

Ophiolites and Oceanic Crust: New Insights from Field Studies and the Ocean Drilling Program

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"Ophiolites are geological windows into the history of the Earth and Earth processes," Dilek and Moores said. "They provide important clues to how ocean basins formed and disappeared in the past and how the dynamic planet Earth's paleogeography (distribution of continental masses and oceans) looked many millions of years ago. The discovery of copper in ophiolitic volcanic rocks in the Mediterranean region ushered in the Bronze Age in the history of human civilizations. Studies of ophiolites have advanced the methods and theories of geology for more than 200 years. This book presents state-of-the-art information on the significance of ophiolites in studying different aspects of the Earth's history."

Since 1972, when the first GSA Penrose Conference on Ophiolites was convened, these unique features have galvanized multinational and multidisciplinary efforts to study and decipher these complexes and their significance for understanding oceanic lithosphere formation.

The second Penrose Conference on ophiolites in 1998 brought together 86 experts in structural geology, tectonics, geophysics, petrology, and geochemistry to explore new advances and discoveries concerning ophiolites and related drilling from the oceanic crust. Special Paper 349 includes 39 papers from this conference plus updated information on the evolution of ophiolites and modern oceanic crust, and integrates new interdisciplinary data from ocean drilling and other studies of in situ oceanic lithosphere with new results from field studies of ophiolite complexes around the world.

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