

HFUS 3 BOU 192200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 050

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 19 FEB 1984

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 18/2100 TO 19/2100Z: SOLAR ACTIVITY HAS BEEN AT A MODERATE LEVEL DURING THE PAST 24 HOUR PERIOD. REGION 4421 (N15E49) PRODUCED A M1/1B EVENT AT 19/0249Z. IT CONTINUED TO GROW IN H-ALPHA AREA,

LONGITUDINAL EXTENT, AND SPOT NUMBER; AND BECAME A

BETA-GAMMA-DELTA MAGNETICALLY. 1 NEW REGION WAS ASSIGNED:

REGION 4422 (N10E79) ROTATED ON WITH 400MILLIONTHS IN AREA AND AN EKO H-ALPLHA CLASSIFICATION. IT HAD SURGES AND BRIGHT POINTS BUT WAS TOO CLOSE TO LIMB FOR ADDITIONAL DETAILS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE AT A MODERATE THROUGHOUT THE FORECAST PERIOD. REGION 4421 AGAIN PROVIDES A SLIGHT CHANCE OF HIGH LEVEL ACTIVITY. REGION 4422 MAY ALSO CONTRIBUTE TO MAINTAINING THE MODERATE (WITH POSSIBLY HIGH) LEVEL FOR THE LONG RANGE OUTLOOK IF IT REPEATS ITS PERFORMANCE LAST ROTATION AS REGION 4399; WITH 3 M LEVEL X-RAY EVENTS AND 4 IMPORTANCE 1 OPTICAL FLARES BEFORE IT ROTATED OFF THE WEST LIMB.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 18/2100Z TO 19/2100Z: GEOMAGNETIC ACTIVITY HAS BEEN AT UNSETTLED TO ACTIVE LEVELS DURING THE PAST 24 HOUR PERIOD. ONLY THULE REPORTED STORM LEVELS AFTER 19/1500Z. A PROTON EVENT BEGAN AT 19/1310Z AND IS STILL IN PROGRESS. CURRENT GREATER THAN 10MEV VALUES HAVE BEEN FLUCTUATING UP TO 22 P/CM<sup>2</sup>/SEC/STER. ANCHORAGE REPORTS THE BEGINNING TIME AT 19/1315Z WITH A MAXIMUM AT 19/1845Z. A SHORT WAVE FADE OCCURRED AT 18/2244-2255Z AT PALAHUA, HAWAII; AND AT 19/1845Z AT ANCHORAGE, ALASKA (MAX 0.6DB).

IIB. GEOPHYSICAL ACTIVITY FORECAST: GEOMAGNETIC ACTIVITY IS EXPECTED TO BE AT AN UNSETTLED LEVEL FOR THE FIRST DAY (20 FEB); WITH A GRADUAL RISE TO AN ACTIVE LEVEL DURING THE SECOND AND THIRD DAYS (21/22 FEB). THE OUTLOOK IS FOR A CONTINUED SLOW RISE TO ACTIVE/MINOR STORM LEVELS: THIS IS ATTRIBUTED TO THE DELAYED GEOMAGNETIC EFFECT OF THE X2/2B EVENT FROM REGION 4421 AT 17/2301Z. STORM LEVELS ARE EXPECTED AT MID AND HIGH LATITUDES DURING NIGHTTIME PERIODS AFTER 21 FEB. FUTURE SHORT WAVE FADES ARE POSSIBLE FOR THE NEXT 3 DAYS. THE PROTON EVENT IN PROGRESS SHOULD NOW HAVE PEAKED OUT AND WILL GRADUALLY DECREASE TO BELOW THE 10MEV THRESHOLD DURING 20 FEB.

III. EVENT PROBABILITIES 20 FEB-22 FEB

CLASS M 90/90/90

CLASS X 20/20/20

PROTON 05/05/05

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 19 FEB 134

PREDICTED 20 FEB-22 FEB 145/160/175

90 DAY MEAN 19 FEB 109

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 18 FEB 015/019

ESTIMATED AFR/AP 19 FEB 010/010

PREDICTED AFR/AP 20 FEB-22 FEB 010/010-015/015-020/020

SOLTERWARN

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