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Andreas Börner, Heiko Hüneke, Sebastian Lorenz
(eds.)

**Field Symposium of the INQUA PeriBaltic
Working Group**

**"From Weichselian Ice-Sheet
Dynamics to Holocene Land
Use Development in Western
Pomerania and Mecklenburg"**

- Abstract Volume -

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“FROM WEICHSELIAN ICE-SHEET DYNAMICS TO
HOLOCENE LAND USE DEVELOPMENT IN
WESTERN POMERANIA AND MECKLENBURG”**

Abstract Volume

**Edited by
Andreas Börner, Heiko Hüneke, Sebastian Lorenz**

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Helmholtz Centre Potsdam - German Research Centre for Geosciences, Potsdam
State Authority for Environment Nature protection and Geology of
Mecklenburg – Western Pomerania, Geological Survey, Güstrow**

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Geological investigations of postglacial environment in the Southeastern Baltic Sea area (Lithuanian zone)

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Geological investigations of the Lithuanian marine area (SE Baltic Sea) have been carried out since the 1960s. At the very beginning the studies were not very detailed due to limited possibilities of scientific equipment, but later the research conditions and technique were developed and a significant amount of geological data were collected. The marine geological mapping became one of the most important components of the mentioned investigations. The Lithuanian Geological Survey implemented marine geological mapping at a scale of 1:200 000 in 1986–1989 and, based on the collected geological material, compiled a set of thematic maps (bathymetric, sea bottom lithological, Quaternary geological, geomorphological, etc.). Later, in 1993–1996, a group of scientists of the former Institute of Geology carried out geological mapping at a scale of 1:50 000 in the northern part of Lithuanian nearshore. Geological mapping at a scale of 1:50 000 have been renewed in 2017 by the Lithuanian Geological Survey in the southern part of the Lithuanian waters (Preila project). A new research vessel MINTIS, acquired by Klaipėda University in 2014, provided a good opportunity to carry out a detailed marine geological mapping according to the highest standards. Researchers from the Lithuanian Geological Survey, Klaipėda and Vilnius Universities, Nature Research Centre and JSC “Geobaltic” have been involved in the implementation of the mentioned project. Up to recent time the fieldwork (hydrographic, geophysical and geological surveys) was completely finished; laboratory analyses and data interpretation are in the processing stage.

Reviewing the former geological information and the first data of the recent investigations, the main features as well as the detailed events of the postglacial environmental conditions in the Lithuanian marine and coastal area have been determined. Sediments of the Baltic Ice Lake, Litorina and Postlitorina Seas are reliably detected and investigated in the entire Lithuanian Maritime Region. However, distribution of the Ancylus Lake and the Yoldia Sea sediments, determination of coastlines of these palaeobasins are still problematic. A new geological information received during the recent stage of marine geological mapping, as well as the latest results of underwater archaeological investigations, supplement scientific information and contribute to better understanding of the SE Baltic Sea development during postglacial time. The influence of glacioisostatic adjustment into the results of reconstruction of sea level changes in the SE Baltic was estimated. The newest results of pollen and diatom analyses, data of geochronological investigations of palaeolakes and peatlands discovered on the present-day bottom of the Lithuanian marine areas are presented.

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