

Session Programme Topic 2

Sea level changes from global, regional to local scale

Convener: Peter Lemke, Klaus Grosfeld, Ingo Sasgen

In the past 3000 years, in which human civilization has been predominately settled along coasts, the sea level has changed only slightly. This has altered in recent decades where global mean sea level is rising at 3,2 mm/year. The cause is the increased melting of mountain glaciers and of the large ice sheets on Greenland and in the Antarctic due to the higher atmospheric temperatures and the thermosteric expansion of the ocean provoked by climate change.

We invite contributions investigating the role of ocean dynamics and fresh water fluxes from melting glaciers and ice sheets in determining patterns of sea level change, studies analysing sea level from tide gauge, satellites as well as modelling efforts in order to improve our understanding of past, present and future changes in sea level.

Monday, 6 October 2014

Neue Mälzerei, Room MKN, Kuppelsaal Nord, 5th floor

- 14:20 TP2-O-01: Rietbroek, R., B. Uebbing, S.-E. Brunnabend, J. Kusche, J. Schröter: Sea Level Change from Observations and Modelling: a Global Perspective on a Regional Challenge
- 14:35 TP2-O-02: Weisse, R., Consequences of sea level rise for the German coast
- 14:50 TP2-O-03: Dangendorf, S., A. Arns, J. Jensen: Mechanisms of inter-annual to multi-decadal sea level variability in the North Sea
- 15:05 TP2-O-04: Esselborn, S., T. Schöne: Regional Sea Level Changes in the North Atlantic During the Last Decade
- 15:20 TP2-O-05: Wahl, T., F.M. Calafat, S. Dangendorf, M.E. Luther: Changes in the seasonal sea level cycle in the Gulf of Mexico

Poster Session:

Umweltforum, Room G, Gallery, 1st floor: 15:45 – 18:00

- TP2-P-01: Löcher, A., J. Schall, A. Eicker, J. Kusche, R. Weiss, A. Sudau, R. Rietbroek: Consistency of geoid models, altimetry, tide gauges and time-variable water levels in the North Sea
- TP2-P-02: Albrecht, F., S. Esselborn, T. Schöne: Yearly Mean Distribution of Sea Levels in the North Sea Since 1900
- TP2-P-03: Janßen, H., S. Vollbrecht: Sea level rise in a Baltic UNESCO Biosphere Reserve - Impacts and Management Implications
- TP2-P-04: Karabil, S., E. Zorita, B. Huenicke: Sea level trends and variability in the Baltic Sea
- TP2-P-05: Papazachariou, D., G. Zodiatis, A. Nikolaidis, S. Stylianou, D. Arabelos: Validation of Sea Level Anomalies – comparison of satellite altimetry and tide gauge data in the Eastern Mediterranean
- TP2-P-06: Moghaddam, K. H.: Climate change of biogenic substance and bioproductivity of water in the northern part of the Caspian Sea
- TP2-P-07: Zhao, Y., Y. Li, J. Deng, J. Harff, C. Tang, H. Zhang: Sea level and coastline change in the Bohai Sea – natural and anthropogenic impacts
- TP2-P-08: Mihoubi, M. K., H. Dahmani: Approach to study sediment transport by measurement of velocity field in the swash zone
- TP2-P-09: Rückamp, M., A. Humbert: Modeling the flow dynamics of the northeast Greenland ice stream
- TP2-P-10: Wang, Q., D. Sidorenko, S. Danilov, T. Jung, J. Schröter: The impact of vertical discretization on ice cavity modelling
- TP2-P-11: Timmermann, R., J. Determann, H. Hellmer, S. Göller, W. J. van de Berg: Reducing the uncertainty in projections of future ice shelf basal melting
- TP2-P-12: Konrad, H., I. Sasgen, M. Thoma, V. Klemann, K. Grosfeld, Z. Martinec: Marine ice-sheet instability in a fully coupled ice-sheet – solid-earth model

- TP2-P-13: Bordbar, M. H., T. Martin, M. Latif, W. Park: Internal variability of dynamic sea level and its impact on 21st century sea level change in the tropical Pacific
- TP2-P-14: Wei, W., G. Lohmann: Projections of centennial-scale sea level change in an earth system model including dynamic ice sheets
- TP2-P-15: Sutter, J., M. Thoma, G. Lohmann: Estimating past sea level contributions from Antarctica; A 3D paleo-ice-sheet-modelling approach
- TP2-P-16: Madsen, K. S., T. Schmith: Regional sea level rise in the 20th and 21st century - the example of Denmark

Tuesday, 7 October 2014

Neue Mälzerei, Room MKN, Kuppelsaal Nord, 5th floor

- 10:00 TP2-O-06: Richter, K., B. Marzeion, R. Riva: Regional sea level changes: the role of internal variability in ocean dynamics and the worlds glaciers
- 10:15 TP2-O-07: Sasgen, I.: The state of the polar ice sheets: Insights from a decade of satellite gravimetry observations
- 10:30 TP2-O-08: Goeller, S., R. Timmermann, J. Determann, H. Hellmer, M. Thoma, K. Grosfeld: The interplay of ocean circulation and ice dynamics at the Filchner-Ronne Ice Shelf, Antarctica
- 10:45 TP2-O-09: Dierking, W.: How satellite remote sensing of the ice sheets can contribute to studies of sea level changes
- 11:00 TP2-O-10: Linow, S., W. Dierking, M. Hörhold, W. Rack: Microwave remote sensing of firn properties in Antarctica