

DR. THOMAS WAHL

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RESEARCH INTERESTS

- Changes in ocean waves and sea level (seasonal to centennial time scales)
- Stochastic and numerical modelling of tides, storm surges, waves, and river flows
- Climate adaptation and resilience
- (Coastal-)Engineering design concepts
- Flood risk analysis (riverine and coastal)
- Coastal processes and hydrodynamics
- Multi hazards
- Hydrology and Hydro-climatology
- Nonlinear dynamics

EDUCATION

- 05/2007 – 06/2012 **PhD, Civil Engineering, University of Siegen, Germany**
Dissertation: Statistical methods to assess the hydrodynamic boundary conditions for risk based design approaches in coastal engineering – Methods and application to the German North Sea coastline
Supervisor: Prof Jürgen Jensen; second supervisor: Prof Robert Nicholls (University of Southampton)
Grade: 1.0 (summa cum laude/with highest honors)
- 10/2002 – 04/2007 **Diploma, Civil Engineering (specialized in Hydraulics, Hydrology, Geotechnics, Transportation), University of Siegen, Germany**
Thesis: Determination of wave impacts on the coastal zone using the numerical wave model SWAN (in German)
Grade: thesis 1.0 (excellent), overall 1.7 (very good)

PROFESSIONAL EXPERIENCE AND APPOINTMENTS

- 04/2014 Guest Researcher, University of Southampton and National Oceanography Centre Southampton, UK
- Since 04/2013 Postdoctoral Researcher, Satellite Oceanography Lab (Prof Don P. Chambers) and Ocean Modelling and Prediction Lab (Prof Mark E. Luther), College of Marine Science, University of South Florida, USA
- 12/2012 – 04/2015 Postdoctoral Researcher, Research Centre Shaping the Future, University of Siegen, Germany (on leave 04/2013 – 04/2015)
- 07/2012 – 11/2012 Postdoctoral Researcher, Research Institute for Water and Environment, University of Siegen, Germany
- 09/2011 & 03 – 04/2012 Guest Researcher, School of Environmental Systems Engineering and UWA Oceans Institute, University of Western Australia, Perth
- 05/2007 – 06/2012 Research Associate, Research Institute for Water and Environment, University of Siegen, Germany

SCIENTIFIC AWARDS

2014	Award of the German Foundation for Coastal Protection (SDK) for best doctoral thesis in 2012/2013 (\$3,200)
2014	With Arne Arns (PhD student): Award for the best paper submitted to Hydrologie & Wasserbewirtschaftung (HyWa) in 2013 by a young researcher (see publication list)
2012	Best student paper award (2 nd prize), 2 nd European Conference on FLOODrisk Management, 20–22 November 2012, Rotterdam, Netherlands
2007	Award of the booster club for architecture and civil engineering of the University of Siegen for outstanding graduation (\$750)

PUBLICATIONS

BIBLIOGRAPHIC IMPACT (AS OF JUNE 2015)

Database	No. of items	<i>h</i> -factor	<i>h</i> -10-factor	No. of citations
Scopus	38	9	9	231
Web of Knowledge	27	8	8	189
Google Scholar	73	13	17	412

PEER-REVIEWED JOURNALS (PUBLISHED, ACCEPTED & IN PRESS)

2015

1. **Wahl, T.**, Jain, S., Bender, J., Meyers, S., Luther, M. (2015). Increasing risk of compound flooding from storm surge and rainfall for major US cities, *Nature Climate Change*, doi:10.1038/nclimate2736.
2. Jensen, J., Arns, A., **Wahl, T.** (2015). Yet another 100yr storm surge event: the role of individual storm surges on design water levels, *Journal of Marine Science and Technology*, in press.
3. **Wahl, T.**, Plant N. (2015). Changes in erosion and flooding risk due to long-term and cyclic oceanographic trends, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL063876.
4. Bender, J., **Wahl, T.**, Müller, A., Jensen, J. (2015). Deriving Design Water Levels at River Confluences Using Copula Functions and Hydrodynamic Flow Models, *Hydrological Sciences Journal*, doi: 10.1080/02626667.2015.1052816.
5. **Wahl, T.**, Chambers, D.P. (2015). Evidence for multi-decadal variability in US extreme sea level records, *Journal of Geophysical Research Oceans*, doi: 10.1002/2014JC010443
6. Arns, A., **Wahl, T.**, Jensen, J. (2015). The impact of sea level rise on extreme water levels in the northern part of the German Bight, *Coastal Engineering*, 96, 118–131.
7. Arns, A., **Wahl, T.**, Haigh, I.D., Jensen, J. (2015). Determining return water levels at ungauged coastal sites: a case study for northern Germany, *Ocean Dynamics*, doi: 10.1007/s10236-015-0814-1.
8. **Wahl, T.**, Mudersbach, C., Jensen, J. (2015). Statistical Assessment of Storm Surge Scenarios within Integrated Risk Analyses, *Coastal Engineering Journal*, 57, 1540003, doi: 10.1142/S0578563415400033.
9. Oumeraci, H., Kortenhaus, A., Burzel, A., Naulin, M., Dassanayake, D.R., Jensen, J., **Wahl, T.**, Mudersbach, C., Gönner, G., Gerkenmeier, B., Fröhle, P., Ujeyl, G. (2015). XtremRisk - Integrated Flood Risk Analysis for Extreme Storm Surges at Open Coasts and in Estuaries: Methodology, Key Results and Lessons Learned, *Coastal Engineering Journal*, doi: 10.1142/S057856341540001X.

2014

10. Jensen, J., Dangendorf, S., **Wahl, T.**, Steffen, H. (2014). Meeresspiegeländerungen in der Nordsee: Vergangene Entwicklungen und zukünftige Herausforderungen, *Hydrologie und Wasserbewirtschaftung*, 58 (4), 304–323.
11. Arns, A., **Wahl, T.**, Jensen, J. (2014). A consistent return level assessment considering present day and future mean sea level conditions, *Die Küste*, 81, 525–539.
12. Dangendorf, S., Calafat, F.M., Arns, A., **Wahl, T.**, Haigh, I., Jensen, J. (2014). Mean sea level variability in the North Sea: processes and implications, *Journal of Geophysical Research Oceans*, 119, doi:10.1002/2014JC009901.
13. Bender, J., **Wahl, T.**, Jensen, J. (2014). Multivariate design in the presence of non-stationarity, *Journal of Hydrology*, 514, 123–130.
14. Haigh, I.D., **Wahl, T.**, Rohling, E.J., Price, R.M., Pattiaratchi, C. (2014). Timescales for detecting significant acceleration in sea-level rise, *Nature Communications*, 5, 3635.
15. **Wahl, T.**, Calafat, F.M., Luther, M.E. (2014). Rapid changes in the seasonal sea level cycle along the US Gulf coast from the late 20th century, *Geophysical Research Letters*, 41, 491–498, 2014. (Featured as research highlight in *Nature* 505, 265, 2014, doi:10.1038/505265d; *Nature Climate Change* 4, 87, 2014, doi:10.1038/nclimate2129; *EOS* 95-18, 156, doi: 10.1002/2014EO180010).
16. Dangendorf, S., Müller-Navarra, S., Jensen, J., Schenk, F., **Wahl, T.**, Weisse, R. (2014). North Sea storminess from a novel storm surge record since AD 1843, *Journal of Climate*, 27, 3582–3595.

2013

17. Arns, A., **Wahl, T.**, Dangendorf, S., Mudersbach, C., Jensen, J. (2013). Ermittlung regionalisierter Extremwasserstände für die Schleswig-Holsteinische Nordseeküste. *Hydrologie und Wasserbewirtschaftung*, 57, 6, 2013.
18. Dangendorf, S., **Wahl, T.**, Nilson, E., Klein, B., Jensen, J. (2013). A new Atmospheric Proxy for Sea Level Variability in the southeastern North Sea: Observations and Future Ensemble Projections, *Climate Dynamics*, 43, 447–467.
19. Arns, A., **Wahl, T.**, Haigh, I.D., Jensen, J., Pattiaratchi, C. (2013). Estimating extreme water level probabilities: a comparison of the direct methods and recommendations for best practice, *Coastal Engineering*, 81, 51–66.
20. **Wahl, T.**, Haigh, I.D., Woodworth, P.L., Albrecht, F., Dillingh, D., Jensen, J., Nicholls, R., Weisse, R., Wöppelmann, G. (2013). Observed mean sea level changes around the North Sea coastline from 1800 to present, *Earth Science Reviews*, 124, 51–67.
21. Dangendorf, S., Mudersbach, C., **Wahl, T.**, Jensen, J. (2013). Characteristics of intra-, interannual and decadal sea level variability and the role of meteorological forcing: The long record of Cuxhaven, *Ocean Dynamics*, 63, 2–3, 209–224.
22. Mudersbach, C., **Wahl, T.**, Haigh, I.D., Jensen, J. (2013). Trends in high sea levels of German North Sea gauges compared to regional mean sea level changes, *Continental Shelf Research*, 65, 111–120.
23. **Wahl, T.**, Haigh, I.D., Dangendorf, S., and Jensen, J. (2013). Inter-annual and long-term mean sea level changes along the North Sea coastline. In: Conley, D.C., Masselink, G., Russell, P.E. and O'Hare, T.J. (eds.), *Journal of Coastal Research*, SI 65, 1987–1992.
24. Dangendorf, S., **Wahl, T.**, Mudersbach, C., Jensen, J. (2013). The seasonal cycle of MSL in the south-eastern North Sea. In: Conley, D.C., Masselink, G., Russell, P.E. and O'Hare, T.J. (eds.), *Journal of Coastal Research*, SI 65, 1915–1920.

2012

25. **Wahl, T.**, Mudersbach, C., Jensen J. (2012). Assessing the hydrodynamic boundary conditions for risk analyses in coastal areas: A multivariate statistical approach based on Copula functions, *Natural Hazards and Earth System Science*, 12, 495–510.
26. Dangendorf, S., **Wahl, T.**, Hein, H., Jensen, J., Mai, S., Mudersbach, C. (2012). Mean Sea Level variability and influence of the North Atlantic Oscillation on long-term trends in the German Bight, *Water*, 4, 170–195.

2011

27. **Wahl, T.**, Mudersbach, C., Jensen J. (2011). Assessing the hydrodynamic boundary conditions for risk analyses in coastal areas: A stochastic storm surge model, *Nat. Hazards Earth Syst. Sci.*, 11, 2925–2939.
28. Albrecht, F., **Wahl, T.**, Jensen, J., Weisse, R. (2011). Determining Sea Level change in the German Bight, *Ocean Dynamics*, 61-12, 2037–2050.
29. **Wahl, T.**, Jensen, J., Frank, T., Haigh, I.D. (2011). Improved estimates of mean sea level changes in the German Bight over the last 166 years, *Ocean Dynamics*, 61-5, 701–7015.
30. Jensen, J., Frank, T., **Wahl, T.** (2011). Analyse von hochaufgelösten Tidewasserständen und Ermittlung des MSL an der deutschen Nordseeküste (AMSeL), *Die Küste*, Heft 78.
31. Frank, T., **Wahl, T.**, Jensen, J. (2011). Mean Sea Level and Tidal Analysis along the German North Sea Coastline, *Journal of Coastal Research*, SI 64, 501–505.

2010

32. **Wahl, T.**, Jensen, J., Frank, T. (2010). On analysing sea level rise in the German Bight since 1844, *Nat. Hazards Earth Syst. Sci.*, 10, 171–179, doi:10.5194/nhess-10-171-2010.

2009

33. Gönnert, G., Jensen, J., von Storch, H., Thumm, S., **Wahl, T.**, Weisse, R. (2009). Der Meeresspiegelanstieg – Ursachen, Tendenzen und Risikobewertung, *Die Küste*, Heft 76, 225–256.

PEER-REVIEWED JOURNALS (UNDER REVIEW & REVISED)

1. **Wahl, T.**, Chambers, D.P. (under review). Climate controls multi-decadal variability in U.S. extreme sea level records, *Journal of Geophysical Research Oceans*.

MONOGRAPHS, BOOKS AND BOOK CHAPTERS

1. **Wahl, T.**, Woodworth, P.L., Haigh, I.D. (2015). Past Sea Level Changes, *North Sea Climate Change Assessment Report (NOSCCA)*, in press.

CONFERENCE FULL PAPERS (REFEREED)

1. Bender, J., **Wahl, T.**, Mudersbach, C., Jensen, J. (2014). Considering the non-simultaneous occurrence of extremes in the bivariate design using Copula functions, *12th International Probabilistic Workshop (IPW12)*, Bauhaus-Universität Weimar, Germany.
2. Arns, A., **Wahl, T.**, Haigh, I.D., Jensen, J. (2013). Spatial extreme value analyses for Schleswig-Holsteins coastline and Islands, *Coastal Dynamics*, Bordeaux, France.
3. **Wahl, T.**, Mudersbach, C., Jensen, J. (2012). Statistical assessment of storm surge scenarios within integrated risk analyses – Results of the XtremRisk project, *2nd European Conference on FLOODrisk Management*, Rotterdam, Netherlands.
4. Arns, A., **Wahl, T.**, Jensen, J. (2012). Statistics of extreme still water levels – between policy and objectivity, *10th International Conference on Hydroscience and Engineering (ICHE)*, Orlando, USA.

5. Oumeraci, H., Burzel, A., Daemrich, K.-F., Dassanayake, D., Fröhle, P., Gerkenmeier, B., Gönnert, G., Jensen, J., Kortenhaus, A., Mudersbach, C., Naulin, M., Pasche, E., Sossidi, K., Thumm, S., Ujeyl, G., **Wahl, T.** (2012). Integrated Flood Risk Analysis for Extreme Storm Surges at Open Coasts and in Estuaries: Background, Methodology, Key Results and Lessons Learned - Results of the XtremRisk Project, *Proceedings of the 2nd European Conference on FLOODrisk Management*, Rotterdam, Netherlands, 2012.
6. **Wahl, T.**, Frank, T., Jensen, J. (2011). Regional patterns of sea level change in the German North Sea related to global patterns – Are IPCC projections reliable for regional planning purposes, *34th International Association of Hydraulic Engineering & Research (IAHR) World Congress*, Brisbane, Australia.
7. **Wahl, T.**, Jensen, J., Mudersbach, C. (2011). Stochastic storm surge simulation and the multivariate statistical assessment of the results via Copula functions, *34th International Association of Hydraulic Engineering & Research (IAHR) World Congress*, Brisbane, Australia, 2011.
8. Haigh, I.D., Eliot, M., Pattiaratchi C, **Wahl, T.** (2011). Regional changes in mean sea level around Western Australia between 1897 and 2008, *Proc. of the Coasts and Ports Conference*, Perth, Australia, 2011.
9. **Wahl, T.**, Jensen, J. (2011). Statistical methods to assess the hydrodynamic boundary conditions for flood risk analyses in coastal areas, *Proc. of the Coasts and Ports Conference*, Perth, Australia, 2011.
10. Jensen, J., **Wahl, T.**, Blasi C. (2009). Investigation of Mean Sea Level and Tidal Dynamics in the Light of Climate Change, *Medcoast 09 - 9th International Conference on the Mediterranean Coastal Environment*, Sochi, Russia, 2009.
11. Oumeraci, H., Jensen, J., Gönnert, G., Pasche, E., Kortenhaus, A., Naulin, M., **Wahl, T.**, Thumm, S., Ujeyl, G., Gershovich, I., Burzel, A. (2009). Flood Risk Analysis for a Megacity: The German XtremRisk-Project, *European and Global Communities combine forces on Flood Resilient Cities*, Paris, France, 2009.

CONFERENCE FULL PAPERS (OTHERS)

1. Jensen, J., Arns, A., **Wahl, T.** (2014). Yet another 100yr storm surge event: the role of individual storm surges on design water levels, *The 7th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (JOINT2014)*, Hannover, Germany, 2014.
2. Bender, J., **Wahl, T.**, Mudersbach, C., Jensen, J. (2013). Flood Frequency Analysis at River Confluences – Univariate vs. Multivariate Extreme Value Statistics, *6th International Conference on Water Resources and Environment Research (ICWRER)*, Koblenz, Germany, 2013.
3. **Wahl, T.**, Bender, J., Jensen, J. (2013). Copula functions as a useful tool for coastal engineers, *Proc. International Short Conference on Advances in Extreme value Analysis and Application to Natural Hazards (EVAN2013)*, Siegen, Germany.
4. Bender, J., **Wahl, T.**, Jensen, J. (2013). Assessing Bivariate Hydrological Design Parameters Under Nonstationary Conditions, *Proc. International Short Conference on Advances in Extreme value Analysis and Application to Natural Hazards (EVAN2013)*, Siegen, Germany.
5. Arns, A., **Wahl, T.**, Haigh, I.D., Mudersbach, C., Jensen, J., Pattiaratchi, C. (2012). Changes in MSL and Extreme Sea Levels in Western Australia and Northern Europe, *The 6th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (JOINT2012)*, Keelung, Taiwan, 2012.

6. Frank, T., **Wahl, T.**, Jensen, J. (2012). Residence Times and Successive Tidal High- and Low Water Events at the German North Sea Coastline, *The 6th Chinese-German Joint Symposium on Hydraulic and Ocean Engineering (JOINT2012)*, Keelung, Taiwan, 2012.
7. Mudersbach, C., **Wahl, T.**, Jensen, J. (2012). Estimating future probabilities of extreme sea levels, *Proceedings of the 33rd International Conference on Coastal Engineering (ICCE)*, Santander, Spain, 2012.
8. Oumeraci, H., Burzel, A., Dassanayake, D., Gönnert, G., Jensen, J., Kortenhaus, A., Mudersbach, C., Naulin, M., Pasche, E., Sossidi, K., Thumm, S., Ujeyl, G., **Wahl, T.** (2011). XtremRisk - Extremsturmfluten an offenen Küsten und Ästuargebieten - Risikoermittlung und -beherrschung im Klimawandel, *HTG-Kongress 2011*, Würzburg, Germany, 2011.
9. **Wahl, T.**, Jensen J. (2011): Statistisch-probabilistische Untersuchungen zu zeitabhängigen Belastungen aus Wasserstand und Seegang auf Küstenschutzbauwerke, *Proc. of the 1st CoastDoc-Seminar*, Siegen, Germany, 2011.
10. **Wahl, T.**, Jensen, J., Mudersbach, C. (2011). Meeresspiegeländerungen und Sturmfluten: Aktuelle Untersuchungen in der Deutschen Bucht, In: V. Karius, H. Hadler, M. Deicke, H.v. Eynatten, H. Brückner & A. Vött: Dynamische Küsten - Grundlagen, Zusammenhänge und Auswirkungen im Spiegel angewandter Küstenforschung, *Coastline Reports 17* (2011).
11. Burzel, A., Dassanayake, A., Naulin, M., Kortenhaus, A., Oumeraci, H., **Wahl, T.**, Mudersbach, C., Jensen, J., Gönnert, G., Sossidi, K., Ujeyl, G., Pasche, E. (2010). Intergrated flood risk analysis for extreme storm surges, *Proceedings of the 32nd International Conference on Coastal Engineering (ICCE)*, Shanghai, China, 2010.
12. Jensen, J., **Wahl, T.**, Frank, T. (2010). Improved estimates of sea level change in the south-eastern North Sea since 1844, *Proceedings of the 32nd International Conference on Coastal Engineering (ICCE)*, Shanghai, China, 2010.
13. **Wahl, T.**, Jensen, J., Mudersbach, C. (2010). A multivariate statistical model for advanced storm surge analyses in the North Sea, *32nd International Conference on Coastal Engineering (ICCE)*, Shanghai, China.
14. Jensen, J., Schubert, B., Wörner., M., Frank, T., **Wahl, T.** (2009). Niedrigwasserbetrachtungen an Kraftwerksstandorten, *Jahrestagung Kerntechnik*, Dresden, Germany, 2009.
15. **Wahl, T.**, Jensen J., Frank T. (2008). Changing sea level and tidal dynamics at the German North Sea coastline, *Coastal Cities Summit 2008*, St. Petersburg, USA, 2008.
16. Jensen, J., Mudersbach, C., **Wahl, T.** (2008). Simulation of super storms for better estimation of design parameters, *Proceedings of the Coastal Cities Summit 2008*, St. Petersburg, USA, 2008.
17. Jensen, J., **Wahl, T.**, Mudersbach, C. (2008). Sea Level Variations at the German North Sea and Baltic Sea Coastlines, *Proceedings of the 7th International Conference on Coastal and Port Engineering in Developing Countries (PIANC COPEDEC VII)*, Dubai, 2008.

CONFERENCE ABSTRACTS, POSTER & PRESENTATIONS

1. Meyers, S.D., **Wahl, T.**, Luther, M.E. (2015). How Losing Egmont Key Will Impact Tides and Storm Surge in Tampa Bay, *BASIS 6 – Bay Area Scientific Information Symposium*, St. Petersburg, FL, USA, 2015.
2. **Wahl, T.**, Chambers, D. (2015). Non-stationarity in US extreme sea level records and the role of large scale climate variations, *2nd JCOMM Scientific and Technical Symposium on Storm Surges*, Key West, USA, 2015.
3. Meyers, S.D., Ulm, M., **Wahl, T.**, Luther, M.E., Arns, A., Jensen, J. (2015). Changes in tidal circulation in a microtidal estuary due to barrier island loss, *Coastal & Estuarine Research Foundation (CERF)*, Portland, USA, 2015.

4. Niehüser, S., Jensen, J., **Wahl, T.**, Dangendorf, S., Hofstede, J. (2015). The role of vertical land movements on late 19th century sea level rise at Cuxhaven, Germany, *Vol. 17, EGU General Assembly*, Vienna, Austria, 2015.
5. **Wahl, T.**, Chambers, D. (2014). Evidence for multi-decadal variability in US extreme sea level records, *Fall Meeting, American Geophysical Union*, San Francisco, USA, 2014.
6. **Wahl, T.**, Plant, N. (2014). Past and future drivers of increased erosion risk in the northern Gulf of Mexico, *Fall Meeting, American Geophysical Union*, San Francisco, USA, 2014.
7. **Wahl, T.**, Calafat, F.M., Dangendorf, D., Luther, M.E. (2014). Changes in the seasonal sea level cycle in the Gulf of Mexico, *Reklim Conference: Our Climate - Our Future*, Berlin, Germany, 2014.
8. **Wahl, T.**, Jain, S., Bender, J., Meyers, S., Luther, M. (2014). Increasing risk of compound flooding from storm surge and rainfall for major US coastal cities, *Reklim Conference: Our Climate - Our Future*, Berlin, Germany, 2014.
9. Fenoglio-Marc, L., Dangendorf, S., Becker, M., Jensen, J., **Wahl, T.**, Sannino, G. (2014). Regional Sea Level Rise in the North Sea and Mediterranean basins, *Climate Research and Earth Observations from Space: Climate Information for Decision Making*, Darmstadt Germany, 2014
10. Dangendorf, S., Müller-Navarra, S., Jensen, J., Schenk, F., **Wahl, T.**, Weisse, R. (2014). North Sea storminess from a novel storm surge record since AD 1843, *Geophysical Research Abstracts, Vol. 16, EGU General Assembly*, Vienna, Austria, 2014.
11. Dangendorf, S., **Wahl, T.**, Nilson, E., Klein, B., Jensen, J. (2014). A new atmospheric proxy for sea level variability in the south-eastern North Sea: Observations and ensemble projections, *Geophysical Research Abstracts, Vol. 16, EGU General Assembly*, Vienna, Austria, 2014
12. **Wahl, T.**, Dangendorf, D., Luther, M.E. (2014): Seasonal sea level changes in the Gulf of Mexico and the implications for coastal flood risk, *11th International Conference on Hydroscience & Engineering (ICHE)*, Hamburg, Germany, 2014.
13. Meyer, E., Albrecht, F., von Storch, H., **Wahl, T.**, Weisse, R. (2014): Regional Sea Level Change in the German Bight, North Sea, Germany, *Ocean Sciences Meeting*, Honolulu, Hawaii USA, 2014.
14. Dangendorf, S., Calafat, F.M., **Wahl, T.**, Arns, A., Jensen, J. (2013). North Sea sea level rise and the role of inter-annual to multi-decadal variability since the late 19th century, *Fall Meeting, American Geophysical Union*, San Francisco, USA, 2013.
15. **Wahl, T.**, Calafat, F.M., Luther, M.E. (2013). Rapid changes in the seasonal sea level cycle along the US Gulf coast in the early 21st century, *Fall Meeting, American Geophysical Union*, San Francisco, USA, 2013.
16. Dangendorf, S., **Wahl, T.**, Nilson, E., Klein, B., Jensen, J. (2013). A new atmospheric proxy for sea level variability in the south-eastern North Sea: Observations and ensemble projections, *High End Sea Level Rise Workshop*, Hamburg, Germany, 2013.
17. Dangendorf, S., **Wahl, T.**, Jensen, J. (2013). Monthly to Multi-Decadal Sea Level Variations from tide gauges in the German Bight from the mid-19th century to present, *Knowledge for the future – IAHS, IAPSO, IAPSEI Joint Assembly*, Gothenburg Sweden, 2013.
18. **Wahl, T.**, Haigh, I., Woodworth, P.L., Albrecht, F., Dillingh, D., Jensen, J., Nicholls, R., Weisse, R., Wöppelmann, G. (2013). Observed mean sea level changes around the North Sea coastline from 1800 to present, *Knowledge for the future – IAHS, IAPSO, IAPSEI Joint Assembly*, Gothenburg Sweden, 2013.

19. **Wahl, T.**, Jensen, J. (2013). Mean sea level changes along the North Sea coastline from the early 19th century to present, *6th International Conference on Water Resources and Environment Research (ICWRER)*, Koblenz, Germany, 2013.
20. Dangendorf, S., **Wahl, T.**, Jensen, J. (2013). Monthly to Multi-Decadal Sea Level Variations in the German Bight during the past two centuries, *6th International Conference on Water Resources and Environment Research (ICWRER)*, Koblenz, Germany, 2013.
21. Bender, J., **Wahl, T.**, Mudersbach, C., Jensen, J. (2013). Ermittlung von Bemessungsabflüssen an Flussmündungen – Univariate vs. multivariate Extremwertstatistik, *Tag der Hydrologie*, Bern, Switzerland, 2013.
22. Jensen, J., Arns, A., Dangendorf, S., Mudersbach, C., **Wahl, T.** (2013). Vom Wasserstand zum Risiko, *HZG-Workshop Dialog: Küstenforschung, Küstennutzung und Küstenschutz*, Hamburg, Germany, 2013.
23. **Wahl, T.**, Haigh, I.D. and Jensen, J. (2012). Mean sea level changes along the North Sea coastline and its implications for enhanced future flood risks, *2nd European Conference on FLOODrisk2012*, Rotterdam, Netherlands, 2012.
24. Haigh, I.D., Pattiaratchi, C., **Wahl, T.**, Price, R.M. (2012). Timescales for detecting significant acceleration in sea-level rise, *GSA Annual Meeting & Exposition*, Charlotte, USA, 2012.
25. **Wahl, T.**, Mudersbach, C., Jensen, J. (2012). Copula functions in coastal engineering - Advantages and applications, *33rd International Conference on Coastal Engineering (ICCE)*, Santander, Spain, 2012.
26. Mudersbach, C., Dangendorf, S., **Wahl, T.**, Jensen, J. (2012). Trends in sea level percentiles along the German North Sea coastline compared to regional mean sea level changes, *Geophysical Research Abstracts, Vol. 14, EGU General Assembly 2012*, Vienna, Austria, 2012.
27. Dangendorf, S., Mudersbach, C., **Wahl, T.**, Jensen, J. (2012). Meteorological forcing of the annual MSL cycle and its impacts on flood risk in the German Bight, *Geophysical Research Abstracts, Vol. 14, EGU General Assembly 2012*, Vienna, Austria, 2012.
28. Mudersbach, C., **Wahl, T.**, Haigh, I.D., Jensen, J. (2012). Trends in extreme high sea levels along the German North Sea coastline compared to regional mean sea level changes, *Planet Under Pressure*, London, UK, 2012.
29. **Wahl, T.**, Jensen, J. (2011). Assessing the hydrodynamic boundary conditions for integrated risk analyses along the German North Sea coastline, *Geophysical Research Abstracts, Vol. 13, EGU General Assembly 2011*, Vienna, Austria, 2011.
30. **Wahl, T.**, Mudersbach, C., Jensen, J. (2010). A stochastic storm surge generator as a tool for integrated risk analyses, *Storm Surges Congress*, Hamburg, 2010.
31. **Wahl, T.**, Frank, T., Jensen, J. (2010). Sea level rise in the German Bight as one of the main contributors to changing storm surge statistics, *Storm Surges Congress*, Hamburg, 2010.
32. **Wahl, T.**, Frank, T., Jensen, J. (2010). Regional patterns of sea level change in the German North Sea in a worldwide context, *Geophysical Research Abstracts, Vol. 12, EGU General Assembly 2010*, Vienna, Austria, 2010.
33. **Wahl, T.**, Jensen, J., Mudersbach, C. (2010). A stochastic storm surge generator for the German North Sea and the multivariate statistical assessment of the simulation results, *Geophysical Research Abstracts, Vol. 12, EGU General Assembly 2010*, Vienna, Austria, 2010.

34. **Wahl, T.**, Jensen, J., Frank, T. (2009). Combining high and low resolution sea level data for MSL computations in shallow seas, *Geophysical Research Abstracts, Vol. 11, EGU General Assembly 2009*, Vienna, Austria, 2009.
35. Jensen, J., **Wahl, T.**, Frank, T., Blasi, C. (2008). AMSeL – Mean Sea Level and Tidal Analysis at the German North Sea Coastline, *Geophysical Research Abstracts, Vol. 10, EGU General Assembly 2008*, Vienna, Austria, 2008.

INVITED TALKS

- | | |
|---------|---|
| 12/2015 | Session “Regional and Global Sea Level Variability and Projections” at the American Geophysical Union Fall Meeting (AGU) 2015, San Francisco, USA |
| 09/2015 | 2 nd International Conference on Advances in Extreme Value Analysis and Application to Natural Hazards, Santander, Spain |
| 03/2015 | <u>Keynote lecture</u> : Ocean Sustainability Science Symposium, Excellence Cluster The Future Ocean, Kiel, Germany (Dr. Dangendorf attended on behalf) |
| 09/2014 | Seminar series of the Institute of Coastal Research, Helmholtz Centre Geesthacht (HZG), Geesthacht, Germany |
| 03/2014 | Seminar series of the Excellence Cluster The Future Ocean, Kiel University, Kiel, Germany |
| 02/2014 | USACE team meeting for the development of an Engineering Technical Letter on Extreme Water Level Assessment |
| 10/2013 | Seminar series of the United States Geological Survey (USGS), St. Petersburg, USA |
| 09/2013 | <u>Keynote lecture</u> : 4 th Brazilian-German Frontiers of Science and Technology Symposium, Potsdam, Germany |
| 11/2012 | Statistical methods for the analysis of simulated and observed climate data, workshop organized by the Climate Service Center (CSC), Hamburg, Germany |
| 03/2012 | Masterclass with Robert Nicholls, University of Western Australia, Perth, Australia |
| 05/2011 | Hydrologisches Gespräch Land Schleswig-Holstein, Flintbek, Germany |
| 10/2010 | KLIMZUG-NORD: Sea Level Rise, workshop organized by the Hamburg University of Technology, Hamburg, Germany |
| 08/2010 | German – Dutch Meeting on Sea Level Change, Federal Maritime and Hydrographic Agency, Hamburg, Germany |

PROFESSIONAL SERVICE

- Review Editorial Board of *Frontiers in Marine Science – Coastal Ocean Processes* (since 2014)
- Scientific board and session chair of the International Short Conference on Advances in Extreme Value Analysis and Application to Natural Hazards (EVAN2015), Santander, Spain, September 2015
- Convener and session chair at the AGU Fall Meeting 2014: Extreme sea levels and coastal flood risk in a changing climate
- Contributing author to Climate Service Centre Hamburg report no. 13: Statistical methods for the analysis of simulated and observed climate data
- Member of the steering group and scientific board of the International Short Conference on Advances in Extreme Value Analysis and Application to Natural Hazards (EVAN2013), Siegen, Germany, September 2013

- Member of the organizing committee of the first CoastDoc seminar, Siegen, Germany, October 2010
- Journal/book reviewer:
 - BALTEX Assessment of Climate Change for the Baltic Sea basin (BACCII)
 - Journal of Geodesy
 - Water Resources Research
 - Ocean Science
 - Journal of Coastal Research
 - Ocean Engineering
 - Journal of Geophysical Research Oceans
 - Tellus
 - Natural Hazards and Earth System Science
 - Climate Dynamics
 - Ocean Modelling
 - Estuarine, Coastal and Shelf Science
 - Surveys in Geophysics
 - Ocean Dynamics
 - Natural Hazards
 - Hydrological Sciences Journal
 - Continental Shelf Research
 - Journal of Marine Science and Engineering
 - Geophysical Research Letters
 - Applied Ocean Research
- Proposal reviewer:
 - NSF Panelist: Science, Engineering, and Education for Sustainability (SEES) Program (2015)
 - Research School for Socio-Economic and Natural Sciences of the Environment (SENSE), Netherlands (2014)
 - Estonian Research Council (ETAg) (2014)
 - The Netherlands Organisation for Scientific Research (NWO) (2014)

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

- Fellow of the Research Centre Shaping the Future, University of Siegen, Germany
- American Geophysical Union (AGU)
- European Geoscience Union (EGU)
- German Port Technology Association (HTG)

MEDIA COVERAGE

Mean sea level changes in the North Sea (Wahl et al., 2013; *Earth Science Reviews*):

- News article in "Der Westen" (in German) ([Link](#))

Time scales for significant trend detection in mean sea level (Haigh et al., 2014; *Nature Comm.*):

- Various news articles in national and international media ([Link](#))

Changes in seasonal sea level cycles (Wahl et al., 2014; *Geophys. Res. Lett.*):

- AGU press release ([Link](#))
- Cover story in the Tampa Bay Times ([Link](#))
- Features: *Nature* 505, 265, 2014, doi:10.1038/505265d; *Nature Climate Change* 4, 87, 2014, doi:10.1038/nclimate2129; *EOS* 95-18, 156, doi: 10.1002/2014EO180010)

The effects of long-term and cyclic trends on erosion/flooding (Wahl and Plant, 2015; *Geophys. Res. Lett.*):

- AGU Blog post ([Link](#))

Increasing risk of compound flooding (Wahl et al., 2015; *Nature Climate Change*):

- Various news articles in national and international print and online media, podcasts, and TV coverage (Channel 10 News Tampa Bay) ([Link](#))