

Theoretical procedures can rarely be used for estimating snowmelt because of the customary absence of field observations of the parameters in the theoretically derived formulas. 15

ABSTRACTS

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THE PARTNERSHIP OF HYDROLOGY AND METEOROLOGY. A.P. Campbell, Soil Conservation and Rivers Control Branch, Ministry of Works, Wellington.

Hydrology is concerned with the whole of the hydrological cycle but hydrologists are not well placed to be able to measure all parts of the cycle themselves and a good partnership is required with meteorologists whose observations complete the measurements of the full cycle.

The division of responsibility leaves meteorologists measuring and recording the downward movement of precipitation and the upward movement of evapo-transpiration; that is they measure the vertical currents of the cycle while hydrologists measure the ground traversing flows or horizontal currents.

A good partnership is rewarding to both sciences because in many places only one kind of measurement is practical and this single measurement must be used to estimate the unmeasurable data. For example, in remote and mountainous country where rainfalls are always heavy and variable, river flow makes the most effective rain gauge and rainfall estimation will often rely on flow measurements for confirmation. Conversely, because of expense and difficulty of taking flow measurements continuously in many places, only a limited number of flow measurement sites are practical and measurements of rainfall are used to obtain estimates of flow in other places.

Likewise, estimates of evapo-transpiration are used to fill the gap in the water balance between rainfall and runoff. The filling of this gap completes the hydrological cycle and in doing so provides a much needed check on hydrological measurements.

The partnership of hydrology and meteorology is therefore necessary to both and, as with all partnerships, frequent interchange of ideas is necessary to help understand the changing needs of the work. Accordingly, the opportunity for a day of formal discussion of mutual problems is very welcome.