

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 022

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 22 JAN 1985

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 21/2100 TO 22/2100Z: SOLAR ACTIVITY HAS BEEN HIGH. REGION 4617 (S10W52) PRODUCED THE FIRST X-LEVEL X-RAY EVENT SINCE THE EVENT THAT OCCURRED LAST APRIL. OPTICALLY THIS 2B FLARE BEGAN AT 2352Z AND HAD ITS MAXIMUM AT 0011Z, AND FINALLY ENDED AT 0237Z ON THE 22ND. THE FLARE WAS ACCCOMPANIED BY AN X4 X-RAY ENHANCEMENT WITH BEGIN, MAXIMUM, AND END TIMES AT 21/2350, 22/0004, AND 22/0043Z RESPECTIVELY. THIS EVENT ALSO EXHIBITED NUMEROUS RADIO BURSTS (208-15400MHZ) WITH A MAXIMUM FLUX OF 250,000 FLUX UNITS AT 245MHZ. A TYPE IV (IMPORTANCE 3) RADIO BURST WAS OBSERVED FROM 0001-0031Z. NO TYPE II BURST WAS DETECTED. OTHER FLARES THAT THIS REGION PRODUCED IN THE LAST 24 HOURS INCLUDE AN M1/1B FLARE AT 2131Z AND NUMEROUS OTHER FLARES (C-LEVEL AND BELOW) THROUGHOUT THE DAY. THIS REGION CONTINUES TO EXHIBIT A BETA-GAMMA-DELTA MAGNETIC CONFIGURATION AND HAS SLIGHTLY DECREASED IN AREA OVER WHAT IT HAD YESTERDAY. REGION 4618 (N05W00) REMAINS A C-TYPE GROUP AND REGION 4619 IS STILL A B-TYPE, BOTH HAVE SIMPLE BETA MAGNETIC CONFIGURATIONS. NO NEW REGIONS WERE NUMBERED TODAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH FOR THE NEXT THREE DAYS AS REGION 4617 STILL SHOWS A CAPABILITY OF PRODUCING AN ENERGETIC EVENT.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 21/2100Z TO 22/2100Z: THE GEOMAGNETIC FIELD HAS BEEN QUIET TO UNSETTLED AT MIDDLE LATITUDES, AND UNSETTLED TO ACTIVE AT HIGH LATITUDES. THE PROTON FLUX AT 10 MEV WAS ENHANCED TO 10 PARTICLES/CM²/STERADIAN/SECOND AT 0420Z AND HAS REMAINED NEAR THAT LEVEL SINCE THEN.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE GEOMAGNETIC FIELD IS EXPECTED TO BECOME MOSTLY ACTIVE ON THE 23RD. ON THE 24TH THE FIELD IS EXPECTED TO CLIMB TO MAJOR STORM LEVELS IN RESPONSE TO THE ENERGETIC EVENT THAT WAS MENTIONED ABOVE. THIS ACTIVITY IS EXPECTED TO DECREASE TO MOSTLY MINOR STORM LEVELS BY THE 25TH.

III. EVENT PROBABILITIES 23 JAN-25 JAN

CLASS M 80/80/80

CLASS X 15/15/15

PROTON 15/15/15

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 22 JAN 088

PREDICTED 23 JAN-25 JAN 088/088/086

90 DAY MEAN 22 JAN 075

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 21 JAN 015/015

ESTIMATED AFR/AP 22 JAN 011/013

PREDICTED AFR/AP 23 JAN-25 JAN 019/025-050/060-030/035

SOLTERWARN

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