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GERRIT LOHMANN



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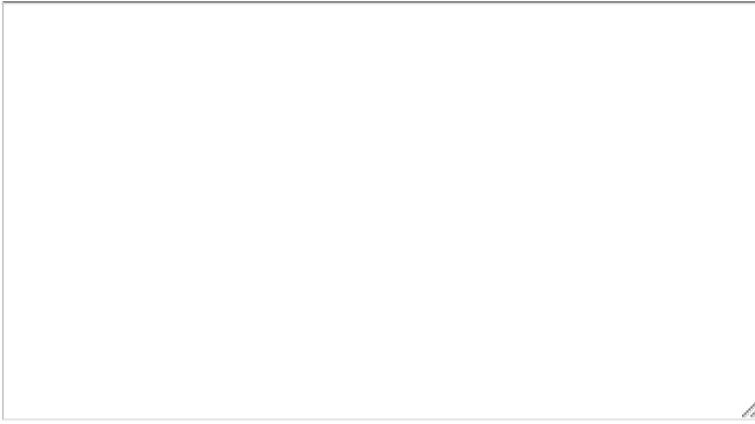
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KIHZ Book



The climate in historical times: Towards a synthesis of Holocene proxy data and climate models, 2004, Springer-Verlag, Berlin Heidelberg New York.

Fischer, H.; Kumke, T.; Lohmann, G.; Flöser, G.; Miller, H.; Storch, H.v.; Negendank, J.F.W. (Eds.) ISSN 1437-028; ISBN 3-540-20601-9. Book with 512 Pages, 166 Figures, and 11 Tables. [springeronline-link](#) [buchspektrum-link](#)

The project "Climate in Historical Times" (KIHZ) represents an integrative approach by geoscientists and climate modellers to analyse the dynamics of natural climate variability during the Holocene. This volume summarises the outcome of a KIHZ summer school.

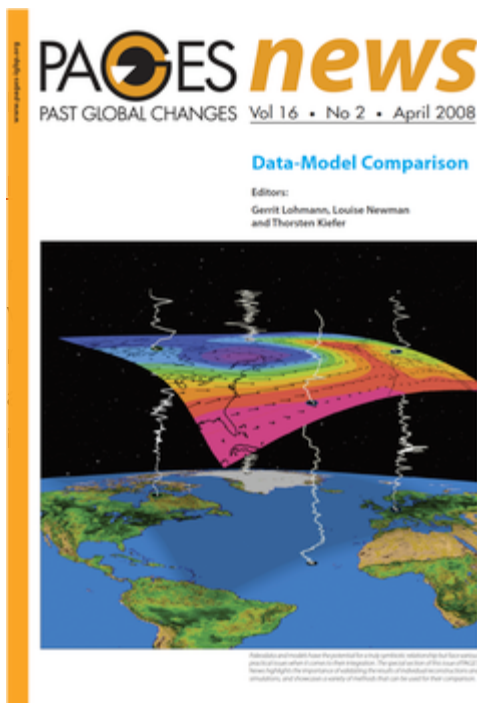
The meeting dealt with a variety of topics related to natural climate variability, ranging from reconstructions of past climate using so-called "proxy data" derived from ice cores, lake sediments, tree rings and corals. These data are used to validate and assimilate climate models.

The first part of this volume provides an overview of the climate system and its dynamics. It uses climate models of differing complexity and the resources of different archives in order to reconstruct past climate. The second part describes the latest achievements of the KIHZ members in their endeavours to reconstruct past climate by using proxy data, statistical analyses and climate models.

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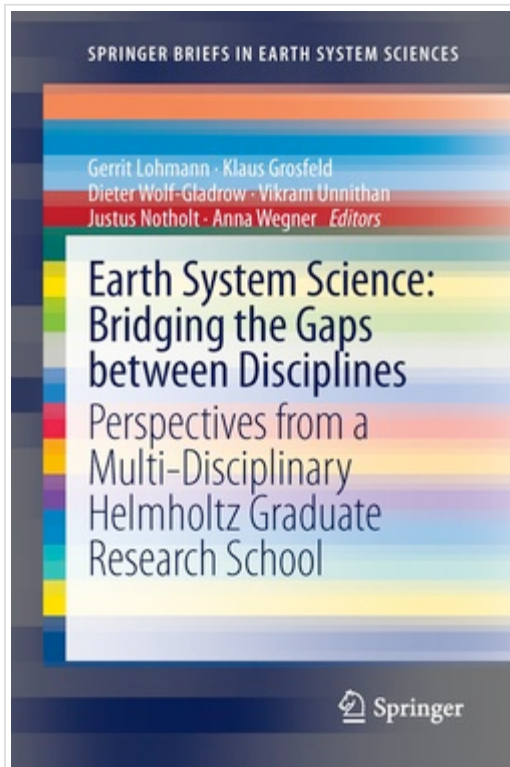
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al for a truly symbiotic relationship. One application of paleoclimate data is to models for past time slices and specific climate transitions. Analyzing proxy-models in tandem allows for the evaluation of climate transitions through the risks in past and future climate changes. In return, model simulations can aid served variations in paleoclimate data. Climate simulations enable a separation of the externally forced climate signal from internal variability (to the extent that the signal is distinguishable from the noise), something that cannot be achieved using proxy data alone. To become effective, these mechanisms require that data and model simulations can be compared in a meaningful way.

This special section of PAGES News highlights the importance of validating the results of individual reconstructions and simulations, and showcases a

variety of methods that can be used for their comparison.

ESSReS Book



Lohmann, G., K. Grosfeld, D. Wolf-Gladrow, V. Unnikrishnan, J. Notholt, and A. Wegner, 2013: "Earth System Science: Bridging the Gaps between Disciplines. Perspectives from a Multi-disciplinary Helmholtz Research School". Series: SpringerBriefs in Earth System Sciences, 2013, 138 p. 61 illus., 52 in color. ISBN: 978-3-642-32234-1 (Print) 978-3-642-32235-8 (Online) Springer, Heidelberg. doi: 10.1007/978-3-642-32235-8; Due: November 30, 2012 [link](#) [link2](#)

- ▶ Shows the spectrum of Earth system science: Remote sensing, data exploration, process understanding, modelling, informatics
- ▶ Gives examples of how to link the different disciplines as a key concept of future PhD education in Earth system science
- ▶ Linking 'data and modeling' enables graduate students from a variety of disciplines to cooperate and exchange views on the common theme of global environmental change

Earth system science is traditionally split into various disciplines (Geology, Physics, Meteorology, Oceanography, Biology etc.) and several sub-disciplines. Overall, the diversity of expertise provides a solid base for interdisciplinary research. However, gaining holistic insights into the Earth system requires the integration of observations, paleoclimate data, analysis tools and modeling. These different approaches of Earth system science are rooted in various disciplines that cut across a broad range of timescales. It is, therefore, necessary to link these disciplines at a relatively early stage in PhD programs. The linking of 'data and modeling', as it is the special emphasis in our graduate school, enables graduate students from a variety of disciplines to cooperate and exchange views on the common theme of Earth system science, which leads to a better understanding of processes within a global context.

Contributions in the [Springer Book about Earth System Science](#):

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Paleoclimate modeling and analysis

