



PACIFIC REGION TECHNICAL NOTES

No.-78-030

July 31, 1978

THE EFFECT OF ANALYSES ON SUBSEQUENT PROGNOSSES CONT...

1. GOOD ANALYSES LEAD TO GOOD PROGNOSSES
2. ERRONEOUS VORTICITY PATTERNS AT EDGE OF WIND FIELD

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DISCUSSION.

The following copies of charts or satellite imagery are attached:

1. Initial 500 mb analysis from CMC for May 19, 1200Z, 1978.
2. 36 hour CMC 500 mb. prog valid May 21, 0000Z, 1978 based on data of May 19, 1200Z.
3. Verifying analysis for May 21, 0000Z, 1978 ; also from CMC.
4. Enhanced satellite imagery for May 19, 1215Z, 1978.
5. Enhanced satellite imagery for May 21, 0145Z, 1978.
6. Enhanced satellite imagery for May 21, 0315Z, 1978.

The satellite imagery for May 19, 1215Z shows a vorticity center associated with an occluded system in the Gulf of Alaska near 55N 145W; PVA clouds over Northern B.C.; a wind maximum entering the B.C. coast north of the Charlottes; an area of neutral vorticity advection stretching southwestward from the Charlottes; an intense vorticity center near 45N 178W; a good area of PVA between 40N and 50N and 165W and 170W; a ridge line from 50N 165W southeastward to 40N. All of these features are featured on the initial 500 mb analysis for May 19, 1200Z. The only feature that is not supported is the PVA area near 150W between 40N and 45N. However, this vorticity pattern is located at the southern edge of the main wind field.

The prognosis which resulted from the May 19, 1200Z analysis was extremely successful for the Pacific Region. It showed a southward moving low along the coast; most of the PVA in central B.C. and a broad cold trof with neutral vorticity advection off the coast. All these features are born out by the satellite picture of May 21, 0145Z. This picture shows no organized comma cloud or area of enhanced cumulus in the convective clouds and the clouds stabilize markedly south of 45N. In effect, the verifying analysis for May 21, 0000Z appears to be worse than the 36 hour prog in that it shows PVA in the area 45N to 50N and 130W to 135W. It should be noted that in this case Port Hardy's upper air report was missing.

It is true that there are some height errors of about 6 dkm at 500 mb. near the Charlottes in this case, however, even the 48 hour prog resulting from this excellent analysis was very good over the Pacific Region.

It would appear that when assessing computer prognoses that those prognoses which are based upon a good initial analysis are far more likely to lead to successful predictions than those based upon erroneous initial input. For the Pacific Region this means an adequate initial analysis over a data sparse area-- a challenging and important problem.

It also appears that an erroneous vorticity analysis at the edge of a wind field is not likely to influence the outcome of a subsequent prognosis very much.

CIC CANADA CARD
ANAL SCORING 33
V122 MAY 19 MAY 1978 RD

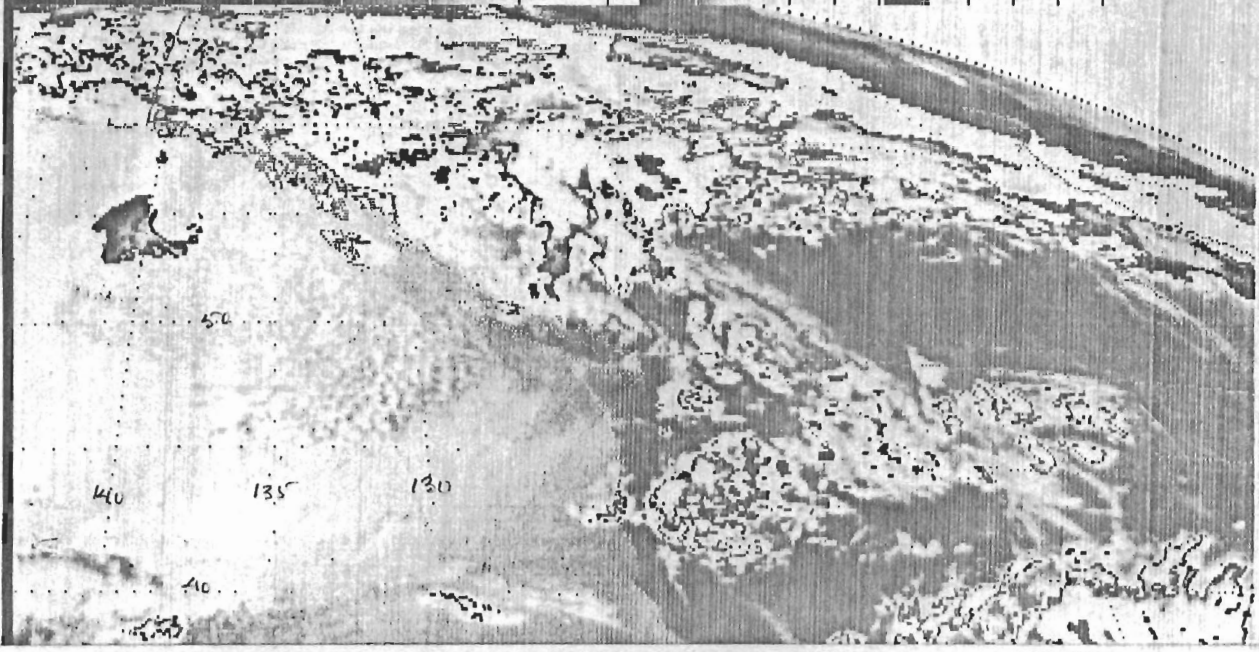
CIC CANADA CARD
P36H SCORING 2130
V002 MAY 21 MAY 1978 RD

CIC CANADA CARD
ANAL SCORING 4
V002 MAY 21 MAY 1978 RD

1215 19MY78 33E-2EC 00331 19051 UC2



0145 21MY78 33E-1EC 00611 21971 SB6



0315 21MY78 33E-2EC 00361 19091 UC2

