

FRONTIERS IN EARTH SCIENCES

The Frontiers in Earth Sciences Series, initiated by the Geological Societies of Germany, France, the Netherlands, and Switzerland, is devoted to publishing scientific results on dynamic research topics from all fields of Earth Sciences. Volumes are generally compilations of papers from symposia, major research programs, etc. and frequently focus on multidisciplinary problems.

Serge Lallemant · Francesca Funiciello (Eds.)

Subduction Zone Geodynamics

Subduction is a major process that plays a first-order role in the dynamics of the Earth. The sinking of cold lithosphere into the mantle is thought by many authors to be the most important source of energy for plates driving forces. It also deeply modifies the thermal and chemical structure of the mantle, producing arc volcanism and is responsible for the release of most of the seismic energy on Earth. There has been considerable achievements done during the past decades regarding the complex interactions between the various processes acting in subduction zones. This volume contains a collection of contributions that were presented in June 2007 in Montpellier (France) during a conference that gave a state of the art panorama and discussed the perspectives about „Subduction Zone Geo-

dynamics“. The papers included in this special volume offer a unique multidisciplinary picture of the recent research on subduction zones geodynamics. They are organized into five main topics:

Subduction zone geodynamics, Seismic tomography and anisotropy, Great subduction zone earthquakes, Seismogenic zone characterization, Continental and ridge subduction processes.

Each of the 13 papers collected in the present volume is primarily concerned with one of these topics. However, it is important to highlight that papers always treat more than one topic so that all are related lighting on different aspects of the complex and fascinating subduction zones geodynamics.

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