



REPORTS OF MEETINGS

INTERNATIONAL GEOGRAPHICAL UNION (IGU)

Commission on the Coastal Environment Tallinn, Estonian S.S.R., August 20-26, 1986

Under the auspices of the Institute of Geology of the Academy of Sciences of the Estonian S.S.R., the International Geographical Union's Commission on the Coastal Environment (CCE) held an international symposium titled "Evolution and Dynamics of Sea Coasts in Conditions of Relative Sea Level Oscillation" in Tallinn on August 20-26, 1986.

Participants in the symposium included 40 Soviet specialists and 10 specialists from 8 foreign countries. Each participant received an excursion guide and abstracts booklet, copies of which may be obtained by written request to the Institute of Geology, 7 Estonia Street, Tallinn 200101, Estonian S.S.R.

The first day of the symposium was devoted to registration and a late afternoon tour, on foot, of the restored Old Town portion of the city. This was followed by one and a half days of paper presentations at the venerable "Tourist Club" building, facing on the Old Town Hall Square.

Twenty papers were presented (with English and Russian translations), ranging from the theme of relative sea level fluctuations to coastal engineering, sedimentology and geomorphology. While all of the presentations were interesting and important, two double-length talks were particularly outstanding and meritorious of special mention here. J. Titus (USA) gave a thorough overview of the causes, and resulting sea level changes, of the "Greenhouse Effect." A. Kiknadze (Georgian S.S.R.) reviewed the extensive coastal nourishment program that his group is carrying out on the southeast coast of the Black Sea.

The next two and a half days were spent on field excursions along the Estonian coast. The group began with an afternoon bus trip in and around Tallinn, visiting the Merivalja moraine coast and the sandy beach at Pirita (both Limnea shores); the

site of the Iru gravel spit farther inland (Ancyclus), where the excavation of a prehistoric stronghold is now going on; Lake Ulemiste, near the airport, with its rip-rap defended shore; and exposures of the north Estonian klint, the cliffy coast along this part of the Baltic.

The first day-long excursion was to the Lahemaa National Park east of Tallinn. Here the participants inspected stone-kist barrows (prehistoric burials), the Muuksi klint-bordered bay and klint headlands; the Kasmu and Altja moraine beaches; and the sandy beach at Vosu.

The last field excursion day was devoted to a trip to the southwest coast of Estonia, in the region of Parnu on Parnu Bay. Morning stops were at a jetty, built in the late 1800's at the mouth of the Parnu River, and the beach that has accreted rapidly to the west of it. In the afternoon there were stops at a moraine coast near Kabli; a marshy coast near Uulu; and the large, stabilized dunefield at Rannametsa. Erosion of the shore along the outer coast of Parnu Bay, in the face of a 3 mm/yr relative rate of uplift, was attributed to both increasing storminess and human intervention.

On the last, and closing, day of the symposium, the convened participants adopted a set of nine recommendations. These were: (1) action should be taken in response to predictions of a worldwide sea level change; (2) a suggestion was made that there be an International Decade of seashore and sea level monitoring during 1987-1996; (3) coastal areas where shore protection is most urgent should be identified; (4) a study group should be organized to intensify and extend geological and geophysical studies of the sea floor; (5) the CCE should hold a conference in the near future, in Baku, on the coastal environment of the Caspian Sea; (6) Soviet and overseas scientists should cooperate on a book concerning problems of the coastal environment; (7) a project should be mounted to study the marsh grass invasion of por-

tions of the Estonian coast; (8) more national parks and nature preserves should be established on the coasts of the U.S.S.R.; and (9) a working group should be established to consider problems of coastal terminology in various languages.

The session closed with an expression of thanks to the organizers of the symposium, Dr. A. Raukas, Dr. K. Orviku, Dr. E. Martin, and Mr. M. Veisson; and to the interpreters, Mrs. H. Kukk

and Mrs. S. Boldyreva. Abstracts of the papers and the guide book are available from Dr. Eva Martin, Institute of Geology, Estonian Academy of Sciences, Estonia Boulevard 7, 200101 Tallinn, Estonian S.S.R.

Maurice L. Schwartz
Western Washington University
Bellingham, WA 98225 USA

SECOND GEORGIAN REPUBLIC SCIENTIFIC AND TECHNICAL CONFERENCE ON SEA COASTS

Gagra-Tbilisi, Georgian S.S.R., August 27-31, 1986

Following the Commission on the Coastal Environment symposium in Tallinn (described in the foregoing meeting report), several participants were invited to tour the Black Sea coast of Georgia and participate in a conference under the aegis of the Scientific-Industrial Association (SIA), *Gruzbergozaschita*. General Director A. Kiknadze led the field excursion, starting in Gagra on the north and working gradually south along the Georgian coast.

Where groins along the Gagra sector of the coast had caused severe downdrift erosion, 0.5 million m³ of sediment was used to nourish the beach over a three-year period starting in 1983. This has proved to be quite successful in restoring the beach along an 18 km stretch. Farther to the south, Cape Pitsunda has been replenished by diversion of an updrift river-mouth to bring sediment from a spit into the drift system. Formerly, the Cape Pitsunda beach was 60-70 m wide; now it has an average width of 100 m.

Sukhumi, further down the coast, is located near the mouth of the Gumista River. Beach erosion followed damming of the river. Though more than half of the sediment now provided for beach nourishment is continually lost into a submarine canyon, the remainder is sufficient to have adequately restored the beach between the river and Cape Sukhumi. Here, as everywhere else on this tour, the accomplishments of Kiknadze and his agency were most impressive.

Continuing southward, the group next visited

the town of Poti. Since 1939 Poti, near the mouth of the Rioni river, has lost 300 hectares to coastal erosion. This past summer a pipeline was installed to pick up a slurry of sand and water just above a dam, 7 km up the river, to be pumped onto the coast in the region of the most severe shore retreat. Though only recently begun, the prognosis is promising.

The field excursion portion of the trip ended in Batumi. At Cape Batumi and Cape Tsikizirik, massive renourishment programs have rejuvenated long stretches of badly eroded shore. Most of the replenishment material was dumped offshore at 4-6 m water depth, from split-hull barges.

Conference paper presentations and documentary film showings took place in Tbilisi on the last day of the tour. In concluding statements, E. Bird and M. Schwartz made the following recommendations: (1) establishment of a national coastal management agency, to coordinate the efforts of all marine-coast republics; (2) increased preservation of natural coastal areas as national or regional seashore parks or preserves; (3) initiation of research aimed at developing mariculture projects in coastal wetlands; (4) adoption of such coastal engineering techniques as widely-spaced, narrow pilings on structures built out over the nearshore water, and washing of silt and clay from gravel to be used for beach nourishment; and (5) continued cooperation and exchange between coastal specialists around the world.

Maurice L. Schwartz
Western Washington University
Bellingham, WA 98225 USA

INTERNATIONAL GEOGRAPHICAL UNION (IGU)

Study Group on Marine Geography

A Round Table, held within the IGU Regional Conference in Barcelona, September 3 and 4, 1986, has been devoted to the "New Frontiers of Marine Geography." Chaired by Professor H. Jesse Walker, the Round Table dealt with the geographical implications arising from sea uses and management and new interactions involving man and the sea. The reports and the main contributions will be published in a short time. At the conclusion of the Round Table, a final vote in favour of the establishment of a research structure on marine geography was proposed by Professor Walker and unanimously approved.

The Executive Committee of the International Geographical Union agreed to the proposal and authorized the establishment of a Study Group on Marine Geography.

The Study Group will develop the following lines of research: (1) geopolitical implications of the Law of the Sea, with particular reference to the continental shelf, exclusive economic zones and fishery zones; (2) geoeconomic problems related to the contemporary oceanic world (the uses of resources, new international relations arising from the changing oceanic economy, and so on); (3) sea-land connections brought about by sea uses; (4) nearshore planning; (5) deep-sea areas regionalization, induced by the establishment of jurisdictional zones, the exploitation of energy and mineral sources, biological webs, and so on.

Members of the Study Group are as follows: Prof. Adalberto Vallega, Chairman (Italy); Prof. André Vigarié, Vice-Chairman (France); Dr. Robert W. Smith (USA); Dr. Hance D. Smith (UK); Prof. J.R. Victor Prescott (Australia); Dr. Yang Zuo-Sheng (China); Prof. R.C. Sharma (India); Prof. Hernan Santis (Chile); Dr. Josephine P. Msangi (Tanzania); and Dr. Jean Tape Bidi (Côte d'Ivoire).

PROPOSAL

Interest in the economy of the sea and the relations between marine resource exploitation and management of coastal areas has been growing steadily in recent years among geographers. This has partly been an effect of the convergence of

political strategies and technological progress which led, in 1982, to the conclusion of the Law of the Sea Convention, which stimulated discussions in all countries, as well as promoting national political behaviour, economic enterprises and further progress in new fields of marine technology. In such a framework, geographical researchers are being involved in the investigation of a wide range of processes affecting deep-sea areas, as well as coastal zones and littoral regions. The world-scale at which such investigations should be accomplished and the need of an overall exchange of information, assembling experiences from different national frames, strongly suggest a more specific and systematic attention of IGU through the activation of a Study Group on new aspects of Marine Geography. The Group could focus its attention on a few selected themes of research, which are briefly described hereunder.

A. Geopolitical implications of the Law of the Sea

The Law of the Sea Convention has left unsolved some traditional problems and raised new ones in relation to the activation of new legal institutes and the transformation of pre-existing ones. On these grounds, attention should focus (i) on the implications of conflicts between international and national laws and (ii) on resulting behaviour in the exploitation of marine resources. Such problems as the delimitation of inland waters, territorial waters, continental shelf and the establishing of the exclusive economic zone require a geographical approach in two ways: (i) for the way in which they should be regulated by the Law of the Sea Convention and consequent problems and (ii) for the implications related to their inclusion in national legislation. As far as national situations are concerned, the Study Group could carry investigations at two different scales. At a regional scale, marine and coastal areas pertaining to one single country or a limited number of countries facing the same basin could be considered. This would include archipelagic areas and inland areas, which appear of peculiar relevance when they involve difficult international relations, as in the Mediterranean. At a global scale, large and emerging oceanic areas such

as the Pacific seem worthy of a thorough and coordinated investigation, requiring contribution from a large number of countries.

B. Geoeconomic problems related to the contemporary oceanic world

The evolution in the utilization of merchant fleets, the development of new poles or maritime exchange, and many other factors related to the uses of marine areas have changed both the role and weight of maritime routes and navigational spaces. A general geoeconomic approach has become necessary for the comprehension of the contemporary oceanic world.

C. Sea-land connections

Various aspects of the uses of biological, energy and mineral resources at sea should be examined in the effects they produce in the form of connections between the sea and the land. Objects of specific investigation could be (i) the setting of industrial chains based on sea-land productive cycles, (ii) the spatial division of labour originating from stages of production located offshore and stages located along coastal areas as well as inland, (iii) the organization of sea transport networks, (iv) the transformations that coastal areas undergo in terms of industrial structures and service activities somehow linked with sea uses.

D. Nearshore planning

The spreading offshore of human activities by means of such permanent or semi-permanent installations as harbour terminals, floating workshops, pipelines, etc., stimulate a growing demand for coastal planning, based on unprecedented integration between shore and offshore. This leads to the identification of a sea-land area which, on a geographical basis, may be classified as a coastal region, thus being the object of regional planning.

Aspects concerning coastal planning will be approached only in their connections with the uses and management.

E. Deep-sea areas regionalization

Present deep-sea uses and future large-scale mining of polymetallic sulphides are leading to structures located in deep-sea areas. Settlements on islands and platforms will result in new patterns of interrelations between man and the marine environment, thus forming new deep-sea regions. These processes are being encouraged by jurisdictional zones provided for by the Law of the Sea and are apt to deeply change relations between man and the sea, as well as sea-land interactions, especially in the near future. These assumptions seem to justify the inclusion of such aspects in the group's fields of interest. According to the advancement of deep-sea regionalization it would be fit to envisage planning extended to the EEZ.

APPROACHES AND OBJECTIVES

The proposed Study Group could operate along three distinct approaches.

(i) *Thematic approach*, including the identification of models of analysis and planning, the elaboration of methodologies, the studying of problems related to the application of the Law of the Sea.

(ii) *Regional approach*, including a series of case studies in oceanic and nearshore, leading to planning and decision-making behaviour.

(iii) *Educational approach*, with the objective of training geographers specialized in marine studies, with particular emphasis to uses of resources, geopolitical issues and planning.

Prof. Adalberto Vallega
Università di Genova
16122 Genova, Italy

INTERNATIONAL GEOLOGICAL CORRELATION PROGRAMME

Symposium on Sea Level Changes and Applications

**Annual Meeting IGCP 200
Qingdao, People's Republic of China,
7th-14th of October, 1986**

The Annual Meeting of IGCP 200 Sea Level Changes and Applications was held in the People's Republic of China between the 7th and 14th of

October, 1986. The meeting was located in two cities on the Shandong Peninsula, at Qingdao and Yantai. The Organising Committee, led by Professor Qin Yun Shan of the Institute of Oceanology, Academia Sinica, Qingdao, are to be congratulated on a highly successful meeting.

The first two days consisted of scientific papers, followed by three days in the field, and a final day of papers in Yantai. The Symposium was probably the best attended of any IGCP 200 meeting, and in-

cluded some 300 participants from overseas representing 18 separate countries, and approximately 80 Chinese delegates. Eleven members of the executive board of IGCP 200 were present. Papers presented largely reviewed the national park work of the overseas representatives from contrasting environments. Possibly disappointing were the relatively few Chinese presentations given, although those which were indicate the wide range of coastal environments present along the great length of the Chinese coastline. Fruitful discussion of the results of this research work was possible with the international representatives.

Four field days resulted in visits to a number of interesting Quaternary sections around the coast of the Shandong Peninsula. The first day concentrated on the largely granitic coastline to the east of Qingdao where Holocene gravel beaches and a pre-Holocene platform with overlying beach gravels and loess were seen. The second day saw the Conference moving from Qingdao to Yantai by way of Baishatan. This location was notable for a Holocene barrier, a small tidal power station, and an outcrop of what may have been beach rock (a surprisingly northern location for cemented beach material).

The final two days of the excursions concentrated on the northern coast of the Shandong Peninsula. To the east of Yantai at Liukuang an extensive red cover sand was examined and its origin discussed. It seems likely that this was a dune sand derived from the adjacent shallow shelf during Pleistocene low sea levels. A

nearby barrier lagoon complex was also visited. The final day of the field excursions was to the west of Yantai and was highlighted by the magnificent loess sections at Linggezhuang.

The Annual Meeting of the Executive Board of IGCP 200 was held jointly in Qingdao and Yantai. After presentation of national and regional reports, concentration centred on the final meeting of IGCP 200 to be held in Halifax, Canada, in 1987. Greatest discussion centred around the future of sea level research, and although delegates generally agreed that this important topic should be continued, the format could not be decided. Suggested alternatives included an extension of the present project, the development of a new related project in sea level research, and the disbandment of an IGCP project and concentration on the INQUA Shorelines Commission.

The meeting was an extremely useful contact between western and Chinese scientists and Prof. Qin and his committee were acknowledged by Dr. P.A. Pirazzoli, Chairman of the project at the final banquet given in Yantai. The meeting also served as a fine tribute to the doyen of Chinese sea level research, Professor David K. Lin, Professor of Geography, Fujian Teachers University, Fuzhou.

David Hopley
James Cook University
Townsville, Queensland 4811
Australia

