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New England Intercollegiate Geological Conference (NEIGC)

Raymond Joesten

Quarrier, Sidney S.

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74TH ANNUAL MEETING

THE UNIVERSITY OF CONNECTICUT STORRS, CONNECTICUT

October 2, and 3, 1982

GUIDEBOOK FOR FIELDTRIPS IN CONNECTICUT AND SOUTH CENTRAL MASSACHUSETTS

Editors

Raymond Joesten Department of Geology and Geophysics The University of Connecticut Storrs, CT Sidney S. Quarrier State Geological and Natural History Survey of Connecticut Department of Environmental Protection Hartford, CT

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STATE GEOLOGICAL AND NATURAL HISTORY SURVEY

OF CONNECTICUT THE NATURAL RESOURCES CENTER DEPARTMENT OF ENVIRONMENTAL PROTECTION 1982 GUIDEBOOK NO. 5

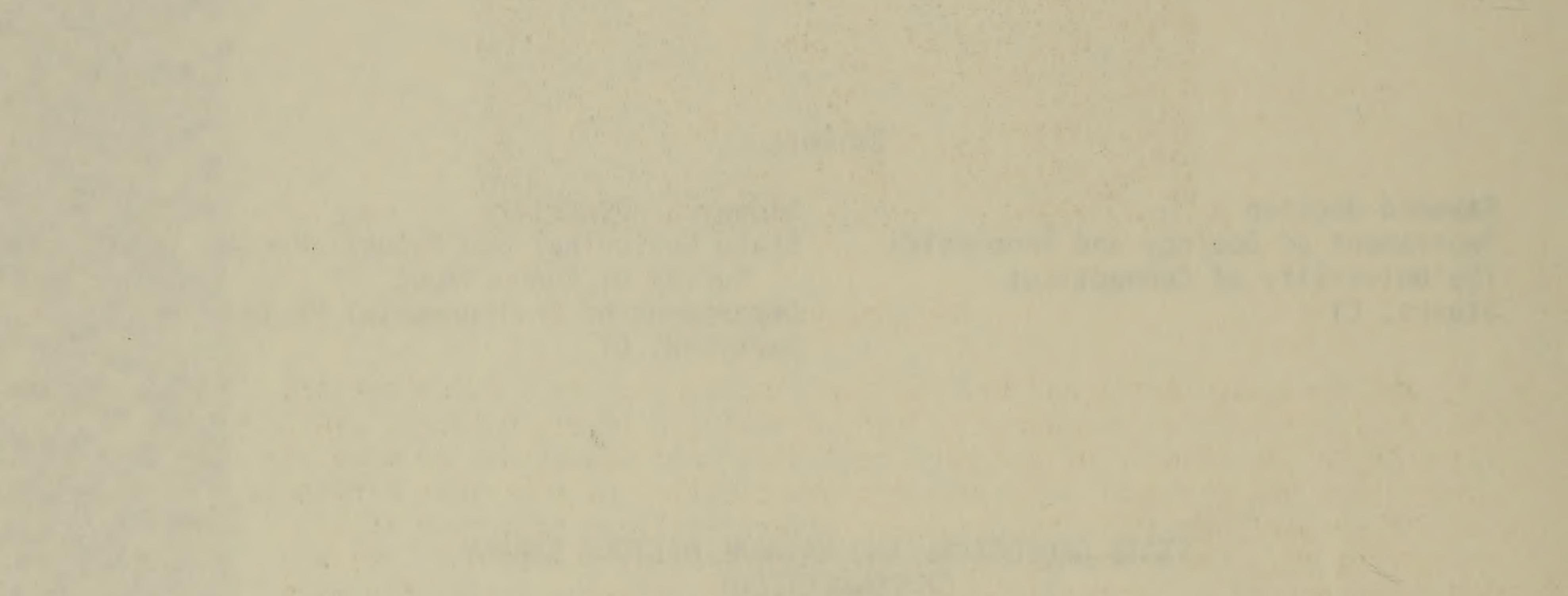
STATE GEOLOGICAL AND NATURAL HISTORY SURVEY OF CONNECTICUT

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THE NATURAL RESOURCES CENTER DEPARTMENT OF ENVIRONMENTAL PROTECTION

Honorable William A. O'Neill, Governor of Connecticut Stanley J. Pac, Commissioner of the Department of Environmental Protection

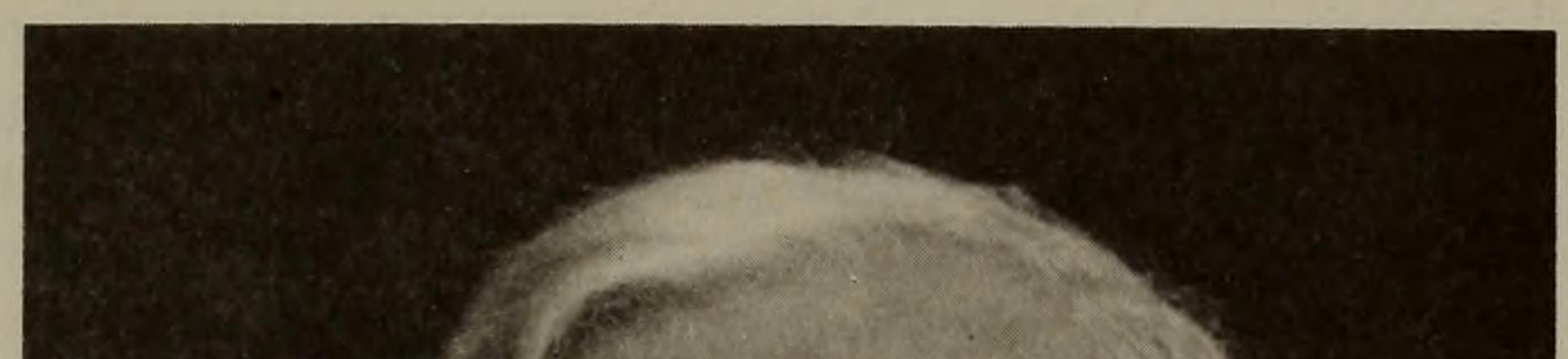
> STATE GEOLOGIST DIRECTOR, NATURAL RESOURCES CENTER Hugo F. Thomas, Ph.D.

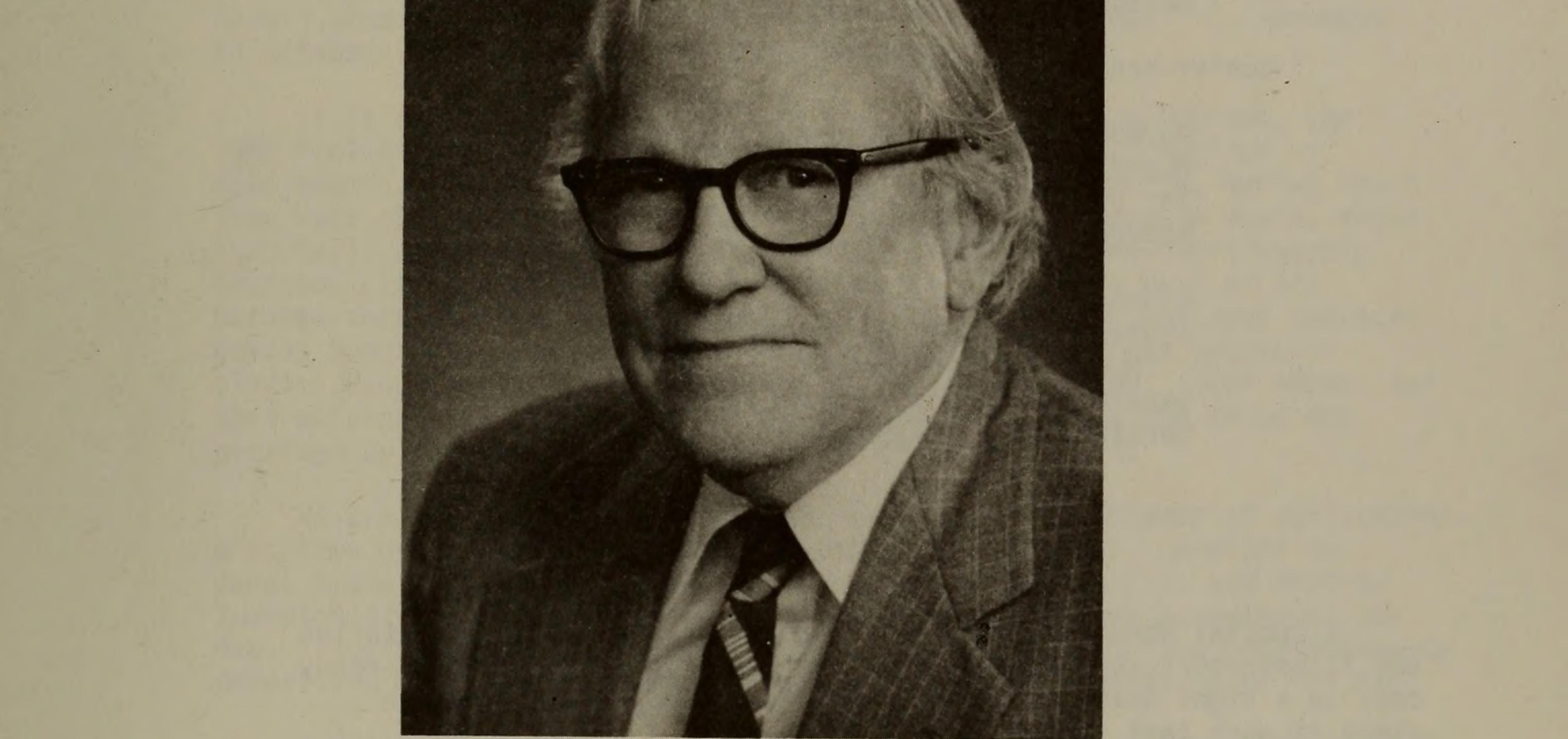


For information on ordering this guidebook and other publications of the Connecticut Geological and Natural History Survey, consult the List of Publications available from the Survey, Department of Environmental Protection, State Office Building, Hartford, CT 06115. Telephone: (203) 566-3540.

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE 74TH ANNUAL MEETING

honoring





JOE WEBB PEOPLES

The state surficial and bedrock maps included in this Guidebook are the result of several decades of directed geologic investigations. In addition to the efforts of the many geologists who mapped one or more quadrangles and those of the compilers who tackled the sometimes difficult task of reconciling differing geologic interpretations to arrive at a consistent map, the contribution of Joe Webb Peoples stands out. As a Commissioner of the State Geological and Natural History Survey for more than two decades and as Director and State Geologist for twelve years, he played a key role in the many events that moved this work forward. In particular, Joe provided direction, encouragement, and support for the individual mapping projects and fostered productive cooperation between the State Survey, the U.S.G.S., and individual university geologists. With foresight he led the Legislature to support preparation of a new state base map that is to be used in printing the geologic maps. A hallmark of Joe's contribution was the vitality and fellowship that characterized the annual summer conference, each followed by an evening at "Peoples Choice", Joe and Ruth Peoples' residence, overlooking the river in Middle Haddam, Connecticut.

(Photo by Burian-Moss)

NEW ENGLAND INTERCOLLEGIATE GEOLOGICAL CONFERENCE

Dabney Caldwell, Secretary Department of Geology Boston University Boston, MA 02215

Conference Organization:

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Raymond Joesten and Lawrence Chestnut Department of Geology and Geophysics The University of Connecticut Storrs, CT 06268

Sidney S. Quarrier State Geological and Natural History Survey of Connecticut Department of Environmental Protection Hartford, CT 06115

A special word of thanks is in order for all of the secretaries and illustrators whose extra effort at producing crisp, camera-ready copy on a tight deadline has made this Guidebook the attractive piece of work that it is.

The fact that a locality is described in this guidebook does not imply that the public has access to the locality. Stopping on a limited access highway is forbidden by a regulation of the State Traffic Commission, which prohibits all vehicles from stopping or parking on any part of the highway. These regulations also prohibit pedestrians on any limited access highway. Field trip features on these highways can be viewed from other ground. In other instances, stops on private property require permission of the owner. Anyone planning to go on this field trip should check carefully the suggested stops, and do nothing to jeopardize their use by geologists in the years ahead.

EDITOR'S PREFACE

The NEIGC comes to Connecticut at an opportune time, as state-wide syntheses of both Quaternary Geology and Bedrock Geology have recently been completed, thus providing a framework tying together the 17 field trips presented in this Guidebook. As several trip leaders are quick to point out, however, the geologic record is not everywhere susceptible to unique interpretation. Not surprisingly, consensus has yet to be reached on some aspects of Connecticut geology. Several localities described herein promise to be the site of lively discussion on the first weekend in October, 1982, and for some time thereafter.

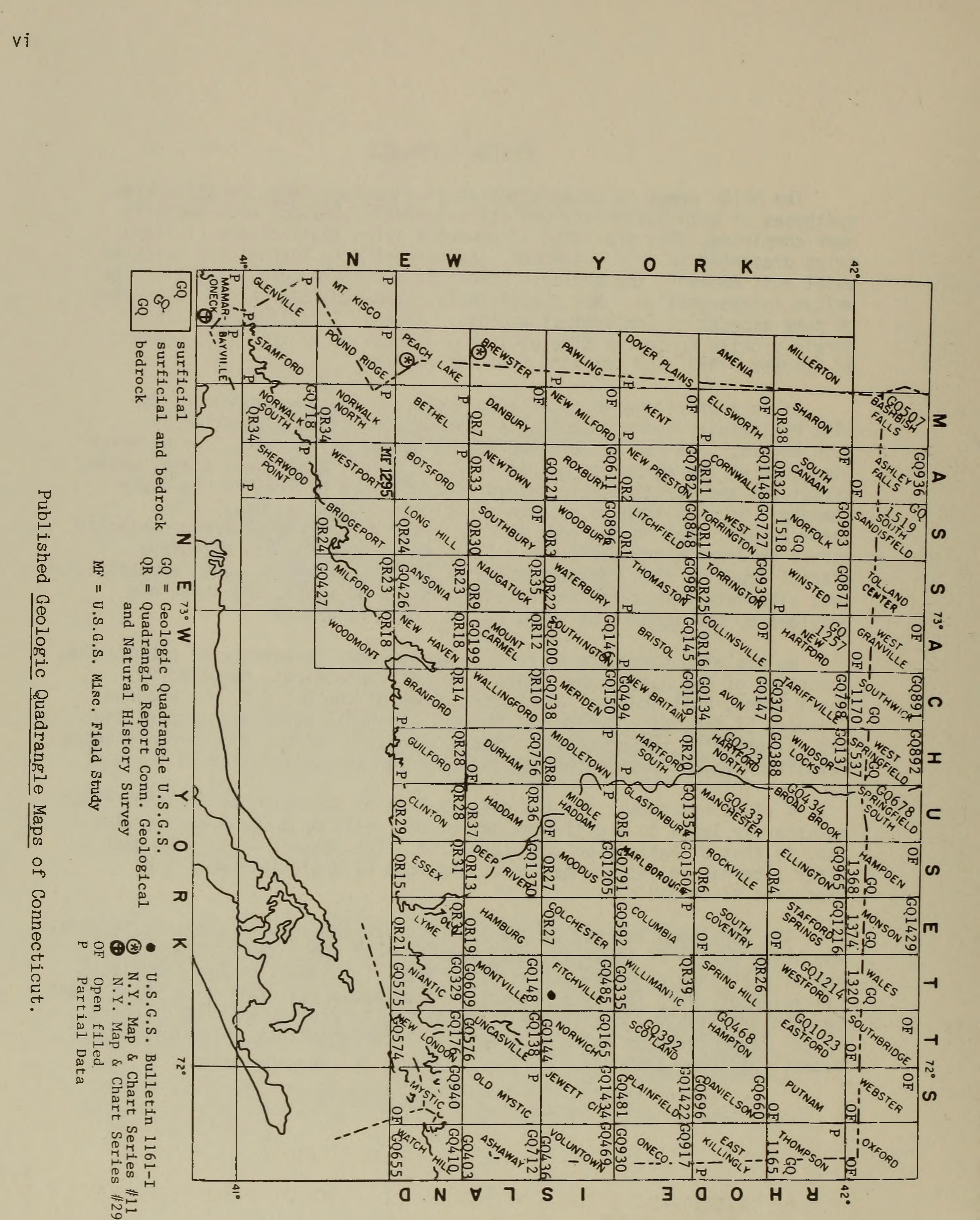
It is a privilege to be able to include with this Guidebook, the 1982 Preliminary Bedrock Geological Map of Connecticut, compiled by John Rogers. The map has evolved over a period of 34 years, during which time much of the state was mapped at 7 1/2 minute quadrangle scale, while structural and stratigraphic interpretations more or less continuously changed. It is a tribute to John's geologic insight as well as his perseverance, that he has been able to trace defensible geologic contacts across quadrangle boundaries in a state known more for its extensive glacial deposits than for continuity of bedrock exposure. John emphasizes that alternate structural interpretations are possible, and these are provided by the authors of trips P2, P4, P6, P7, and P9.

We are also fortunate to be able to include, in advance of publication, a portion of the Quaternary Geologic Map of Connecticut, compiled by Janet Stone, Phil Schafer, and Betty London of the U.S.G.S. and Woodrow Thompson of the Maine Geological Survey. Trip Q1, which accompanies the map, illustrates the concepts of stagnation zone retreat and morphosequence deposition which provide the guiding paradigm for compilation of the map.

A rival hypothesis for the deglaciation of Southern New England, which necessarily leads to a different set of map units on a Ouaternary geologic map, is that of basin-wide ice stagnation. The leaders of trip 03 each offer alternative interpretation of the mode of deglaciation of the Shetucket River Basin.

The continued success of the NEIGC is due entirely to the trip leaders, who share freely of their intimate knowledge of the rocks or glacial deposits as they actually occur in the field, patiently endure merciless criticism of their favorite exposures, and, above all, take time which might be more profitably spent in the field or lab to provide a written record of the field facts on which the maps and interpretations ultimately are based. We thank them all.

THE EDITORS



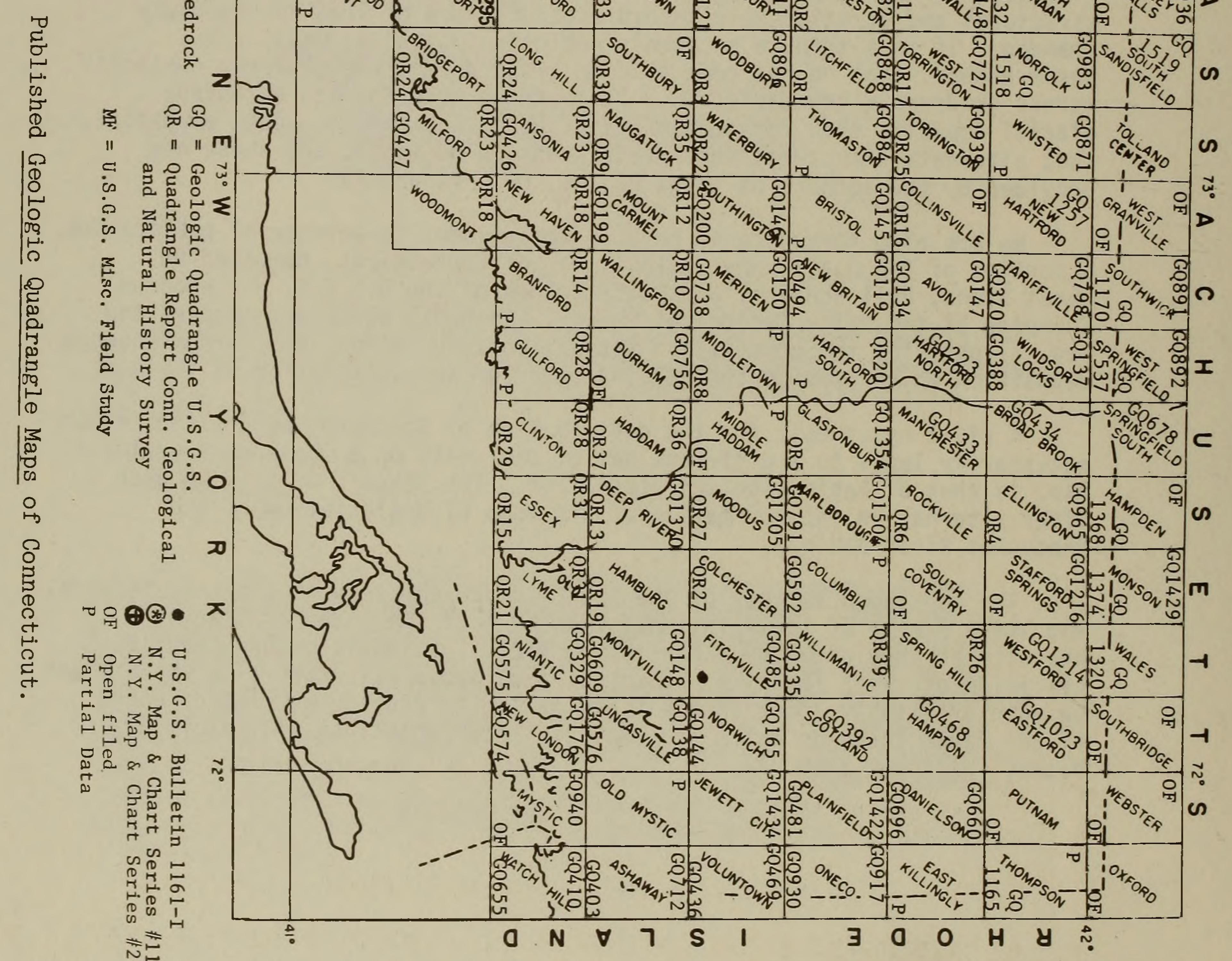


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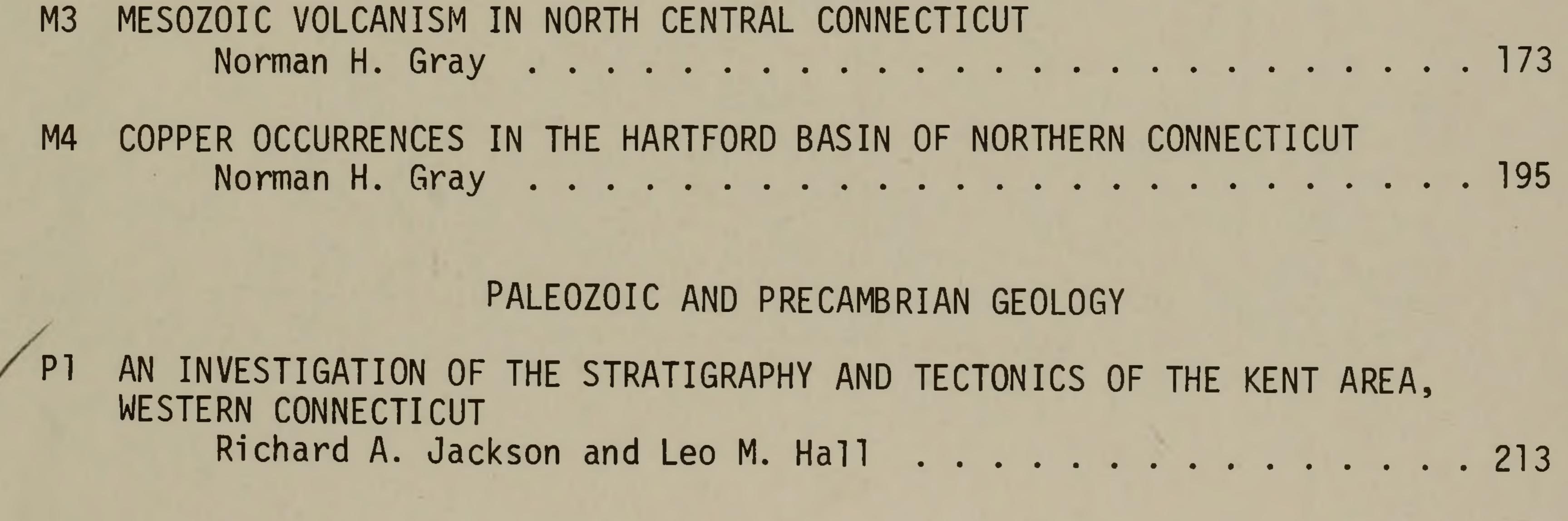
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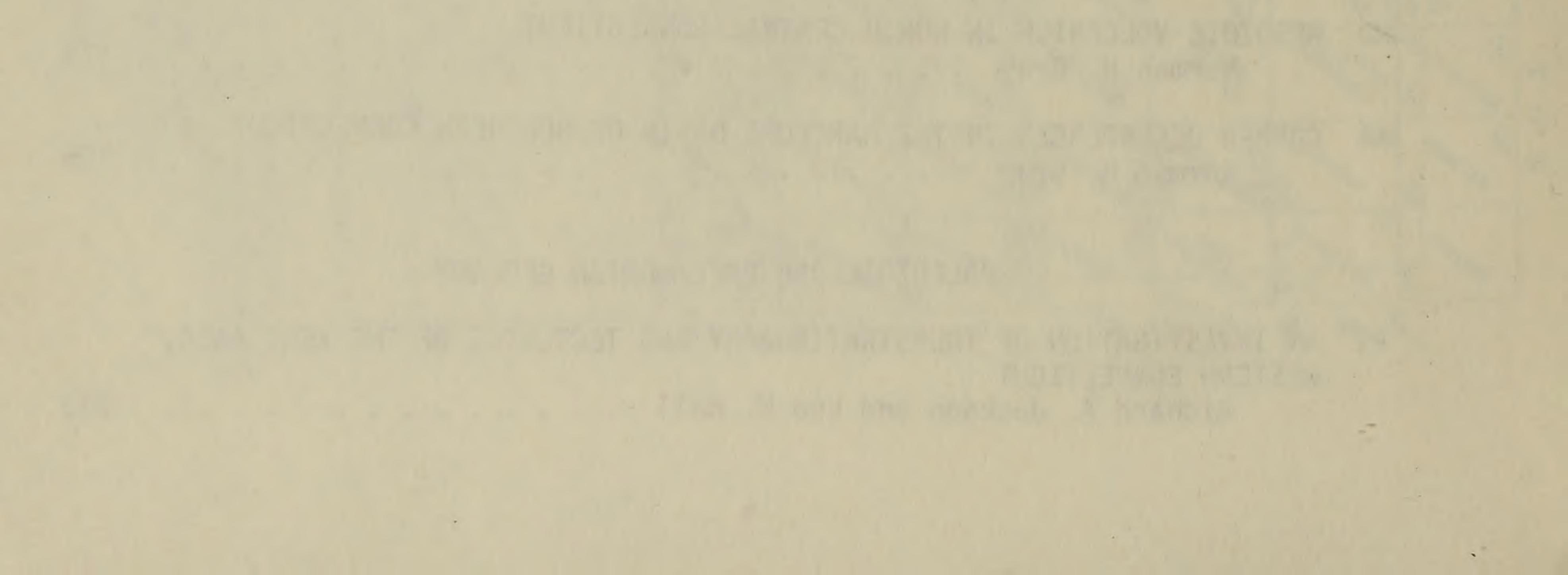
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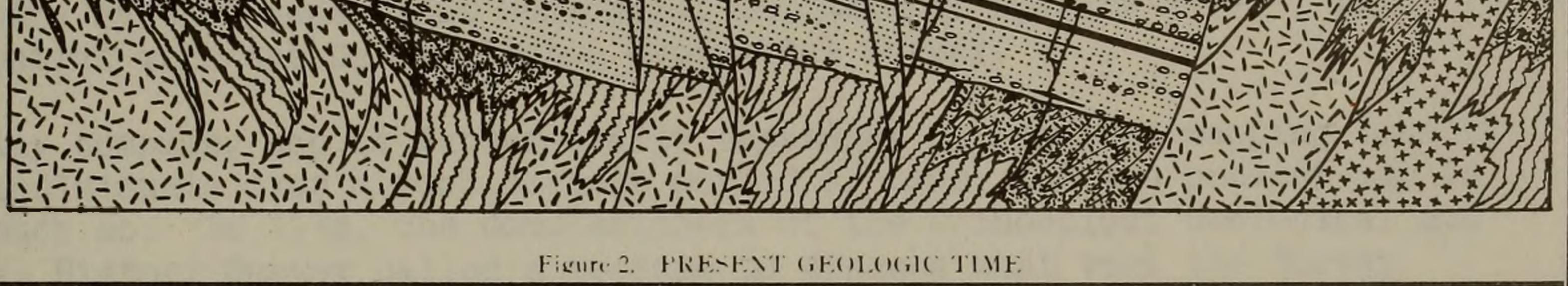
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Western Highland Eastern Highland



Cross Section of Central Connecticut From Joseph Barrell, 1915, Central Connecticut in the Geologic Past, State Geological and Natural History Survey of Connecticut, Bulletin No. 23.

It seems fitting to introduce these field trips with a caveat from the Introduction to an earlier synthesis of Connecticut geology, which with appropriate modification, is equally applicable to the glacial and bedrock trips that follow.

"At that time I knew the length of the bibliography of New England glaciology better than I knew its content, and I not unnaturally thought that the chief facts and relationships were established, and that areal details and refinements might be all I could hope to add to our knowledge of glaciation of Southern New England. Once in the field, however, I realized that the state of affairs was altogether different from what my reading had lead me to expect.

> Richard Foster Flint The Glacial Geology of Connecticut 1930

