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Thrust Belts and Foreland Basins – From Fold Kinematics to Hydrocarbon Systems, edited by Olivier Lacombe, Jérôme Lavé, François Roure & Jaume Vergés, 2007. Series: *Frontiers in Earth Sciences*. Springer-Verlag, Tiergartenstrasse 17, D-69121 Heidelberg, Germany. Hardcover, xxiii + 490 pages, 290 illustrations in color, 37 tables. Price EUR 149.95; GBP 115.50. ISBN 978-3-540-69425-0.



Thrust belts and foreland basins form by both deep and surface geological processes at different time scales and therefore record the main phases of orogenic evolution.

In the context of a new cycle of workshops of the ILP task force on “Sedimentary Basins”, a three-day meeting on “Thrust Belts and Foreland Basins” was organized in December 2005 on behalf of the Société Géologique de France and the Sociedad Geológica de España, hosted by the Institut Français du Pétrole. The main purpose of the meeting was to offer the opportunity to earth scientists from various disciplines to present and share their knowledge on the processes governing the evolution of orogenic belts and adjacent forelands. Emphasis was placed on advances in surface processes, geochemistry, provenance studies, field studies, analogue and numerical modeling, seismic interpretation, and hydrocarbon exploration in foreland basins. The conference brought together scientists from academia and industry from nearly twenty countries.

The book, appearing in Springer’s series “Frontiers in Earth Sciences,” contains a selection of 25 papers presented at the conference. The book is subdivided into seven sections. Section 1 describes large-scale surface and deep first-order processes in a collision context, and the geometry of prism asymmetries. Section 2 deals with hydrocarbon-exploration issues, particularly focusing on seismic imaging in foothill areas, trying to present a better understanding of the seismic propagation through triangle zones and 2-D imaging in complex folded thrust belts. Section 3 continues on the same subject, but concentrates on fluid flow and organic-maturity issues of potential hydrocarbon systems. Section 4 treats examples of structural and kinematic modeling, including palinspastic reconstructions. Section 5 (8 papers) is entirely devoted to the Zagros/Makran thrust belts, including descriptions of early reactivation of basement faults, organic-maturity evolution, mechanical constraints, salt diapirism and deep offshore accretionary-prism development. Section 6 (4 papers) focuses on the Carpathian thrust belt, dealing with the interaction between the South Carpathians and the Moesia platform, and discussing the triangle architecture and petroleum systems in the Polish Carpathian foreland. Section 7 describes some examples of tectonics, sedimentation and denudation in thrust belts.

With the exception of sections 5 and 6, which are devoted to specific regions, the various examples described in the book come from a limited number of areas in the world, notably the Apennines, the Pyrenees, Canada (both the Northern Appalachians and Cordillera), the sub-Andean in Bolivia, Trinidad, and the Altai Mountains. Apart from the largely academic attention for the Carpatians, the substance of the book is devoted to the Zagros and Makran thrust belts. About one third of the total book volume covers this region, which is spectacular both in terms of outcrops and petroleum geology. A wealth of information is contained, describing the various aspects of the Zagros and Makran thrust belts, which should interest the academic researcher and the applied-industry scientist alike.

The book is well executed and designed with a good mix between color and black-and-white illustrations. All tables are consistently color-shaded, and the seven sections are clearly marked.

Furthermore, the book contains a useful, although brief, subject index. It is not a structural geology textbook, but a good account of the latest views on folds and thrust belts, though predominantly studied from a European academic research perspective.

This book is recommended to post-graduate students, academic researchers and applied earth scientists. Regarding the last-mentioned group, the book is particularly useful for those interested in Iranian and Pakistani petroleum geology.

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