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Conference on the Coastline of Canada - Littoral Processes and Shore Morphology

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engineers design, which raised the question, "Are geological engineers really engineers?" As it turned out, this may be the question the answer to which is really important if geological engineering is to be an accredited engineering course. At the same time, the Canadian Accreditation Board specified design as the hallmark of the engineer, and defined it as "an individual's ability to use the basic sciences, mathematics, engineering sciences, economics and social sciences to convert, use and/or manage resources optimally through effective analysis, decision making and/or synthesis to meet objectives. Such ingredients define the process of design, the hallmark that characterizes the engineering curriculum". The expression "manage resources optimally" when applied to natural resources characterizes the purpose of the geological engineer, and this may provide an affirmative answer to the question.

At the closing plenary session of the Canadian Conference on Engineering Education, Fred Langford presented a brief summary of the geological engineering section. He pointed out that the problems faced in the accreditation of geological engineering were not unique. As the findings of science became incorporated into our life style, so other branches of engineering have an accepted mechanism for incorporating today's science and making it tomorrow's engineering. Otherwise the role of the engineer would be restricted to traditional old-fashioned engineering and play a much smaller part in society than it now does.

With an attendance of 24, the geological engineers were well represented at this conference. One of the problems of accreditation is the lack of understanding of geological engineering by other engineers. Therefore it is important that geological engineers be represented at more general engineering conferences in the future.

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Conference on the Coastline of Canada – Littoral Processes and Shore Morphology

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The conference (May 1-3, 1978, Halifax, Nova Scotia) sponsored by the Geological Survey of Canada, was the first national meeting to focus attention on the landforms, sediments and processes of the coastal zone in Canada. It was attended by 120 participants who heard 37 speakers present the results of their recent and current research on a variety of topics from widely separated parts of the Canadian coastline. Some of the papers were very specific, either by topic or geographic location, others provided a regional view of coastal characteristics. As might be expected, the contributions covered a wide range of environmental conditions and shoreline types, and during the three days the participants were instructed by some excellent presentations on various aspects of shoreline development around the four coasts of Canada – Atlantic, Arctic, Pacific and Great Lakes.

John Wheeler, Deputy Director-General of the Survey, provided a nicely pointed introduction to the meeting, noting its timeliness in view of the increasing interest in and demand for information about the coast, and recognizing the magnitude of the task facing coastal scientists. Long stretches of coastline have not been described, even in a reconnaissance fashion, and detailed studies have been carried out in only a few locations. A map of Canada showing the study areas described in the conference papers is indicative of present activity in the field, and to some degree also of the extent of previous research. The largest concentration of papers, five, in one small area, dealt with sedimentary processes in the macro-tidal environment of the Minas Basin arm of the Bay of Fundy, where there has been a relatively intense phase of research in the last five or six years. Including these papers, there were 16 contributions, nearly half the total, dealing with different aspects of the Atlantic coast south of Labrador. Topics included shore platform development in the Gaspe, tidal inlets in the Barrier Islands of the southern Gulf of St. Lawrence and the effects of Holocene changes in sea level around Nova Scotia. This contrasts with only two papers dealing with the Pacific coast, one of the Fraser delta, the other an overview statement which stressed the lack of coastal studies in British Columbia. The three papers on Arctic coastal features and processes reported on work which has been carried out during the past few years of Melville Island, Somerset Island and in the Mackenzie delta, but the six papers dealing with sections of the coast of Labrador, Baffin Island, and Hudson and James Bays were, with one exception, based on reconnaissance observations obtained very largely in 1977. The excitement of observing long stretches of almost unknown coastline for the first time was very well conveyed by the speakers dealing with Hudson and James Bays. The session of six papers on the Great Lakes covered bluff erosion, spit development and bar topography in the lower lakes and the evolution of rock shorelines along the Superior north shore. Though not so closely integrated as the Minas Basin group of papers, referred to previously, these contributions served very well to focus attention on a particular coastal environment in

Canada, where, because of the density of population, coastal zone management based on a sound physical understanding of the nature of the coast is becoming a necessity.

In addition to the Canadian papers, the conference heard keynote lectures from three distinguished foreign scientists – Paul D. Komar from the School of Oceanography, Oregon State University, John O. Norrman from the University of Uppsala, Sweden, and Cyril J. Galvin formerly of the U.S. Army Corps of Engineers. The keynote lectures, entitled "Sand transport on beaches," "Coastal problems and research in Sweden," and "Tidal inlets,"respectively, were given at the start of each days proceedings, and each of the speakers also contributed to the general discussions.

One of the main reasons for holding the conference was to bring together coastal workers from different disciplines from across the country. There has been an increase in coastal research in Canada in recent years, but there is a lack of awareness in the different research groups of studies outside their own particular field of research or study area. The response in terms of papers and number of participants, and the very keen interest and degree of involvement during the meeting, was a measure of its success in this regard. Almost all papers were attended by the full complement of participants, and as many people listened to the last paper as were present at the introductory session.

Abstracts of the papers presented will appear in the next issue of *Maritime Sediments*, and a full conference proceedings volume will be published by the Geological Survey in the summer of 1979.

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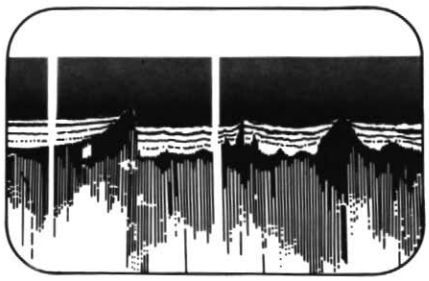

Canadian Geophysical Union Meeting

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The fifth annual meeting of the Canadian Geophysical Union was held at the University of Western Ontario, London, Canada on May 15-17, 1978. The four previous meetings of the Union were held in conjunction with either the Geological Association of Canada or the Canadian Association of Physicists, since the CGU is a division of each of these parent organizations. At the previous meetings the CGU typically sponsored two or three sessions on geophysics as part of a program with either a dominant geology or physics flavour.

With a membership of less than 300, and many specialized conferences competing for geophysicists' time and conference money, it was with some trepidation that the CGU executive decided to try a meeting on its own. Ten technical sessions were proposed and 133 abstracts of papers were received which necessitated creating an additional half day session in paleomagnetism and rock magnetism; 224 registered participants attended one or more days of the meetings. The sessions which were held and the convenors of those sessions are as follows:

Nature and Composition of Continental Crust and Upper Mantle (CM), M.J. Berry, Mathematical Geophysics (MG), M.G. Rochester. Geothermal Studies in Canada (GT), A.E. Beck. Crustal Dynamics and Geodesy (DG), A. Lambert. Applied Geophysics (AG), G.West and L. Reed. General Geophysics (GG), E.R. Kanasewich. General Paleomagnetism and Rock Magnetism (PR), D.T.A. Symons. Electromagnetic Sounding Studies (ES), G.D. Garland. Methods and Techniques in Paleomagnetism (MP), P. Lapointe. Paleomagnetism and the Relationship between Paleomagnetism and Age Dating (PA), E. Schwarz. Geophysical Data Processing (DP), R.F. Mereu. The abstracts of each of the papers in these sessions will appear in the December/78 issue of EOS.

The day-long session on the crust and upper mantle covered a range of disciplines and regions although seismic methods formed all or part of eleven of the fifteen papers in the session. Six of the papers were concerned with the structure of the crust and upper mantle of the Superior Province and in the boundary region between the Superior Province and the Churchill Province. Seismologists from the Universities of Toronto and Manitoba presented their interpretation of surveys undertaken in the southwestern Superior Province. The Manitoba group working south of the Trans-Canada Highway in the Snake Bay-Kakagi greenstone belt map a crustal structure with six deep crust and upper mantle reflecting horizons. The Toronto group working in the English River-Wabigoon subprovinces just north of the Trans-Canada find a much simpler two-layered model which requires only a small variation of a few percent in its parameters to explain areal variations in the data.

Stewart presented a novel use of differential PP-P travel time residuals from ISC catalogues. Careful association of the residuals with reflection points in the vicinity of Newfoundland shows a strong anomaly coincident with the Fogo seamounts, which could be interpreted as a 200 km diameter lithospheric plug extending down to the low-velocity layer. Similarly Mooney and colleagues find that in the Rhenish Massif of Europe there is a clear correlation of crustal structure with surface volcanism, where profiles crossing major Tertiary volcanic features show a heavily disrupted M-discontinuity and an intermediate