vial and coastal plains and their relations to its morphological features; active river and coastal processes; descriptions of the effects of flood control measures on landforms, etc. After lengthy discussions, the following resolutions were adopted: (a) To start with two projects as only a little time is available before the next Congress in France in 1984 and (b) the first project is the production of a geomorphological map of flood-affected areas and drainage basins of the world, scale 1:5 million. As a basis for this mapping, the topographical map of the American Geographical Society will be used. J.A.M. ten Cate will request this map from the Society via FAO in Rome. The 1:5 million map comprises 16 sheets. This topographic map has already been used for the FAO-UNESCO Soil Map of the World on 1:5 million scale (UNESCO, Paris, 1974). In order to obtain an equal sheet size of 76 x 110 cm, a redistribution has been made over 18 sheets. The map sheets of this Soil Map have been grouped into major regions, each of which is described in a separate volume as follows: I Legend (1 sheet); II North America (2 sheets); III Mexico and Central America (1 sheet); IV South America (2 sheets); V Europe (2 sheets); VI Africa (3 sheets); VII South Asia (2 sheets); VIII North and Central Asia (3 sheets), and IX Australasia (2 sheets). The description of our map can be done in a similar way. This will involve 9 volumes. Part of proposal (1) of the research programme will be so presented in these volumes. A small group of 4 colleagues will first attempt to frame a legend for this map before June 1982. These colleagues are: J. Demek (Czechoslovakia and chairman), G. de Moor (Belgium), Ch.W. Finkl (U.S.A.), and A. Kesik (Canada). In June 1982 this draft legend will be sent to all members and corresponding members for criticism and for application to one or more drainage basins and/or flood-affected areas on 1:2½ million scale. The draft legend and examples can be discussed at the 1982 and 1983 meeting or by letter. A definitive legend will be distributed before the IGU Congress in France in 1984. Then in the next four years the whole map must be compiled at 1:5 million scale and printed. Financial assistence for this project will be requested from UNESCO, Department of National Resources in Paris. (c) The second project is to compile an Atlas of large and medium scale geomorphological maps 1:50,000 to 1:1 million of areas affected by flooding in the past or in recent time. The Atlas must show examples from different climatic zones of the world. Each map in black and white can be accompanied by 3-5 pages of text. The convenor of this project is J.A.M. ten Cate (The Netherlands), who will ask his Institute about the possibilities of reproducing this Atlas. Details about the manuscript will be sent to all members and corresponding members before the end of 1981 as well as suggestions for publication. The Atlas will be presented at the IGU Congress in France in 1984. Fifteen colleagues have already promised to cooperate in this project. (d) The next meeting of the Working Group will take place in France 1984, at the IGU Congress with a pre-Congress Working Group meeting in Italy and Yugoslavia during one week.

Joop A.M. ten Cate
Wageningen, The Netherlands

NEWS AND ANNOUNCEMENTS

COASTAL GEOMORPHOLOGY IN GREECE (PELOPONNESOS AND CRETE): PROGRESS OF GERMAN PROGRAMS

German geomorphologists traditionally have focused research along the southeastern Baltic and North Sea coasts, as well as in other countries. During the last decade one main research thrust focused on the eastern Mediterranean, especially in southern Greece in connection with the "Geodynamic Program" sponsored by the German Research Council and in smaller projects following from it. Inasmuch as most of the results of this field work is published only in German, little information

is available for international discussion. The purpose of this communication is to point out the main aims and results of this research. In addition to the German research, a number of projects were accomplished by our Greek colleagues, some by those from The Netherlands and a greater number by the French geologists and geomorphologists, mostly with special emphasis on Quaternary marine terraces and their associated sediments as well as problems of neotectonics.

The German coastal research effort in Greece has been directed mainly towards two different problems. The physical geographers (*i.e.* geomorphologists) Kelletat and Zimmermann were mostly interested in the study of coastal forms and processes in larger regions to show the differences by rock type, climate, hydrodynamics, exposure, Quaternary tectonics and/or man-made aspects, and to point out zonal and azonal climatic features in contrast to temperate or dry subtropic regions (see KELLETAT, 1973, 1974, 1979a). In contrast, the geologists (all others mentioned in the reference list) wanted to clarify stratigraphic problems in sections with marine Quaternary, to date the great number of terraces and to reconstruct the tectonic history and the paleogeography of particular regions (FINK and SCHRODER, 1971; FREYBERG, 1973; HERFORTH *et al.*, 1971; SCHRODER, 1974, 1975). In this context, RICHTER (1974) developed a new method of relative dating of marine sediments by the determination of high-magnesium calcite content, which decreases systematically with age in the skeletons of the small echinid *Echinicyamus pusillus.*

The special local knowledge of the geologists and the overview of the geographers led to a number of combined papers on the neotectonic situation of the Peloponnesos since the Neogene (KELLETAT, 1977; KELLETAT and GASSERT, 1975; KELLETAT *et al.*, 1976, 1978; KELLETAT and SCHRODER, 1975, 1976; KOWALCZYK *et al.*, 1975; SCHRODER and KELLETAT, 1976). It was shown that in some places there are terraces with Pleistocene littoral sediments. There are at least twelve terraces that occur up to 400 m in the southernmost part of the peninsula and to elevations of 500 m and more in northeastern Peloponnesos. The age of these terraces were mostly determined by fossils such as *Cyprina islandica* for the colder phases and *Strombus bubonius* for the warmer ones. It was then possible to reconstruct the history of vertical motion and to show the boundaries of mini-plates in the framework of the plate tectonics of the Aegean arc. The velocity of vertical tectonic motions in the Quaternary ranged up to 0.25 mm/yr. For shorter periods (since the Neotyrrhenian or within the Holocene) rates of vertical motion range to several mm/yr. In space and time these movements can vary significantly. In eastern Crete (KELLETAT, 1979a) there are Pleistocene terraces uplifted to 150 m above MSL but there is slow subsidence in the younger Holocene. In the western part of the island the highest older Pleistocene terraces reach 30 m elevations. Since about 1550 BP, determined by radiocarbon ages of dead algal rims and trottoirs, some parts were uplifted to 9 m above MSL.

Studies on the general coastal geomorphology of the region led to subjects of special interest. After initial observations in Greece, new concepts are now being tested in other areas of the Mediterranean as well as other parts of the world. One problem concerns eustatic versus neotectonic displacements of sea level in the late Pleistocene and Holocene (KELLETAT, 1975a, 1978a, 1979b). We consider the historical and archaeological data as well as natural phenomena such as soil development on coastal dunes, position of dune bases or barrier crests, beach rock, lagoonal sediments, cliff bases, notches, fluvial fans reaching under water, etc. These features are then compared with the hydrodynamic exposure of each site. It is now believed that there was a sea level slightly (0.5 m) higher than present at about 5500 BP; it was followed by a remarkable regression of several meters in the early subatlantic. These eustatic phenomena are partly obscured by strong neotectonic displacements.

Attention was also given to the problem of beachrock genesis, especially as to the age and the place of cementation from the geomorphic point of view. Beach rock of the Peloponnesos (KELLETAT, 1975b) and others examined at Euboea (RUST and LEONTARIS, 1980) and Crete (KELLETAT, 1979a) are now undergoing severe destruction by abrasion or bio-erosion. They are some thousand years old and were cemented under subaerial conditions on the higher parts of a dry beach. Their present position at water level is due to neotectonics or eustatic changes in sea level position.

The interfingering of marine and terrestrial deposits is observed at several coastal sites. Where large amounts of cryoclastic material from cliff weathering rests directly upon shelly littoral sediments at sea level, it is concluded that the last Pleistocene high stillstand was very close to the cold

maximum towards the end of the Würm. We believe the youngest Neotyrrhenian sea level was a little higher than today and within the Würm (about 30,000 to 25,000 BP) (KELLETAT, 1974, 1978a, 1979a and b), and that we had frost weathering at sea level in the coldest phase of the late Würm in the eastern Mediterranean.

In the course of our research more and more interest was given to some interested in comparing the results from Greece to other parts of the world, with special emphasis on bio-erosion and bio-construction outside the coral belt, beach-rock genesis and age, neotectonics, and the zonality of coastal forms and processes in a world-wide sense.

Dieter Kelletat
Essen, West Germany

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FIELD TRIPS AND MEETINGS

First International Conferenece on Geomorphology — Meeting and Coastal Field Trip

A number of pre- and post-conference field excursions are being arranged throughout the British Isles in conjunction with the First International Conference on Geomorphology. The meeting will be held at Manchester, England, 15-20 of September, 1985. The pre-conference trip to Ireland (September 11-15) will visit a large number of coastal sites, including rock cliffs and platforms — the Giant's Causeway, coastal mudslides, boulder, clay, and sand dune cliffs, low and high energy beaches, isotatically raised shorelines etc., etc. (Plus a visit to the world's oldest whiskey distillery!). This is the only excursion at this conference with a strong coastal theme. Details about the field trip only, from Dr. W.B. Whalley, Department of Geography, The Queen's University of Belfast, BT7 1NN, Northern Ireland. Conference details can be had from the British Geomorphological Research Group (BGRG), School of Geography, University of Manchester, England M13 9PL.

PUBLICATIONS AVAILABLE

AAG Proceedings

Since the 1970 meetings of the Association of American Geographers (AAG) in San Francisco, the Marine Geography Committee, now the Coastal and Marine Geography Specialty Group has organized special paper and/or poster sessions. Papers from these conventions have been issued in a variety of forms and our Group has been quite successful in producing a *Proceedings* incorporating papers presented at the various AAG conventions. We want to continue this service because it is felt that the *Proceedings* are a useful means of keeping the membership informed about research activity within the Group. In San Antonio it was decided that the Los Angeles and San Antonio papers would be incorporated into a *Proceedings*.

A *Proceedings* from these sessions was assembled by John Place at the USGS, Reston, Virginia, Jess Walker at Louisiana State University, and Don Davis at Nicholls State University. The volume includes six abstracts and nine papers. The papers are: Paleobeach Ridge variations; Poly-Metallic Sulphides; Frontiers in Ocean Mineral Exploitation; Limitations of the Coastal Zone Management Program in the Management of Coastal Waters; The Expansion of U.S. Maritime Interests and the Administration Fragmentation of the Maritime Area; Shoreline Change Along the South-Central Shore in Santa Monica Bay, California; Geographical Variation and the Management of Dynamic Shorelines; Compatibility and Conflict in Marine Use; and Coastal Policy in the National Park Service.

The combined Philadelphia (1979) and Louisville (1980) volume is also available. Both publications can be obtained by sending $US 3.00 per publication to: Donald Davis, Secretary/Treasurer, Coastal and Marine Geography Specialty Group, Nicholls State University, Thibodaux, Louisiana 70310, USA.

IGU Proceedings

Following the International Geographical Union (IGU) Commission on the Coastal Environments Symposium in Venice and along the Italian Adriatic in May, 1982, a *Proceedings* is now available. The volume was edited by Eric C.F. Bird (University of Melbourne), chairman of the Commission and Paolo P. Fabbri (University of Bologna) convenor of the Symposium.

The volume, *Coastal Problems in the Mediterranean Sea* (130 pages, 65 figures), includes 14 contributions from authors representing seven countries. It aims to illustrate a wide range of coastal features and problems, essentially geomorphological, but includes some management aspects. One

purpose of the volume is to stimulate further research on Mediterranean coastlines.

The book is available for $US 12.00 per copy (plus $US 3.00 mailing charge to non-European countries) from Dr. Paolo Fabbri, Dipartimento de Storia, via Zamboni 38, Bologna, Italy.

IGU Bibliography

Bibliography 1979-1982 of the Commission on the Coastal Environment of the International Geographical Union (37 countries, 205 pages, mimeograph production). Price (postage includes) $US 16.00, $US 20.00 with the guide book of the 1984 excursion of the Commission: *The Atlantic Coast of France from Arcachon to the Loire Estuary* (in French). Order with payment to be sent to: Dr. Roland Paskoff, 10 Square Saint-Florentin, 78150 Le Chesnay, France.

Marine Science Contents Tables

A product of the Aquatic Sciences and Fisheries Information System (Food and Agriculture Organization of the United Nations), this monthly periodical reproduces the tables of contents of core journals in marine sciences and technology. This service provides useful and quick reference to a large number of primary journals. For further details contact: Fishery Information, Data and Statistics Service, Fisheries Department, FAO, Via della Terme de Caracalla, 00100 Rome, Italy.

CONGRESSES, CONFERENCES, AND SYMPOSIA

Fifth International Coral Reef Congress

To be held in Tahiti (French Polynesia), May 27 thru June 1, 1985. The Sea-Level Meeting is sponsored by IGCP — 200 (UNESCO — IUGS) "Sea-Level," INQUA Commission on Shorelines, INQUA Commission on the Holocene, INQUA Commission on Neotectonics, Inter-Union Commission on the Lithosphere, and the IGU Commission on the Coastal Environment.

The Symposium "*Late Quaternary and Present Sea-Level Changes: Magnitude, Causes, Future Applications*" will be convened by D. Hopley (Australia) and P.A. Pirazzoli (France). Themes of the symposium will include global, regional and local sea-level histories and their measurement, modeling, and interpretation, correlation with tectonic, climatic, and oceanographic processes, and predic tion of near-future changes for application to a variety of problems, especially in coral reef areas.

For further information please contact: The Organizing Committee, Coral Reef Congress, B.P. 562 Papeete, Tahiti, French Polynesia.

Sediments Down-Under

The International Association of Sedimentologists (IAS) in association with the Geological Society of Australia, the Geological Society of New Zealand, and the Australian Bureau of Mineral Resources, Geology, and Geophysics will sponsor the 12th International Sedimentological Congress in Canberra, Australia, August 24-30, 1986. A technical session on marine environments, processes, and products is planned to include topics that deal with shoreline processes, tidal clastics, epicontinental reef complexes, and peritidal carbonates. Other technical sessions will address evaorites, eolian sediments, sea level changes and the sedimentary record, catastrophism, and bedforms, sedimentary structures and sediment transport.

Over forty pre- and post-conference field trips are being organized in Australia, New Guinea, and New Zealand. There will be excursions to the Great Barrier Reef (Queensland), Shark Bay (Western Australia), Yorke Peninsula and Spencer Gulf (South Australia), Swan Coastal Plain (Western Australia), and other locations of interest to coastal specialists.

For further information regarding submission of abstracts, costs, and travel arrangements, contact the 12th International Sedimentological Congress, Australian Convention and Travel Services Pty. Ltd., GPO Box 1929, Canberra A.C.T. 2601, Australia.

Icelandic Coastal and River Symposium

A symposium on Coastal Geomorphology, Sedimentary Budgets, and Coastal and River Hydraulics will be held in Reykjavik, Iceland, Septem-

ber 2-4, 1985. The University of Iceland, the Icelandic Harbour Authority, the National Energy Authority, the National Power Company, the Marine Research Institute, and the Public Roads Administration are sponsoring the symposium.

The symposium focuses its interest on coastal and river morphology and all related problems of hydraulics and sedimentation. Its scope ranges from mountain glaciers to the edge of the continental shelf. The goal of the symposium is to coordinate all interests involved in coastal research and in the interaction between rivers and shores in Iceland and elsewhere.

Those persons interested in working at the symposium should contact Dr. Per Bruun at 34 Baynard Cove Road, Town of Hilton Head, South Carolina 29928 USA (or call 011-45-8-441097 in Denmark). Those interested in meeting information *only* should contact: Icelandic Coastal and River Symposium, The Secretary, National Energy Authority, Grensasvegur 9, IS-108 Reykjavik, Iceland.

Coastal Zone 85

Call for Papers for Coastal and Ocean Management. Coastal Zone 85 will be a multidisciplinary conference for professionals, citizens, and decision-makers to exchange information and views on coastal zone management and ocean resource issues related to use, protection, and development. The symposium sponsors believe that variety of professional and philosophical views will stimulate improved coastal and ocean management. Training activities will also be available.

Papers are invited in the following subject areas: current issues in coastal management, environmental concerns, development management, access to the shore, international issues, governmental considerations, impact of energy development, and marine policy. Send abstracts and correspondence to: Orville T. Magoon, General Chairman, Coastal Zone 85 – Code A, P.O. Box 26062, San Francisco, California 94126, USA.

International Symposium on Coastal Evolution in the Holocene

Three main topics were discussed in this meeting (held August 29 thru September 3, 1983, in Tokyo, Japan): (1) methods for investigation of sea level changes, (2) causes and variations of sea level through time and space, and (3) processes of coastal environments deduced from nature and human actions.

Thirty-nine papers were read and half of them were contributed by the Japanese participants in this meeting. Eighty-nine scientists, including twenty-five from sixteen other countries, attended the sessions.

The meeting was most successful, mainly due to the efforts and contributions of participants from Southeast Asia and the Indian Ocean region. Reports from those areas provided interesting and useful information for little known coastal segments, including the Chinese mainland and surrounding areas.

Introduction of Forthcoming Book. The proceedings, to be published in *Coastal Oceanography Around the Japanese Islands,* will be edited by the Oceanographical Society of Japan. The volume will include topics that focus on (1) geology and topography, (2) physics, meteorology, and ocean conditions, (3) chemistry, pollution, and environments, and (4) the biology and fisheries of twenty-three littoral areas around the Japanese Islands.

The contents of this book are directed to coastal specialists, but should also be of general interest to field workers and technologists. It is anticipated this book will be useful for basic scientific research and socio-economic studies as well.

Shoji Fujii
Toyama, Japan