

HFXUS 1 BOU 211300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDF NUMBER 021A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 21 JAN 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 20/1200Z TO 21/1200Z: SOLAR ACTIVITY HAS BEEN AT LOW LEVELS FOR OVER A WEEK NOW, BUT THE FREQUENCY OF C-CLASS XRAY EVENTS HAS STILL BEEN FAIRLY HIGH. THE FEW OBSERVATORY REPORTS THAT HAVE BEEN RECEIVED IN BOULDER INDICATE AN OVERALL LEVELING OFF IN SPOT GROWTH ON THE SOLAR DISK. REGION 3549 (S10W62) REMAINS THE ONLY REGION WITH SIGNIFICANT SIZE OR COMPLEXITY.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO CONTINUE AT LOW LEVELS OVER THE NEXT FEW DAYS, ALTHOUGH THERE IS A REASONABLE CHANCE OF AN ISOLATED M-CLASS EVENT FROM REGION 3549 BEFORE IT PASSES THE WEST LIMB. THE LONG RANGE FORECAST IS FOR ACTIVITY LEVELS AND THE BACKGROUND 10 CM RADIO FLUX TO DECLINE SLIGHTLY OVER THE NEXT THREE DAYS, BEFORE INCREASING AGAIN WITH THE RETURN OF ACTIVE SOLAR LONGITUDES NEAR CARRINGTON 280.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD WAS QUIET UNTIL 0600Z, WHEN IT BECAME HIGHLY UNSETTLED. A LARGE, WELL-DEFINED CORONAL HOLE IS SUGGESTED BY HELIUM 10830 DATA. THE EFFECTS OF THIS CORONAL HOLE SHOULD BRING ACTIVE CONDITIONS ON 23 JAN.

III. EVENT PROBABILITIES 22 JAN-24 JAN

CLASS M 50/50/40

CLASS X 02/02/01

PROTON 02/02/01

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 20 JAN 173

ESTIMATED 21 JAN 173

PREDICTED 22 JAN-24 JAN 170/166/163

90 DAY MEAN 20 JAN 197

V. GEOMAGNETIC A INDICES

OBSERVED AFR 19 JAN 002 AP 20 JAN 005

ESTIMATED AFR 20 JAN 007 AFR/AP 21 JAN 008/010

PREDICTED AFR/AP 22 JAN-24 JAN 008/008-020/020-012/015

SOLTERWARN

BT

HXUS BOU 211300

PREDM 05022 05023 04024

PREDX 00222 00223 00124

PREDP 00222 00223 00124

PCAFT 00122

TENCM 17022 16623 16324

AFRED 00822 02023 01224

AFAPF 00822 02023 01524

KKK 23232 22222 22443

BT

HFUS 3 BOU 212200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SDF NUMBER 021B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 2200Z 21 JAN 1982

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 21/1200Z TO 21/2100Z: SOLAR ACTIVITY HAS BEEN LOW WITH ONLY SMALL CLASS C FLARES BEING OBSERVED. MINOR CHANGES HAVE OCCURRED IN PREEXISTING REGIONS. HOWEVER, NEW REGIONS HAVE EMERGED ON THE DISK, MOST SIGNIFICANTLY REGION 3569 (S08E52) WHICH IS GROWING QUITE RAPIDLY AND IS CURRENTLY A D CLASS SUNSPOT GROUP. A SMALL GROWING REGION HAS EMERGED NORTH OF 3556 (N07W22) AT N12W18 AND HAS BEEN NUMBERED 3568.

IB. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY SHOULD CONTINUE LOW WITH A MODERATE PROBABILITY OF AN M CLASS FLARE BEING OBSERVED DURING THE FORECAST PERIOD. SHOULD REGION 3569 CONTINUE ITS RAPID GROWTH TREND IT COULD BECOME CAPABLE OF MODERATE FLARE PRODUCTION WITHIN THE NEAR FUTURE. PREVIOUSLY ACTIVE LONGITUDES ARE EXPECTED TO BEGIN RETURNING TO THE EAST LIMB NEAR THE END OF THE FORECAST PERIOD.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN ACTIVE DURING THE LAST NINE HOURS. ISEE SOLAR WIND DATA INDICATE A DENSE CLOUD OF MATERIAL IN THE EARTHS NEIGHBORHOOD VERY LIKELY RELATED TO A LARGE FILAMENT DISRUPTION IN THE SOUTHWEST QUADRANT LATE ON 17 JANUARY. THIS DISTURBANCE IS EXPECTED TO DECLINE SLOWLY WITH UNSETTLED CONDITIONS EXPECTED TOMORROW. THE FIELD SHOULD BECOME ACTIVE ON 23 JANUARY DUE TO CORONAL HOLE EFFECTS AND THEN RETURN TO UNSETTLED LEVELS ON 24 JANUARY.

III. EVENT PROBABILITIES 22 JAN-24 JAN

CLASS M 50/50/50

CLASS X 02/02/01

PROTON 02/02/01

PCAF GREEN

IV. OTTAWA 10.7 CM FLUX

OBSERVED 21 JAN 169

PREDICTED 22 JAN-24 JAN 166/160/167

90 DAY MEAN 21 JAN 196

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 20 JAN 007/005

ESTIMATED AFR/AP 21 JAN 014/012

PREDICTED AFR/AP 22 JAN-24 JAN 012/012-020/020-014/015

SOLTERWARN

BT