

HFUS 1 BOU 171300
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 351A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 1300Z 17 DEC 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
16/1200Z TO 17/1200Z: SOLAR ACTIVITY CONTINUED VERY HIGH.
REGION 4025(S07W19) PRODUCED AN X1/2B FLARE AT 1452Z WITH A 630
FU 10CM BURST AND MAJOR SID. THERE WAS NO EVIDENCE OF SHOCK
WAVE OR PARTICLE PRODUCTION. CLOSELY-ASSOCIATED REGION
4026(S12W07) PRODUCED AN M1 EVENT AT 1416Z AND AN M4 AT 0142Z.
RAPID EVOLUTION CONTINUES AMONG THE SPOTS IN THESE REGIONS
ALTHOUGH THERE IS A GENERAL TREND TOWARD DECAY. A LARGE
FILAMENT INVOLVED WITH REGION 4026 DISAPPEARED AT APPROXIMATELY
0600Z. GROWTH OF NEW SPOTS NEAR THE LARGE LEADER SPOT IN
REGION 4021(S16W61) WAS ACCOMPANIED BY M1 EVENTS AT 1924Z AND
0958Z. THE NEUTRAL LINE AND PLAGE CHARACTERISTICS IN THIS
REGION ARE ASSUMING QUALITIES LIKE A CLASS OF MINOR
PROTON-FLARE REGIONS. DELTA CONFIGURATIONS CONTINUE IN REGIONS
4022(N11W46) , 4025 AND 4026. THE EASTERN HALF OF THE SOLAR
DISK IS DOMINATED BY CORONAL HOLES AND MINOR SOLAR REGIONS.
IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO
CONTINUE HIGH. CONTINUED EMERGENCE OF NEW SPOTS IN REGIONS
4021, 4025 AND 4026 IS LIKELY TO LEAD TO PROTON FLARES. WEST
LIMB PASSAGE OF REGIONS 4021 AND 4022 WILL BRING A SHARP DROP
IN SOLAR INDICES. A RAPID DECAY IN REGION 4025/4026 IS
EXPECTED BY THE END OF THE FORECAST PERIOD.

II. GEOPHYSICAL SUMMARY AND FORECAST: A MAJOR GEOMAGNETIC STORM
BEGAN GRADUALLY AT 0735Z. ACTIVITY IS EXPECTED TO REDUCE TO
MINOR STORM LEVELS IN THE NEXT 12 HOURS. PERIODS OF MAJOR
STORM ACTIVITY ARE EXPECTED INTERMITTENTLY THROUGHOUT THE
FORECAST PERIOD WITH ACTIVITY MOSTLY AT MINOR STORM LEVEL.

III. EVENT PROBABILITIES 18 DEC-20 DEC

CLASS M 90/90/80
CLASS X 40/20/10
PROTON 60/40/20
PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED	16 DEC	214
ESTIMATED	17 DEC	200
PREDICTED	18 DEC-20 DEC	190/180/170
90 DAY MEAN	16 DEC	177

V. GEOMAGNETIC A INDICES

OBSERVED AFR	15 DEC	011	AP 16 DEC	016
ESTIMATED AFR	16 DEC	016	AFR/AP 17 DEC	050/050
PREDICTED AFR/AP	18 DEC-20 DEC	035/030-035/035-020/020		

SOLTERWARN

BT

HFUS 3 BOU 172200
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 351B
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 17 DEC 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
17/1200Z TO 17/2100Z: SOLAR ACTIVITY HAS REMAINED VERY HIGH.
REGION 4025 (S06W25) PRODUCED AN X10/33 AT 1321Z. MAJOR
DISCRETE RADIO BURSTS OCCURRED WITH A 1000 FU BURST RECORDED AT
2695 MHZ AND STRONG SHORT WAVE FADE THROUGH 15 MHZ. TOTAL
UMBRAL COVERAGE OF THE CENTRAL SUNSPOT WAS REPORTED.
ADDITIONALLY, REGION 4026 (S12W13) PRODUCED A M1/SB AT 1637Z
WITH ONLY MINOR RADIO BURSTS OCCURRING. BOTH THESE REGIONS HAVE
DELTA CONFIGURATIONS AND COMPLEX NEUTRAL LINES. REGION 4022
(N10W50) STILL RETAINS ITS DELTA AND RECENT CHANGES ARE
INCREASING THE NEUTRAL LINE COMPLEXITY FOR THIS REGION. REGION
4021 (S16W67) BEGAN ADDING NEW FLUX YESTERDAY AND HAS INCREASED
THE MAGNETIC COMPLEXITY FOR THIS REGION.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO
REMAIN HIGH WITH EACH OF THE REGIONS LISTED IN PARTIA CAPABLE
OF PRODUCING ENERGETIC FLARES.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS
BEEN AT MAJOR STORM LEVEL SINCE A GRADUAL ONSET NEAR 0730Z.
AURORA WAS VISIBLE IN COLORADO AFTER 0800Z. THE GEOMAGNETIC
FIELD IS EXPECTED TO BE GENERALLY AT STORM LEVEL THROUGH 20
DECEMBER, INCREASING TO MAJOR STORM LEVEL IN SURGES AS THE
EFFECTS FROM EACH MAJOR FLARE REACHES THE EARTH'S ENVIRONMENT.
THE SATELLITE PROTON FLUX OF 10 MEV CROSSED THRESHOLD OF 10
P/CM2/SEC/STER AT 1945Z. THE PROTON FLUX CONTINUES TO RISE AT
ISSUE TIME.

III. EVENT PROBABILITIES 18 DEC-20 DEC
CLASS M 90/90/30
CLASS X 40/20/10
PROTON 60/40/20
PCAF RED

IV. OTTAWA 10.7 CM FLUX
OBSERVED 17 DEC 202
PREDICTED 18 DEC-20 DEC 190/180/170
90 DAY MEAN 17 DEC 177

V. GEOMAGNETIC A INDICES
OBSERVED AFR/AP 16 DEC 011/016
ESTIMATED AFR/AP 17 DEC 040/050
PREDICTED AFR/AP 18 DEC-20 DEC 035/030-050/035-035/040
SOLTERWARN
BT