

HFUS 1 BOU 27/1400
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 117A
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 1200UT 27 APRIL 1981
IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
26/1200UT TO 27/1200UT:
SOLAR ACTIVITY HAS BEEN HIGH DURING THE PAST 24 HOURS. REGION 3049
(N18W91) PRODUCED TWO X-CLASS EVENTS THE FIRST A X1/2B, MAXIMUM
26/1235UT, THIS EVENT HAD STRONG SHORT WAVE FADE AT 22MHZ, SIGNIFICANT
DISCRETE RADIO BURST AT CENTIMETRIC WAVELENGTHS WERE REPORTED, 8962
FLUX UNITS AT 2695MHZ AND 15000 FLUX UNITS AT 1415MHZ. NO TYPE II/IV
SWEEPS WERE OBSERVED. AT 27/0720UT A X-RAY RISE STARTED REACHING
MAXIMUM AS AN X5 AT 0820UT, NO DIRECT OPTICAL CORRELATION AS CLOUDS
COVERED THE OBSERVATORIES HOWEVER BRIGHT MATERIAL WAS REPORTED ABOVE
REGION 3049 AT 0930UT. SIGNIFICANT RADIO BURSTS WERE AGAIN REPORTED,
A TENFLARE OF 3900 FLUX UNITS AT 2695MHZ, LASTING 120 MINUTES,
AND 23000 FLUX UNITS AT 8800MHZ. A WEAK TYPE IV SWEEP WAS OBSERVED
WITH THIS EVENT. REGION 3067 (N02E36) PRODUCED A M2/SN AT 26/1759UT
NO SIGNIFICANT RADIO REPORTED. SOME PLAGE GROWTH HAS BEEN NOTED
IN REGION 3067. SURGE ACTIVITY HAS BEEN REPORTED AT NE02 WHERE
OLD ACTIVE REGIONS ARE DUE TO RETURN.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH. REGION 3049 STILL
HAS THE POTENTIAL FOR X-CLASS ACTIVITY AS IT TRANSITS THE LIMB.
REGION 3067 IS CAPABLE OF M-CLASS ACTIVITY. MINOR GROWTH IN 3067
IS BEING REPORTED. THE EVENT POTENTIAL OF THE NEW REGIONS IN THE
NORTH EAST IS UNKNOWN AT THIS TIME. HOWEVER THEY DID NOT SHOW
GREAT RADIO ENHANCEMENT OF THE EAST-WEST SCAN OF 26 APRIL.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN AT MINOR STORM LEVELS. THE FIELD
IS EXPECTED TO CONTINUE AT MINOR STORM WITH SHORT PERIOD AT MAJOR
STORM LEVELS FOR THE NEXT 72 HOURS IN RESPONSE TO THE CONTINUED
X-CLASS ACTIVITY. AN INCREASE IN THE CURRENT PROTON EVENT, DUE
TO THE X5 EVENT, IS EXPECTED BY 27/1300UT AND TO CONTINUE ABOVE
EVENT THRESHOLDS (10 PARTICLES/CM²/SEC/STER GREATER THAN 10MEV)
AT SATELLITE LEVELS FOR THE NEXT 24 HOURS. THE PCA EVENT IS ALSO
FORECAST TO CONTINUE FOR THE NEXT 24 HOURS.

III. EVENT PROBABILITIES: 28-30 APRIL

CLASS M 90/90/90
CLASS X 20/05/05
PROTON 20/05/05
PCAF IN PROGRESS

IV. OTTAWA 10.7 FLUX

OBSERVED 26 APR 196
ESTIMATED 27 APR 190
PREDICTED 28-30 APR 180/175/180

90 DAY MEAN 26 APR 213

V. GEOMAGNETIC A INDICES

OBSERVED AFR 25 APR 14 AP 26 APR 48
ESTIMATED AFR 26 APR 34 AFR/AP 27 APR 38/50
PREDICTED AFR/AP 28-30 APR 40/50 35/40 30/30

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HFUS 3 BOU 272200
FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO

SDF NUMBER 1178

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200 UT 27 APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 27/1200 UT TO 27/2200 UT: SOLAR ACTIVITY HAS BEEN LOW DURING THE PAST 10 HOURS. LOOPS HAVE BEEN REPORTED ABOVE THE NORTHWEST LIMB WHERE REGION 3049 (N16W97) IS THOUGHT TO HAVE PRODUCED THE X5 X-RAY BURST WITH MAXIMUM AT 27/0820 UT. VERY SMALL C-CLASS X-RAY BURSTS AND SOME SURGES HAVE BEEN SEEN IN THIS VICINITY, BUT NO FLARES OF ANY NOTE HAVE BEEN SEEN ON THE DISK, SINCE 1200 UT.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH FOR ANOTHER DAY OR TWO WITH REGION 3049 NOT YET FAR BEHIND THE LIMB. REGION 3067 (N03E29) IS CAPABLE OF M-CLASS ACTIVITY ALTHOUGH IT NOW APPEARS TO HAVE STABILIZED.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN AT MINOR STORM LEVELS FOR MOST OF THE PAST 10 HOURS. ACTIVITY DIMINISHED ABOUT 1800 UT BUT SHOULD INCREASE AGAIN SOMEWHAT DURING LOCAL NIGHT TIME HOURS. THE POLAR CAP ABSORPTION EVENT WHICH BEGAN ON APRIL 24TH FINALLY ENDED AT 27/1300 UT. AN INCREASE IN ENERGETIC SOLAR PROTONS THAT WAS EXPECTED AFTER THE 27/0820 UT X5 FLARE FAILED TO MATERIALIZE. PROTON COUNTS WERE STILL ABOVE EVENT THRESHOLDS AT THE TIME OF THIS REPORT. HOWEVER, PROTON FLUXES ARE DECREASING STEADILY AND THE PROTON EVENT WHICH BEGAN SOON AFTER THE X5 FLARE ON APRIL 24TH IS EXPECTED TO END IN THE NEXT 12 HOURS.

III. EVENT PROBABILITIES 28 APRIL - 30 APRIL

CLASS M	90/90/90
CLASS X	20/05/05
PROTON	20/05/05
PCAF	GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 27 APRIL 196

PREDICTED 28-30 APRIL 180/175/180

90-DAY MEAN 27 APRIL 213

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 26 APRIL 46/48

ESTIMATED AFR/AP 27 APRIL 36/50

PREDICTED AFR/AP 28-30 APRIL 30/40 - 25/30 - 18/20

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