Geotektonische Forschungen 94

#Geotectonic Research #Tectonic Studies #Earth Sciences #Geology Research #Plate Tectonics

This entry pertains to 'Geotectonic Research 94,' a significant publication exploring the intricate dynamics of Earth's crustal movements and structural geology. It encompasses advanced studies in plate tectonics, geological investigations, and the fundamental processes shaping our planet's geomorphology, offering valuable insights into past and ongoing tectonic activity.

Orogenic Processes

The motion and deformation of rocks are processes of fundamental importance in shaping the Earth, from outer crustal layers to the deep mantle. Reconstructions of the evolution of the Earth therefore require detailed knowledge of the geometry of deformation structures and their relative timing, of the motions leading to deformation structures and of the mechanisms governing these motions. This volume contains a collection of 22 papers on field, experimental and theoretical studies that add to our knowledge of these processes.

Deformation Mechanisms, Rheology and Tectonics

"This book contains landmark papers on the processes of formation of continental crust from its beginnings in the Archean to modern processes, as well as discussions of several ancient and modern orogenic belts. The book is international in scope, with contributions from geoscientists dealing with crustal processes on five continents, and articles from more than 50 non-U.S. authors and co-authors."--Publisher's website.

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This volume summarizes the state of the art of Variscan geology from Iberia to the Bohemian Massif. The European Variscan belt consists of two orogens: the older, northern and the younger, southern. The northern Variscan realm was dominated by Late Devonian–Carboniferous rifting, subduction and collisional events as defined by sedimentary records, crustal growth, recycling of continental crust and large-scale deformations. In contrast, the southern European crust was reworked by major Late Carboniferous collision followed by Permian wrenching. The Late Carboniferous–Permian orogeny overprinted the previously accreted system in the north, but with much lower intensity, resulting in magmatic recycling and extensional tectonics. These two main orogenic cycles do not reflect episodic evolution of a single orogenic system but a complete change in orientation of stress field, thermal regime, degree of reworking and recycling of European crust, reflecting a major switch in plate configurations at the Early–Late Carboniferous boundary.

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This volume presents results of a variety of case studies documenting the Late Palaeozoic climate changes and cyclicity of deposition. The collected papers cover many aspects related to palaeoenvironmental analysis with sedimentological, stratigraphic, palaeobiological, geochemical, and palaeomagnetic studies of the fossil record around the Late Palaeozoic Ice Age and soon after. They span a stratigraphic interval from Carboniferous to Permian–Triassic transition around the world. This book comprising results for a range of disciplines, is a valuable source for not only researchers who are actively working on specific aspects of the Late Palaeozoic and looking for an up-to-date reference on this inhospitable time in the Earth’s history. It is also of interest to climate modellers and the wider scientific community with an interest in the latest research on the decline of the Palaeozoic World.

Geowissenschaften und Bergbaugeschichte in der Dreiländer- Region Hessen, Thüringen, Niedersachsen

Volume 2 provides an overview of the Mesozoic and Cenozoic evolution of Central Europe. This period commenced with the destruction of Pangaea and ended with the formation of the Alps and Carpathians and the subsequent Ice Ages. Separate summary chapters on the Permian to Cretaceous tectonics and the Alpine evolution are also included. The final chapter provides an overview of the fossils fuels, ore and industrial minerals in the region.

Field Trip Guide Books

1919/28 cumulation includes material previously issued in the 1919/20-1935/36 issues and also material not published separately for 1927/28. 1929/39 cumulation includes material previously issued in the 1929/30-1935/36 issues and also material for 1937-39 not published separately.

The Emplacement of the Rieserferner Pluton and Its Relation to the DAV-line as Well as to the Kinematic and Thermal History of the Austroalpine Basement (Eastern Alps, Tyrol)

Organised in conjunction with the Fragile Earth International Conference, the field trips reported in this volume examine the records and recording tools of geological processes, from plate motions, to deep crystal structure and deformation, to near-surface processes and interactions between the Earth's surface and climate.

Stockwerkbau und Felderteilung

The geological evolution of Central Asia commenced with the formation of a complex Precambrian–Palaeozoic orogen. Cimmerian blocks were then accreted to the southern margin in the Mesozoic, leading to tectonic reactivation of older structures and discrete episodes of basin formation. The Indian and Arabian blocks collided with Asia in the Cenozoic, leading to renewed structural reactivation, intracontinental deformation and basin development. This complex evolution resulted in the present-day setting of an elongated Tien Shan range flanked by large Mesozoic–Cenozoic sedimentary basins with smaller intramontane basins distributed within the range. This volume presents multidisciplinary results and reviews from research groups in Europe and Central Asia that focus on the western part of the Tien Shan and some of the adjacent large sedimentary basins. These works elucidate the Late Palaeozoic–Cenozoic tectono-sedimentary evolution of the area. Emphasis is given to the collision of terranes and continents and the ensuing fault reactivations. The impact of climatic changes on sedimentation is also examined.

4-D Framework of Continental Crust

This book covers a multitude of Alpine-type working areas and processes active in collisional mountain building in the form of 16 selected very up-to-date review and research articles covering the Alps, Carpathians and Dinarides. These data were presented at the 8th workshop on Alpine Geological Studies in Davos held in October 2007. The compilations and new data are of interest to earth scientists interested in mountain building in general and those interested in processes of continental collision in particular. The book is virtually indispensable for advanced students and scientists involved in Alpine studies.

Verzeichnis nach Sachgebieten

This text brings together multidisciplinary research and review papers on the Lower Palaeozoic geology of the Sierras Pampeanas and the Precordillera of central west Argentina. It deals with the final stages of assembly of the supercontinent of Gondwana and its tectonic interaction with Laurentia (the North American continent of today).

Tektonische Entwicklung des nordchilenischen aktiven Kontinentalrandes

Transform Plate Boundaries and Fracture Zones bridges the gap between the classic plate tectonic theory and new emerging ideas, offering an assessment of the state-of-the-art, pending questions, and future directions in the study of transform plate boundaries and fracture zones. The book includes a number of case studies and reviews on both oceanic and continental tectonic settings. Transform Plate Boundaries and Fracture Zones is a timely reference for a variety of researchers, including geophysicists, seismologists, structural geologists and tectonicists, as well as specialists in exploration geophysics and natural hazards. This book can also be used as an up-to-date reference at universities in both undergraduate and postgraduate levels. Reviews ideas and concepts about transform plate boundaries and fracture zones Includes a variety of case studies on both oceanic and continental settings Addresses innovative and provocative ideas about the activity of fracture zones and transform faults and their impacts to the human society

Land Resource Bibliography

Explores the tectonics interaction among the exotic terrians between Laurentia and Southwest Gondwana. The authors reveal data that sheds light on pre-Pangea connections between Laurentia and Southwest Gondwana. These data concern the presence of Ollenelus and associated fauna in the Precordillera of central Western South America; the common early Paleozoic paleomagnetic data, the presence of a large early Paleozoic carbo nate platform distinct from the Southwest Gondwanan clastic platforms associated with glacial deposits, and the exotic nature of the Grenville basement of this platform.

Ethiopia

Geological research on the continental Permian in West Central and South Europe has been neglected in l l former days. Nevertheless, interest in it increased in the last twenty years and became important owing to the problems connected with continental sedimentation and also because of the important discoveries of oill gas and uranium deposits. Therefore, detailed inves l tigations in all countries where continental Permian appears have been made with the help of boreholes. These investigations included sedimentation basins in which the above-mentioned deposits are not expected. Consequently, the numerous results received in connec tion with still unanswered questions led to the idea to invite the specialists to a meeting. The first meeting was held in Pisa 1966 and a further one in 1 Vienna 1969. Both conferences exclusively dealed with the deposits of the Verrucano province, both in the Alps and Apennines. With respect to the importance of such meetings a further one was intended to be arranged in Mainz dealing with the whole continental Permian in West Central, and South Europe. With financial help l of the,NATO Scientific Affairs Division this meeting could be arranged as a NATO Advanced Study Institute.

The Variscan Orogeny

Der Landes-Forschungsschwerpunkt Ermittlung regionaler Wasserwegsamkeiten in Festgesteinen Baden-Württembergs und das Kontaminationspotential von Altlasten