



A heavy litter of logging debris—a natural incubator of destructive fires.

Effect of Forests on Flow of Streams

THE evidence in support of the contention that forests exercise a distinct and beneficial influence upon stream flow and springs is gradually accumulating, and it seems that what was at one time little more than an improved theorem is assuming the status of an ascertained and well-proven fact. The theory has in the past been seriously disputed, or has been accorded only a tentative and guarded acceptance. But a careful examination of the conclusions, and the reasons for arriving at them, of those who declined to commit themselves to definite acceptance makes it clear that most of the dissentients had arrived at a decision from a consideration of purely local conditions, and had not made themselves fully conversant with the results of long and careful observation elsewhere. Strangely enough, foresters of the first half of the nineteenth century, few of whom employed methods recognized as sufficient by scientific investigators, were, take them all round, more inclined to adopt the theory that forests do influence climatic conditions and the flow of water than were those of the second half of the century. The modern forester, however, if he does not arrive at a definite standpoint, brings an open mind to bear on the matter, and is ready to receive and weigh evidence that is satisfactorily supported. And, speaking broadly, foresters throughout the world at the present time,

with few exceptions, admit that forests have very important functions in the matter of precipitation and conservation of water, and they examine eagerly all proofs that are advanced when the observations on which they are based have been conducted on strictly scientific lines.

French Experiments.

France, more than a generation ago, conducted an investigation into the matter, and the results, as published, strongly confirmed the view that between forests and precipitation and water-flow there is an intimate connection. And now the results of another investigation have been made known. In 1900 the Swiss Engineering Station at Zurich undertook an investigation, using two watersheds in the adjacent mountains as the scene of their operations, and making their experiments in accordance with the strictest scientific requirements. The work covered a period of eighteen years, and it will be of interest to state here the deductions from the Swiss observations that seem to be of general application.

One general fact that has been confirmed by the Swiss experiments is that a good forest cover has a very beneficial effect upon the regime of streams in mountains and hilly country. Another fact confirmed was that streams fed from a forested watershed have a more uniform discharge and carry less debris into the larger rivers to