Table of Contents

Preface	
The Birth and Development of the Concept of Glacio-Isostasy and its Modelling up to 1974 L. Lliboutry	1
Global Glacial Isostasy and Relative Sea Level: Implications for Solid Earth Geophysics and Climate System Dynamics W.R. Peltier	17
Gravitational-Viscoelastic Field Theory D. Wolf	55
Load-Induced Viscoelastic Relaxation: An Elementary Example D. Wolf	87
The Significance of Pre-Stress Advection and Internal Buoyancy in the Flat-Earth Formulation A. Purcell	105
Effects of Compressibility and Stratification on Viscoelastic Relaxation: The Analytical Perspective L.L.A. Vermeersen and R. Sabadini	123
Initial-Value Approach for Viscoelastic Responses of the Earth's Mantle L. Hanyk, C. Matyska and D.A. Yuen	135
Static Deformation of the Outer Core M. Fang	155
Validity of Using Flat-Earth Finite Element Models in the Study of Postglacial Rebound P. Wu and P. Johnston	191
Viscoelastic Channel Flow K. O'Keefe and P. Wu	203
Dynamics of the Pleistocene Ice Sheets S.J. Marshall	217
How to Model the Waxing and Waning of Ice-Sheets L. Lliboutry	249
Tutorial on Strategies for Using Isostatic Adjustments in Models that Reconstruct Ice Sheets during the Last Deglaciation T.J. Hughes	271
Inference on Mantle Rheology G. Ranalli	323
Plausible Mantle Rheology L. Lliboutry	341
Micro-Physics of Post Glacial Rebound S Karato	351
Postglacial Rebound Modeling with Power-Law Rheology P. Wu	365
Recent Pstglacial Rebound of Fennoscandia: A Short Review and Some Numerical Results M. Ekman	383
Evidence of Late Holocene Post-Glacial Isostatic Adjustment in Costal Wetland Deposits of Estern North America J.P. Donnelly	393
A Comparison between Postglacial Isostatic Predictions and Late Holocene Sea-Level Field Data from Mediterranean and Iranian Costal Areas P.A. Pirazzoli	401
Postglacial Sea Level Variations in the Far Field of the Ice-Sheets: Glacial Cycle Effects on Present-Day Secular Sea Level Change W.R. Peltier	421
Rheological Structure of the Upper Mantle Inferred from the Holocene Sea-Level Change along the West Coast of Kyushu, Japan J. Okuno and M. Nakada	443

Postglacial Rebound and Other Influences on the Earth's Secular Rotation Rate, from Analysis of Ancient Eclipse Records K.D. Pang, K.K. Yau and H Chau	459
Mantle Layering and Long-Term Rotational Response of the Earth to Glacial Cycles R. Sabadini and L.L.A. Vermeersen	489
Geodetic Technique for Estimating Changes in Polar Ice J. Wahr and D. Han	497
The Vertification of the Solid Earth Response on Changing Ice Loads: A Geodetic Project in West Greenland R. Dietrich, M. Scheinert and W. Korth	509
Secular Variations in the Earth's Gravitational Field from Analysis of SLR Data M. Cheng	523
The Use of Satellite Laser Ranging and Long Duration Orbitral Changes to Constrain Geophysical Models S. Klosko and B. Chao	533
Postglacial Rebound with Lateal Heterogeneities: from 2D to 3D Modeling	557
Upper Mantle Lateral Viscosity Variations and Postglacial Rebound: Application to the Barents sea	502
G. Kaufmann and P. Wu	583
Intraplate Earthquakes and Postglacial Rebound in Eastern Canada and Northern Europe P. Wu	603