

HFUS3 BOU 152200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 350

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 15 DEC 1984

I. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 14/2100 TO 15/2100Z: SOLAR ACTIVITY WAS VERY LOW. REGION 4608 (N18E16) CONTINUED ITS SLOW REDEVELOPMENT IN WHITE-LIGHT CONFIGURATION, INCREASING TO SEVEN SPOTS AND A DSO CLASSIFICATION. IT REMAINED A BETA-TYPE MAGNETICALLY BUT A SINGLE OPPOSITE-POLE SPOT WAS EMERGING IMMEDIATELY SOUTH OF THE TRAILER SPOT WHICH HAD TWO UMBRAE ENCLOSED BY A COMMON PENUMBRAE. AN ACTIVE DARK FILAMENT PERSISTED THROUGHOUT THE PERIOD WITH OCCASIONAL POINT BRIGHTENINGS. THIS ACTIVITY EFFECTED SEVERAL VERY LOW B-LEVEL X-RAY EVENTS AND A B3/F EVENT AT 15/1846Z. A LATE B6 X-RAY EVENT AT 2015Z WAS PROBABLY ALSO ASSOCIATED WITH REGION 4608. THE REGION'S OVERALL ENERGY FLUX INCREASED NOTICEABLY ON THE 10.7 CM (2800MHZ) EAST-WEST SCAN, DENOTING REGENERATION. THE MAGNETIC GRADIENT BETWEEN LEADER/TRAILER ALSO INCREASED FIVE-FOLD. REGION 4607 (S11W59) REMAINED RELATIVELY CONSTANT IN A SLOW DECAY STATE WITH BRIEF ARCHED FILAMENT SYSTEMS AND MINOR ACTIVE DARK FILAMENTS. ITS WHITE-LIGHT CHARACTERISTICS CONTINUED A VERY SLOW SIMPLIFICATION PROCESS WITH THE LOSS OF FOUR SPOTS. IT WAS A DSO CLASSIFICATION. THE MAGNETIC TYPE REMAINED A BETA. DEPARTING REGION 4602 (N19W97) DISPLAYED AN ACTIVE PROMINENCE. ANOTHER PROMINENCE APPEARING AT N02 TO S05 AT THE EAST LIMB WAS ROTATING ONTO THE DISK. NO NEW REGION WAS ASSIGNED.

REDEVELOPMENT

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE VERY LOW. REGION 4608'S ~~REDEVELOPEMENT~~ PROVIDES A VERY SLIGHT POTENTIAL FOR SIGNIFICANT ACTIVITY. RETURNING REGION 4598 (S12, CAR-056) WILL ALSO INCREASE THE POSSIBILITY OF INCREASED ACTIVITY UPON ITS PREDICTED RETURN AT 17/0300Z. IT PRODUCED TWO M-LEVEL X-RAY AND FOUR IMPORTANCE 1 OPTICAL EVENTS LAST ROTATION BEFORE IT CROSSED THE WEST LIMB AS A ESO WHITE-LIGHT CLASSIFICATION.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 14/2100Z TO 15/2100Z: THE GEOMAGNETIC ACTIVITY WAS UNSETTLED TO ACTIVE. A BRIEF PERIOD OF ACTIVE CONDITIONS OCCURRED AT BOTH MID AND HIGH LATITUDES AT 15/0300Z. THE HIGH LATITUDES REPORTED ACTIVE TO MINOR STORM LEVELS LATER FROM 15/0900-1800Z. A LATE PULSE OF ACTIVE/MINOR STORM LEVELS OCCURRED AT THE END OF THE PERIOD (15/2100Z) AT MID AND HIGH LATITUDES RESPECTIVELY.

IIB. GEOPHYSICAL ACTIVITY FORECAST: GEOMAGNETIC ACTIVITY IS EXPECTED TO BE UNSETTLED TO ACTIVE. MINOR STORM LEVELS ARE EXPECTED AT HIGH LATITUDES DURING NIGHT-TIME PERIODS.

III. EVENT PROBABILITIES 16 DEC-18 DEC

CLASS M 01/02/03

CLASS X 01/01/01

PROTON 01/01/01

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 15 DEC 077

PREDICTED 16 DEC-18 DEC 078/079/080

90 DAY MEAN 15 DEC 075

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 14 DEC 005/009

ESTIMATED AFR/AP 15 DEC 014/015

PREDICTED AFR/AP 16 DEC-18 DEC 012/020-012/020-012/020

SOLTERWARN

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