

HFUS 1 BOU

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER, CO

SDF NUMBER 186 A

JOINT AFCWC/SESC SECONDARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 0600 Z 05 JULY 1974

1A. REGION 433 (S14W19) HAS BEEN RELATIVELY QUIET DURING THE PAST EIGHT HOURS, YIELDING ONLY OCCASIONAL SUBFLARES. ^{HOWEVER} ACTIVE FILAMENTS AND PLAGE FLUCTUATIONS CONTINUE HERE. NO SIGNIFICANT ACTIVITY HAS BEEN REPORTED ON THE REMAINDER OF THE DISK OR THE LIMBS.

1B. SOLAR ACTIVITY WILL CONTINUE HIGH. REGION 433 RETAINS ITS POTENTIAL FOR MAJOR EVENTS.

II. ACTIVE TO MINOR STORM CONDITIONS HAVE BEEN APPARENT IN THE GEOMAGNETIC FIELD THUS FAR TODAY. MOST DISTURBED CONDITIONS ARE EXPECTED DURING LOCAL NIGHTTIME, AS THESE LEVELS WILL PERSIST THROUGHOUT THE FORECAST PERIOD.

III. EVENT PROBABILITIES

CLASS M	/	/	-
CLASS X	/	/	-
PROTON	/	/	-
PCAF	/	/	-

IV. OTTAWA 10.7 CM FLUX

OBSERVED	-
PREDICTED	-
90-DAY MEAN	-

No Change

V.

GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG

ESTIMATED A_{FR/AP}

PREDICTED A_{FR/AP}

/	/	-	-	/	-	-	/	-	-	/
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HFUS 1 BOU

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER, CO

SDF NUMBER 186B

JOINT AFGWC/SESC SECONDARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED

1400

Z

5 JULY

1974

1A. SOLAR ACTIVITY HAS BEEN HIGH DURING THE LAST EIGHT HOURS, WITH CLASS M EVENTS REPORTED AT 0158, 0229, AND 1236 (UNIVERSAL TIMES OF MAXIMUM X-RAY FLUX). THESE EVENTS WERE ALL ASSOCIATED WITH OPTICAL FLARES IN REGION 433 (S13W19), AND WERE OPTICALLY SF, SN AND 4N, RESPECTIVELY. AN ADDITIONAL EVENT MAY HAVE OCCURRED AT ABOUT 0706, BUT DETAILS ARE LACKING. THE REGION HAS NOT GROWN SUBSTANTIALLY, NOR DECAYED. ARCH FILAMENT STRUCTURE AND RIBBONED FLUCTUATIONS HAVE BEEN REPORTED.

1B. REGION 433 IS EXPECTED TO CONTINUE AS A MAJOR FLARE PRODUCER. OTHER REGIONS ARE INACTIVE.

II. A MINOR GEOMAGNETIC STORM BEGAN ON 4 JULY AT 0119 U.T. THIS STORM CONTINUED, AND INTENSIFIED DURING THE (LOCAL) NIGHT. NO GROUND-LEVEL, NOR FORBUSH DECREASE HAS BEEN REPORTED DURING THE LAST 72 HOURS. HOWEVER, GOES DATA (0.8 TO 4 MEV PROTONS) INDICATES INJECTIONS OF PROTONS INTO NEAR-EARTH ENVIRONMENT AT ~~03/0745, 03/2110, 04/1215, 05/0305~~ ^{INCREASE} AND 05/1135 U.T. CORRECTIONS FOR SATELLITE/MAGNETOSPHERE GEOMETRY HAVE NOT BEEN MADE. ABSORPTION OF RADIO WAVES IN THE POLAR CAPS IS REPORTED.

III. EVENT PROBABILITIES NO CHANGE

CLASS M	/	/	/
CLASS X	/	/	/
PROTON	/	/	/
PCAF			

IV. OTTAWA 10.7 CM FLUX

OBSERVED	<u>NO CHANGE</u>
PREDICTED	
90-DAY MEAN	

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG	<u>NO CHANGE</u>
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ESTIMATED A _{FR/AP}	/
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PREDICTED A _{FR/AP}	/ - / - / - /
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HFUS BOU 052330

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO.

SDF NUMBER 186

JOINT AFGWC/SESC PRIMARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2300Z 05 JULY 1974

IA. SOLAR ACTIVITY HAS BEEN VERY HIGH DURING THE PAST 24 HOURS. REGION 433 (S14W29) HAS CONTINUED TO PRODUCE MAJOR ENERGETIC FLARES, INCLUDING THREE CLASS M EVENTS, A CLASS X2 EVENT, AND A SPECTACULAR CLASS X10 EVENT. THE CLASS X2 EVENT WAS AN IMPORTANCE ONE-BRILLIANT FLARE THAT REACHED MAXIMUM AT 05/1511Z AND WAS ACCCOMPANIED BY A BURST OF 502 FLUX UNITS ABOVE BACKGROUND AT 2695 MHZ, TYPE III AND TYPE IV DEKAMETRIC EMISSION, AND STRONG IONO-SPHERIC EFFECTS. AT 05/2118Z AN IMPORTANCE TWO-BRILLIANT FLARE BEGAN, REACHING MAXIMUM AT 2142Z. GREAT RADIO BURSTS ACCOMPANIED THE FLARE. A BURST OF 2670 FLUX UNITS ABOVE BACKGROUND WAS RECORDED AT 2695 MHZ. ACCORDING TO PRELIMINARY DATA FROM THE GOES SATELLITE'S 1-8 ANGSTROM DETECTOR, THE FLARE PRODUCED A BURST OF AT LEAST 1 ERG/CM²/SEC, OR CLASS X10. THIS IS ONE OF THE LARGEST X-RAY BURSTS EVER MEASURED. DEKAMETRIC TYPE III AND TYPE IV EMISSION ACCOMPANIED THE FLARE. H-ALPHA OBSERVATIONS OF THIS FLARE REVEALED ABOUT 75 PERCENT UMBRAL COVERAGE, STRONGLY SUGGESTING THAT THIS FLARE MAY EJECT PROTONS.

IB. CONTINUED HIGH TO VERY HIGH SOLAR ACTIVITY IS LIKELY. REGION 433 IS EXPECTED TO CONTINUE TO PRODUCE SPORADIC MAJOR FLARE ACTIVITY, DESPITE ITS MATURE STAGE OF DEVELOPMENT. STRONG X-RAY AND RADIO BURSTS ARE LIKELY.

II. THE GEOMAGNETIC STORM THAT BEGAN 04/0119Z HAS INTENSIFIED. A K-INDEX OF SEVEN WAS RECORDED AT BOULDER AND FREDERICKSBURG DURING THE INTERVAL 05/0300-0600Z. AN ADDITIONAL SUDDEN COMMENCEMENT FEATURE WAS OBSERVED AT 05/1933Z. THIS FEATURE MAY HAVE BEEN RELATED TO ONE OF THE SEVERAL MAJOR FLARES REPORTED ON SDF 184 AND 185. MAGNETIC STORM ACTIVITY IS EXPECTED TO CONTINUE FOR SEVERAL DAYS AND MAY REACH MAJOR STORM INTENSITY, ESPECIALLY DURING LOCAL NIGHT.

THE PROTON ENHANCEMENT REPORTED IN SDF 184 HAS INTENSIFIED SOMEWHAT. THE THULE 30MHZ RIOMETER REACHED A MAXIMUM ABSORPTION OF 4.6 DB AT 05/2100Z, AND SATELLITE PROTON COUNTERS HAVE INDICATED MODERATE ENHANCEMENTS OF PARTICLES NEAR EARTH. A FURTHER INCREASE OF PARTICLES IS EXPECTED DUE TO THE CONSIDERABLE RECENT FLARE ACTIVITY. SO FAR, HOWEVER, NO GROUND-LEVEL EVENT HAS BEEN REPORTED FOLLOWING THE 2B FLARE AT 2142Z.

III. EVENT PROBABILITIES 06-08 JULY

CLASS M 95/90/90

CLASS X 70/70/60

PROTON 70/60/60

PCAF RED

IV. OTTAWA 10.7 CM FLUX

OBSERVED 05 JULY 131

PREDICTED 06-08 JULY 128/125/122

90 DAY MEAN 05 JULY 91

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 04 JULY 24

ESTIMATED AFR/AP 05 JULY 45/70

PREDICTED AFR/AP 06-08 JULY 50/64-45/60-40/55

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