

# THE BUREAU OF RECLAMATION'S ATMOSPHERIC WATER RESOURCES RESEARCH PROGRAM

ARCHIE M. KAHAN  
OFFICE OF ATMOSPHERIC WATER RESOURCES  
BUREAU OF RECLAMATION, DENVER

## 1. Introduction

The following discussion describes the conceptual basis, the recognized requirements, and the current and planned contract activities for the Bureau of Reclamation's Atmospheric Water Resources Research Program, which came into being as a result of an insertion in the 1962 Public Works Appropriation Bill, Senate Report 1097, 87th Congress, 1st Session, p. 28: order to be printed September 20, 1961.

The broad objective of the Bureau's program is to ascertain whether it is economically feasible to increase the water supply available to Reclamation projects through the application of weather modification techniques for the purpose of increasing the precipitation in the headwaters of drainage basins providing the inflow to Reclamation reservoirs.

An early analysis by the Bureau of the state of weather modification knowledge and activity, performed with the advice of consultants, led to concepts and guidelines which still apply and can be stated as follows.

(a) The Bureau of Reclamation's program of weather modification research should be directed toward learning if it is possible to increase inflow into its reservoirs. The combination of the Bureau's reservoirs and hydrologic experience provides unique conditions for capitalizing on what is learned.

Although the physical process or process of precipitation is not completely understood, there is sufficient evidence that cloud seeding affects the production of precipitation to justify a program of engineering research designed to learn how to use cloud seeding to increase inflow to reservoirs. Careful, well designed field experimentation is essential to the necessary learning, but the experimentation required in the Bureau's program is operational in nature. Basic research in the atmosphere in pursuit of knowledge for the sake of knowledge is not the Bureau's mission.

(b) The hydrometeorological diversity of the regions in which the Bureau reservoirs are located precludes learning all that is required from any single experimental site, but care should be taken to focus on experimental sites which are representative of major portions of the area in which the Bureau operates.