

HFUS 1 BOU 251400

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 115A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1200UT 25 APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

24/1200UT TO 25/1200UT

SOLAR ACTIVITY HAS BEEN HIGH DURING THE PAST 24 HOURS. REGION 3049 PRODUCED A X5/2B EVENT WITH MAXIMUM AT 24/1400UT. THE EVENT WAS OBSERVED IN WHITE LIGHT, HAD A CASTELLI U-BURST A TYPE II/IV SWEEP AND A STRONG SHORT WAVE FADE UP TO 30MHZ. THE EVENT LASTED ALMOST TWO HOURS AND INCLUDED REGION 3051 (N24W59). THE EVENT PRODUCED PROTONS ABOVE EVENT THRESHOLDS AT SATELLITE LEVELS. REGIONS 3049 (N16W66) CONTINUED TO PRODUCE SEVERAL SMALL C-CLASS EVENTS UNTIL 25/0522UT WHEN A M2/2F OCCURRED. MINOR DISCRETE RADIO FREQUENCY BURSTS WERE OBSERVED. A C2/SN FROM REGION 3051 OCCURRED AT 25/0918UT. FRAGMENTATION ALONG THE NEUTRAL LINE IN REGION 3049 HAS BEEN REPORTED.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH UNTIL REGION 3049 ROTATES OVER THE WEST LIMB. REGION 3049 HAS CONTINUED TO EXHIBIT GROWTH IN SIZE, HOWEVER SOME SPLITTING IN IT'S PENUMRA MAY HAVE LESSENED IT'S POTENTIAL FOR LARGE EVENTS. REGIONS 3066 (N17E56) AND 3067 (N02E62) CONTINUE TO GROW AND MAY BECOME PRODUCERS OF ENERGETIC EVENTS IN THE NEAR FUTURE.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD WAS AT ACTIVE LEVELS AT THE START OF THE PERIOD THEN NEAR QUIET LEVELS BY THE END OF THE PERIOD.

PROTON COUNTS EXCEEDED EVENT THRESHOLDS OF 10 PARTICLES/CM²/SEC STER AT GREATER THAN 10MEV AT SATELLITE LEVELS AT 1455UT WITH A MAXIMUM OF 160 PARTICLES REACHED AT APPROXIMATELY 1725UT.

THE PROTON EVENT CONTINUES IN PROGRESS.

A PCA EVENT, AS RECORDED BY THE THULE GREENLAND 30MHZ RIOMETER, BEGAN AT 1745UT AND ALSO CONTINUES IN PROGRESS. THE PROTON EVENT IS EXPECTED TO DROP BELOW EVENT LEVELS BY 26/0000UT. THE PCA EVENT SHOULD BE BELOW DAYLIGHT EVENT LEVELS BY 25/1900UT.

THE GEOMAGNETIC FIELD IS EXPECTED TO BE AT MINOR STORM LEVELS EARLY ON 26 APRIL AND CONTINUE FOR THE FORECAST PERIOD WITH A CHANGE FOR MAJOR STORM LEVELS ON 27 APRIL.

III. EVENT PROBABILITIES: 26-28 APRIL

CLASS M 90/90/90

CLASS X 20/20/10

PROTON 20/20/10

PCAF IN PROGRESS

IV. OTTAWA 10.7 FLUX

OBSERVED 24 APR 222

ESTIMATED 25 APR 215

PREDICTED 26-28 APR 210/190/180

90 DAY MEAN 24 APR 212

V. GEOMAGNETIC A INDICES

OBSERVED AFR 23 APR 26 APR 24 APR 25

ESTIMATED AFR 24 APR 19 AFR/AP 25 APR 11/20

PREDICTED AFR/AP 26-28 APR 35/40 65/75 30/50

SOLTERWARN

BT

HFUS 3 BOU 252200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 115B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200UT 25 APRIL 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM
25/1200UT TO 25/2200UT:

SOLAR ACTIVITY HAS BEEN MODERATE DURING THE PAST 10 HOURS. REGION 3049 (N, 6W 72) PRODUCED AN M2/SB WITH MAXIMUM AT 1602UT AND A C8
SN WITH MAXIMUM AT 1827UT. WHILE OVERALL ROTATION OF THE REGION
COULD PRESAGE ANOTHER MAJOR FLARE, THE REGION DOES SHOW SIGNS
OF BREAKING UP. REGION 3067 (N02E55) PRODUCED A C9/IN WITH
MAXIMUM AT 1951UT. A STRONG BSL WAS SEEN TO 0.1GR AROUND 1800UT
AT NE02. OLD SESC REGION 3031 IS CURRENTLY ABOUT ONE DAY BEHIND
THE EAST LIMB AT THIS LOCATION.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH UNTIL REGION
3049 ROTATES OVER THE WEST LIMB. IF THE REGION BEGINS TO DIS-
INTEGRATE RAPIDLY IT COULD PRODUCE ONE MORE MAJOR FLARE
BEFORE IT IS OUT OF SIGHT. REGIONS 3066 (N17E49) AND 3067 CON-
TINUE TO GROW AND MAY BECOME PRODUCERS OF ENERGETIC EVENTS IN
THE NEAR FUTURE.

II. GEOPHYSICAL SUMMARY AND FORECAST:

SOLAR PROTONS (GREATER THAN 10 MEV) AT SATELLITE ALTITUDES ARE
STILL ABOVE EVENT THRESHOLDS (10 PARTICLES/SQUARE CENTIMETER/
SECOND/STERADIAN) AT THE TIME OF THIS REPORT. A POLAR CAP AB-
SORPTION EVENT IS ALSO STILL IN PROGRESS. THE GEOMAGNETIC
FIELD HAS BEEN MILDLY UNSETLED SINCE 1200UT. THE FIELD IS
EXPECTED TO CONTINUE MILDLY UNSETLED UNTIL A GEOMAGNETIC
STORM BEGINS SOMETIME ON 26 APRIL. THE PREDICTED ARRIVAL
TIME OF THE GEOMAGNETIC STORM IS 2000UT ON 26 APRIL.

III. EVENT PROBABILITIES: 26-28 APRIL 1981

CLASS M 90/90/90

CLASS X 20/20/10

PROTON 20/20/10

PCAF IN PROGRESS

IV. OTTAWA 10.7 FLUX

OBSERVED 25 APRIL 210

PREDICTED 26-28 APRIL 210/190/180

90 DAY MEAN 25 APRIL 213

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 24 APRIL 20/25

ESTIMATED AFR/AP 25 APRIL 15/25

PREDICTED AFR/AP 26-28 APRIL 35/40 65/75 30/50

SOLTERWARN

BT