

HFUS 1 BOU 272200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO

SDF NUMBER 027

JOINT USAF/NOAA PRIMARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200Z 27 JANUARY 1980

IA. SOLAR ACTIVITY WAS HIGH DURING THE PAST 24 HOURS. SMALL M-CLASS X-RAY BURSTS WERE NOTED IN REGION 2259 (N05E59) AT 27/1818Z AND REGION 2256 (S12E08) AT 2126Z. THE BIG EVENT OF THE DAY, THOUGH, WAS AN X2 BURST BEGINNING AT 1142Z AND REACHING MAXIMUM AT 1152Z IN REGION 2245 (N09W96). BECAUSE THE REGION WAS PERCHED ON THE WEST LIMB, OPTICAL CLASSIFICATION WAS NEARLY IMPOSSIBLE BUT SUBSTANTIAL LOOP STRUCTURE WAS SEEN TO 0.34 SOLAR RADII. THE X-CLASS FLARE WAS ACCCOMPANIED BY TOTAL SHORT WAVE FADES TO 18 MHZ. NO RADIO SWEEP FREQUENCY DATA WAS AVAILABLE.

IB. EVEN THOUGH REGIONS 2247 (S16W79) AND 2245 ARE ABOUT TO TURN OUT OF SIGHT, FLARE PROBABILITIES REMAIN HIGH BECAUSE REGION 2259 HAS GROWN RAPIDLY AND CONTAINS A DELTA CONFIGURATION AND THE 10CM EAST-WEST SCAN SHOWS THE EAST LIMB RADIO FLUXES TO BE INCREASING. APPARENTLY NO GREATER THAN 10 MEV PROTONS WILL REACH THE EARTH FROM TODAY'S X-CLASS BURST.

II. THE GEOMAGNETIC FIELD WAS GENERALLY QUIET UNTIL ABOUT 27/1500Z WHEN THERE WAS A GRADUAL ONSET OF ACTIVE MAGNETIC CONDITIONS. THE FIELD IS EXPECTED TO BE GENERALLY ACTIVE FOR THE NEXT 48 HOURS DUE TO THE FLARE ACTIVITY ON 25 JANUARY AND THE X-CLASS BURST TODAY.

III. EVENT PROBABILITIES 28 JANUARY - 30 JANUARY

CLASS M 80/80/90

CLASS X 20/20/20

PROTON 20/10/10

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 27 JANUARY 202

PREDICTED 28-30 JANUARY 208/213/217

90-DAY MEAN 27 JANUARY 216

V. GEOMAGNETIC INDICES

OBSERVED FREDERICKSBURG 26 JANUARY 06

ESTIMATED AFR/AP 27 JANUARY 17/23

PREDICTED AFR/AP 28-30 JANUARY 19/23 - 15/18 - 13/15

SOLTERWARN

BT