



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: AK3501

Title: Compatibility analyses of various snow measurements/data in Alaska

Focus Categories: Hydrology, None

Keywords: Alaska, snow cover, snowfall, compatibility, accuracy, observation

Start Date: 03/01/2001

End Date: 02/28/2002

Federal Funds: \$17,001

Non-Federal Matching Funds: \$11,721

Congressional District: AK

Principal Investigator:

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Abstract

Snow is one of the key components in cold region hydrology and climate systems. It is also the most important variable in global change analyses, as changes of snowfall amount and snow cover extent and mass will have a major impact on hydrology, climate and ecosystems of the Earth. Snow data (such as snowfall, snow depth, snow course, snow survey) have been widely used in climatic and hydrologic applications. Proper utilization of these data in Alaska is extremely important and largely depends on the user's knowledge of the observational methods and data processing and archiving procedures.

The proposed research will directly address the problems of biases of gauge snowfall measurements and the compatibility of various snow data in Alaska. Based on the extensive research experiments, this work will define and evaluate the accuracy of snowfall measurements and snow cover observations carried out by different government organizations and university research programs. It will implement the appropriate bias corrections to the NWS snowfall data and conduct various consistency analyses on all available snow data. The goal of the proposed project is to define the compatibility of various snow measurements and to develop an integrated snow data information system for Alaska. The results of this project will be useful for studies of Arctic water resources, climate, hydrology, and ecosystems.

This proposal addresses an important water related research issue in Alaska. The required funding will be mainly used to support a full-time graduate research assistant (thesis degree) for one-year period.