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SUBJECTIVE EVALUATION OF 12 HOUR SATELLITE CLOUD PROGNOSES

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INTRODUCTION

Cloud prognosis charts are issued by the PWC Satellite Meteorologists every 6 hours and are valid at 00Z, 06Z, 12Z and 18Z and are 12 hour forecasts of the clouds over B.C. During the period from July 2, 1981 to October 23, 1981, a subjective evaluation was made of the progs by the Satellite Meteorologist on shift. This meant that approximately one third of the progs were evaluated by the meteorologist who had done them. During this test period there were several long periods during which no images were received. The satellite images were examined during this period to give some insight into the meteorological significance of the scores.

EVALUATION

The total number of progs evaluated during this test period was 291 with an equal distribution of valid times. The scoring scheme was basic and purely subjective with the rating at the discretion of the marker. No guidelines were established for grading the progs and the following data was obtained.

Rating	No. of Progs
5 - excellent	3
4 - good	140
3 - fair	125
2 - poor	21
1 - useless or misleading	2

DISCUSSION

As the table indicates, 50% of the progs were rated good or excellent with a relatively small number of poor scores. Aside from the very subjective nature of the scoring which had a large influence on the results, each meteorologist used his own criteria for evaluating skill, there were some significant meteorological factors involved.

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This period was dominated by a longwave ridge along the coast and for days at a time the only cloud over or near B.C. was the stratus deck off the coast. Cloud progs during these periods were very good and forecasts of stratus movement were generally excellent. The appearance of so few scores of 5 was no doubt the result of a reluctance by the meteorologists to give this top rating. Had there been a category 6 for perfect, there would no doubt have been many ratings of 4 which would have been 5's.

In all cases of no systems or slow moving systems, the progs received scores of 3 or higher. The poorer scores occurred when fast moving systems were approaching the coast. The reduction of scores in these cases were a result of misplaced systems rather than poor representation of the systems. Cloud patterns forecast were generally good with good representation of orographically induced cloud patterns. Poor scores did occur with no major system involved when convective development in the interior was underforecast. The problem was not with isolated CB development but with forecasting clusters or bands of CB's in the interior. Improvement in this area requires more use of conventional forecast techniques with only short range use of satellite images. An IR image before dawn gives little information on the extent of afternoon convective development.

The very nature of the evaluation technique would result in a range of scores for any given prog for the various meteorologists involved. Different approaches and styles were also apparent in the form of the progs and in the ratings.

CONCLUSIONS

In general the cloud progs show a good deal of skill and great promise. The very complex nature of these products precludes all but subjective evaluation but meaningful statistics from such evaluation can only be achieved in a much more controlled rating program. Ongoing evaluation of these progs should be part of the operational program, monitored by the Development Meteorologist with an eye to the identification of any systematic errors.

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