

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 X1/23 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
UMPRAL 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
BFEN 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 90/90/80

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