PACIFIC REGION TECHNICAL NOTES

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THE EFFECT OF ANALYSES ON SUBSEQUENT PROGNOSES CONT...
ERRONEOUS INTENSITIES OF CORRECTLY LOCATED VORTICITY PATTERNS

Peter Haering, Meteorologist
Pacific Weather Center, Vancouver

DISCUSSION.

The following copies of charts or satellite imagery are attached:

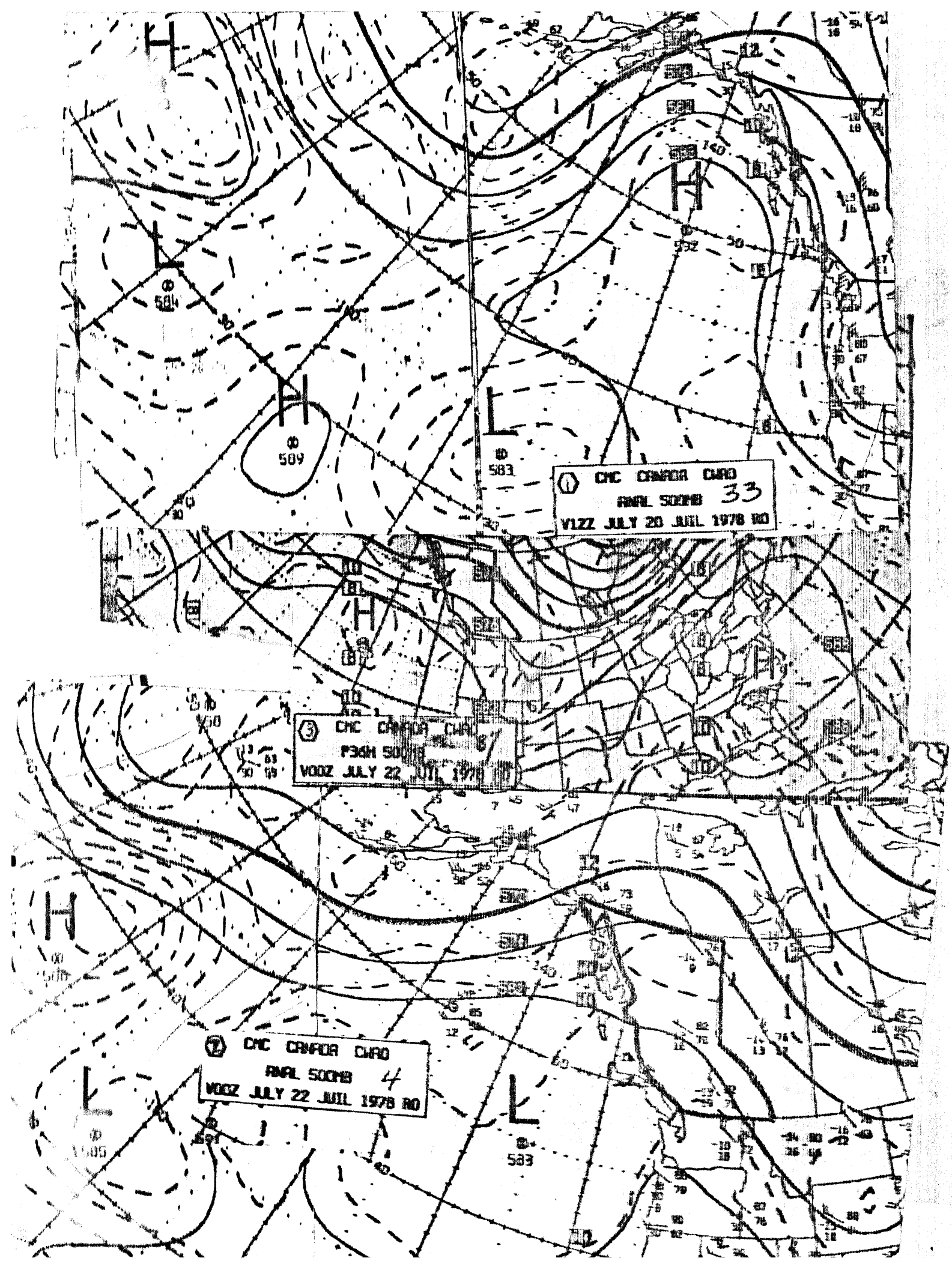
1. CMC initial 500 mb. analysis for July 20,1200Z, 1978.
2. CMC 36 hour 500 mb. prog valid at 0000Z July 22, 1978 based upon July 20, 1200Z analysis.
3. CMC initial 500 mb. analysis for July 22, 0000Z,1978. (Verifying analysis for prog)
4. Enhanced satellite imagery for July 20,1415Z, 1978.
5. Enhanced satellite imagery for July 22,0315Z, 1978.
6. LFM 36 hour 500 mb. prog valid at 0000Z July 22, 1978.

The initial analysis for July 20, 1200Z shows a rather vigorous vorticity center near 49N 160W, followed by another center near 44N 173W, and another center near 35N 135W. The satellite imagery supports the location of these centers at the first two positions, however, the cloud structures would indicate that the last position should be near 43N 139W. However, this last system is located in an extremely light wind flow and would not likely affect the prog very much. The first system , near 49N 160W shows a rather ragged cloud edge and relatively warm cloud top temperatures. This would not be the case if the vorticity center was as intense as shown on the analysis. For such an intense center the back edge of the clouds would be sharply defined and the cloud top temperatures would be much colder.

The prog based upon this analysis brought a significant trof onto the North Coast in 36 hours with the major wind field being depressed to 50 to 55N. The verifying analysis for July 22, 0000Z shows height errors of some 6 to 10 dkm. off the North Coast, with the major wind field north of 55N. The satellite imagery supports the verifying analysis along the coast with most of the middle and high clouds well north of the Charlottes. For comparison purposes we see that the LFM prog which appeared to be based upon a much weaker vorticity center showed a more correct flow pattern.

As a point of interest the satellite imagery for July 22, 0315Z shows a relatively moderate vorticity center near 55N 153W, and an intense center near 50N 178W. The analysis for July 22, 0000Z appears to underestimate the center near 55N 153W and shows about the correct pattern for the center near 50N 178W.

Thus, it would appear that the intensity of a correctly located vorticity pattern embedded in a major wind field will have some considerable effect on the prognosis based upon this analysis. It should be noted, however, that the assessment of the intensity of the vorticity pattern using satellite imagery is quite subjective.


① CMC CANADA CHRO
ANAL 500MB 33
V1ZZ JULY 20 JUIL 1978 RO
③ CMC CANADA CHRO
P36H 500MB
V00Z JULY 22 JUIL 1978
⑦ CMC CANADA CHRO
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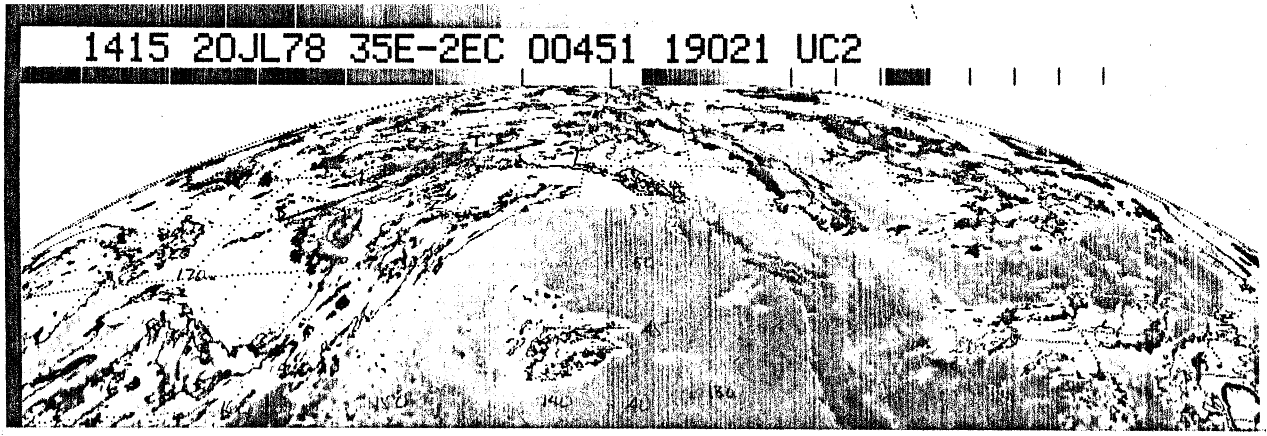
V00Z JULY 22 JUIL 1978 RO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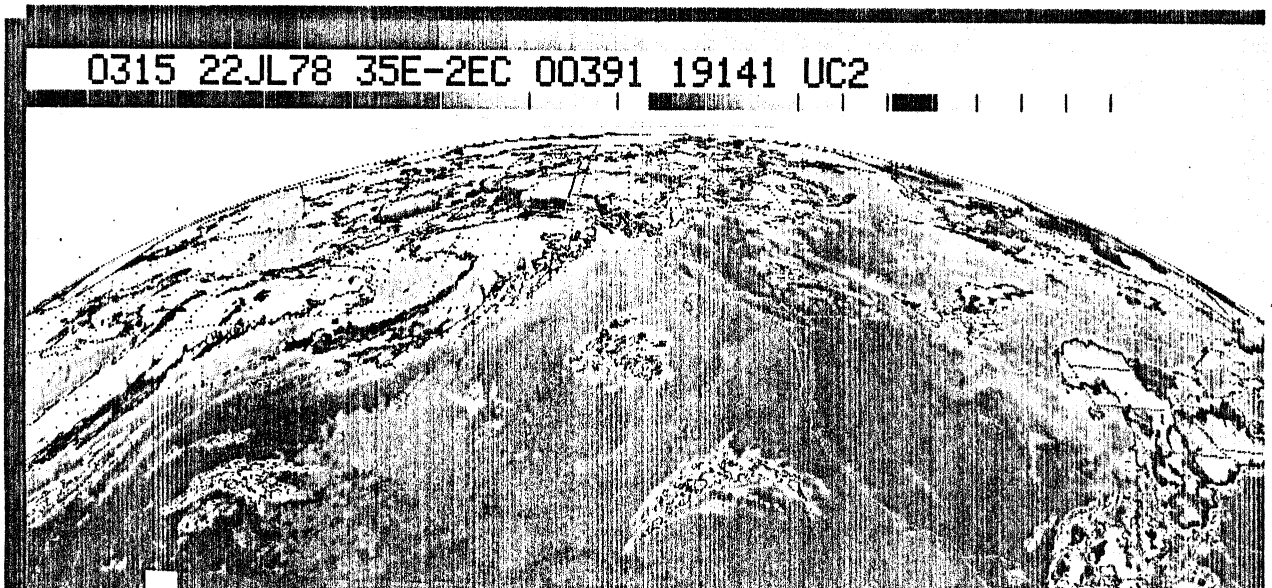
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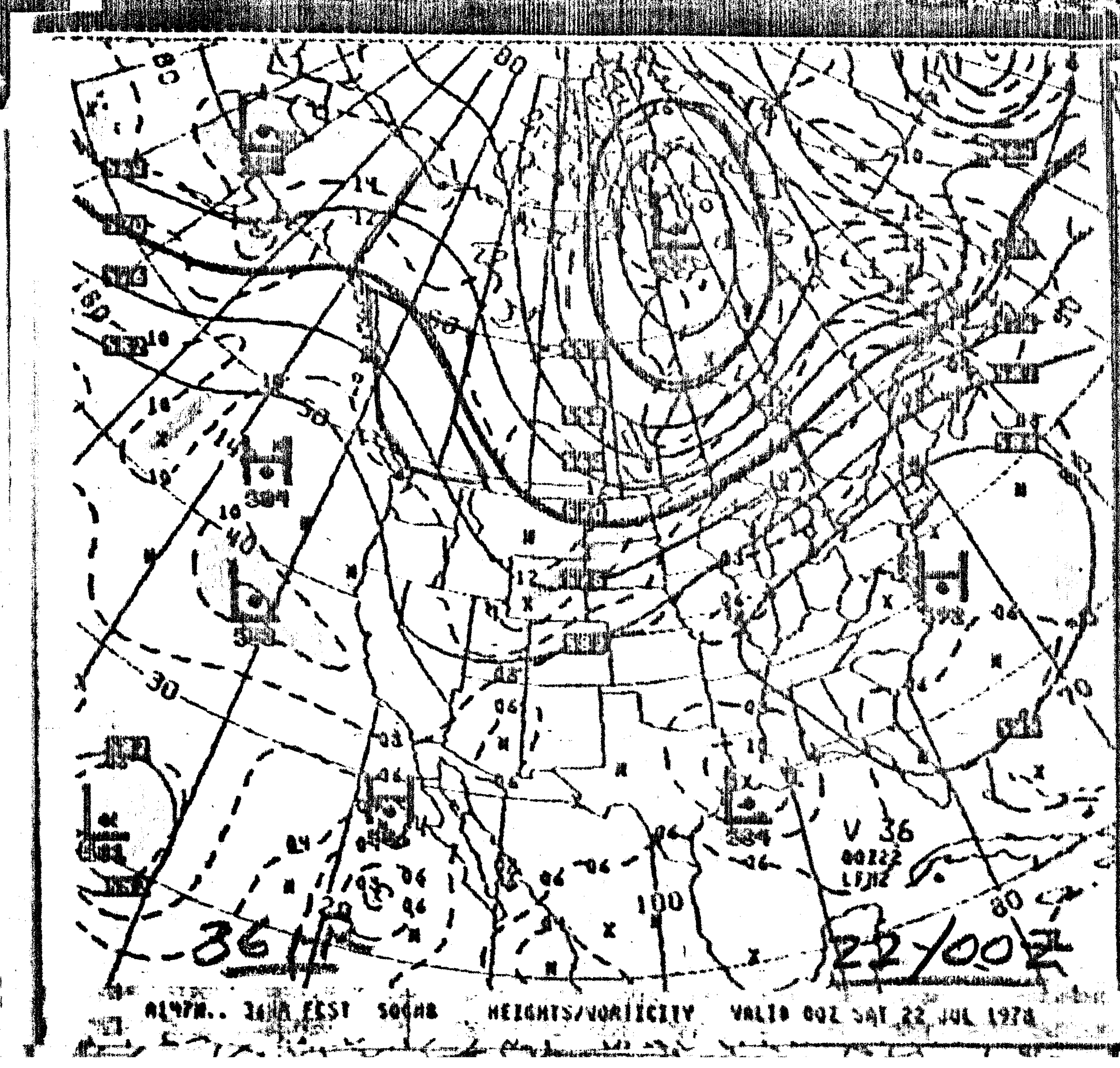
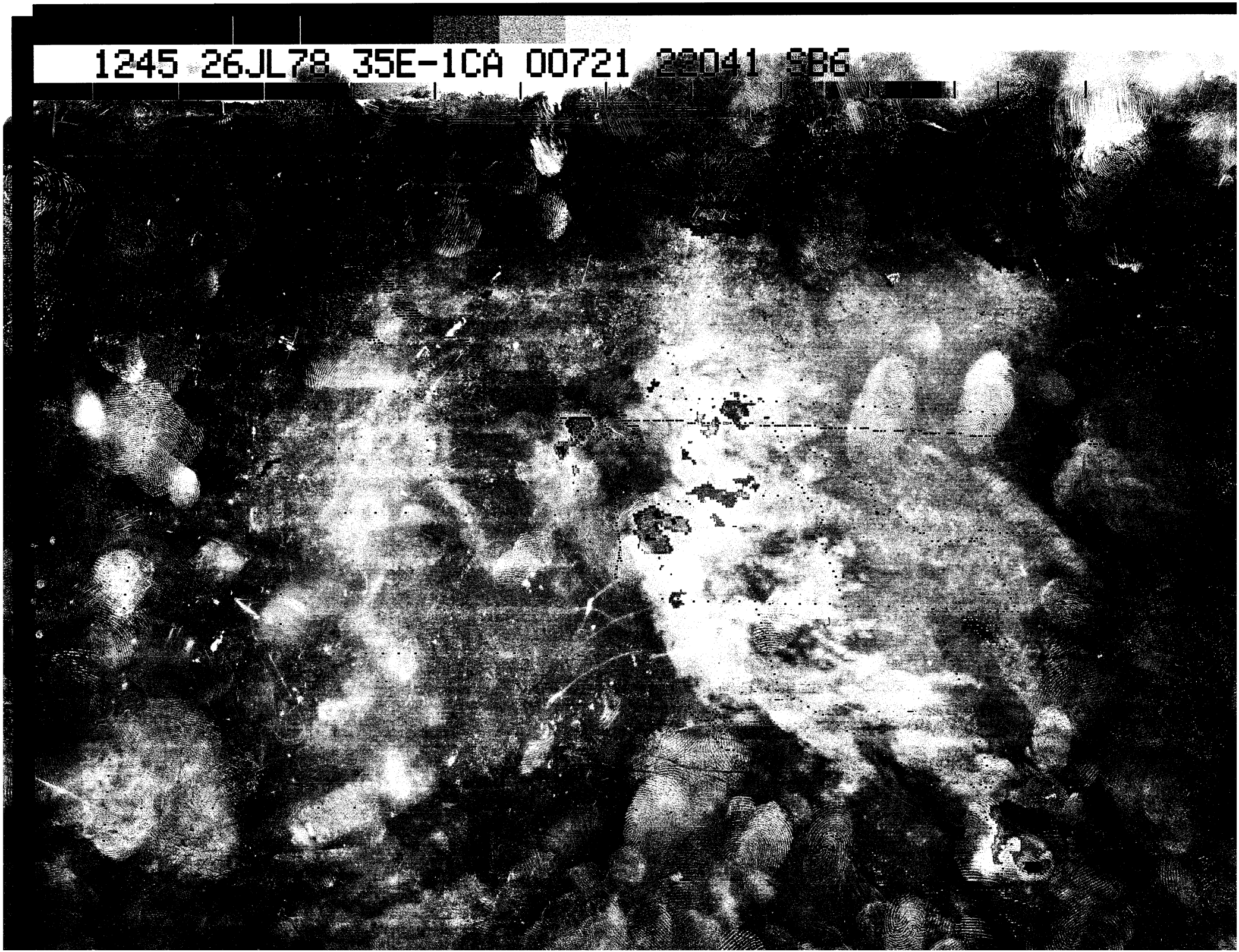

V 36
36 HR
22/00Z
AL47N.. 36HR FCST 500MB HEIGHTS/VORTICITY VALID 00Z SAT 22 JUL 1978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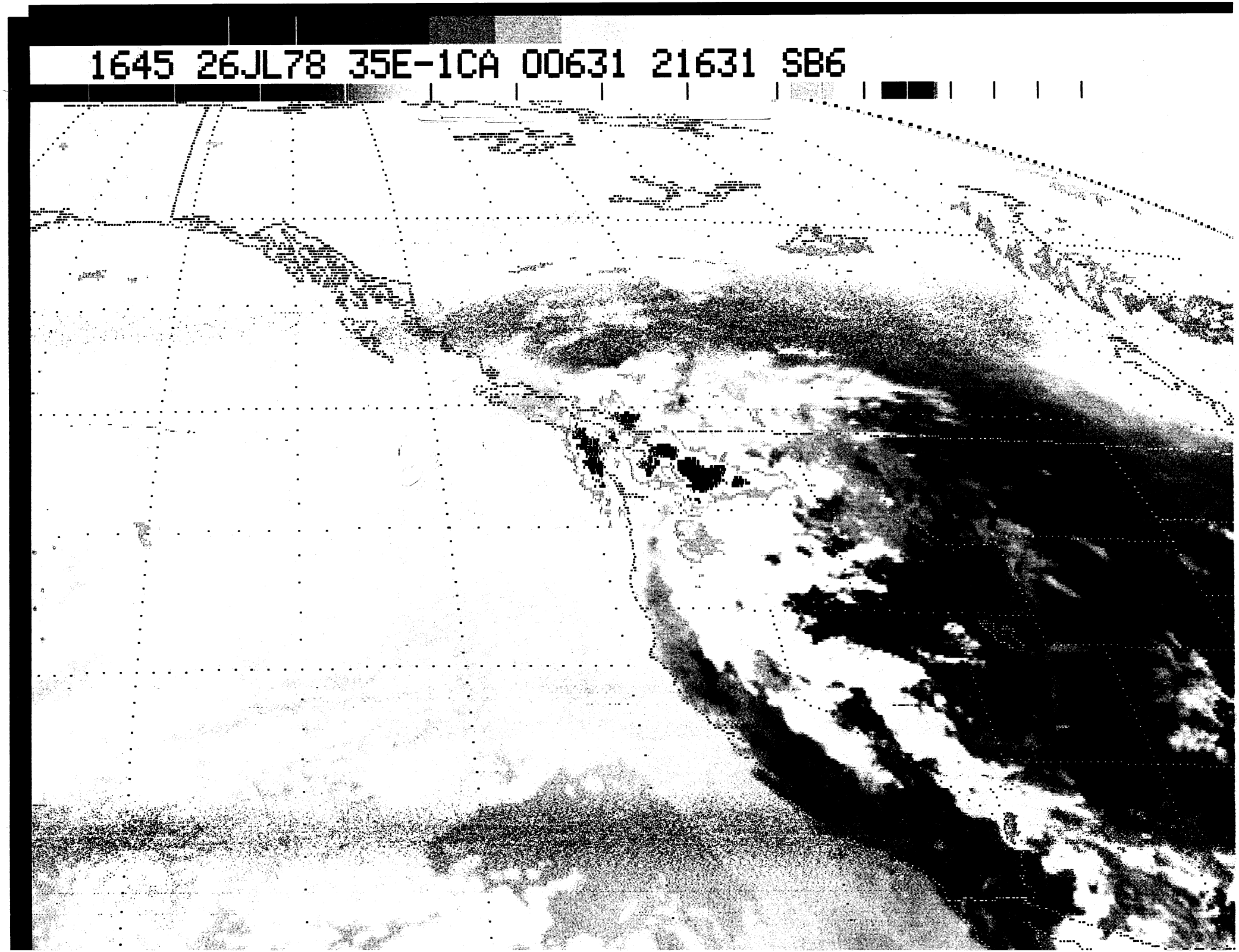
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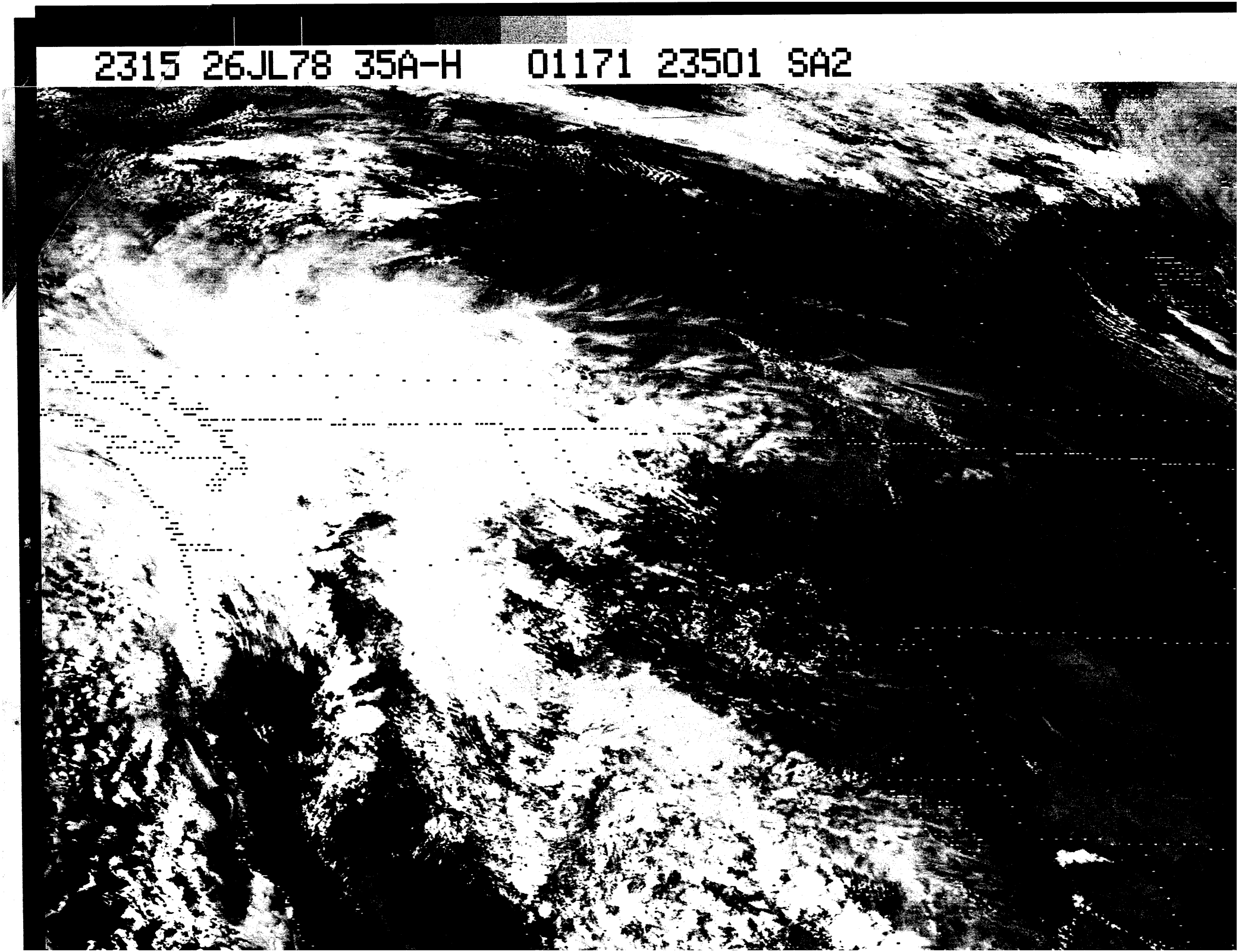
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