This is a report on research projects relating to snow and ice as revealed by a poll of current members of the Eastern Snow Conference. Where possible, data on reports and publications are included when they are outside the Conference. The outline of this report is as follows:

SECTION I - SUMMARY OF CURRENT SNOW RESEARCH PROJECTS

A - Projects Not Reported in 1964

B - Projects Reported in 1964 - Additional Information

C - Projects Reported in 1964 - No Change

Projects are listed in the following subject order:

Forecasting

Snow Surveys & Measurements

Snow Climatology

Physics

Ice

Engineering Problems

SECTION II - SUPPLEMENTAL INFORMATION

A - Publications Not Previously Reported.

B - Other Data Sources - No Publications Available.

Respectfully submitted,
Committee on Research, ESC

C. D. Hopkins, Jr., Chairman
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SECTION I - CURRENT SNOW RESEARCH

GROUP A - NEW PROJECTS

65A1 STREAMFLOW FORECASTING PROCEDURES
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D.C.

At each of the river forecast centers improvements are made in
day-to-day forecasting of streamflow. The approach lies in applying more
sophisticated methods to operational situations. Current investigations
include effects of snow and ice on runoff and on river stages.

65A2 WEATHER FORECASTING TECHNIQUES
Director, Office of Meteorological Research, U.S. Weather Bureau,
Washington, D.C.

At Weather Bureau field stations, weather forecasting problems are
being studied and techniques are being developed for increasing the utility
and accuracy of forecasts. Heavy snow forecasts are included.

65A3 FLOOD RUNOFF REDUCTION AND WATER YIELD IMPROVEMENT FROM
THE GLACIATED MOUNTAIN AREAS OF NEW ENGLAND
Northeastern Forest Experiment Station, U.S. Forest Service, Laconia,
N.H.

The quantitative influence of forest environment and associated
climatic features on streamflow are being investigated. The alleviation
of streamflow extremes by biological manipulation is being investigated in
the glaciated mountain areas of New England.

Several published papers are available from: Director, Northeastern
Forest Experiment Station, 102 Motors Avenue, Upper Darby, Pa.

65A4 AN AUTOMATIC SNOW SENSOR
Soil Conservation Service, 701 N.W. Glisan St., Room 507, Portland,
Oregon.

Development of automatic snow sensor that can measure and transmit
the equivalent water content of snow from a remote location.

Papers have been given at Western National AGU Meeting, Seattle,
December 1964, and will be given at the Western Snow Conference,
Colorado Springs, April 1965.
CAUSES, distribution and economic effects of these storms are being studied.

Several reports are available from the above address.

A review is being made of the transmission of snowfall through forest canopies in terms of geophysical processes in comparison with transmission of short-wave and long-wave radiation fluxes.

"Interception Processes During Snowstorms" is available from the above.

This is a determination of the amount of snow intercepted by individual crowns of a coniferous species and the disposition of the intercepted snow under various climatic conditions in Central New York. This will provide data for a rational approach to the role of snow in winter moisture and energy balances in forests.

A simple optical method is being sought to monitor scavenging of aero-colloidal particles by snowfall.

The density of newly fallen snow is being correlated with the crystal structures of the snow.

The following report has been published:

GROUP B - PROJECTS LISTED PREVIOUSLY

65B1 STREAMFLOW FROM SNOWMELT IN THE TOBIQUE RIVER BASIN, NEW BUNSWICK.
Dr. K. S. Davar, Dept. of Civil Engineering, University of New Brunswick, Fredericton, N.B.

Several different semi-empirical techniques have been developed in this study. These are temperature index methods, extension of antecedent degree day and streamflow techniques using contemporary data, and the rational snow-melt equations of the U.S. Corps of Engineers, using distribution graphs.

65B2 SNOWFALL FREQUENCIES AND SNOWCOVER DATA

Additional stations now available are: Hyannis, Provincetown, Sandwich, Mass., and Montpelier, Vt.

GROUP C - PROJECTS STILL ACTIVE BUT UNCHANGED

65C1 WATER SUPPLY FORECASTING PROCEDURES
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D.C.

65C2 SNOW ACCUMULATION AND MELTING
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D.C.

65C3 GAGE AND NETWORK PERFORMANCE
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D.C.
65C4 PRECIPITATION CHARACTERISTICS

65C5 RADAR DETECTION OF SNOW

65C6 STORM CHARACTERISTICS
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D. C.

65C7 PROBABLE MAXIMUM PRECIPITATION
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D. C.

65C8 TOPOGRAPHIC INFLUENCES ON PRECIPITATION
Director, Office of Hydrology, U.S. Weather Bureau, Washington, D. C.

65C9 INFLUENCE OF SOIL AND LAND USE ON RUNOFF

65C10 WATER RESOURCES IN NEW ENGLAND
G. T. Bulgarelli, 23 Howe Road, Pittsfield, Massachusetts.

SECTION II - SUPPLEMENTAL INFORMATION

A - PUBLICATIONS NOT PREVIOUSLY REPORTED

1. SNOWFALL IN CANADA
M. K. Thomas, Department of Transport, Meteorological Branch, Circular 3977, January 1964.

2. A SURVEY OF GREAT LAKES SNOW FALL

B - OTHER DATA SOURCES - NO PUBLICATIONS AVAILABLE

None.