



PACIFIC REGION TECHNICAL NOTES

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VERIFICATION OF THE MORNING AMENDMENTS AND 10 A.M. UPDATES AT PWC

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INTRODUCTION

The public forecast verification scheme at PWC has been described previously (PRTN 78-047). In addition to verification of the 5 a.m. forecasts, scoring of all morning amendments and the 10 a.m. update has been carried out since February of 1980. A summary of the additional verification data is presented here.

THE DATA

During the 9 months of available data, 16 amended forecasts were issued in the period between 5 a.m. and noon. Updates at 10 a.m. were formally issued on 69 occasions during the same period. Of the total (85 events), 46 resulted in an increase in the verification score. On 24 occasions the score attained was lower than that of the original 5 a.m. forecast. The remaining 15 cases resulted in no change to the original score.

Figure 1 summarizes the findings. The number of increased or decreased scores, relative to the 5 a.m. forecast, are listed under the issue time (to the nearest hour). It is seen that for amendments, 8 a.m. seems to be the favourite time. This would be the earliest that the incoming day-shift forecaster could reasonably issue an amendment. The earliest amendment appears at 5 a.m. and the latest at 11 a.m.

Of the 16 amendments 81% resulted in an increase in the score, and 19% in a decrease. With the 10 a.m. update, only 48% of the forecasts achieved increased scores, 30% resulted in decreased scores, and 22% were unchanged. The combined results (amendments plus updates) show 54% increased scores, 28% decreased scores and the remaining 18% with no change.

Distribution of the percentage point increase or decrease is shown in Figure 2. It is seen that one occasion stands out by itself - a 40% increase. The majority of the occurrences, however, fall in

a range between -5 and +10. The average increase is, in fact, 8.13% while decreases average out at 6.58%.

When the scores are broken down into today (1st day) and tomorrow (2nd day) segments, the results are as indicated in Figure 3. It is seen that for the first day there are 48(56.6%) increases, 21(24.7%) decreases and 16(18.8%) "no change" cases. The second day scores 8(9.4%) increases, 11(12.9%) decreases, and 66(77.6%) "no changes". In the majority of cases, during morning amendments and updates, the second day forecast is left unchanged. Of the 19 cases where a change was made to the second day forecast, in the nine month period in question, more than half (11/19 = 58%) resulted in a lower score than the original morning forecast. This seems to confirm the wisdom of not touching the 2nd day forecast unless one is very confident about the need for such a change.

A more detailed representation of all the cases considered in this report is depicted by Figure 4. The individual score for each occurrence is portrayed symbolically by black arrowheads. Upward pointing symbols indicate an increase in the score from the 5 a.m. forecast to the update or amendment. Conversely, the downward arrowheads represent decreases. The vertical length of each symbol represents the amount of increase or decrease in percentage points in each individual case. The "no change" cases are depicted by dashes. The numbers appearing below the symbols indicate the time of the amendment, (i.e. 8 = 8 a.m. local time). The lack of such a number infers that it is a 10 a.m. update.

CONCLUSIONS

Amendments and updates are issued in order to correct or improve an existing forecast. Verification scores are assumed to relate to the worth of a forecast. Verification scores from the 9 month stretch of 1980 show that amendments issued during the morning hours led to significant increases in the verification scores. Scores from the 10 a.m. update are less conclusive. Increases to scores outnumber the decreases, but nearly $\frac{1}{4}$ of the updates exhibit "no change" to the verification score. Some were as a result of cosmetic changes to the wording, rather than a genuine change of content.

The majority of scoring changes (up or down) tend to be less than ten percentage points. Of passing interest is one case in September where a 100% forecast is updated into a 97% score. This was due to a case of panic caused by the appearance of morning stratus at the airport. One has to have sufficient confidence in the need for a change before issuing an amendment. In particular, great care has to be exercised before making adjustments to the content of the "second day" forecast.

REFERENCES

- | | | |
|-----------|------|---|
| MORIN, P. | 1980 | Second Day Forecast Trends - Part A
PRTN 80-044 |
| | 1980 | Second Day Forecast Trends - Part B |
| PUSS, V. | 1978 | Public Forecast Verification Scores
for Greater Vancouver - 1972-78
PRTN 78-047 |
| | 1978 | Another Quick Look at Verification
Scores
PRTN 78-048 |
| | 1980 | An Update on the Public Verification
Scores at Vancouver
PRTN 80-045 |

*PRTN (Pacific Region Technical Notes)

ISSUE TIME	5	6	7	8	9	11	10	TOTAL
SCORE INCREASED	1	3	1	4	3	1	33	46
SCORE DECREASED			1	2			21	24
NO CHANGE							15	15
TOTAL	1	3	2	6	3	1	69	85

Figure 1. Summary of the number of amendments and updates at each hour (Local time).

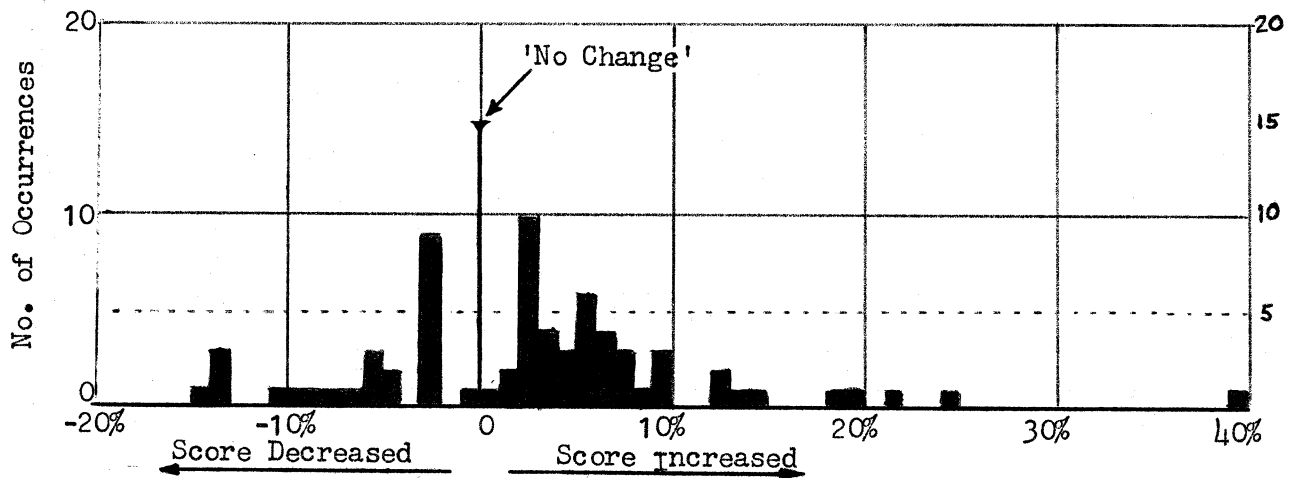


Figure 2. Distribution of Percentage Point Changes

	NUMBER OF OCCURRENCES	
	1st Day	2nd Day
NO CHANGE	16	66
SCORE INCREASED	48	8
SCORE DECREASED	21	11
TOTAL	85	85

Figure 3. Comparing the change in score for First and Second Day amendments and updates.

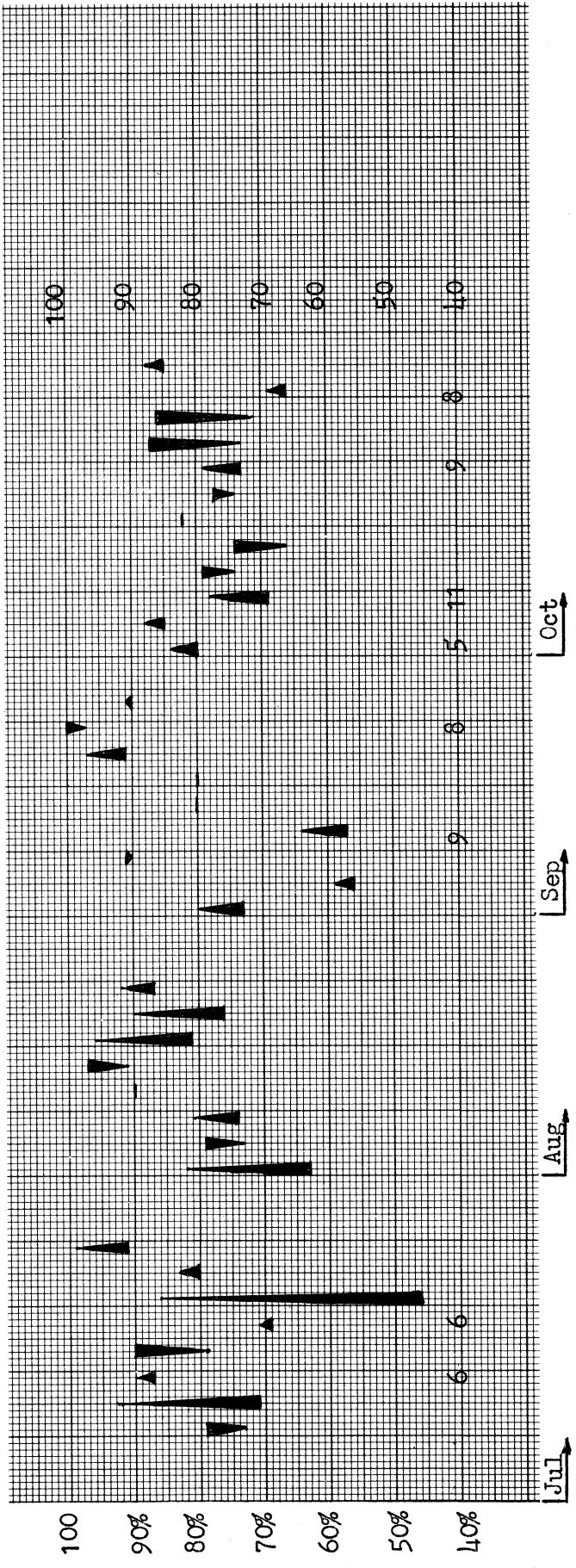
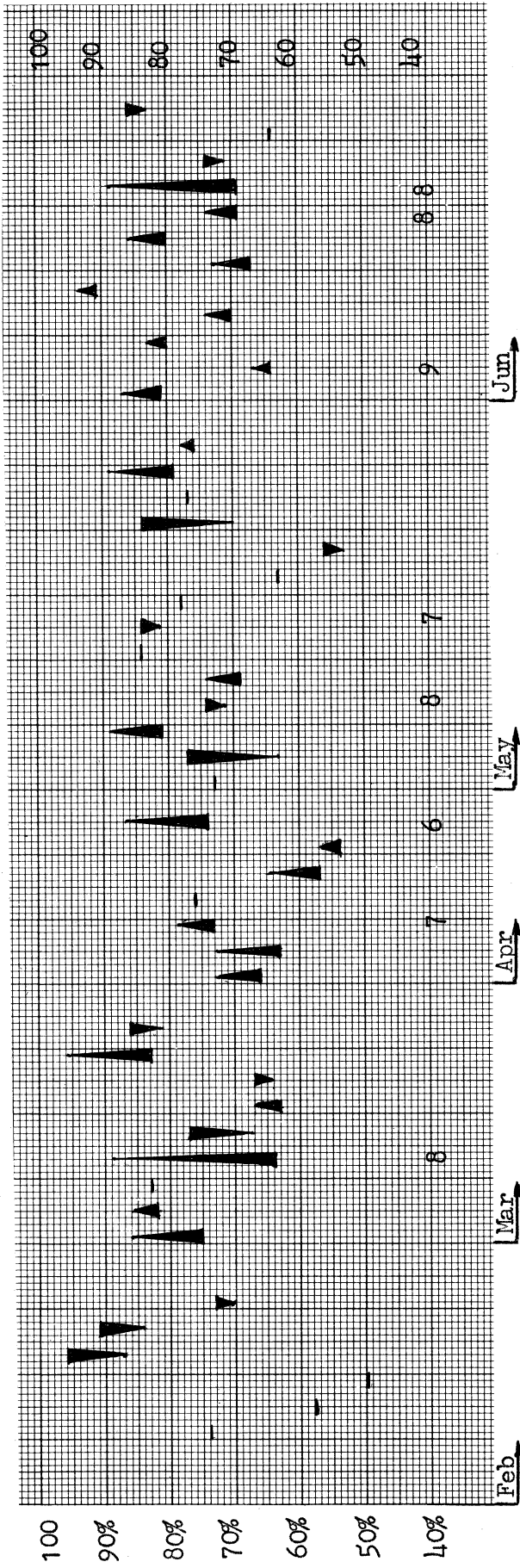


Figure 4. Schematic summary of the changes to the verification scores for each amendment or update, Feb-Oct 1980. An explanation of the symbols can be found in the text.