

12 Late Quaternary Sediments Of The Southern Mexico

Focuses on the last time glaciers spread across the continent, using the records of former ice sheets, glaciers, and pluvial lakes to understand the response of North American ice sheets and glaciers to the climate change that ended the last (before ours) interglacial period. The 21 papers, most from

This richly illustrated book offers a concise overview of the geology of Egypt in the context of the geology of the Arab Region and Northeast Africa. An introductory chapter on history of geological research in Egypt sheds much light on the stages before and after the establishment of Egyptian Geological Survey (the second oldest geological survey worldwide), Hume's book and Said's 1962, 1990 books. The book starts with the Precambrian geology of Egypt, in terms of lithostratigraphy and classifications, structural and tectonic framework, crustal evolution and metamorphic belts. A dedicated chapter discusses the Paleozoic-Mesozoic-Cenozoic tectonics and structural evolution of Egypt. A chapter highlights the Red Sea tectonics and the Gulf of Suez and Gulf of Aqaba Rifts. Subsequent chapters address the Phanerozoic geology from Paleozoic to Quaternary. The Egyptian Impact Crater(s) and Meteorites are dealt with in a separate chapter. The Earth resources in Egypt, including metallic and non-metallic ore deposits, hydrocarbon and water resources, are given much more attention throughout four chapters. The last chapter addresses the seismicity, seismotectonics and neotectonics of Egypt.

Holywell Coombe, an embayment in the chalk scarp overlooking Folkestone, Kent, was designated a geological Site of Special Scientific Interest in 1985 because it contains richly fossiliferous Late Quaternary sediments providing a unique archive of the last 13,000 years. The construction of the Channel Tunnel across the Holywell Coombe SSSI brought about a major rescue excavation, funded by Eurotunnel, that set an important precedent in Earth Science conservation. This multidisciplinary investigation has added enormously to our understanding of the environment and natural history of the Late-glacial and Holocene. The climatic complexity of the Late-glacial is recorded in the nature of the sediments, the fossils recovered from them and the soils developed within them. From the Neolithic, and especially during the Early Bronze Age, the slopes were destabilized as a result of forest clearance, leading to the accumulation of hillwash. Archaeological excavations in the hillwash have revealed evidence of prehistoric occupation and agricultural activity in the coombe. Eurotunnel also funded biological surveys of the local terrestrial and aquatic habitats. Combining these with the fossil evidence, it has been possible to document the pedigree of our present fauna and flora, providing one of the most detailed and comprehensive studies of its kind. With contributions from eminent Quaternary scientists from several countries, this work will be an important resource for researchers, lecturers and postgraduate students in Quaternary sciences - geology, geography, biology, ecology and archaeology - as well as for government bodies concerned with nature conservation and environmental protection.

Stratigraphy and Paleoenvironments of Late Quaternary Valley Fills on the Southern High Plains

Late Quaternary Depositional History, Holocene Sea-level Changes, and Vertical Crust Movement, Southern San Francisco Bay, California

Quaternary Geology and Till Geochemistry of the Babine Porphyry Copper Belt, British Columbia (NTS 93L/9, 16, M/1, 2, 7, 8)

Submerged Landscapes of the Continental Shelf

Late Quaternary Environments of the United States

U.S. Geological Survey Professional Paper

This report consolidates and synthesizes information on Quaternary faulting, folding, and volcanism in Utah and characterizes recent tectonic activity throughout the state. The purpose is to provide a comprehensive reference on fault-specific seismic sources and surface rupture to facilitate the evaluation of earthquake hazards in Utah. Two maps show Quaternary tectonic features categorized according to probable ages of most recent surface deformation and ages of volcanic rocks. Two appendix tables summarize the activity of mapped features, including ages of surface displacements and volcanism, slip rates, recurrence intervals, displacement amounts, and lengths of surface rupture. Control and quantitative activity data are available for relatively few tectonic features in Utah and detailed work is needed in many areas of the state. 157 pages + 2 plates

Late Quaternary stratigraphic evolution of the north Gulf of Mexico margin : a synthesis -- High-resolution stratigraphy of a sandy, ramp-type margin, Apalachicola, Florida

Quaternary stratigraphic evolution of the Alabama-west Florida outer continental shelf -- late Quaternary geology of the northeastern Gulf of Mexico shelf : sediment

history, and ancient analogs of a major shelf sand sheet of the modern transgressive systems tract -- Sequence stratigraphy of a continental margin subjected to low

supply environmental boundary conditions : late Pleistocene-Holocene deposition offshore Alabama -- Late Quaternary deposition and paleobathymetry at the shelf-slope

Mobile River delta complex, northeastern Gulf of Mexico -- Depositional architecture of the Lagniappe Delta : sediment characteristics, timing of depositional events, and

relationships with adjacent shelf-edge deltas -- Foraminiferal biostratigraphy and paleoenvironments of the Pleistocene Lagniappe Delta and related section, northeastern Gulf of Mexico

Quaternary stratigraphic evolution of the west Louisiana-east Texas continental shelf -- Late Quaternary Brazos and Colorado deltas, offshore Texas, their evolution and

what controlled their deposition -- Late Quaternary evolution of the wave-storm-dominated Central Texas Shelf -- Late Quaternary evolution of the Rio Grande Delta.

This book is volume 33 of the yearbook series Palaeoecology of Africa presenting the outcome of a tribute conference to the internationally recognized South African re-

palynologist Professor Louis Scott. He has recently retired, but is continuing his active research career. The conference proceedings and articles published here

The Geology of Egypt

The South Atlantic in the Late Quaternary

Glacial Marine Sedimentation

Use of Proxies in Paleoceanography

Grants and Awards for the Fiscal Year Ended ...

Geology and Archaeology

The book presents an up-to-date, detailed overview of the Quaternary glaciations all over the world, not only with regard to stratigraphy but also with regard to major glacial landforms and the extent of the respective ice sheets. The locations of key sites are included. The information is presented in digital, uniformly prepared maps which can be used in a Geographical Information System (GIS) such as ArcView or ArcGIS. The accompanying text supplies the information on how the data were obtained (geomorphology, geological mapping, air photograph evaluation, satellite imagery), how the features were dated (14C, TL, relative stratigraphy) and how reliable they are supposed to be. All references to the underlying basic publications are included. Where controversial interpretations are possible e.g. in Siberia or Tibet, this is pointed out. As a result, the information on Quaternary glaciations worldwide will be much improved and supplied in a uniform digital format. The information on the glacial limits is compiled in digital form by the coordinators of the project, and is available to the readers in the form of CD-ROMs, which are included with the book. * completely updated detailed coverage of worldwide Quaternary glaciations * information in digital, uniformly prepared maps which can be used in a GIS such as ArcView or ArcGis * step-by-step guideline how to open and use ArcGis files * possibility to convert the shapefiles into GoogleEarth kmz-files, available on the included CD. * availability of chronological controls

The second revised edition of the Encyclopedia of Quaternary Science, provides both students and professionals with an up-to-date reference work on this important and highly varied area of research. There are lots of new articles, and many of the articles that appeared in the first edition have been updated to reflect advances in knowledge since 2006, when the original articles were written. The second edition will contain about 375 articles, written by leading experts around the world. This major reference work is richly illustrated with more than 3,000 illustrations, most of them in colour. Research in the Quaternary sciences has advanced greatly in the last 10 years, especially since topics like global climate change, geologic hazards and soil erosion were put high on the political agenda. This second edition builds upon its award-winning predecessor to provide the reader assured quality along with essential updated coverage Contains 357 broad-ranging articles (4310 pages) written at a level that allows undergraduate students to understand the material, while providing active researchers with a ready reference resource for information in the field. Facilitates teaching and learning The first edition was regarded by many as the most significant single overview of Quaternary science ever, yet Editor-in-Chief, Scott Elias, has managed to surpass that in this second edition by securing even more expert reviews whilst retaining his renowned editorial consistency that enables readers to navigates seamlessly from one unfamiliar topic to the next

Translation from the Russian. 30 papers by various authors covering the time range from the last interglaciation through the various phases of the last glaciation and up to the present time, dealing not only with the history of ice sheet and mountain glaciation, but also with loess deposits and permafrost features of the periglacial areas, the complex history of the inland seas, the sequence of vegetation, the distribution of mammal and insect faunas, the development of human cultures, and the reconstruction of climatic changes.

Investigation of Late Quaternary Paleoceanography and Paleoclimatology

Provenance Analysis and Depositional System of the Late Quaternary Sediment from the Ganges-Brahmaputra (G-B) Delta, Bangladesh Geological Survey Professional Paper

Late Quaternary Climate, Tectonism, and Sedimentation in Clear Lake, Northern California Coast Ranges

The Late Pleistocene

Encyclopedia of Quaternary Science

The papers in this collection are based on a symposium held at the 1988 annual meeting of the Geological Society of America, with the objective of identifying sedimentary criteria and facies models that can be used to characterize the glacial-climate setting of ancient sedimentary sequences. Includes papers on Antarctica, Alaska, and Ellesmere Island, and a brief literature review.

This book proposes a unique and comprehensive integrated synthesis of the current understanding of the science of Himalayan dynamics and its manifestations on physical systems and ecosystems at different spatial and temporal scales. In particular, this work covers relevant aspects of weather and climate, paleoclimate, snow, glacier and hydrology, ecology/forestry among other topics associated with the Himalayas. It highlights the role of the Himalayas in defining local to regional to global scale impact on weather and climate. It includes Himalayan impact on defining physical basis of changing glacier systems, permafrost melting/thawing, climate

variability, and hydrological balances. As a result, this volume represents an important synthesized overview both for environmental and earth science researchers, and for policy makers and stakeholders interested in the physical and dynamical processes associated with the Himalayan massif.

Wadi Hasa has thick valley-fill deposits comprised of mudstones, marls with organic material and microfossils, and massive silts with root voids. Stratigraphic relationships and radiocarbon/amino acid racemization geochronology identified time-stratigraphic units A (>100? ka), B (~70-45 ka), C (~32-27 ka), D (~14-12 ka), and E (~12-8 ka). Previously described as lacustrine, these sediments are reinterpreted as in-stream wetland deposits based on sedimentology, spatial distribution, and ostracode speciation. Incision and aggradation of these deposits correlate with low and highstands of Lakes Samra and Lisan (Dead Sea precursors), demonstrating a similarity in response to regional climate control changes. Based on modern synoptic climate controls, paleo-lake lowstands were due to a decrease in precipitation-bearing cyclones caused by lowered Mediterranean Sea temperatures related to Heinrich events. Continuation of current climate trends would similarly decrease Mediterranean Sea temperatures through polar-ice melting, resulting in a precipitation decrease in Wadi Hasa and the Near East.

Palaeoecology of Africa 33

The Last Interglacial-Glacial Transition in North America

Glaciated Coasts

Examples from the South Atlantic

Quaternary Glaciations - Extent and Chronology

This book reviews advances in understanding of the past ca. two million years of Earth history - the Quaternary Period - in the United States. It begins with sections on ice and water - as glaciers, permafrost, oceans, rivers, lakes, and aquifers. Six chapters are devoted to the high-latitude Pleistocene ice sheets, to mountain glaciations of the western United States, and to permafrost studies. Other chapters discuss ice-age lakes, caves, sea-level fluctuations, and riverine landscapes. With a chapter on landscape evolution models, the book turns to essays on geologic processes. Two chapters discuss soils and their responses to climate, and wind-blown sediments. Two more describe volcanoes and earthquakes, and the use of Quaternary geology to understand the hazards they pose. The next part of the book is on plants and animals. Five chapters consider the Quaternary history of vegetation in the United States. Other chapters treat forcing functions and vegetation response at different spatial and temporal scales, the role of fire as a catalyst of vegetation change during rapid climate shifts, and the use of tree rings in inferring age and past hydroclimatic conditions. Three chapters address vertebrate paleontology and the extinctions of large mammals at the end of the last glaciation, beetle assemblages and the inferences they permit about past conditions, and the peopling of North America. A final chapter addresses the numerical modeling of Quaternary climates, and the role paleoclimatic studies and climatic modeling has in predicting future response of the Earth's climate system to the changes we have wrought.

The focus of this book is on oceanic climate change during the last deglaciation period and the high temporal resolution that can be obtained from sediment records at continental margin sites.

The book draws together papers from the north-eastern North American continental margin with those from the north-west European Arctic and the Arctic and North Atlantic Oceans.

The South Atlantic plays a significant role as a link between the Antarctic Ocean and the North Atlantic, both in terms of the heat budget of the North Atlantic and the circulation of the entire ocean. The heat and mass exchanges between the Antarctic Ocean and the South Atlantic during the Late Quaternary have been investigated over the past ten years, including their impact on world climate. This has required the study of present-day early diagenetic processes in the water column and sediments, as well as sediment properties that have a close relationship to environmental parameters ("proxies"), which can be used to decipher past conditions (temperature, salinity, productivity, etc.). The interdisciplinary research project "The South Atlantic in the Late Quaternary - Reconstruction of material budgets and current systems" was a long-term scientific program at Bremen University. This program benefited from the sample material gained on several expeditions with the research vessels Meteor and Polarstern. This book presents the summarized results of the various topics of study in 30 articles arranged in seven sections.

Late Quaternary Palaeoceanography of the North Atlantic Margins

Application of Strontium Geochemistry

Initial report. Part A

Late Quaternary Environments of the Soviet Union

The Late Quaternary Construction of Cape Cod, Massachusetts: A Reconsideration of the W. M. Davis Model

Changing Climates, Ecosystems and Environments within Arid Southern Africa and Adjoining Regions

Alluvial fills underlying the Platte River Valley in Nebraska record the geologic history of the Platte River in the late Quaternary. This study investigated the alluvium underlying the valley near the cities of North Platte and Kearney, Nebraska. Data obtained from sediment cores drilled in the alluvial deposits was used to investigate the changes in Platte River dynamics on a glacial - interglacial timescale. Optically Stimulated Luminescence (OSL) dating was used to determine burial ages of recovered sediments and to quantify the thicknesses of the late Pleistocene and Holocene alluvial fills at each study area. Our geochronology depicts considerable differences in age with depth at the two study sites. Results from OSL dating indicate that the Platte River was aggrading during the late Pleistocene and into the early Holocene. Approximately 8 to 10 meters of sediment was deposited near North Platte, and 15 + meters of sediment was deposited near Kearney. Aggradation ended sometime in the early Holocene, most likely between 10 to 11.9 ka, and during the Holocene the Platte re-worked these older alluvial deposits. The total thickness of the Holocene fill ranged from 3 to 8 meters near North Platte, and 10 to 12 meters near Kearney. Locally, the Holocene alluvial fill is entrenched 3 to 4 meters into the underlying late Pleistocene alluvium. This fundamental change in river dynamics is attributed to long-term changes in the ratio of discharge to sediment supply in the basin.

Glaciated Coasts is a collection of articles that deals with shoreline morphologies of glaciated coasts and the processes that formed these coastlines in North America. This book examines nonsandy shorelines and covers a range of geologic and geographic coastal settings in a northern-southern order. This text investigates and compares the glaciated northern shorelines. These shorelines north of the glacial limit are mostly of the primary form in different stages of modification by marine agents. Shorelines are associated with embayments; baymouth barriers in turn enclose embayments. This book describes beaches as having coarse or mixed sediment populations. Most beaches worldwide have gravel clasts that have been rounded and sorted by marine processes. In the southeastern coast of Alaska, active tectonics on a mountainous shoreline is evident. The region also shows emergent and submerging shorelines with a glacial imprint undergoing formation by modern processes. This book also gives examples of gravel beach environments in various coastal settings. This book can prove useful for students of meteorology, oceanography as well as to marine ecologists and biologists. It can also benefit readers whose interest lie with coastal environment or with the general earth sciences.

Late Quaternary Environments of the United States was first published in 1983. Minnesota Archive Editions uses digital technology to make long-unavailable books once again accessible, and are published unaltered from the original University of Minnesota Press editions. In the late 1970s American and Russian scientists met twice in conferences on Quaternary paleoclimates sponsored by the U.S.-U.S.S.R. Bilateral Agreement on the Environment. The conferees agreed to prepare volumes summarizing the current status of research in the two countries. Late-Quaternary Environments of the United States provides a two-volume overview of new and significant information on research of the last fifteen years, since the 1965 publication of Quaternary of the United States, edited by H E. Wright, Jr., and D. G. Frey. The volume on the late Quaternary in the Soviet Union will also be published by the University of Minnesota Press. Volume 1 of Late-Quaternary Environments of the United States covers the Late Pleistocene, the interval between 25,000 and 10,000 years ago—a time of extreme environmental stress as the world passed from full-glacial conditions of the last ice age into the present interglacial age. The interval of geologic time since the last glacial period—termed the Holocene—is the subject of Volume 2. The complexity of the natural changes occurring in the late Quaternary, and their interrelationships, make it impossible for a single scientific discipline to encompass them. Thus the papers in both volumes come from authors in many research fields—geology, ecology, physical geography, archaeology, geochemistry, geophysics, limnology, soil science, paleontology, and climatology. Many of the hypotheses presented—especially on the dynamic Late Pleistocene environments—are still hotly debated and will require additional testing as scientists strive to reconstruct the changing world of the glacial and postglacial ages.

Deglacial History and Relative Sea-level Changes, Northern New England and Adjacent Canada

A Closer Look

Late Quaternary Stratigraphy and Glaciology in the Thule Area, Northwest Greenland

Reconstructing Quaternary Environments

Late Quaternary Indo-Pacific Climate: Monsoons and Warm Currents

Proceedings of the Ocean Drilling Program

Paleoceanographic proxies provide information for reconstructions of the past, including climate changes, global and regional oceanography, and the cycles of biochemical components in the ocean. These proxies are measurable descriptors for desired but unobservable environmental variables such as temperature, salinity, primary productivity, nutrient content, or surface-water carbon dioxide concentrations. The proxies are employed in a manner analogous to oceanographic methods. The water masses are first characterized according to their specific physical and chemical properties, and then related to particular assemblages of certain organisms or to particular element or isotope distributions. We have a long-standing series of proven proxies available. Marine microfossil assemblages, for instance, are employed to reconstruct surface-water temperatures. The calcareous shells of planktonic and benthic microorganisms contain a wealth of paleoceanographic information in their isotopic and elemental compositions. Stable oxygen isotope measurements are used to determine ice volume, and Mg/Ca ratios are related to water temperatures, to cite a few examples. Organic material may also provide valuable information, e. g. , about past productivity conditions. Studying the stable carbon isotope composition of bulk organic matter or individual marine organic components may provide a measure of past surface-water CO₂ conditions within the bounds of certain assumptions. Within the scope of paleoceanographic investigations, the existing proxies are continuously evolving and improving, while new proxies are being studied and developed. The methodology is improved by analysis of samples from the water column and surface sediments, and through laboratory experiments.

This third edition of Reconstructing Quaternary Environments has been completely revised and updated to provide a new account of the history and scale of environmental changes during the Quaternary. The evidence is extremely diverse ranging from landforms and sediments to fossil assemblages and geochemical data, and includes new data from terrestrial, marine and ice-core records. Dating methods are described and evaluated, while the principles and practices of Quaternary stratigraphy are also discussed. The volume concludes with a new chapter which considers some of the key questions about the nature, causes and consequences of global climatic and environmental change over a range of temporal scales. This synthesis builds on the methods and approaches described

earlier in the book to show how a number of exciting ideas that have emerged over the last two decades are providing new insights into the operation of the global earth-ocean-atmosphere system, and are now central to many areas of contemporary Quaternary research. This comprehensive and dynamic textbook is richly illustrated throughout with full-colour figures and photographs. The book will be of interest to undergraduates, postgraduates and professionals in Earth Science, Environmental Science, Physical Geography, Geology, Botany, Zoology, Ecology, Archaeology and Anthropology

The 13 papers in this collection examine the coastal regions, the Gulf of Maine, and the continental shelf off of Atlantic Canada in context with new radiocarbon age analyses, providing a detailed history of climate changes, marine transgression, emergence, and relative sea-level history. Specific topics include deglaciation of the Gulf of Maine, Late Quaternary morphogenesis of a marine-limit delta plain in southwest Maine, morainal banks and the deglaciation of coastal Maine, and glacial dynamics, deglaciation, and marine invasion in southern Quebec. Material originated at a March 1998 symposium held in Maine at the 33rd Annual Meeting of the Northeastern Section of the Geological Society of America. Weddle is affiliated with the Maine Geological Survey. Retelle teaches geology at Bates College. Annotation copyrighted by Book News Inc., Portland, OR.

Excavations at Holywell Coombe, South-east England

Late Quaternary Environmental Change in North-west Europe: Excavations at Holywell Coombe, South-east England

Late Quaternary Stratigraphic Evolution of the Northern Gulf of Mexico Margin

Quaternary Tectonics of Utah with Emphasis on Earthquake-hazard Characterization

Identification of Late Quaternary Sediment Deformation and Its Relation to Seismicity in the St. Lawrence Lowland, New York Report to New York State Energy Research and Development Authority

Sea-level change has influenced human population globally since prehistoric times. Even in early phases of cultural development human populations were faced with marine regression and transgression as a result of changing climate and corresponding glacio-isostatic adjustment. Global marine regression during the last glaciation changed the palaeogeography of the continental shelf, converting former marine environments to attractive terrestrial habitats for prehistoric humans. These areas of the shelf were used as hunting and gathering areas, as migration routes between continents, and most probably witnessed the earliest developments in seafaring and marine exploitation, until the postglacial transgression re-submerged these palaeo-landscapes. Based on modern marine research technologies and the integration of large databases, proxy data are increasingly available for the reconstruction of Quaternary submerged landscapes. Also, prehistoric archaeological remains from the recent sea bottom are shedding new light on human prehistoric development driven by rapidly changing climate and environment. This publication contributes to the exchange of ideas and new results in this young and challenging field of underwater palaeoenvironmental investigation.

Provenance Analysis and Depositional System of the Late Quaternary Sediment from the Ganges-Brahmaputra (G-B) Delta, Bangladesh Application of Strontium Geochemistry Interpretation and Climatic Significance of Late Quaternary Valley-fill Deposits in Wadi Hasa, West-central Jordan

The Quaternary Period in the United States

Dating Late Quaternary Alluvial Fills in the Platte River Valley Using Optically Stimulated Luminescence Dating Paleoclimatic Significance

Reconstruction of Materials Budgets and Current Systems

Himalayan Weather and Climate and their Impact on the Environment

Quaternary Landscapes