

HFUS 1 BOU 161300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 197A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 16 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 15/1200Z TO 16/1200Z: SOLAR ACTIVITY REMAINS MODERATE DESPITE REGION 3804'S DOMINANCE AT CENTER DISK (N14W18) WITH A VERY GOOD POTENTIAL FOR X-CLASS PROTON EVENTS. THE LARGEST X-RAY EVENT DURING THE PAST 24 HOURS WAS AN UNCORRELATED M3 AT 16/0029Z MAXIMUM. AN M1/SB AT 16/0904Z MAXIMUM OCCURRED IN THE EASTERN PORTION OF REGION 3804. THIS REGION HAS STABILIZED IN GROWTH AND HAS NOT SHOWN ANY SIGNIFICANT MAGNETIC STRUCTURAL CHANGES DURING THE PAST 24 HOURS. THIS COULD ACCOUNT FOR THE SLIGHT DECREASE IN SIGNIFICANT FLARE PRODUCTION FROM THIS REGION. REGION 3812 (N20E24) HAS NOW STOPPED GROWING, AND HAS BEEN INACTIVE DURING THE PAST NINE HOURS. THE REMAINING DISK REGIONS HAVE BEEN REPORTED AS LITTLE CHANGED, WHILE THE LIMBS HAVE BEEN QUIET.

IB. SOLAR ACTIVITY FORECAST: A LARGE X-CLASS FLARE FROM REGION 3804 IS LIKELY DURING THE FORECAST PERIOD, ESPECIALLY IF THE REGION BEGINS TO SHOW SOME RESTRUCTURING OR DECAY. ITS LOCATION IS CURRENTLY IDEAL FOR A NEAR-EARTH PARTICLE EVENT. REGION 3812 AND TO A LESSER EXTENT 3806 (S25W36) MAINTAIN THEIR POTENTIAL FOR A MODERATE SIZED EVENT.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD WAS GENERALLY ACTIVE THROUGH MOST OF THE PERIOD UNTIL THE 09-12Z PERIOD WHEN A K INDEX OF FIVE WAS RECORDED AT BOULDER. DUE TO EQUIPMENT PROBLEMS IT COULD NOT BE DETERMINED IF THERE WAS A SUDDEN COMMENCEMENT, BUT THE ISEE-3 SPACECRAFT DETECTED A SHOCK AT 0809Z. THIS SHOCK IS PROBABLY THE RESULT OF RECENT FLARE ACTIVITY FROM REGION 3804. ACTIVE CONDITIONS ARE EXPECTED TO CONTINUE THROUGH THE FORECAST PERIOD.

III. EVENT PROBABILITIES 17 JUL-19 JUL

CLASS M 99/99/99

CLASS X 60/60/60

PROTON 30/40/50

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 15 JUL 265

ESTIMATED 16 JUL 265

PREDICTED 17 JUL-19 JUL 260/255/250

90 DAY MEAN 15 JUL 161

V. GEOMAGNETIC A INDICES

OBSERVED AFR 14 JUL 109 AP 15 JUL 035

ESTIMATED AFR 15 JUL 028 AER/AP 16 JUL 025/032

PREDICTED AFR/AP 17 JUL-19 JUL 020/022-020/025-020/027

SOLTERWARN

BT

HXUS 3 BOU 162200
FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 197B
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.
ISSUED 2200Z 16 JUL 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 16/1200Z TO 16/2100Z: SOLAR ACTIVITY HAS BEEN MODERATE DURING THE PAST 9 HOURS. SIGNIFICANT EVENTS FOR THIS INTERVAL: M1/SB AT 1247Z, M1/SB AT 1523Z AND M2/1B AT 1847Z FROM REGION 3804 (N13W25) AND M1/1B AT 1504Z FROM REGION 3806 (S24W42). A M1B FLARE IN REGION 3812 (N20E17) WAS NEARLY COINCIDENT WITH THE M2 BURST AT 1857Z. THE APPEARANCE OF NUMEROUS SMALL SPOTS HAS INCREASED THE AREA AND COMPLEXITY IN REGIONS 3810 (N12E13) AND 3812 AND THESE TWO REGIONS ARE STRONGLY COUPLED. RESTRUCTURING IN THE GREAT REGION 3804 HAS DIMINISHED ITS AREA ONLY SLIGHTLY. MAGNETIC COMPLEXITY AND A GIANT ACTIVE FILAMENT CONTINUE TO GIVE THIS GREAT REGION AN OMINOUS APPEARANCE. SPOT GROWTH IN REGION 3806 AND 3809 (S10W08) HAS MAINTAINED THEIR ACTIVE APPEARANCE. NEW REGIONS 3818 (S20W15) AND 3819 (S22E26) HAVE ADDED TO THE EXTREMELY HIGH SUNSPOT COUNT FOR TODAY. NO SIGNIFICANT ACTIVE REGIONS ARE NEAR EAST LIMB.

IB. SOLAR ACTIVITY FORECAST: ACTIVITY IS EXPECTED TO REMAIN MODERATE. OCCASIONAL CLASS X EVENTS ARE EXPECTED FROM REGIONS 3804, 3810 AND 3812. PROTON EMISSION SEEMS LESS LIKELY AS SUNSPOTS AND MAGNETIC GRADIENTS DECREASE IN REGION 3804.

II. GEOPHYSICAL SUMMARY AND FORECAST: A SHOCK OBSERVED ON ISEE-3 SPACECRAFT AT 1450Z WAS FOLLOWED BY A SUDDEN COMMENCEMENT OF GEOMAGNETIC STORM AT 1520Z. ACTIVE CONDITIONS HAVE GRADUALLY SUBSIDED TO ONLY SLIGHTLY ACTIVE SINCE THEN. ACTIVE CONDITIONS ARE EXPECTED TO DOMINATE THE ENTIRE FORECAST PERIOD.

III. EVENT PROBABILITIES 17 JUL-19 JUL

CLASS M 99/99/99

CLASS X 30/30/15

PROTON 20/20/15

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 16 JUL 271

PREDICTED 17 JUL-19 JUL 260/255/250

90 DAY MEAN 16 JUL 162

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 15 JUL 040/036

ESTIMATED AFR/AP 16 JUL 035/038

PREDICTED AFR/AP 17 JUL-19 JUL 020/022-020/025-020/027

SOLTERWARN

BT

HXUS BOU 162200
PREDM 09917 09918 09919
PREDX 03017 03018 01519
PREDP 02017 02018 01519
PCAFT 00217
TENCM 26017 25518 25019
AFRED 02017 02018 02019
AFAPF 02217 02518 02719
BT