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| Nota di contenuto       | Cover -- Title Page -- Copyright Page -- Contents -- Tributes -- Foreword -- Preface. From Research to Education: The Example of the Seismology at School in Nepal Program -- Part 1. Tectonic Framework of the Himalaya and Tibet -- Chapter 1. Plate Reconstructions and Mantle Dynamics Leading to the India-Asia Collision -- 1.1. Introduction -- 1.2. The India-Asia convergence and the age of the collision -- 1.2.1.The India-Asia convergence -- 1.2.2. The age of the India-Asia collision -- 1.3. Plate collision configurations -- 1.3.1. Reconstructing lost continental margins -- 1.3.2. Alternative collision configurations -- 1.4. Reconstruction of the Neotethys Ocean closure dynamic -- 1.4.1. Number of subduction accommodating the Neotethys closure -- 1.4.2. Location of the Intraoceanic subduction zone and associated arc -- 1.4.3. Driving forces of the India-Asia convergence during Neotethys closure -- 1.5.Conclusion -- 1.6. References -- Chapter 2. Building the Tibetan Plateau During the Collision Between the India and Asia Plates -- 2.1. Introduction -- 2.2. Present-dayTibetan crustal deformation -- 2.2.1. GPS velocity field and focal mechanisms in Tibet -- 2.2.2. Surface motions and deformation due to Indian indentation -- 2.3. Tibetan lithospheric mantle subduction during collision -- 2.3.1. Imaging ongoing subduction beneath Tibet -- 2.3.2. Imaging subduction of lithospheric Tibetan mantle during the collision -- 2.3.3. Volcanism in Tibet showing the |

subduction of lithospheric Asian mantle during the early collision --

2.4. Modeling the Tibetan plateau formation during the indentation of the Indian continent into Asia -- 2.4.1. Analogue modeling of the Tibetan lithosphere subduction during the indentation of India -- 2.4.2. Numerical modeling of Asian thickening and extrusion during the subduction of a continental-oceanic plate -- 2.5. Conclusion.

2.6. References -- Chapter 3. The Major Thrust Faults and Shear Zones -- 3.1. Introduction -- 3.2. Some basic concepts -- 3.3. Main faults and shear zones -- 3.3.1. South Tibetan detachment system (STDS) -- 3.3.2. Main Central thrust (MCT) -- 3.3.3. Main Boundary thrust (MBT) -- 3.3.4. Main Frontal thrust (MFT) -- 3.3.5. Main Himalayan thrust (MHT), continental megathrust -- 3.4. Tectonic models -- 3.4.1. Fold-and-thrust belt versus channel flow -- 3.4.2. Coeval slip along the STDS and the MCT -- 3.5. Conclusion -- 3.6. References -- Part 2. Along Strike Variations -- Chapter 4. Seismological Imaging and Current Seismicity of the Himalayan Arc -- 4.1. Introduction -- 4.2. Imaging by elastic waves -- 4.2.1. Active seismics -- 4.2.2. Passive seismics -- 4.2.3. Tomographic imaging for bulk properties -- 4.2.4. Wave reflections and conversions for interfaces -- 4.3. Exploring the Central Himalaya along cross-sections -- 4.3.1. Field experiments -- 4.3.2. Main interfaces -- 4.3.3. Where do subducted plates go? -- 4.4. Lateral variations -- 4.4.1. Lateral ramps on the MHT, along-arc Moho variations -- 4.4.2. Segmentation of the India plate lithosphere -- 4.4.3. The western and eastern syntaxes -- 4.5. Current seismicity of the Himalaya -- 4.5.1. Earthquake detection, location and activity -- 4.5.2. Seismicity of the Himalaya: an incomplete patchwork -- 4.5.3. Seismicity of the Himalaya: main features -- 4.6. Conclusion -- 4.7. References -- Chapter 5. Gravity Observations and Models Along the Himalayan Arc -- 5.1. Introduction -- 5.2. Methods -- 5.2.1. Measurements -- 5.2.2. Corrections -- 5.2.3. Anomalies -- 5.3. Isostasy -- 5.3.1. Local compensation -- 5.3.2. Regional compensation -- 5.3.3. Effective elastic thickness -- 5.4. Flexure of the Indian plate -- 5.4.1. Gravity anomaly across the Himalayan belt -- 5.4.2. Along-strike variation between Nepal and Bhutan -- 5.5. Satellite data contribution. 5.5.1. Gravity measurements from space -- 5.5.2. Towards a three-dimensional image -- 5.6. Conclusion -- 5.7. References -- Chapter 6. Topographic and Thermochronologic Constraints on the Himalayan Décollement Geometry -- 6.1. Introduction -- 6.2. Methods -- 6.2.1. Quantitative geomorphic analysis -- 6.2.2. Measures of erosion at different timescales: cosmogenic nuclides and thermochronology -- 6.2.3. From exhumation to kinematics: thermo-kinematic models -- 6.3. Regional case studies -- 6.3.1. Central Himalaya-Nepal -- 6.4. Discussion -- 6.4.1. Constraints on MHT geometry and kinematics at different timescales -- 6.4.2. Nature and evolution of ramp on the MHT -- 6.4.3. Evidence for out-of-sequence thrusting? -- 6.4.4. Lateral segmentation of the MHT -- 6.5. Conclusion -- 6.6. References -- Part 3. Focus -- Chapter 7. Application of Near-surface Geophysical Methods for Imaging Active Faults in the Himalaya -- 7.1. Introduction -- 7.2. Near-surface geophysics -- 7.2.1. Geophysical methods for fault mapping -- 7.2.2. Case study data and inversion technique -- 7.3. Geophysical results of case study from south Bhutan -- 7.3.1. Electrical resistivity tomography -- 7.3.2. Seismic tomography -- 7.3.3. Micro-gravity -- 7.4. Implications of near-surface geophysical findings -- 7.4.1. Subsurface imaging -- 7.4.2. Overthrusting slip rate assessment -- 7.4.3. Deformation at the topographic front -- 7.5. Conclusion -- 7.6. References -- Chapter 8. Overview of Hydrothermal Systems in the Nepal Himalaya -- 8.1. Introduction -- 8.2. Measurement methods -- 8.2.1. Exploration approach -- 8.2.2. Thermal spring water measurements

-- 8.2.3. CO<sub>2</sub> flux and radon flux measurements -- 8.2.4. Carbon content and isotopic composition measurements -- 8.3. Summary of results at the hydrothermal sites in the Nepal Himalaya -- 8.3.1. Overview of hydrothermal sites in Far-Western Nepal. 8.3.2. Overview of hydrothermal sites in Mid-Western Nepal -- 8.3.3. Overview of hydrothermal sites in Western Nepal -- 8.3.4. Overview of hydrothermal sites in Central Nepal -- 8.3.5. Overview of hydrothermal sites in Eastern Nepal -- 8.3.6. Overview of hydrothermal sites in the MFT zone -- 8.4. Conclusion -- 8.5. References -- Conclusion -- Rodolphe CATTIN and Jean-Luc EPARD of Authors -- Index -- Summaries of other volumes -- EULA.

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## Sommario/riassunto

The Himalaya is well known as the largest and highest mountain belt on Earth. Advances in geoscience over the past few decades have revealed a complex picture of the dynamics of this giant, opening up questions about the initial stages of Himalayan building, lateral variations in its structures, variations in tectonic forcing, tectonic-climate coupling and assessments of the natural hazards affecting this area. In this three-volume book, we present the current knowledge on the building and present-day behavior of the Himalayan range. The objective is not to be exhaustive, but to provide some key elements used by researchers to unravel the many processes acting in the Himalayan dynamics. Mountain environments are at the forefront of climate change with glacier retreat, landslides, flash floods and water availability. Understanding the delicate balance that controls the dynamics of the Himalayan giant is now, more than ever, a major challenge for the scientific community.

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