

Selected Bibliography on Evaporation and Transpiration

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1539-R



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By T. W. ROBINSON and A. I. JOHNSON

CONTRIBUTIONS TO THE HYDROLOGY OF THE UNITED STATES

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1539-R

*Selected references emphasizing papers
from the United States from the early
1800's into 1958*



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INTRODUCTION

Evaporation to the hydrologist is the process by which water moves as vapor from water or soil surfaces into the atmosphere, and transpiration is the process by which water is discharged into the atmosphere by plants. Both processes are an essential part of the hydrologic cycle—that endless movement of water from the atmosphere to the land and water surfaces and, eventually, back to the atmosphere again.

The processes are similar and, with one exception, subject to the same controls. In the process of transpiration, plant life forms a connecting link and hence a control between the water and vapor phases that is not present in the process of evaporation. The overall effect of the vegetative control is known; although research in recent years has provided a better understanding of how it operates, much is still to be learned. The present state of knowledge of this process is not found in any single publication, but is scattered through a host of papers. This is true also of the less complex process of evaporation.

More data on these two processes are constantly being sought by hydrologists. An essential part of such investigations is a study of what has been accomplished in other investigations. The present compilation of references was prepared by the writers originally for their use in attacking hydrologic problems within their specialized fields of study.

The selection of references has emphasized papers from the United States, although it includes a few from foreign countries. The references cover the years from the early 1880's through 1957 and a part of 1958, but most attention has been given to the more recent articles.

The bibliography is by no means complete, for the literature on the subject is so extensive that an inordinate amount of time would be required to cover it all. It will, however, provide source material on any phase of the subject.

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