITIES 30 JAN-01 FEB

CLASS M 90/90/80

CLASS X 15/15/10

PROTON 15/10/05

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 29 JAN 180

PREDICTED 30 JAN-01 FEB 175/170/165

90 DAY MEAN 29 JAN 099

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 28 JAN 020/021

ESTIMATED AFR/AP 29 JAN 022/025

PREDICTED AFR/AP 30 JAN-01 FEB 025/025-025/025-020/020

SOLTERWARN

BT