

HXUS 1 BOU 291300  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 363A  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 1300Z 29 DEC 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM  
28/1200Z TO 29/1200Z: SOLAR ACTIVITY BECAME MODERATE DUE TO AN  
M1/1N FLARE IN REGION 3533 (N06E60), MAXIMUM AT 28/2100Z.

REGION 3520 (S25W27) APPEARS TO HAVE DEVELOPED A WEAK DELTA.  
REGION 3521 (S22W49) HAS GROWN IN AREA BY MORE THAN 50 PERCENT  
AND IS A D GROUP. REGION 3530 (N18E15) HAS DEVELOPED RAPIDLY TO  
A D GROUP OF ABOUT 100 MILLIONTHS. REGION 3533 (N06E40°) WAS  
NUMBERED TODAY. ALL OF THESE ARE SIMPLE GROUPS MAGNETICALLY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY MAY INCREASE  
SLIGHTLY WITH THE SLIGHT INCREASE IN THE NUMBER OF REGIONS WITH  
SIGNIFICANT FLARE POTENTIAL. OCCASIONAL M LEVEL FLARES MAY  
OCCUR GIVING MODERATE LEVELS OF ACTIVITY INTERMITTENTLY.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD IS  
AT MINOR STORM LEVELS FOLLOWING A SSC OF 24 GAMMA AT 29/0455Z.  
THE FIELD IS EXPECTED TO CONTINUE AT ACTIVE LEVELS WELL THROUGH  
THE UT DAY 30 DECEMBER. AN ACTIVITY SEQUENCE INVOLVING A C2/1N  
FLARE IN REGION 3523 (S08E06) ON 27 DECEMBER FOLLOWED BY A  
FILAMENT ERUPTION AND A LARGE AREA HYDRO FLARE WITH C5 XRAY  
ENHANCEMENT IS THE PROBABLE SOURCE OF CURRENT MAGNETIC  
ACTIVITY. A WEAK TYPE II EMISSION WAS OBSERVED WITH THE  
SEQUENCE. LOW ENERGY PARTICLES WERE OBSERVED ARRIVING EARLY IN  
THIS FORECAST PERIOD AND ~~PCA~~ THRESHOLDS HAVE BEEN REACHED FOR  
PCA IN RECENT HOURS.

III. EVNT PROBABILITIES 30 DEC-01 JAN

CLASS M 40/50/50

CLASS X 01/01/01

PROTON 01/01/01

PCAF IN PROGRESS

IV. OTTAWA 10.7 CM FLUX

OBSERVED 28 DEC 189

ESTIMATED 29 DEC 200

PREDICTED 30 DEC-01 JAN 208/214/219

97 DAY MEAN 28 DEC 214

V. GEOMAGNETIC A INDICES

OBSERVED AFR 27 DEC 006 AP 28 DEC 012

ESTIMATED AFR 28 DEC 013 AFR/AP 29 DEC 036/028

PREDICTED AFR/AP 30 DEC-01 JAN 026/022-018/018-012/009

SOLTERWARN

BT

HXUS BOU 291300  
PREDM 04030 05031 05001  
PREDX 00130 00131 00101  
PREDP 00130 00131 00101  
PCAFT 00430  
TENCM 20830 21431 21901  
AFRED 02630 01831 01201  
AFAPF 02230 01831 00901  
KKK 55454 34433 34333  
BT

GZLOU  
KBOU  
HFUS 3 BOU 292200  
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO  
SDF NUMBER 363B  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.  
ISSUED 2200Z 29 DEC 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 29/1200Z TO 29/2100Z: SOLAR ACTIVITY HAS BEEN LOW THE PAST 9 HOURS WITH ONLY ONE FLARE, A C2/SF AT 29/2050Z REPORTED IN SMALL REGION 3525 (S21W27). HOWEVER, OBSERVING CONDITIONS HAVE BEEN LIMITED. REGION 3530 (N17E12) CONTINUES TO GROW IN AREA BUT ITS STRUCTURE REMAINS MAGNETICALLY SIMPLE. REGION 3531 (N24E59) CONTAINS A LARGE SCATTERED PLAGE AND 3 SMALL SPOT GROUPS. A SMALL NEW REGION IS REPORTED AT N19 EAST LIMB, WHERE MINOR SURGE ACTIVITY HAS BEEN OBSERVED, BUT HAS NOT BEEN NUMBERED.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO REMAIN LOW WITH ISOLATED M CLASS EVENTS POSSIBLE.  
II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN AT MINOR STORM LEVELS SINCE 29/0455Z WHEN A SUDDEN COMMENCEMENT OF 24 GAMMAS WAS OBSERVED IN BOULDER. UNSETLED CONDITIONS ARE EXPECTED DURING THE FORECAST PERIOD. LOW ENERGY PARTICLES COUNTS HAVE RETURNED TO BACKGROUND LEVELS.

III. EVENT PROBABILITIES 30 DEC-01 JAN

CLASS M 30/30/30  
CLASS X 01/01/01  
PROTON 01/01/01  
PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 29 DEC 190  
PREDICTED 30 DEC-01 JAN 195/200/205  
90 DAY MEAN 29 DEC 214

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 28 DEC 012/012  
ESTIMATED AFR/AP 29 DEC 030/034  
PREDICTED AFR/AP 30 DEC-01 JAN 015/017-010/013-008/009

SOLTERWARN

BT

NNNN