

Recent Sediment Studies

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BRUCE C. HEEZEN of the LAMONT GEOLOGICAL OBSERVATORY of COLUMBIA UNIVERSITY, Palisades, New York has sent us the following outline of his group's activities:

- a) Fields of interest and geographic area:
Marine sediments of all environments in all oceans.
More specifically, we are conducting a study of the sediments of the Sohm Abyssal Plain and its relationship to the Grand Banks turbidity current and slump. This work is being done by Professor BRUCE C. HEEZEN in collaboration with LESTER, FRUTH, CHARLES D. HOLLISTER, and ERIC D. SCHNEIDER.
- b) Specific problems:
Sediments of the Labrador Sea - C.D. HOLLISTER and BRUCE C. HEEZEN. Some selected problems on shelf sedimentation - JESSIE HEITNER and BRUCE C. HEEZEN.
- c) Methods of study used in these studies:
Deep-sea coring, topography, geophysical investigations, laboratory work, petrographic, mineralogic and granulometric analysis.
- d) Articles on Maritime Geology: several papers are in press; none has been recently published with the exception of:

HEEZEN, B.C., and DRAKE, C.L., 1964, Grand Banks slump: Bull. Amer. Assoc. Petrol. Geol., v. 48, p. 221-225

HEEZEN, B.C., ERICSON, D.B., and EWING, M., 1954, Further evidence for a turbidity current following the 1929 Grand Banks earthquake: Deep-Sea Research, v. 1, p. 193-202

HEEZEN, B.C., and EWING, M., 1962, Turbidity currents and submarine slumps and the 1929 Grand Banks earthquake: Amer. Jour. Sci., v. 250, p. 849-873

DALE C. KRAUSE of the NARRAGANSETT MARINE LABORATORY, UNIVERSITY of RHODE ISLAND, Kingston, R.I., is particularly interested in deep sea geology, especially with regards to tectonics. One of his students, DON CORRIGAN is working on a suite of cores across the Mid-Atlantic Ridge. Another student, TOM BASELER intends to work on the tectonics Bear Seamount off Cape Cod this winter.

MARCEL TIPHANE, director of the Department of Geology, UNIVERSITE DE MONTREAL, is studying the conditions of sedimentation in the Gulf of St. Lawrence. Work has been started on the Chaleur Bay area, as far as longitude 63° W., and also the Saguenay River. The project is supported partly by the DEPARTMENT OF COMMERCE AND INDUSTRY of Quebec, and partly by the NRC.

Current measurements, salinity and particle size determinations and composition of the sediments are being examined. Methods of study include:

- 1) determination of topography of area, following Decca navigation system;
- 2) hydrography of water: temperature salinity, some current measurements;
- 3) core sampling of some specific areas by gravity sampler;
- 4) particle size determination using screens and the Sartorius Balance of Sedimentation for fine particles;
- 5) composition of sediments.

PROFESSOR TIPHANE also has started a study of the topography from Gaspé Peninsula to Anticosti Island in view of later sampling in this area. It is hoped that the results will shed light on transportation and deposition of fine terrigenous sediments.

The following list of publications deal primarily with the hydrography of the areas mentioned above:

TIPHANE, M. and ST-PIERRE, J., Tables for determination of salinity of sea water by electrical conductivity, University of Montreal, Montreal, Canada.

TIPHANE, M., Observations océanographiques dans la Baie des Chaleurs, 1961, Cahier d'Information No. 15, Station de biologie marine, Grande-Rivière, Québec.

TIPHANE, M., Observations océanographiques dans la Baie des Chaleurs, 1962, Cahier d'Information No. 16, Station de biologie marine, Grande-Rivière, Québec.

DRAINVILLE, G., TIPHANE, M., et BRUNEL, P., Croisière océanographique dans le fjord du Saguenay, juin 1962; Cahier d'Information No. 17, Station de biologie marine, Grande-Rivière, Québec.

TIPHANE, M., Etudes des températures des eaux de la Région de la Baie des Chaleurs 1961-62; Rapp. annual 1962, Station de Biologie Marine, Grande-Rivière, Québec.

- TIPHANE, M., Le Saguenay, Actualités marines, v. 7, p. 22-25
and map, Ministère de l'Industrie et du Commerce, Québec.
- TIPHANE, M., Topographie de la Baie des Chaleurs, (text and map)
in press, Cahier d'Information, Station de biologie marine,
Grande-Rivière, Québec. 1964
- TIPHANE, M., Topographie de la région des bancs de pêche gaspésiens,
(text and map) in press, Cahier d'Information, Station de
biologie marine, Grande-Rivière, Québec. 1964

D.J. LAMING, H.A. LEE, H.R. GREINER, and J.W. ROWLING and
their students at the Department of Geology of the UNIVERSITY OF
NEW BRUNSWICK are actively pursuing a number of diverse sediment
problems.

Current and published research on recent sediments includes the
following:

- ALI, S.I., 1964, A study of recent sediments of the beach and delta
at the mouth of the Alma River, Bay of Fundy: M.Sc. Thesis, U.N.B.
- GRANT, A.C., Marine sediments from Northern Baffin Bay: M.Sc. Thesis
in preparation.
- LAMING, D.J.C., and ALI, S.I., Intertidal and offshore topography,
mouth of Alma River (Bay of Fundy); bar movements, currents,
and sediment distribution: study in preparation.
- ROWLING, J.W., Recent sediments at the mouth of Rustico Harbour,
P.E.I.: M.Sc. Thesis in preparation. This study included:
- 1) A textural analysis of the distribution of the sands inside the
harbour and in the offshore region.
 - 2) Samples were taken of the beach, and by boat up to 1/2 mile
offshore. These were sieved and the results analyzed using U.N.B.'s
1620-II computer.
 - 3) A study of Northumberland Strait's sediments is underway. Three
traverses in the Shediac-Summerside region have been made in a
preliminary study in order to plan future work.

ELY MENCHER of the Department of Geology and Geophysics,
MASSACHUSETTS INSTITUTE OF TECHNOLOGY reports that he is supervising
a group at M.I.T. doing research in recent sediments in the Boston
Harbour Region.

ERIC W. MOUNTJOY, Department of Geological Sciences at MCGILL UNIVERSITY in Montreal mentions that he and students are working on recent sediment problems, particularly the carbonates. At McGill, I.G. MACINTYRE is progressing on his Ph.D. project entitled: Recent sediments on the west coast of Barbados, West Indies.

ROBERT G. SUTTON, Department of Geology and Geography, at the UNIVERSITY OF ROCHESTER has, until recently been working on Atlantic continental slope sediments. It is anticipated that a paper on this work will be submitted to the N.Y. Academy of Science.

GERALD M. FRIEDMAN, Department of Geology, RENSSELAER POLYTECHNIC INSTITUTE, has a project under way this year to study the New York-New Jersey continental shelf and lagoons.