

HFUS 1 BOU 201400

FROM SPACE ENVIRONMENT SERVICES CENTER, BOULDER, COLORADO
SD F 05 IA

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY.

ISSUED 1200UT 20 FEBRUARY 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM

19/1200UT TO 20/1200UT:

SOLAR ACTIVITY INCREASED BRIEFLY INTO THE HIGH CATEGORY WITH THE OCCURRENCE OF AN X2/2B FLARE AT 20/0637UT MAXIMUM FROM REGION 2941 (N18W43). THIS IMPULSIVE FLARE WAS ACCCOMPANIED BY A 480 FLUX UNIT RADIO BURST AT 2695 MHZ, STRONG SHORT WAVE FADES TO 16 MHZ, AND A WEAK TYPE II SWEEP. SINCE THIS FLARE, THE REGION HAS RELAXED SOMEWHAT IN THE TRAILER PORTIONS WHERE GRADIENTS HAVE DECREASED. OTHER ACTIVITY DURING THE PAST 24 HOURS INCLUDES AN M1/1B FROM REGION 2947 (N12W41) AT 20/0552UT MAXIMUM WHICH COULD HAVE TRIGGERED THE X2. REGION 2953 (S17E77) HAS BEEN QUIET SINCE YESTERDAY'S M8 FLARE, BUT AS MORE OF THE REGION BECOMES VISIBLE, IT APPEARS TO BE A COMPLEX ACTIVITY CENTER. RAPID SPOT GROWTH ON THE DISK IS OCCURRING AT N11W01 (REGION 2951) AND AT S06W62 (REGION 2950).

IB. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY IS EXPECTED TO BE MODERATE. THE 2941/2943/2947 COMPLEX (CENTERED AT N16W49) APPEARS TO BE CAPABLE OF SEVERAL M-CLASS EVENTS EACH DAY ALONG WITH AN INFREQUENT X-CLASS EVENT. REGION 2953 HAS SHOWN ITS CAPABILITY TO PRODUCE M-CLASS ACTIVITY AND COULD HAVE A PRODUCING PARTNER BY TOMORROW WITH OLD REGION 2911 DUE TO RETURN.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD WAS QUIET UNTIL 20/0900UT WHEN UNSETLED CONDITIONS WERE OBSERVED AT MID-LATITUDES. UNSETLED TO ACTIVE CONDITIONS ARE EXPECTED FOR THE REMAINDER OF THE UT DAY AND INTO TOMORROW. THE PROBABLE CAUSE OF THIS ACTIVITY IS THE RECENT FLARE ACTIVITY FROM THE 2941 COMPLEX WHICH NOW IS MOVING INTO THE FAVORABLE LOCATION FOR SUN-EARTH INTERACTION.

III. EVENT PROBABILITIES: 21 FEBRUARY - 23 FEBRUARY

CLASS M 80/80/70

CLASS X 20/20/15

PROTON 20/20/15

PCAF YELLOW

IV. OTTAWA 10.7 FLUX

OBSERVED 19 FEB 183

ESTIMATED 20 FEB 183

PREDICTED 21 FEB - 23 FEB 183/184/184

90-DAY MEAN 19 FEB 199

V. GEOMAGNETIC INDICES

OBSERVED AFR 18 FEB 07 AFR 19 FEB 07

ESTIMATED AFR 19 FEB 06 AFR/AP 20 FEB 12/15

PREDICTED AFR/AP 21-23 FEB 15/15 - 12/15 - 15/15

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HFUS 3 BOU 2022 00

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLO

SDF NUMBER 05 1B

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 2200UT 20 FEB 1981

IA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 20/1200UT TO 20/2200UT.

SOLAR ACTIVITY HAS BEEN LIMITED TO CLASS C5-C6 XRAY EVENTS SINCE THE X2/2B EVENT AT 0646Z. AT LEAST TWO OF THESE EVENTS OCCURRED WITH BRIGHT LOOP PROMINENCE ACTIVITY AT SE20, ORIGINATING FROM BEYOND THE LIMB NEAR WHERE REGION 2911 IS PROJECTED TO BE APPROACHING EAST LIMB. REGION 2953 (S18E70) IS OBSERVED NOW AS A SIMPLE CLASS C-Spot GROUP AND ITS SMALL PLAGE HAS CLEARED THE LIMB. THIS MAKES IT LIKELY THAT THE M8 EVENT OF 19/0349Z OCCURRED IN THE REGION STILL BEYOND THE LIMB. REGION 2941 (N20W60), THE SOURCE OF TODAYS X2 EVENT, CONTINUES WITH A STRONG DELTA CONFIGURATION IN A PECULIAR AND EVOLVING SPOT GROUP. REGION 2951 (N10E06) HAS GROWN RAPIDLY TO CLASS D WITH NUMEROUS SPOTS AND A SMALL DELTA CONFIGURATION.

II. GEOPHYSICAL SUMMARY AND FORECAST -

THE GEOMAGNETIC FIELD CHANGED FROM QUIET TO UNSETLED AT 0900Z BUT RETURNED TO QUIET CONDITIONS BY 1800Z. UNSETLED CONDITIONS ARE EXPECTED INTERMITTENTLY, WITH THE STRONGEST ACTIVITY EXPECTED 23 FEB AS AN EFFECT OF A MAJOR CORONAL TRANSIENT NEAR SUN CENTER ON 19 FEB.

III. EVENT PROBABILITIES 21-23 FEB

CLASS M 80/80/70

CLASS X 20/20/15

PROTON 20/20/15

PCAF YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 20 FEB 193

PREDICTED 21-23 FEB 194/194/194

90-DAY MEAN 20 FEB 199

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP 19 FEB 06/07

ESTIMATED AFR/AP 20 FEB 08/10

PREDICTED AFR/AP 21-23 FEB 15/15 - 12/15 - 15/15

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