

REF ID: A141300

FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER, COLO

SDE NUMBER 1340

JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY

ISSUED 1200UT 14 MAY 1981

TA. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 13/1200UT  
TO 14/1200UT:

SOLAR ACTIVITY HAS BEEN HIGH. REGIONS 3099 (N11W34), 3106 (N14E35)  
AND 3112 (N15E46) HAVE PRODUCED M-CLASS FLARES DURING THE PAST 24  
HOURS. THE MOST RECENT (14/0808-0850Z) AND PROBABLY THE MOST  
IMPRESSIVE, WAS AN IMPORTANCE 3B AS REPORTED BY LEARMONTH. THIS  
FLARE REPORTEDLY WAS TO THE WEST OF REGION 3112 AND NORTH OF 3106.  
BUT IS ATTRIBUTED TO 3106 BECAUSE OF PROXIMITY. PARALLEL RIBBONS,  
SHORTWAVE FADES, M2 XRAY EMISSION, 190 FLUX UNIT 10CM BURST AND TYPE  
II/IV SWEEP FREQUENCY EMISSION WERE AMONG THE MORE NOTABLE  
CHARACTERISTICS OBSERVED WITH THIS 3B. REGIONS 3106 AND 3112  
REVEALED A CONSIDERABLE DEGREE OF COMPLEXITY AS THEY ROTATED  
FURTHER ONTO THE DISK. BEYOND THE COMPLEXITY DUE TO THE INTER-  
REGION RELATIONSHIPS, BOTH REGIONS ARE INDIVIDUALLY COMPLEX AND  
EACH IS BELIEVED TO CONTAIN A DELTA MAGNETIC CONFIGURATION. A  
VAST, BRIGHT PLAGE AREA AND MODERATELY DARK SPOT UMBRAE ADD TO THE  
THREATENING APPEARANCE OF THESE REGIONS. REGION 3099 HAS NOT  
CHANGED A GREAT DEAL ALTHOUGH SLOW DECAY IS EVIDENT. NO OTHER  
VISIBLE FEATURES RIVAL THE ABOVE MENTIONED REGIONS IN SIZE,  
COMPLEXITY OR INTEREST.

TP. SOLAR ACTIVITY FORECAST:

SOLAR ACTIVITY SHOULD CONTINUE HIGH. ANY OF THE ABOVE MENTIONED  
REGIONS APPEAR CAPABLE OF SIGNIFICANT ACTIVITY.

II. GEOPHYSICAL SUMMARY AND FORECAST:

THE GEOMAGNETIC FIELD HAS BEEN QUIET. THE FIELD SHOULD GRADUALLY  
BECOME UNSETTLED TO ACTIVE OVER THE NEXT THREE DAYS.

III. EVENT PROBABILITIES 15-17 MAY

CLASS M 95/95/95

CLASS X 25/25/25

PROTON 10/10/10

PCAF 100% YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED 13 MAY 217

ESTIMATED 14 MAY 220

PREDICTED 15-17 MAY 222/225/227

90-DAY MEAN 13 MAY 214

V. GEOMAGNETIC A INDICES

OBSERVED AFR 12 MAY 10 APR 13 MAY 14

ESTIMATED AFR 13 MAY 11 AFR/APR 14 MAY 12/15

PREDICTED AFR/APR 15-17 MAY 14/20 - 14/25 - 18/30

SOLTERMARN

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FROM SPACE ENVIRONMENT SERVICES CENTER BOULDER COLORADO  
SDE NUMBER 134B  
JOINT USAF/NOAA REPORT OF SOLAR AND GEOPHYSICAL ACTIVITY  
ISSUED 2200 UT 14 MAY 1981

I.A. ANALYSIS OF SOLAR ACTIVE REGIONS AND ACTIVITY FROM 14/1200 UT TO 14/2200 UT: SOLAR ACTIVITY HAS BEEN LOW FOR THE PAST 10 HOURS. THE LARGEST EVENT OBSERVED WAS A C5/IN FLARE FROM REGION 3106 (N11E30) MAXING AT 1935 UT. SURFLARES WERE REPORTED FROM REGIONS 3106, 3112 (N13E36), AND 3099 (N10W41). SURGING ON THE EAST LIMP WAS SEEN AT S15 AND N05.

I.B. SOLAR ACTIVITY FORECAST: SOLAR ACTIVITY IS EXPECTED TO BE MODERATE TO HIGH. REGIONS 3106, 3112, AND TO A LESSER EXTENT 3099, ARE ALL CAPABLE OF SIGNIFICANT ACTIVITY.

II. GEOPHYSICAL SUMMARY AND FORECAST: THE GEOMAGNETIC FIELD HAS BEEN UNSETTLED FOR THE PAST 10 HOURS. AN INTERPLANETARY SHOCK PASSED THE ISEE-3 SPACECRAFT AT 1824 UT AND WAS OBSERVED AS A SUDDEN IMPULSE IN THE H-COMPONENT OF THE MID TO LOW LATITUDE NORTH AMERICAN IMS STATIONS AT 1858 UT. STRONGLY FLUCTUATING INTERPLANETARY FIELDS ARE FOLLOWING THE SHOCK. UNSETTLED TO ACTIVE GEOMAGNETIC CONDITIONS ARE EXPECTED THROUGHOUT THE FORECAST PERIOD.

III. EVENT PROBABILITIES 15 MAY - 17 MAY

CLASS M	95/95/95
CLASS X	25/25/25
PROTON	10/12/15
PCAF	YELLOW

IV. OTTAWA 10.7 CM FLUX

OBSERVED	14 MAY 228
PREDICTED	15-17 MAY 227/229/231
90-DAY MEAN	14 MAY 214

V. GEOMAGNETIC A INDICES

OBSERVED AFR/AP	13 MAY 10/14
ESTIMATED AFR/AP	14 MAY 12/15
PREDICTED AFR/AP	15-17 MAY 14/20 - 14/25 - 18/30

SOLTERMANN  
BT