

FUS 3 BOU 122200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 255

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 12 SEP 1983

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 11/2100 TO 12/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE OVER THE PAST 24 HOURS. PRIMARY ACTIVITY HAS CENTERED AROUND THE SUDDEN ERUPTION OF A LARGE, ACTIVE SOLAR FILAMENT EXTENDING FROM N10W25, THROUGH REGION 4307 (S09W37), AND TERMINATING NEAR S12W45. BEGINNING AT 1611Z, A MAJOR PORTION OF THIS FILAMENT SUDDENLY ERUPTED INTO A 2N/M1 RIBBON FLARE. THIS EVENT PEAKED IN XRAY EMISSIONS AT 1637Z AND DECAYED TO NEAR BACKGROUND LEVELS APPROXIMATELY TWO HOURS LATER. ALTHOUGH THE EVENT WAS STRONG IN THE OPTICAL AND XRAY WAVELENGTHS, ONLY WEAK MICROWAVE EMISSIONS ACCOMPANIED IT. ON THE SOLAR DISK, ACTIVE REGIONS ARE LITTLE CHANGED FROM YESTERDAY. SOME NEW GROWTH IS OCCURRING ON THE EASTERN HALF OF THE SUN. TWO NEW SIMPLE A-TYPE REGIONS WERE NUMBERED: 4316 (S31E06) AND 4317 (S13E50).

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO REMAIN AT GENERALLY LOW LEVELS OVER THE NEXT THREE DAYS. MAGNETIC REGIONS ON THE DISK ARE GENERALLY SMALL AND SIMPLE -- THEY HAVE A VERY LIMITED FLARE POTENTIAL. THE EMERGENCE OF NEW ACTIVE REGIONS ON THE EASTERN HEMISPHERE OF THE SUN SHOULD OFFSET THE ATTENUATION OF RADIATION FROM REGION 4307 AS IT ROTATES NEARER THE WEST LIMB OF THE SUN. THEREFORE, THE 10.7 CM SOLAR RADIO FLUX SHOULD HOLD VERY CLOSE TO 100 SOLAR FLUX UNITS FOR THE NEXT FEW DAYS.

IIA. GEOPHYSICAL ACTIVITY SUMMARY FROM 11/2100Z TO 12/2100Z: IN GENERAL, THE GEOMAGNETIC FIELD HAS VARIED BETWEEN UNSETTLED AND ACTIVE LEVELS DURING THE DAY. HOWEVER, THE FIELD WAS BRIEFLY AT MINOR STORM LEVELS GLOBALLY BETWEEN 0730 AND 0900Z. THIS DISTURBED PERIOD IS BEING ATTRIBUTED TO THE PASSAGE OF AN ACTIVE SOLAR SECTOR BOUNDARY.

IIB. GEOPHYSICAL ACTIVITY FORECAST: THE FIELD IS EXPECTED TO REMAIN AT UNSETTLED LEVELS OVER THE NEXT SEVERAL DAYS.

III. EVENT PROBABILITIES 13 SEP-15 SEP

CLASS M 10/10/10

CLASS X 01/01/01

PROTON 01/01/01

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 12 SEP 104

PREDICTED 13 SEP-15 SEP 104/103/102

90 DAY MEAN 12 SEP 125

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 11 SEP 009/011

ESTIMATED AFR/AP 12 SEP 015/020

PREDICTED AFR/AP 13 SEP-15 SEP 012/015-010/010-010/010

SOLTERWARN

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