PACIFIC REGION TECHNICAL NOTES

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BRIEF ANALYSIS OF "WEDGE" FORECASTS

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INTRODUCTION

Experimental computerized forecasts in semi-terminal format have been available from the Canadian Meteorological Centre at the Pacific Weather Centre since June 1980. These "WEDGE" (Weather Element Digital Evaluation) forecasts for six locations: Vancouver, Prince Rupert, Penticton, Cranbrook, Prince George and Smithers are received daily (See Appendix A for example of forecasts for YVR and YPR).

This note presents a general examination of WEDGE forecasts for Vancouver for the period of May 15, 1980 to June 15, 1980. The purpose of this assessment was to determine the usefulness of the forecasts from both a public and aviation forecasting point of view.

PROCEDURE

a. The time periods that were used were as follows:

   1. 1200Z to 0600Z was considered the first day;
   2. 0600Z to 0000Z or 0600Z was considered the second day.

b. The general sky conditions were defined as follows:

   1. Cloudy - Average more than 5 tenths of cloud;
   2. Sunny - Average 5 tenths or less;
   3. Changeable - Going from sunny to cloudy or from cloudy to sunny.

c. The occurrence of precipitation was assessed in a simple rain; no rain format. Intensity and duration were not considered initially.

d. A crude assessment of wind speeds over 10 kts was made. Some comments as to direction, duration and speeds were made.

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e. Ceilings below 1000ft. were examined. No precise assessment was made when these occurred (i.e., it was simply determined if ceilings below 1000ft. occurred or were forecast for day 1 or day 2).

f. The following figures illustrate the results:

Figure 1	-	Sky condition	- Vancouver	- Day 1
Figure 2	-	Sky condition	- Vancouver	- Day 2
Figure 3	-	Rain occurrence	- Vancouver	- Day 1
Figure 4	-	Rain occurrence	- Vancouver	- Day 2
Figure 5	-	Wind speeds over 10kts.	- Vancouver	- Day 1
Figure 6	-	Wind speeds over 10kts.	- Vancouver	- Day 2
Figure 7	-	Ceilings below 1000ft.	- Vancouver	- Day 1
Figure 8	-	Ceilings below 1000ft.	- Vancouver	- Day 2
Figure 9	-	Sky condition	- Penticton	- Day 1
Figure 10	-	Sky condition	- Penticton	- Day 2
Figure 11	-	Rain occurrence	- Penticton	- Day 1
Figure 12	-	Rain occurrence	- Penticton	- Day 2
Figure 13	-	Wind speed over 10kts.	- Penticton	- Day 1
Figure 14	-	Wind speed over 10kts.	- Penticton	- Day 2
Figure 15	-	Ceilings below 1000ft.	- Penticton	- Day 1
Figure 16	-	Ceilings below 1000ft.	- Penticton	- Day 2

GENERAL COMMENTS

a. It appears that for some reason during the period of assessment low clouds (below 1000ft.) were forecast to begin about 18Z-21Z both on day one and day 2.

b. The duration of precipitation is overforecast in showery and intermittent rain situations. (Sometimes by as much as 18-20 hours.)

c. Winds are overforecast for Vancouver. Direction and duration of wind speeds have little resemblance to observed conditions with wind speeds over 10kts.

d. May temperatures (implied) were generally too low and worse than those given in FM's.

e. It would appear that the production of a useful computerized FT may be some considerable time in the future and that regional or local input would be highly desirable.

f. The period from mid-May to mid-June was a period of frequent cloud and precipitation (Long wave trof near B.C. Coast).

SKY CONDITION

VANCOUVER DAY 1.

FIG. 1

OCCURRED \ FORECAST	CLOUD	CHANGE-ABLE	SUNNY	
CLOUD	14	3	0	17
CHANGE-ABLE	1	0	1	2
SUNNY	2	2	0	4
	17	5	1	(23 DAYS)

VANCOUVER DAY 2.

FIG. 2

OCCURRED \ FORECAST	CLOUD	CHANGE-ABLE	SUNNY	
CLOUD	12	4	1	17
CHANGE-ABLE	1	0	0	1
SUNNY	2	2	0	4
	15	6	1	(22 DAYS)

OCCURRENCE OF RAIN

VANCOUVER DAY 1.

FIG. 3

OCCURRED \ FORECAST	RAIN	NO RAIN	
RAIN	11	1	12
NO RAIN	10	1	11
	21	2	(23 DAYS)

VANCOUVER DAY 2.

FIG. 4

OCCURRED \ FORECAST	RAIN	NO RAIN	
RAIN	11	0	11
NO RAIN	7	4	11
	18	4	(22 DAYS)

WIND (OVER 10 KTS.)

VANCOUVER DAY 1.

FIG. 5

OCCURRED \ FORECAST		
	1	1
	10	(23 DAYS)

VANCOUVER DAY 2.

FIG. 6

FORECAST	
1	1
7	(22 DAYS)

DIRECTIONS WRONG; DURATIONS WRONG (OVER 15 HOURS); SPEEDS TOO HIGH

CEILINGS BELOW 1000FT.

VANCOUVER DAY 1.

FIG. 7

OCCURRED \ FORECAST		
	1	1
	21	(23 DAYS)

VANCOUVER DAY 2.

FIG. 8

OCCURRED \ FORECAST		
	1	1
	21	(22 DAYS)

SKY CONDITION

PENTICTON DAY 1.

FIG. 9

OCCURRED \ FORECAST	CLOUD	CHANGE-ABLE	SUNNY	
CLOUD	10	5	0	15
CHANGE-ABLE	2	1	1	4
SUNNY	2	3	0	5
	14	9	1	(24 DAYS)

PENTICTON DAY 2.

FIG. 10

OCCURRED \ FORECAST	CLOUD	CHANGE-ABLE	SUNNY	
CLOUD	15	1	0	16
CHANGE-ABLE	2	0	1	3
SUNNY	2	2	0	4
	19	3	1	(23 DAYS)

OCCURRENCE OF RAIN

PENTICTON DAY 1.

FIG. 11

OCCURRED \ FORECAST	RAIN	NO RAIN	
RAIN	13	1	14
NO RAIN	8	2	10
	21	3	(24 DAYS)

PENTICTON DAY 2.

FIG. 12

OCCURRED \ FORECAST	RAIN	NO RAIN	
RAIN	13	2	15
NO RAIN	8	0	8
	21	2	(23 DAYS)

WIND (OVER 10 KTS.)

PENTICTON DAY 1.

FIG. 13

OCCURRED \ FORECAST		
	2	6
	3	(24 DAYS)

PENTICTON DAY 2.

FIG. 14

OCCURRED \ FORECAST		
	2	5
	7	(23 DAYS)

DIRECTIONS WRONG; DURATIONS WRONG (OVER 15 HOURS); SPEEDS TOO HIG

CEILINGS BELOW 1000FT.

PENTICTON DAY 1.

FIG. 15

OCCURRED \ FORECAST		
	0	0
	22	(24 DAYS)

PENTICTON DAY 2.

FIG. 16

OCCURRED \ FORECAST		
	0	0
	21	(23 DAYS)

JUNE 13, 1980.

NOTE WVR
CMC AUTOMATION MESSAGE

WVR	SF	1312			CLR		10	171/	12/	7/3410/003/L0M0H0	00
WVR	SF	1315				180SCT	10	169/	16/	11/3306/002/L0M0H2	00
WVR	SF	1318		10SCT		180SCT	10	165/	16/	14/2904/001/L3M0H1	00
WVR	SF	1321	C	5BKN	100BKN		5R-	187/	16/	15/2806/008/L6M1H0	04
WVR	SF	1400	C	6BKN	1000VC		5R-	194/	16/	14/3008/010/L7M2H1	08
WVR	SF	1403	C	10BKN	1000VC		5R-	183/	16/	13/3106/007/L6M2H2	07
WVR	SF	1406		10SCT	C100BKN	180BKN	5R-	202/	14/	11/3206/012/L4M2H2	04
WVR	SF	1409		10SCT	C100BKN	180BKN	5R-	200/	12/	9/3204/012/L4M2H1	03
WVR	SF	1412		10SCT	C100BKN	180BKN	5R-	208/	10/	7/3103/014/L3M2H1	03
WVR	SF	1415		14SCT	C100BKN	180BKN	5R-	211/	14/	10/2804/015/L3M2H1	02
WVR	SF	1418	C	6BKN	1000VC		5R-	217/	15/	13/2805/017/L6M2H1	04
WVR	SF	1421	C	6BKN	1000VC		5R-	222/	16/	14/2804/018/L7M2H1	07
WVR	SF	1500	C	6BKN	1000VC		5R-	207/	16/	14/2803/014/L6M2H1	08
WVR	SF	1503	C	10BKN	100BKN		5R-	206/	17/	14/2803/013/L6M2H0	07
WVR	SF	1506	C	14BKN	100BKN		5R-	212/	15/	11/3004/015/L5M2H0	05
WVR	SF	1509		10SCT	C100BKN		5R-	215/	12/	9/3002/016/L4M2H0	03
WVR	SF	1512		14SCT	C100BKN	180BKN	5R-	218/	10/	6/0000/017/L3M2H1	03
WPR	SF	1312			CLR		10	200/	11/	11/2408/012/L0M0H0	00
WPR	SF	1315	C	5BKN	1000VC		5R-	194/	11/	10/2406/010/L7M6H5	19
WPR	SF	1318	C	6BKN	1000VC		5R-	185/	11/	9/2007/007/L6M4H4	07
WPR	SF	1321	C	6BKN	1000VC		5R-	204/	11/	9/2110/013/L6M5H6	08
WPR	SF	1400	C	6BKN	1000VC		5R-	223/	11/	9/2208/018/L6M4H5	10
WPR	SF	1403	C	6BKN	1000VC		5R-	217/	10/	8/2005/016/L6M4H5	08
WPR	SF	1406		6SCT	C100BKN	1800VC	5R-	234/	9/	7/1806/022/L4M3H4	03
WPR	SF	1409		10SCT	C100BKN	1800VC	10	230/	7/	5/1708/020/L4M3H2	00
WPR	SF	1412		10SCT	C100BKN	1800VC	10	233/	6/	4/1608/021/L4M2H2	00
WPR	SF	1415		15SCT	C100BKN	1800VC	10	238/	8/	5/1609/023/L3M3H2	00
WPR	SF	1418		6SCT	C100BKN	180BKN	5R-	233/	9/	7/1607/021/L4M2H2	03
WPR	SF	1421		5SCT	C100BKN	180BKN	5R-	232/	10/	9/1608/021/L4M2H2	04
WPR	SF	1500		6SCT	C100BKN		5R-	216/	11/	9/1808/016/L4M2H0	04
WPR	SF	1503		6SCT	C100BKN		5R-	218/	11/	9/1808/017/L4M2H0	04
WPR	SF	1506		15SCT	C100BKN		10	224/	10/	7/1808/019/L4M1H0	00
WPR	SF	1509		15SCT	C100BKN	180BKN	10	225/	9/	6/1808/019/L4M1H1	00
WPR	SF	1512		15SCT	C100BKN	180BKN	10	225/	7/	4/1709/019/L4M1H1	00

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