

HFUS 3 BOU 200530

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 110A

JOINT USAF/NOAA SECONDARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 0600Z 20 APRIL 1978

IA. SOLAR ACTIVITY HAS BEEN LOW THIS ZULU DAY. OPTICAL REPORTS
HAVE BEEN SPARSE DUE TO WEATHER. REGION 1070 (N14W69) APPARENTLY
HAS LOST ITS MAGNETIC COMPLEXITY AND CURRENTLY HAS A DULL PLAGE.
REGIONS 1083 (N16E36) AND 1086 (N21E35), THE SITE OF MOST OF THE
FLARE ACTIVITY ON 19 APRIL, CONTINUE TO GROW.

IB. SOLAR ACTIVITY IS EXPECTED TO BE LOW TO MODERATE WITH REGIONS
1083 AND 1086 CONTINUING TO PRODUCE MOST OF THE FLARES.

II. INTENSE SUBSTORM ACTIVITY BETWEEN 01-04Z PRODUCED STORM LEVELS
AT MID-LATITUDES. GENERALLY ACTIVITY CONDITIONS ARE EXPECTED FOR
THE BALANCE OF THIS ZULU DAY. SUBSTORMS CAN CONTINUE IN THE NORTH
AMERICAN SECTOR THROUGH 12Z.

III. EVENT PROBABILITIES 20 APRIL - 22 APRIL

CLASS M 55/65/70

CLASS X 10/15/20

PROTON 10/15/20

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 19 APRIL 145

PREDICTED 20-22 APRIL 146/147/149

90-DAY MEAN 19 APRIL 141

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 18 APRIL 13

ESTIMATED AFR/AP 19 APRIL 17/29

PREDICTED AFR/AP 20-22 APRIL 18/25 - 10/15 - 25/30

SOLTERWARN

BT

22/35

HFUS 3 BOU 201500

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 110-B

JOINT USAF/NOAA SECONDARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 1500Z 20 APR 1978

IA. SOLAR ACTIVITY HAS BEEN LOW FOR THE PAST 12 HOURS. CLASS C SUBFLARES HAVE OCCURRED IN FOUR OF THE SMALL ACTIVE REGIONS. ONLY REGION 1083 (N16E18) HAS SHOWN SIGNIFICANT GROWTH AND EVEN THIS IS MINOR. REGION 1070 (N13W76) HAS CONTINUED TO DECAY AND REMAINS QUIET. A VERY LARGE PROMINENCE ON THE SE LIMB MAY ERUPT TODAY IN A SPECTACULAR DISPLAY BUT WITH NO EFFECTS TO THE TERRESTRIAL ENVIRONMENT. A MINOR PROTON EVENT BEGAN AT ABOUT 0400Z BUT REACHED ONLY 10 PARTICLES CM-2 SEC-1 BEFORE DECAYING.

IB. SOLAR ACTIVITY IS EXPECTED TO REMAIN LOW UNTIL THE FORMATION OF SIGNIFICANT NEW ACTIVE REGIONS. NO SIGNIFICANT ACTIVITY IS EXPECTED TO RETURN TO EAST LIMB.

II. THE GEOMAGNETIC FIELD EXPERIENCED STRONG SUBSTORMS EARLY TODAY BUT HAS BECOME QUIET. QUIET TO UNSETTLED CONDITIONS ARE EXPECTED FOR THE NEXT 48 HOURS. A RECURRENT MAGNETIC STORM IS EXPECTED SOMETIME ON 22 APRIL.

III. EVENT PROBABILITIES 20 - 22 APR

CLASS M 55/65/70

CLASS X 10/15/20

PROTON 10/15/20

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 19 APR 145

PREDICTED 20 - 22 APR 146/147/149

90-DAY MEAN 19 APR 141

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 18 APR 13

ESTIMATED AFR/AP 19 APR 17/29

PREDICTED AFR/AP 20 - 22 APR 22/35 - 10/15 - 25/30

SOLTERWARN

BT

HFUS 1 BOU 202200

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 110

JOINT USAF/NOAA PRIMARY REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY
ISSUED 2200Z 20 APRIL 1978

IA. SOLAR ACTIVITY HAS BEEN LOW FOR THE PAST 24 HOURS WITH NUMEROUS CLASS C SUBFLARES OCCURRING IN FIVE DIFFERENT ACTIVE REGIONS. SIGNIFICANT GROWTH CONTINUES IN THE COMPLEX OF REGIONS 1083/1086 (N18E34) ALTHOUGH THE SPOT GROUPS REMAIN RELATIVELY SMALL COMPARED TO THE USUAL MAJOR REGION. A NEW GROUP OF SPOTS HAS FORMED BETWEEN REGIONS 1070 AND 1073 NEAR THE NW LIMB, BUT TOO CLOSE TO BOTH THESE REGIONS TO BE ASSIGNED A NEW SERIAL NUMBER. ADDITIONAL NEW REGIONS HAVE FORMED AT N18W59 (REGION 1088) AND N17E12 (REGION 1089). A MINOR PROTON EVENT BEGAN AT 0400Z AND REACHED PEAK INTENSITY OF ONLY 21 PARTICLES/SEC AT ENERGIES ABOVE 10 MEV BY 0630Z. NORMAL FLUX LEVELS WERE REACHED BY 1400Z. THIS EVENT COINCIDED WITH INTENSE SUBSTORM ACTIVITY IN THE EARTH'S MAGNETIC FIELD. IT MAY NOT HAVE A FLARE ASSOCIATION.

IB. SIGNIFICANT SOLAR FLARE EVENTS MAY AGAIN OCCUR IF GROWTH PATTERNS CONTINUE IN EITHER THE 1070/1073 OR THE 1083/1086 COMPLEXES. CLASS C FLARES WILL BE FREQUENT.

II. THE GEOMAGNETIC FIELD WAS AT MINOR STORM LEVEL FOR THE FIRST THIRD OF THIS DAY BUT HAS BEEN QUIET FOR THE REMAINDER. QUIET TO UNSETTLED CONDITIONS WILL PERSIST FOR ONLY ANOTHER DAY BEFORE COMMENCEMENT OF A RECURRENT MAGNETIC STORM.

III. EVENT PROBABILITIES 21-23 APRIL

CLASS M 40/45/50

CLASS X 10/10/10

PROTON 10/05/05

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 20 APRIL 139

PREDICTED 21-23 APR 140/140/144

90-DAY MEAN 20 APRIL 141

V. GEOMAGNETIC A INDICES

OBSERVED FREDERICKSBURG 19 APRIL 29

ESTIMATED AFR/AP 20 APRIL 15/33

PREDICTED AFR/AP 21-23 APRIL 10/15 - 25/30 - 25/25

SOLTERWARN