

NNNNUUUV

PP KGFF

DE BOU 210500Z

THIS IS THE MESSAGE FOR REFILE

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO

SPACE DISTURBANCE FORECAST NUMBER 535C ISSUED AT 0500Z

MAY 21 1967

MAJOR FLARES POSSIBLE DURING NEXT 12 HOURS FROM REGION LOCATED AT
N27E57.

BT

NNNNUUUV

PP KGFF

DE BOU 211100Z

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO

SPACE DISTURBANCE FORECAST NUMBER 535D ISSUED 5 1100Z

MAY 21 1967

MAJOR FLARES ARE POSSIBLE DURING THE NEXT 12 HOURS.

BT

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO
SPACE DISTURBANCE FORECAST NUMBER 536A ISSUED AT 1700Z
MAY 21 1967.

MAJOR FLARES EXPECTED DURING NEXT 12 HOURS WITH PROTON
FLARE POSSIBLE

A. SIGNIFICANT GROWTH HAS OCCURRED IN THE LARGE AND COMPLEX
SPOT GROUP AT N26 E53. IT IS NOW F/ABOUT 1000. MAGNETIC OBSER-
VATIONS HAVE NOT YET BEEN ACQUIRED TODAY BUT THIS SPOT IS BETA-
GAMMA AND THERE MAY BE DELTA CONFIGURATIONS WITHIN IT. THE SPOT
GROUP CENTERED NEAR N22 E35 HAS NOT CHANGED APPRECIABLY SINCE
YESTERDAY. THESE SPOT GROUPS ARE ASSOCIATED WITH A LARGE MODER-
ATELY BRIGHT FLUCTUATING PLAGE AND THE REGION IS A STRONG SOURCE
OF 9.1 CM EMISSION. NO MAJOR FLARES HAVE BEEN REPORTED FROM THE
REGION FOR MORE THAN 24 HOURS BUT MANY MINOR FLARES HAVE BEEN
OBSERVED THERE.

B. MAJOR FLARE ACTIVITY IS EXPECTED. PROTON FLARES ARE POSSIBLE
FROM THE NORTHEAST COMPLEX OF SPOT GROUPS JUDGING FROM THE
CHARACTER OF THE REGION AND THE RADIO EMISSION ASSOCIATED WITH
IT. EVALUATION WILL BE IMPROVED WHEN SPOT MAGNETIC INFORMATION BE-
COMES AVAILABLE.

C. THE PROBABILITIES FOR FLARES AND PROTON EVENTS FOR THE
THREE DAY PERIOD MAY 22-24 ARE AS FOLLOWS /FIGURES ARE
PERCENTAGES FOR EACH OF THE THREE DAYS/

IMPORTANCE ONE OR GREATER 100/100/100

IMPORTANCE TWO OR GREATER 80/80/80

IMPORTANCE THREE OR GREATER 40/40/40

PROTON EVENTS 40/40/40

D. THE OTTAWA 10.7 CM FLUX TODAY IS ESTIMATED TO BE 158.
THE PREDICTED VALUES FOR MAY 22-24 ARE 165/170/173.

FROM SPACE DISTURBANCE FORECAST CENTER ESSA BOULDER COLO
SPACE DISTURBANCE FORECAST NUMBER 536B ISSUED 2300Z
MAY 21 1967.

PROTONS ARE POSSIBLE FROM THE 3B FLARE AT 21/1923Z. MAJOR
FLARES EXPECTED DURING NEXT 12 HOURS

A. A BRIGHT IMPORTANCE THREE FLARE OCCURRED AT ABOUT 1921Z TODAY.
THE FLARE WAS LOCATED NEAR AND EAST OF THE SPOT GROUP NOW AT ABOUT
N22 E31. A VISIBLE SHOCK WAVE AND PARTIAL UMBRAL COVERAGE BY THE
FLARE WERE REPORTED. THE FLARE PRODUCED MODERATE TO INTENSE RADIO
EMISSION ON FREQUENCIES RANGING FROM 10 GHZ TO LESS THAN 20 MHZ
INCLUDING PROBABLE TYPE FOUR EMISSION. CONTINUUM EMISSION WHICH
MAY BE TYPE FOUR WAS STILL IN PROGRESS AT 2230Z. VERY STRONG
IONOSPHERICALLY DETECTED X-RAY EFFECTS RESULTED FROM THE FLARE
AND HIGH FREQUENCY /SHORT WAVE/ TRANSMISSIONS WERE SEVERELY
AFFECTED ON SUNLIT RADIO PATHS.

B. SOLAR PROTONS HAVE NOT YET BEEN REPORTED DUE TO THE
1921Z FLARE BUT THE PROBABILITY REMAINS HIGH FOR A PROTON EVENT.
MAJOR FLARE ACTIVITY IS EXPECTED TO CONTINUE IN THE NORTHEAST
REGION AND SUBSEQUENT FLARES MAY BE PROTON FLARES.

C. THE PROBABILITIES FOR FLARES AND PROTON EVENTS FOR THE
THREE DAY PERIOD MAY 22-24 ARE AS FOLLOWS /FIGURES ARE
PERCENTAGES FOR EACH OF THE THREE DAYS/
IMPORTANCE ONE OR GREATER 100/100/100
IMPORTANCE TWO OR GREATER 80/80/80
IMPORTANCE THREE OR GREATER 50/50/50
PROTON EVENTS 70/60/50

D. THE OTTAWA 10.7 CM FLUX TODAY IS 158. THE PREDICTED
VALUES FOR MAY 22-24 ARE 165/170/173.

E. THE FREDERICKSBURG MAGNETIC A INDEX FOR YESTERDAY WAS 7.
TODAY IT WILL BE ABOUT 4. THE PREDICTED AP VALUES FOR
MAY 22-24 ARE 12-18/40-60/25-35.