

SPRINGER BRIEFS IN
PETROLEUM GEOSCIENCE & ENGINEERING

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Subsidence Analysis and Visualization For Sedimentary Basin Analysis and Modelling



Springer

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and Modelling

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ISSN 2509-3126 ISSN 2509-3134 (electronic)
SpringerBriefs in Petroleum Geoscience & Engineering
ISBN 978-3-319-76423-8 ISBN 978-3-319-76424-5 (eBook)
<https://doi.org/10.1007/978-3-319-76424-5>

Library of Congress Control Number: 2018943257

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Printed on acid-free paper

This Springer imprint is published by the registered company Springer International Publishing AG part of Springer Nature
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Preface

In the study of sediments and sedimentary basins, subsidence analysis provides an essential step to understand basin evolution through geologic time and space. Quantifying techniques have been developed and applied in many basin research projects to evaluate total, tectonic and thermal subsidence, used also as a prerequisite for basin modelling. Recent studies have applied visualization techniques to understand regional subsidence contexts and trends, which have proved that the dimensional visualization of the basin subsidence is highly helpful to gain insight into basin evolution. Two authors, Eun Young Lee and Michael Wagneich, have conducted multiple research projects in the field of ‘basin analysis and modelling’. And they have applied various research techniques including subsidence analysis to understand basin architecture and evolution. The other author, Johannes Novotny, is a specialist in field of ‘scientific visualization’ and our main collaborator in the development of BasinVis 1.0, a MATLAB[®]-based software for subsidence analysis and visualization.

In this book, we show how geoscience and computer science can be effectively combined in advanced basin analysis, especially in terms of basin subsidence. ‘Subsidence analysis and visualization for sedimentary basin analysis and modelling’ introduces techniques for quantitative subsidence analysis and visualization with example applications. We hope this book will guide students in undergraduate and postgraduate courses and will provide helpful information for research projects and industrial applications.

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Providence, USA
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Acknowledgements

We thank our colleagues for fruitful discussions on data collection, quantitative data analysis and numerical visualization. Special thanks go to Michelle Kominz who inspired Eun Young Lee to gain better and deeper insights to subsidence analysis and to Erik Wolfgring who helps to understand quantitative paleo-bathymetry analysis and apply it to subsidence analysis. We also thank David H. Laidlaw for his advice and feedback on visualization techniques. Michael Wagreich thanks Peter Faupl, who inspired him to step into the vast field of basin analysis, and Hanns Peter Schmid and Monika Hölzel for cooperations in related projects. This work was supported by the Korea Research Fellowship program funded by the Ministry of Science and ICT through the National Research Foundation of Korea (2017H1D3A1A01054745) and by a part of the project titled ‘International Ocean Discovery Program’, funded by the Ministry of Oceans and Fisheries, Korea.