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HFUS 1 BOU 121300
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 315A
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 1300Z 12 NOV 1931

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
11/1200Z TO 12/1200Z: SOLAR ACTIVITY HAS BEEN MODERATE.
UNASSOCIATED XRAY EVENTS OCCURRED AT 12/0118Z AND 12/0956Z
MAXIMA, M2 AND M1 EVENTS RESPECTIVELY. REGION 3451(N13W14)
PRODUCED A C9/1B FLARE AT 0343Z MAXIMUM ACCOMPANIED BY RADIO
EMISSION AT ALL DISCRETE FREQUENCIES INCLUDING 3400 FLUX UNITS
AT 245 MHZ AND 1300 AT 1415 MHZ. THIS REGION IS THE APPARENT
PERSISTENT SOURCE OF DISCRETE FREQUENCY EMISSION THROUGHOUT THE
EARLY HOURS OF THE DAY. THE M1 EVENT MENTIONED ABOVE ACHIEVED
MAXIMUM OVER A PERIOD OF NEARLY ONE AND ONE HALF HOURS, AND
XRAY LEVELS HAVE REMAINED NEAR M CLASS SINCE THAT TIME. THE
PROBABLE SOURCE OF THIS M CLASS ACTIVITY IS REGION 3432, NOW
BEHIND THE WEST LIMB. THE REPORTS CONCERNING REGION 3451
INDICATE A VERY DYNAMIC REGION WITH MAGNETIC COMPLEXITY, A
DELTA AND STEEP GRADIENTS. REGION 3450(S19W24) HAS ALSO BECOME
MORE COMPLEX GAINING A DELTA AND STEEPER GRADIENTS.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY MAY BE EXPECTED TO
INCREASE, POSSIBLY TO HIGH LEVELS DUE TO THE POTENTIAL NOW
APPEARING IN REGIONS 3451 AND 3450. BOTH REGIONS ARE FAVORABLY
POSITIONED TO DELIVER ENERGETIC PARTICLES IN CASE MAJOR FLARES
SHOULD OCCUR.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN ACTIVE WITH PERIODS OF MINOR STORM LEVELS SINCE THE STORM
SUDDEN COMMENCEMENT AT 11/1238Z. THE LIKELY SOURCE OF THIS
ACTIVITY, AN M3/1B FLARE FROM REGION 3450 ACCOMPANIED BY TYPE
IV EMISSION OCCURRING 9 NOV. THE MAGNETIC FIELD IS EXPECTED TO
REMAIN ACTIVE INTO THE DAY 13 NOV. UNSETTLED TO NEAR ACTIVE
CONDITIONS SHOULD FOLLOW FOR THE REMAINDER OF THE FORECAST
PERIOD.

III. EVENT PROBABILITIES 13 NOV-15 NOV
CLASS M 90/90/90
CLASS X 30/30/30
PROTON 30/30/30
PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX
OBSERVED 11 NOV 221
ESTIMATED 12 NOV 220
PREDICTED 13 NOV-15 NOV 220/213/215
90 DAY MEAN 11 NOV 229

V. GEOMAGNETIC A INDICES
OBSERVED AFR 10 NOV 015 AP 11 NOV 030
ESTIMATED AFR 11 NOV 028 AFR/AP 12 NOV 029/033
PREDICTED AFR/AP 13 NOV-15 NOV 014/014-012/014-010/010

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HXUS BOU 121300
PREDM 09013 09014 09015
PREDX 03013 03014 03015
PREDP 03013 03014 03015
PCAFT 00213
TENCY 22013 21314 21515
AFRED 01413 01214 01015
AFAPF 01413 01414 01015
KKK 44443 33213 33332
BT

HFUS 3 BOU 122200
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 315B
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 12 NOV 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
12/1200Z TO 12/2100Z: SOLAR ACTIVITY REACHED A HIGH LEVEL WITH
AN IMPULSIVE X1/1B FLARE AT 1606UT FROM REGION 3451(N13W13),
DURATION 40 MINUTES. IT HAD AN ASSOCIATED MODERATE RADIO BURST
WITH NO TYPE II OR TYPE IV RADIO EMISSION REPORTED. THIS
REGION CONTINUES TO INCREASE IN COMPLEXITY. THE SPOT GROUP
CONTAINS AT LEAST TWO DELTA CONFIGURATIONS AND PROPER MOTION OF
THE SPOTS IS APPARENT. THIS REGION ALSO PRODUCED THE FOLLOWING
FLARES; C6/1B AT 1239UT, C4/SN AT 1415UT AND C8/1B AT 1925UT.
REGION 3456(N17E24) PRODUCED AN M1/1B FLARE AT 1816UT WITH
ASSOCIATED MODERATE RADIO BURSTS ON ALL FREQUENCIES. IT IS
GROWING AND THE SPOT GROUP IS MORE COMPLEX THAN EARLIER TODAY.
REGION 3450 (S19W28) PRODUCED ONLY A SMALL SUBFLARE AT 1625UT.
SURGE ACTIVITY IS REPORTED AT N05 E LIMB. NEW REGION 3460
(N13W01) DEVELOPED ON THE DISK SINCE YESTERDAY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO
CONTINUE AT A MODERATE TO HIGH LEVEL AS ALL REGIONS CONTINUE TO
DEVELOP. FURTHER MAJOR FLARES ARE LIKELY FROM REGION 3451 AND
CLASS M EVENTS ARE POSSIBLE FROM REGION 3450 AND 3456.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN ACTIVE THE PAST 9 HOURS. UNSETTLED CONDITIONS ARE
EXPECTED DURING THE FORECAST PERIOD WITH ACTIVE LEVELS POSSIBLE
FROM FLARES AND GROWTH IN REGION 3451. A PROTON EVENT IS NOT
EXPECTED FROM THE X1/1B FLARE BECAUSE OF THE SHORT DURATION AND
LACK OF SIGNIFICANT RADIO EMISSION.

III. EVENT PROBABILITIES 13 NOV-15 NOV

CLASS M 90/90/90
CLASS X 30/30/30
PROTON 30/30/30
PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 12 NOV 228
PREDICTED 13 NOV-15 NOV 226/224/213
90 DAY MEAN -12 NOV 230

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 11 NOV 030/030
ESTIMATED AFR/AP 12 NOV 030/040
PREDICTED AFR/AP 13 NOV-15 NOV 012/014-018/020-018/025

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HXUS BOU 122200
PREDM 09013 09014 09015
PREDY 03013 03014 03015
PREDP 03013 03014 03015
PCAF 00213
TENC 22613 22414 21815
AFRED 01213 01814 01815
AFAPF 01413 02014 02515

BT