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**Appendix "B"**

**A BIBLIOGRAPHY OF INTERCEPTION ,**

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**Department of Watershed Management  
The University of Arizona  
Tucson, Arizona**

**Prepared By**

**John L. Thames**

**For**

**Agency for International Development ,**

## FOREWARD

In executing AID Institutional Grant (211d), one of the needs is summaries of the available knowledge in wildland hydrology that could be of value in systems analysis of watershed management. The following is the first of a series of such summaries planned for those areas of interest where no recent bibliographies exist. Interception, the first in a long chain of complex interrelated hydrologic processes which influence the routing of water through a watershed, seemed a logical place to begin.

The main purpose of the summary is to provide a reference of literature for our own use, but if it proves useful to others working on hydrologic problems of underdeveloped countries, it is all to the good. Only studies published in English have been reviewed. A collection of the European work in wildland hydrology is planned for the future.

Among all of the wildland hydrologic processes, interception has been the most frequently studied. Early European work extends well back into the last century (176), but interest was first aroused in the United States by the national attention focused on conservation during the first decade of this century.

Research into the interception process was given real impetus in 1917 by the classic work of Horton (66). His qualitative description of the process, though later elucidated in greater detail by others (175),

has not been substantially improved upon since. Likewise, his quantitative treatment still persists as the model most frequently used. For some reason, the improved mathematical description presented by Linsley, Kohler, and Paulhus (89) in 1949 has never caught on.

The problems of spatial variability in interception were recognized in the very early studies. However, Wilm (168) in 1943 was the first to apply sampling statistics to the problem. Now, it is a rare study that does not employ some form of statistical design. Moreover, the sole purpose of several studies has been the improvement of spatial sampling techniques both from the standpoint of design and instrumentation. Interestingly, a model which takes into account the temporal variability, and water routing problems of the process has never been developed.

In the following bibliography, cataloging topics of interception was based on review of all but a few papers (marked with an asterisk) where the title alone was used as a guide to pertinence. No doubt some items have been missed which should have been included. By far the greatest amount of work on interception has been determining the effects of various species and their density on the process. With the exception of a few selected papers that summarize some of the previous work, or present techniques of measurement and analysis, only those actually involved in studying the process have been included.

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