

HFUS 1 POU 021300

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDE NUMBER 275A

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1300Z 02 OCTOBER 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

01/1200Z TO 02/1200Z

SOLAR ACTIVITY HAS BEEN MODERATE DURING THE PAST 24 HOURS WITH THE OCCURRENCE OF AN M2/1B FLARE IN REGION 3377 (N09E65) AT 01/2000Z. THIS REGION IS NOT OVERLY IMPRESSIVE IN WHITE LIGHT OR H-ALPHA, BUT CONTINUES TO BE PRODUCTIVE WITH FAIRLY FREQUENT SUBFLARES OCCURRING. REGION 3375 (N13E18) IS UNDERGOING SIGNIFICANT RESTRUCTURING AND WITH THIS HAS PRODUCED SEVERAL SUBFLARES. THE LARGEST OF THESE WAS A C5/SB AT 01/0734Z MAXIMUM. THE RAPID GROWTH IN REGION 3375 CONTINUES WITH THE NEW EMERGING FLUX IN THE CENTRAL PORTION OF THE REGION CREATING A BETA-GAMMA MAGNETIC CONFIGURATION. REGIONS 3360 (S14W55), 3364 (S15W38), 3370 (N15W02), 3373 (N17W14) AND 3374 (S17E25) HAVE ALSO PRODUCED SUBFLARES, INDICATING THE NUMBER OF SMALL REGIONS THAT HAVE FLARE POTENTIAL.

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE GENERALLY LOW, HOWEVER, BOTH REGION 3375 AND 3377 MAINTAIN THEIR POTENTIAL FOR AN ISOLATED M-CLASS EVENT. DEVELOPMENT IN THE OTHER 16 SPOTTED DISK REGIONS IS NOT EXPECTED TO BE DRAMATIC.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN UNSETTLED DURING THE PAST 24 HOURS. AN INCREASE TO ACTIVE LEVELS IS EXPECTED DURING THE NEXT 24 HOURS AND THEN PERSIST THROUGH THE 3RD OF OCTOBER IN RESPONSE TO A LARGE SOLAR SECTOR BOUNDARY FILAMENT WHICH ERUPTED LATE ON THE 30TH OF SEPTEMBER.

III. EVENT PROBABILITIES: 03 OCTOBER - 05 OCTOBER

CLASS M 70/70/70

CLASS X 01/01/01

PROTON 01/01/01

PCAF GREEN

IV. OTTAWA 10.7 FLUX

OBSERVED 01 OCT 214

ESTIMATED 02 OCT 215

PREDICTED 03-05 OCT 215/215/217

90 DAY MEAN 01 OCT 211

V. GEOMAGNETIC A INDICES

OBSERVED AFR 30 SEP 15 AP 01 OCT 10

ESTIMATED AFR 01 OCT 08 AFR/AP 02 OCT 12/15

PREDICTED AFR/AP 03-05 OCT 18/22 25/25 12/12

SOLARFLARE PREDICTION

BT

HEUS 3 BOUL 022200

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO

SDE NUMBER 275B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED AT 0200Z 02 OCT 1981.

I. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 02/1200Z TO 02/2100Z:

SOLAR ACTIVITY HAS BEEN MODERATE WITH AN M2/1B FLARE AT 1636Z FROM REGION 3375 (N13E10). THIS REGION HAS DEVELOPED ADDITIONAL NEW SPOTS AND A COMPLEX PLAGE AND MAGNETIC CONFIGURATION. ITS SIZE REMAINS SMALL FOR SUCH FLARE ACTIVITY. REGION 3377, WHICH PRODUCED AN M2/1N EVENT YESTERDAY, IS SLIGHTLY LARGER THAN 3375 AND ALSO HAS A COMPLEX CONFIGURATION. MINOR INCREASES IN COMPLEXITY HAVE OCCURRED IN SMALL REGIONS 3365 (N08W35), 3372 (S05W33) AND 3374 (S17E19). A MINOR NEW REGION (3379) HAS FORMED AT S09E28. A PLAGE WITHOUT SPOTS IS DEVELOPING IN N18W37. AN ADDITIONAL M2 EVENT OCCURRED AT ISSUED TIME (2059Z MAX) WITHOUT OPTICAL CONFIRMATION.

II. SOLAR ACTIVITY FORECAST:

FREQUENT CLASS C EVENTS AND ONE OR TWO CLASS M EVENTS ARE EXPECTED DAILY FOR THIS FORECAST PERIOD.

III. GEOPHYSICAL SUMMARY AND FORECAST:

SUDDEN COMMENCEMENT OF A MAGNETIC STORM OCCURRED AT 2022Z PRECEDED BY A GRADUAL INCREASE IN LOW-ENERGY PROTONS AT 1750Z AND A SHOCK OBSERVED ON ISEE SPACECRAFT AT 1953Z. A MINOR STORM IS EXPECTED FOR THE NEXT 24-36 HOURS FOLLOWED BY UNSETTLED CONDITIONS. THIS EVENT IS PRESUMED TO BE A RESULT OF A MASSIVE CORONAL TRANSIENT/FILAMENT DISAPPEARANCE AT 2102Z ON 30 SEP.

IV. EVENT PROBABILITIES: 03 - 05 OCT 0P:

CLASS M 80/80/80

CLASS X 05/05/05

PROTON 01/01/01

PCAF GREEN

V. OTTAWA 10.7 FLUX:

OBSERVED 02 OCT 208

PREDICTED 03 - 05 OCT 210/210/212

90 DAY MEAN 02 OCT 211

VI. GEOMAGNETIC A INDICES:

OBSERVED AFR/AP 01 OCT 08/10

ESTIMATED AFT/AP 02 OCT 10/15

PREDICTED AFR/AP 03 - 05 OCT 35/35 18/22 12/12

SOLTER/WARN

BT