

MEETINGS AND EXCURSIONS

FORTHCOMING MEETINGS: 1966Ordovician Turbidites: Field Trip, Gaspé to Québec City.

Probably May 9th - 16th, commencing at Gaspé.

The main purpose of the trip is to consider problems of turbidite sedimentology as seen in the coastal exposures en route. The program, tentative at press time, involves three days in northern Gaspé looking at Middle Ordovician flysch (leader, P. ENOS); two days near Montmagny on the Sillery and Kamouraska Formations (leader, CLAUDE HUBERT); and one day on Levis and other ?turbidites near Québec City (F. FITZ OSBORN).

A number of noted "turbiditophiles" are intending to take part in the excursion; others wishing to join it are urged to write as soon as possible to the organizer:

DR. G.V. MIDDLETON,
Department of Geology,
McMASTER UNIVERSITY,
Hamilton, Ontario.

Geological Association of Canada and Mineralogical Association of Canada:
joint Annual Meeting.

September 12 - 13, Halifax, N.S., with field trips before and after.

In their first visit to the Maritime Provinces, the G.A.C. and M.A.C. are holding a joint convention at Halifax this fall. Field trips in New Brunswick, before the convention, and in Nova Scotia and Newfoundland afterwards, will provide good geological coverage of much of the region. Convention headquarters will be the Nova Scotian Hotel in Halifax, where the Business Session and Joint Technical Session on Appalachian and Submarine Geology will be held on Monday morning. All other technical sessions will be held at Dalhousie University; these will concern Marine Geology, Stratigraphy, Paleontology, Mineralogy, Petrology, Structural and Economic Geology, Geomorphology and Hydrology.

On September 11 there will be a pre-convention voyage on the Northwest Arm and Halifax Harbour followed by a get-together party at the Nova Scotian Hotel that evening. The well known historical novelist, Will R. Bird, will be guest speaker at the Annual Dinner on September 12 and the Province of Nova Scotia will be host to a lobster dinner on September 13. A choice of attractive events will be available for the ladies.

The General Chairman of the convention is J.P. NOWLAN, Deputy Minister of Mines for Nova Scotia. Co-ordinators for the provinces are: New Brunswick, DR. A.L. McALLISTER, University of New Brunswick; Nova Scotia, DR. B.R. PELLETIER, Bedford Institute of Oceanography; Newfoundland,

J. McKILLOP, Department of Mines, St. John's. DR. D.G. KELLEY, Geological Survey of Canada, Ottawa, is Field Trip Chairman, and DR. C.G.I. FRIED-LAENDER, Dalhousie University and PROF. R.H. MacNEIL of Acadia University are Program Chairmen of the G.A.C. and M.A.C. programs respectively. PROF. R.A. CAMERON is in charge of Publicity, and DR. G.A. BARTLETT is looking after the exhibits.

Pre-Convention Field Trips:

- No. 1: Southwestern New Brunswick. Stratigraphy and structure of Precambrian, Paleozoic and Triassic rocks, September 9 - 10.
- No. 2A: Silurian and Devonian, northern New Brunswick. Stratigraphy and structure of volcanic and fossiliferous sedimentary rocks. One day. September 9
- No. 2B: Brunswick Mines. Volcanic rocks, iron formation and sulphides on surface and underground. One day. September 10
- No. 2C: Wedge and Heath Steel Mines. Surface and underground examination of volcanic complex and ore zones. One day. September 10

Post-Convention Field Trips:

- No. 3: Zeolites at Cape Blomidon, N.S. (M.A.C.). Tholeiitic flood basalts with zeolite minerals, and other features. September 14 - 15
- No. 4: Surficial geology, north shore of Minas Basin, N.S. Deglaciation, sea level changes and paleo-Indian site (Debert). September 14 - 15
- No. 5: Meguma Group, Mississippian and Triassic rocks, central N.S. Stratigraphy and sedimentary features. September 14 - 15
- No. 6: Carboniferous stratigraphy and economic geology, Hants County, N.S. Gypsum deposits and underground tour of barite-base metal mine. September 14
- No. 7: Carboniferous stratigraphy, Cape Breton Island. Fossiliferous rocks, gypsum and metallic minerals. September 14 - 15
- No. 8: Stratigraphy and structure - facies change or klippen? Western Newfoundland. See the great slide mass. September 14 - 15

Those wishing to attend field trips and who have not yet indicated their wish to do so are urged to get in touch with Dr. D.G. Kelley, Geological Survey of Canada, 601 Booth Street, Ottawa, as soon as possible. The third and last circular will be mailed at the beginning of May, and this will be concerned with required pre-payment for field trips and pre-registration for the convention.

New England Intercollegiate Geologic Conference

September 29 - October 1, at Mt. Katahdin and vicinity, Maine.

Further details were reported in the January issue. Enquiries should be addressed to DR. D.W. CALDWELL, c/o DR. B.A. HALL, Department of Geology, University of Maine, Orono, Maine 04473.

Atlantic Universities Geological Conference

October, in Halifax; joint hosts, DALHOUSIE UNIVERSITY and NOVA SCOTIA TECHNICAL COLLEGE.

Geological Society of America and associated organizations: annual meeting.

November 14 - 16, San Francisco, Calif.

Biostratigraphic Seminar

November, at the Department of Geology, University of Ottawa.

A program of interest to sedimentologists, paleontologists and stratigraphers will be arranged, probably on one of the following topics:

1. Biogenic sedimentary formations
2. The paleontology of the present
3. Aspects of paleogeography

Any persons wishing to participate, and having suggestions about the form or topic of the seminar, or who wish to read papers, are invited to get in touch with the organizers, DR. D.L. DINELEY and DR. B.R. RUST, Department of Geology, UNIVERSITY OF OTTAWA, Ottawa 2, Ontario. Further details will be published later and circulated to geology institutions in Eastern Canada.

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A.A.P.G.-S.E.P.M.: annual meeting, April 10 - 13, Los Angeles, Calif.

Seventh International Sedimentological Congress: August 11 - 15, Reading and Edinburgh, Great Britain. For details and pre-registration, write to Secretariat, VII International Sedimentological Congress, Sedimentology Research Laboratory, UNIVERSITY OF READING, Whiteknights Park, Reading, Berks., England.

International Conference on Stratigraphy and Structure bearing on

Continental Drift in the North Atlantic Ocean: Gander, Nfld., August 24 - 30. With support from the National Science Foundation, Columbia University are sponsoring this conference, and will invite about 30 foreign geologists to participate. The Geological Survey of Canada will contribute papers and will prepare field trips to cover roads from St. John's to Port-aux-Basques and St. Anthony before and after the conference. Others wishing to attend may get in touch with DR. MARSHALL KAY, Department of Geology, COLUMBIA UNIVERSITY, New York, N.Y. 10027, at a later date when further details will be known.

International Symposium on the Devonian System: September 6 - 8, Calgary, Alberta. Details were reported in the last issue. Enquiries should be addressed to The Secretary, International Devonian Symposium, P.O. Box 53, Calgary, Alberta.

REPORTS OF RECENT MEETINGSUpper Mantle Workshop: Appalachian Session, Ottawa, February 1965.

The two-day workshop was organized by DR. L.W. MORLEY of the GEOLOGICAL SURVEY OF CANADA, largely as an experiment in which geologists and geophysicists interested in a particular region of Canada could participate in informal discussion somewhat akin to a "shirt sleeve" session. The Workshop was sponsored by the Associate Committee on Geodesy and Geophysics of the NATIONAL RESEARCH COUNCIL and by the DEPARTMENT OF MINES AND TECHNICAL SURVEYS. Following a plenary session in which the participants were greeted and papers of a general nature were presented, the participants separated into four sessions, each covering a major region of Canada: Appalachian, Central, Western, and Arctic.

At the Appalachian session, we had roughly 20 active participants mixed with about 20 'listeners' and all tightly packed in a too-small room. Although uncomfortable from lack of space, I think an atmosphere conducive to informal discussion was created - and this in itself was worth the discomfort.

I had the duty of organizing and chairing the Appalachian session. DR. B.D. LONCAREVIC of the BEDFORD INSTITUTE OF OCEANOGRAPHY was the reporter, who presented a summary of our discussions and a list of recommended projects to the final plenary session. His well-presented report, together with those of the other three sessions, were distributed to all participants of the Workshop.

It became clear during our discussions that an unoccupied zone exists between the geologists and the geophysicists. Geologists came with good dry-land knowledge but only vague ideas of the substructure of the land or the geology under the adjacent sea; they recognized, however, their limitations in interpreting what little geophysical evidence there was relating to these ideas. Geophysicists, on the other hand, came with maps, charts and diagrams - magnetic, gravimetric and seismic - accompanied by tentative and poorly developed geological interpretations. I think most of them felt the lack of a sufficient understanding of the main geological features required for satisfactory interpretation of the geophysical data. To diminish the grey zone between the two disciplines was one main purpose of the Workshop, and this was accomplished to some degree.

As a worksheet for all participants, I prepared a blue-line geological map, about 1 inch to 66 miles, showing bathymetry of the Gulf of St. Lawrence and the shelf areas. Our session developed as an exercise in the use of geophysics to extrapolate known geological features, and geology to interpret the geophysics.

The most important recent contribution to the Appalachian region, as stated in Dr. Loncarevic's report, is that of the DALHOUSIE UNIVERSITY geophysicists, DR. J.E. BLANCHARD and DR. M.J. KEEN, and their students, in the field of deep seismic studies (see Maritime Sediments, v. 1, no. 2, 1965, and in the Canadian Journ. Earth Sci., v. 3, no. 1, 1966). In

brief, they have discovered and "mapped" in a reconnaissance style a deep trough in the top surface of the upper mantle, underlying the central axis of the Appalachian orogenic belt. The trough axis is about 45 kilometres below the earth's surface, about 10 kilometres deeper than adjacent parts of the continent.

DR. GEORGE HOBSON of the Geological Survey described the "shallow" seismic surveys in the Gulf of St. Lawrence and along the west and north coasts of Newfoundland. Unfortunately, at the time of the Workshop his data were not sufficiently analyzed or interpreted to be fitted satisfactorily to geological units.

DR. B.D. LONCAREVIC described his "Orpheus" negative gravity anomaly on the Scotia Shelf extending eastward from Chedabucto Bay to the Laurentian Channel, apparently related to the major Fundy-Chedabucto Bay lineament and its associated Triassic rocks.

Gravity studies in the region were illustrated by several contributors. PROFESSOR M. FITZPATRICK of QUEEN'S UNIVERSITY described a major gravity anomaly near the ultramafic rocks in the Thetford Mines area of southern Quebec. A.K. GOODACRE and D.F. WEAVER, DOMINION OBSERVATORY, illustrated their progress towards completion of the gravity surveys of the Gulf of St. Lawrence and Newfoundland. Of special interest was the linear positive anomaly extending eastward from Gaspé suggesting the continuity of the Cambro-Ordovician belt of Gaspé through the Gulf of St. Lawrence towards similar rocks in southwest Newfoundland.

W.E.T. SMITH, Dominion Observatory, reported the Canadian Appalachians to be seismically quiet, with earthquake centres concentrated along Logan's Line westward from Québec, and northwestward of the line.

At the end of the session, a series of ten recommendations concerning future projects were discussed. These included: (1) an integrated geological-geophysical study along a ribbon section across the Appalachian orogen from the Grenville craton to the ocean basin, including drill holes on Magdalen Islands and Sable Island; (2) geological and geophysical studies of the Grand Banks area; (3) tracing of changes in the Appalachian orogen on the shelf northeast of Newfoundland; (4) increased geophysical activity in the Gulf of St. Lawrence and the boundary of the Grenville craton; (5) stress and geodetic measurements in the Lower St. Lawrence and Gatineau-Lake Champlain areas, zones of earthquake epicentres; (6) paleo-magnetic studies in the Maritimes and Newfoundland to test the orocline hypothesis for the origin in the bend in the Appalachian belt; (7) Paleo-current studies in the Precambrian of the Avalon Peninsula, to study the paleogeography of the easternmost part of the Appalachian belt; (8) Site selection for drilling of a significant gravity anomaly near Thetford Mines, Que.

All agreed that the Workshop was useful and rewarding. Many favoured calling into session another Workshop a year later.

W.H. POOLE

Geological Survey of Canada

Biostratigraphic Seminar at Queen's University, Kingston, November 1965

A one-day seminar was arranged for stratigraphers and paleontologists of Eastern Canada, organized by DRS. J.L. USHER and R.G. GREGGS of QUEEN'S UNIVERSITY. On the preceding evening a lively discussion meeting was held concerning the Stratigraphic Code led by DR. DIGBY McLAREN of the G.S.C., which served to get everyone acquainted as well as to point up the difficulties and weaknesses of the present Code. The Seminar itself commenced with a talk entitled "The History of an Assumption about Time" by DR. ALAN B. SHAW of PAN AMERICAN PETROLEUM CORPORATION, followed by DR. J.A. JELETZKY of the G.S.C. who spoke on "Geochronology as determined from the Fossil Record". The afternoon session was addressed by ALFRED LENZ of UNIVERSITY OF WESTERN ONTARIO on some principles of biostratigraphy illustrated by the Road River faunas, and by DR. LEIGH SMITH of Queen's University on the Owl Creek discontinuity.

A further meeting will be held next fall at the University of Ottawa.

E. MOUNTJOY

Geological Society of America, Northeastern Section: First Annual Meeting,
held at the Benjamin Franklin Hotel, Philadelphia, February 10 - 12, 1966

The first occasion upon which the G.S.A. Northeastern region held an annual meeting resulted in a very successful and not-too-crowded event at which a number of important and significant papers were presented. The Atlantic Region was represented by geologists from three universities, of which DRS. D.J. STANLEY and D.J.P. SWIFT of DALHOUSIE UNIVERSITY contributed to the program: the former as co-chairman of the Marine Geology session, and the latter presenting a paper co-authored by himself and H.W. BORNS, Jr.

A list of papers of interest to the Atlantic Region was given in the last issue of Maritime Sediments (2-i 42). Of especial note were: a paper on Carboniferous continental sedimentation in the Atlantic Provinces by EDWARD S. BELT; Devonian continental sedimentation, Escuminac Bay, by B.P. WILLIAMS and D.L. DINELEY; shallow structure of the Atlantic continental shelf, by ELAZAR UCHUPI and K.O. EMERY; a raised Pleistocene marine terrace, Minas Basin, N.S., by H.W. BORNS, Jr. and D.J.P. SWIFT; and folds, faults and gravity sliding in the Nova Scotia Carboniferous, by W.K. FYSON. A very thought-provoking paper by RHODES W. FAIRBRIDGE dealt with the problem of falling sea levels during the Tertiary and their possible relationship to the subsidence of ocean-margin ("quasi-cratonic") basins.

A reception on the first evening was held for all attending, among the distinctive decor of the Egyptian Room at the University Museum. The annual luncheon next day was addressed by the President of the G.S.A., ROBERT F. LEGGET, of the National Research Council of Canada, on the topic of "Urban Geology". A smoker was held the same evening, but most members found the atmosphere unsuited to serious discussion. A meeting of the Editorial Board of this journal was arranged at an Italian restaurant, since nearly all editors and corresponding editors were present; however, this failed completely owing to competition from the pizza and wine, and the low level of the illumination. It was successfully reconvened in the Editor's hotel room.

Conference on University Research on the Sediments of the Atlantic Coast
and Continental Shelf: National Academy of Sciences, Washington, D.C.,
February 23, 1966.

This meeting was sponsored by the COASTAL ENGINEERING RESEARCH CENTER, the SMITHSONIAN INSTITUTION, the INTERAGENCY COMMITTEE ON OCEANOGRAPHY, and the COMMITTEE FOR THE SCIENTIFIC EXPLORATION OF THE ATLANTIC SHELF (SEAS). The meeting was held in the Lecture Room of the National Academy of Sciences, and was arranged and moderated by I.E. WALLEN and THOMAS E. PICKETT of the SMITHSONIAN OCEANOGRAPHIC SORTING CENTER, Washington.

The main purpose of the conference was to enable the many university-based scientists working on diverse sediment problems on the Atlantic coast to become acquainted with each other, to discover mutual interests, gaps in research, and possibilities for mutually beneficial co-operation. Participants presented informal discussions of the programs and plans of their various organizations.

The meeting commenced with an introduction to the work of the Smithsonian Oceanographic Sorting Center. The newly-established Geology Section is envisioned as a "supermarket" of oceanographic geological samples, receiving material from oceanographic expeditions, processing it if requested, and making it available to qualified scientists who want it.

Reports from the institutions active in research on the Atlantic Coast followed. Abstracts of these presentations will be published by SOSC at a later date, but brief summaries are given below, in geographical order from south to north along the coast:

CONRAD NEUMANN, UNIVERSITY OF MIAMI MARINE INSTITUTE

Pertinent studies include: 1) Pleistocene geology of southern Florida; 2) Holocene transgression in Biscayne Bay; 3) sedimentation on Little Bahama Bank, and the geological history of the Bahamas; 4) the erosion of limestone coasts; 5) structure and stratigraphy of the Florida Shelf; 6) engineering properties of local sediments; 7) Tertiary geology of South Florida, Bahamian and Blake Plateaus; 8) O_{16}/O_{18} ratios associated with diagenetic alteration of limestone accompanying Pleistocene sea-land oscillations.

PER BRUNN, UNIVERSITY OF FLORIDA

At Fernandina Beach, Florida, dynamics of flow very near the shore and sediment transport are being studied using a specially-designed box sediment trap.

VERNON J. HENRY, UNIVERSITY OF GEORGIA

Studies at Sapelo Island, Georgia include: salt marsh sedimentation, sedimentary structures in salt marshes and barrier islands, and sediment transport.

ORRIN PILKEY, DUKE UNIVERSITY

A study is being made of carbonate sedimentation in beach, shelf, and upper slope sediments of the southeastern United States.

R.L. INGRAM, UNIVERSITY OF NORTH CAROLINA

Research on sedimentation in the following areas in North Carolina has been completed or is in progress: Beaufort Inlet, Newport River Estuary, Northern Core Sound, North River Estuary, Pamlico Sound, Tar River, Pamlico River Estuary, Neuse River, Bogue Sound, Cape Lookout, North Carolina beaches, Back Sound, Albemarle Sound.

R.J. RUSSELL, LOUISIANA STATE UNIVERSITY

About half of the efforts are concentrated on beach processes. An observational program was conducted on the Outer Banks of North Carolina from September 1964 to June 1965. Other projects include studies of the Colville Delta, Alaska; Burdekin River delta, Queensland; coasts of Malaya; coral reefs in the West Indies and Mexico.

M. NICHOLS, Virginia Institute of Marine Science, UNIVERSITY OF VIRGINIA

Research is centered in Lower Chesapeake Bay, including studies of: 1) refraction of waves at Virginia Beach; 2) morphology of Chesapeake Bay entrance; 3) Barrier Island mounds; 4) hydraulic model transport studies of the James Estuary; 5) foraminiferal distribution in the Rappahannock River; and 6) distribution of sediment along the inner shelf.

ROBERT B. BIGGS, Chesapeake Biological Laboratory, UNIVERSITY OF MARYLAND

Research on the sediments of Chesapeake Bay presently involves: 1) animal-sediment relationships; 2) genesis and paleoecology of buried oyster biostromes; and 3) suspended sediment studies.

JOHN C. KRAFT, UNIVERSITY OF DELAWARE

Bottom sediment and sediment in suspension in Delaware Bay are being studied. Sediments and microfauna of all coastal environments from Cape Henlopen south through Rehoboth and Indian River Bays: this study is in final planning stages.

C.C. DAETWYLER, LEHIGH UNIVERSITY

A study of mechanics of carbonate sedimentation in both carbonate and non-carbonate marine environments involves the investigation of sediments from Mt. Desert Island, Maine and the Sarasota, Florida area on the west coast of Florida.

Carbonate sediments in Bermuda are being investigated.

G. DeV. KLEIN, UNIVERSITY OF PENNSYLVANIA

Research is devoted to: 1) determining the relationship between directional current structures of coastal sediments and the flow direction of depositional currents; 2) determining the relationship of current velocity, water depth, salinity and temperature to the geometry and size of sedimentary bedforms; and 3) developing a coastal sediment dispersal model; all in Minas Basin, Bay of Fundy, N.S.

J.R. SCHUBEL, JOHNS HOPKINS UNIVERSITY

Research on sediments includes a study of the suspended sediment in Northern Chesapeake Bay, the interstitial waters of the bottom sediments in Chesapeake Bay, and carbonate studies off Florida.

R.C. ALLEN, BELL TELEPHONE LABORATORIES, Chester, N.J.

Bell Telephone is conducting research on the protection of submarine cables. Of special interest is a sled for trenching which is being tested on the continental shelf. Surveys are conducted on the shelf off Newfoundland, New Jersey, and Alaska.

ALISTAIR McCRONE, NEW YORK UNIVERSITY

Study areas are Long Island Sound and the Hudson River Estuary.

JOHN E. SANDERS, Hudson Laboratories of COLUMBIA UNIVERSITY

Sedimentological investigations, including coring, are in progress off the Virginia coast. The geological calibration of side-looking sonar is being perfected, using a site in Minas Basin, Bay of Fundy.

N.K. COCH, LONG ISLAND UNIVERSITY at Southampton, N.Y.

Research is now in progress on facies, environments, and structures in Shinnecook and Peconic Bays, Long Island, N.Y. Research on Recent and Pleistocene sediments and morphology is being conducted in S.E. Virginia.

ARTHUR L. BLOOM, CORNELL UNIVERSITY

Research on the geomorphology and recent history of the Connecticut coast.

ROBERT L. McMASTER, UNIVERSITY OF RHODE ISLAND

Sediments of the shelf, sounds, bays and beaches are studied in the general region defined by Narragansett Bay, Rhode Island Sound, Block Island Sound, and the offshore shelf between Georges Bank and Hudson Canyon.

K.O. EMERY, WOODS HOLE OCEANOGRAPHIC INSTITUTION

An investigation of the geological history of the entire Atlantic continental margin of the United States was begun in 1962 as a joint program of the U.S. Geological Survey and the Woods Hole Oceanographic Institution. The program serves to establish a general framework of marine geology into which the many detailed studies by investigators of universities and other organizations can be fitted for mutual benefit.

JOHN ZEIGLER, WOODS HOLE OCEANOGRAPHIC INSTITUTION

Coastal dynamics, specifically the velocity profile in the zone of shoaling waves, genesis of coastal currents and mechanics of ripple motions, are being investigated.

DANIEL J. STANLEY and DONALD J.P. SWIFT, Institute of Oceanography,
DALHOUSIE UNIVERSITY

Sedimentological studies are concentrated in the Minas Basin, in several fjord-like indentations on the Atlantic coast of Nova Scotia and Bay of Fundy, on the Scotian Shelf south of Nova Scotia and the Sohm Abyssal Plain.

D.J.C. LAMING, UNIVERSITY OF NEW BRUNSWICK

Several detailed studies of small significant areas of nearshore and intertidal marine sedimentation are in progress in the Bay of Fundy and on Prince Edward Island shores.

NORMAN TANEY, COASTAL ENGINEERING RESEARCH CENTER (CERC), Washington, D.C.

CERC is searching for sand from the shoreline to 100 feet depths. Sparker surveys have been made and cores taken on the Atlantic Shelf off New Jersey and Florida.

MARTIN WEISS, NATIONAL OCEANOGRAPHIC DATA CENTER (NODC), Washington, D.C.

NODC invites institutions, agencies and individuals of all nations to participate in a reciprocal data collection effort.

Written contributions were received also from: RICHARD M. PRATT, WOODS HOLE OCEANOGRAPHIC INSTITUTION on sediment research on the Blake Plateau; BRUCE D. MARTIN, MARYLAND DEPARTMENT OF WATER RESOURCES, obtaining of sediment data from well records, rivers and bays; H.F. BELDING, ESSO PRODUCTION AND RESEARCH, Houston, on sediment and deep hole testing on the Atlantic seaboard; S. STREETER, COLUMBIA UNIVERSITY, on sediments of the Great Bahama Bank; and DONALD J. COLQUHOUN, UNIVERSITY OF SOUTH CAROLINA, on terraces and scarps of the lower Coastal Plain in the Atlantic States.

Many of the participants of the conference also took part in the two-day meeting of the COMMITTEE FOR THE SCIENTIFIC EXPLORATION OF THE ATLANTIC SHELF (SEAS) which followed at the same location.

THOMAS E. PICKETT

DANIEL J. STANLEY