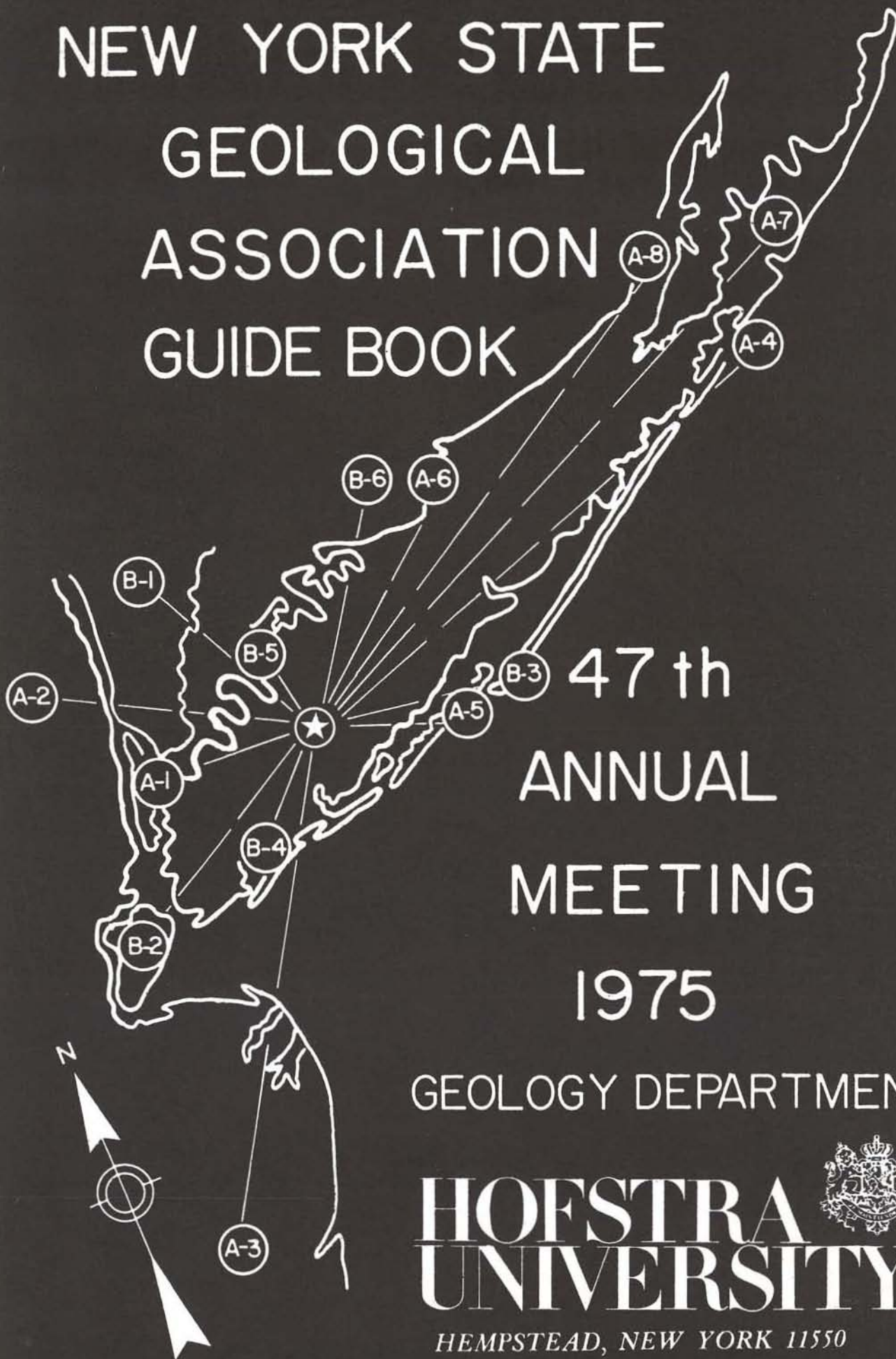


NEW YORK STATE  
GEOLOGICAL  
ASSOCIATION  
GUIDE BOOK



47th  
ANNUAL  
MEETING  
1975

GEOLOGY DEPARTMENT

**HOFSTRA**  
**UNIVERSITY**



HEMPSTEAD, NEW YORK 11550



GUIDEBOOK  
to  
FIELD EXCURSIONS  
conducted at the  
47th MEETING  
of the  
NEW YORK STATE GEOLOGICAL ASSOCIATION  
October 31-November 2, 1975  
Manfred P. Wolff, Editor

Host

Hofstra University  
Department of Geology  
Hempstead, New York

Additional copies of this guidebook may be purchased from the secretary of the New York State Geological Association: Dr. Daniel Merriam, Department of Geology, Syracuse University, Syracuse, N. Y. 13210, or: Dr. Manfred P. Wolff, Department of Geology, Hofstra University, Hempstead, N. Y. 11550.

## ACKNOWLEDGEMENTS

This guidebook provides a permanent record of the 47th meeting of the New York State Geological Association. The papers and road logs are presented to enhance the various field trips, to allow participants to read through them at their leisure, and to later make a return visit whenever they desire. For the most part they summarize previous information and/or provide new data and concepts that reflect continuing research in the New York City-Long Island-New Jersey region.

The trips vary from bedrock geology and stratigraphy to coastal and glacial geomorphology - to excursions of areas containing earth, energy, and environmental resources - to ocean voyages. Because of time implications some trips (particularly on Long Island) cannot later be completed in the exact manner described herein. The interplay between man-made and geological influences will continue to alter these areas, for better or worse, and whenever possible, modern management techniques and environmental considerations have also been included.

The shortness of available time for preparing the guidebook has not given the authors an opportunity to see proofs of their articles, and the editor accepts any responsibility for errors that may appear. Editorial changes were kept minimal in most instances. Special acknowledgement is made to the many authors from neighboring institutions without whose help this guidebook and meeting would not have been possible. The effort can only be appreciated by those who have made similar contributions to this meeting over the years.

For individual efforts in organizing the format of the guidebook and logistics for the meeting, special thanks to Dr. Kurt E. Lowe, Professor Emeritus at City College of the City University of New York. Dr. Lowe has long been a prominent figure in the association and consented to be our guest lecturer for the banquet at this meeting.

For her assistance in preparing the guidebook, and making all the detailed arrangements for transport, food and lodging, special thanks and appreciation also go to Mrs. Margaret L. Johnson, the Geology Department secretary who took it upon herself to gather the information for organizing the field excursions.

The editor would also like to thank Ms. Christine Anderson (President), and the other geology majors and members of the Long Island Geological Society (Hofsta's Geology Club) who contributed their time and effort toward making this a successful meeting, and Dr. Usman A. Sayeed for drafting the guidebook cover.

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Editor and President, 1975

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