

HFUS 1 BOU 040600

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER, CO

SDF NUMBER 185A

JOINT AFGWC/SESC SECONDARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 0600Z 04 JULY 1974

IA. SOLAR ACTIVITY HAS BEEN LOW DURING THE PAST SIX HOURS WITH ONLY
FOUR NON-ENERGETIC SUBFLARES BEING REPORTED. RGN 433 (S14W07)
APPEARS TO BE IN AN EVOLUTION PROCESS AS THE H-ALPHA PLAGE IS LESS
BRIGHT AND NOT AS WELL STRUCTURED AS YESTERDAY, WHILE THE UMBRA OF
THE SPOTS REMAIN VERY DARK AND THREATENING. RGN 435 (S10W53) PRO-
DUCED ONE SUBFLARE FAINT AT 040234 U.T. BUT OTHERWISE HAS BEEN
QUIET AND STABLE.

IB. SOLAR ACTIVITY IS EXPECTED TO RE-COMMENCE AT A HIGH TO
MODERATELY HIGH LEVEL UPON COMPLETION OF THE EVOLUTION PROCESS
IN RGN 433.

II. THE GEOMAGNETIC FIELD BECAME UNSETTLED TO ACTIVE EARLY ON THIS
ZULU DAY. A RECURRENT DISTURBANCE IS EXPECTED TODAY AND WILL
PROBABLY COMBINE WITH THE EXPECTED FLARE GENERATED DISTURBANCE TO
PRODUCE A MAJOR STORM. (SEE PART V)

III. EVENT PROBABILITIES NO CHANGE

IV. OTTAWA 10.7 CM FLUX NO CHANGE

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 02 JULY 12

ESTIMATED AFR/AP 03 JULY 07/10

PREDICTED AFR/AP 04-06 JULY 37/55 - 32/47 - 26/35

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HFUS 1 BOU 041400

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 185B

JOINT AFGWC/SESC SECONDARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 1400Z 04 JULY 1974

IA. SOLAR ACTIVITY REACHED A HIGH LEVEL DURING THE PAST 8 HOURS.
REGION 433 (S14W12) PRODUCED A CLASS X-7 IMPORTANCE ONE-BRILLIANT
FLARE THAT BEGAN AT 04/0611Z AND REACHED MAXIMUM AT 0650Z.
THIS FLARE WAS ACCOMPANIED BY A MICROWAVE RADIO BURST OF AT LEAST
1000 FLUX-UNITS AT 2695 MHZ. REGION 433 REMAINS DYNAMIC,
CONTAINING BRIGHT, FLUCTUATING PLAGE AND A MAGNETICALLY COMPLEX
F-TYPE SPOT GROUP. REGION 435 (S10W58) CONTAINS A D-TYPE SPOT
GROUP AND ENHANCED PLAGE. OTHER CENTERS ARE RELATIVELY UNIMPRESSIVE.

IB. SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH DUE TO
REGION 433. ADDITIONAL MAJOR FLARE ACTIVITY IS LIKELY.

II. ACTIVE GEOMAGNETIC CONDITIONS HAVE BEEN OBSERVED DURING
THE PAST 8 HOURS, BUT THE EXPECTED MAGNETIC STORM HAS NOT OCCURRED
YET. THE PROTON EVENT REPORTED IN SDF 185 ALSO HAS CONTINUED.
THE THULE 30 MHZ RIOMETER RECORDED A MAXIMUM ABSORPTION OF
1.5 DB AT 04/0415Z. ABSORPTION BEGAN TO DECLINE AFTER ABOUT
0500Z, AND AT 1330Z WAS DOWN TO ABOUT 0.7 DB. PROTON COUNTS AT
SATELLITE ALTITUDES ALSO HAVE DECREASED. A MAGNETIC STORM IS
STILL LIKELY, AND ADDITIONAL PROTON ENHANCEMENTS ARE EXPECTED
AS A RESULT OF RECENT ACTIVITY.

III. EVENT PROBABILITIES 04 - 06 JULY

CLASS M 97/97/97

CLASS X 60/60/60

PROTON 70/60/60

PCAF RED

IV. OTTAWA 10.7 CM FLUX

OBSERVED 03 JULY 117

PREDICTED 04 - 06 JULY 118/120/118

90-DAY MEAN 03 JULY 90

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 02 JULY 12

ESTIMATED AFR/AP 03 JULY 07/10

PREDICTED AFR/AP 04 - 06 JULY 25/30 - 32/45 - 28/39

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HFUS BOU 042200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 185

JOINT AFGWC/SESC PRIMARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 04 JULY 1974

IA. SOLAR ACTIVITY HAS REACHED A VERY HIGH LEVEL DURING THE PAST 24 HOURS. REGION 433 (S14W15) HAS PRODUCED FREQUENT MAJOR ENERGETIC EVENTS. THE MOST SIGNIFICANT FLARES OCCURRED AS FOLLOWS;
04/0720Z, IMPORTANCE 1B, CLASS X7 (VELA), POSSIBLE WHITE LIGHT FLARE, APPROXIMATELY 1000 FLUX UNITS ABOVE BACKGROUND AT 2695 MHZ;
04/1400Z, IMPORTANCE 1B, X-RAY CLASSIFICATION UNDETERMINED BUT KNOWN TO BE GREATER THAN CLASS X3(GOES), REPORTED WHITE LIGHT FLARE, 1885 FLUX UNITS ABOVE BACKGROUND AT 2695 MHZ; 04/1835Z, IMPORTANCE 2N, X-RAY CLASS X1 (VELA), 816 FLUX UNITS ABOVE BACKGROUND AT 2695 MHZ; 04/2106Z, IMPORTANCE 1N, X-RAY CLASS X1 (GOES), 330 FLUX UNITS ABOVE BACKGROUND AT 2695 MHZ. STRONG TYPE III AND TYPE IV DEKAMETRIC EMISSION ACCOMPANIED THESE EVENTS. IN ADDITION, A GEOMAGNETIC CROCHET WAS OBSERVED AT 04/1355Z ALONG WITH THE MAXIMUM X-RAY EMISSION ASSOCIATED WITH THE 1B FLARE OBSERVED THEN. MAJOR SHORT-WAVE FADES AND OTHER IONOSPHERIC DISTURBANCES HAVE ACCOMPANIED THESE FLARES. SEVERAL SMALLER CLASS M EVENTS AND MINOR RADIO BURSTS HAVE ALSO BEEN OBSERVED. REGION 433 RETAINS ITS STRONG AND UNUSUAL MAGNETIC DELTA CONFIGURATION IN THE LARGEST TRAILER SPOT. FIELD GRADIENTS IN THIS REGION ARE VERY INTENSE, AND RAPID MOTIONS HAVE BEEN OBSERVED AMONG THE SPOTS OF THE DELTA CONFIGURATION. AT THE TIME OF THIS REPORT, GRADIENTS REMAIN VERY STRONG, DESPITE THE RELEASE OF ENERGY THAT HAS OCCURRED RECENTLY THROUGH FLARE ACTIVITY. REGION 435 (S09W61) HAS SHOWN SLIGHT GROWTH BUT REMAINS MAGNETICALLY SIMPLE. A NEW REGION, NUMBER 437, IS DEVELOPING AT S15E14 AND NOW CONTAINS A SMALL SPOT GROUP AND DIM FLARE.

IB. SOLAR ACTIVITY IS EXPECTED TO CONTINUE AT A HIGH TO VERY HIGH LEVEL. REGION 433 IS EXPECTED TO CONTINUE TO PRODUCE MAJOR FLARES ACCOMPANIED BY STRONG X-RAY BURSTS, INTENSE RADIO BURSTS, DEKAMETRIC ACTIVITY, AND MAJOR IONOSPHERIC DISTURBANCES.

II. ACTIVE GEOMAGNETIC CONDITIONS HAVE BEEN OBSERVED DURING THE PAST 24 HOURS. THE RECENT FLARE ACTIVITY IS EXPECTED TO PRODUCE GEOMAGNETIC STORM ACTIVITY DURING THE NEXT THREE DAYS. THE PROTON ENHANCEMENT MENTIONED IN SDF 184 HAS DECREASED IN INTENSITY. A MAXIMUM ABSORPTION OF 1.8 DB OCCURRED ON THE THULE 30 MHZ RIOMETER AT ABOUT 03/2300Z. ABSORPTION PRESENTLY IS ABOUT 0.8 DB ON THE THULE 30 MHZ RIOMETER. THE RECENT FLARE ACTIVITY HAS PRODUCED ONLY A SLIGHT RISE IN 30 MHZ ABSORPTION, BUT ABSORPTION AND SATELLITE COUNTING RATES OF PARTICLES ARE EXPECTED TO INCREASE DURING THE NEXT 24 HOURS DUE TO THE RECENT ACTIVITY.

III. EVENT PROBABILITIES 05 - 07 JULY

CLASS M 99/99/95

CLASS X 80/70/70

PROTON 60/60/60

PCAF RED

IV. OTTAWA 10.7 CM FLUX

OBSERVED 04 JULY 130

PREDICTED 05 - 07 JULY 130/128/125

90-DAY MEAN 04 JULY 91

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 03 JULY 10

ESTIMATED AFR/AP 04 JULY 20/33

PREDICTED AFR/AP 05 - 07 JULY 35/50 - 40/60 - 35/50

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