

A STEREO-ORTHOPHOTOGRAPH OF PEYTO GLACIER
ON THE GESTALT PHOTOMAPPER II
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The Gestalt Photomapper II (GPM II) has been developed by Gestalt International Limited. The system has been described in detail by Crawley (1974) and Kelly et al. (1977) and its general functioning has been compared with other similar systems by Blachut and Van Wijk (1976). The usefulness of the system for resources mapping has been described by Kalensky and Nielsen (1977) and an assessment of its usefulness for glacier mapping has been made by Young and Arnold (1977). The material displayed here is part of the output of an experimental orthophotograph project initiated by T.J. Blachut of the National Research Council, Ottawa, Canada, and carried out by the Forest Management Institute of Environment Canada, Ottawa, Canada.

The output shown in the accompanying figure was produced by a prototype GPM II system on an experimental basis. The system is capable of producing an orthophotograph, stereomate, digital terrain model and contour map; however, only the first two capabilities are demonstrated here. In fact, the product consists of parts of two adjacent stereo models printed together, each having its own stereomate. The contour map was not reproduced here as there was not enough time available before the printing deadline.

For this experimental orthophotograph the most difficult available subject matter, backed up by an existing map (Peyto Glacier, 1:10'000, enclosed) made from the same original photography, was chosen so that the limits of the system for glaciological studies could be determined. The photography was taken on August 20, 1966 with a Wild RC-5 camera having a 152mm lens at an altitude of 6,100m a.s.l.. The terrain in the orthophotograph ranges between 1,900m and 3,000m a.s.l.. The subject matter not only included many types of glacier surface, but also was made more difficult to process by a heavy snowfall the night before photography was taken. It was part of the terms of the experiment that more empha-

sis was to be placed on planimetric and vertical accuracy than on the appearance of the orthophotograph. In addition, the system was allowed to function in its automatic mode with a minimum of human intervention. The orthophoto map would have been of better quality, especially in the firm area of the glacier, had more human intervention been permitted. Some of the terrain included in the orthophoto is very steep - steeper than the specifications given for system operation. For reasons of economy, reproduction here is by a half tone process rather than a full tone photographic print; this has detracted slightly from the clarity of the product.

The 1:10'000 map of Peyto Glacier and this orthophotograph have been produced at the same scale, thus allowing a direct comparison between the finished products.

REFERENCES

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