

Dr. Gerd Bruss

Department of Marine Science and Fisheries

TEACHING

MASF 3020 Oceanography

MASF 3001 Physical Oceanography

MASF 4200 Satellite Oceanography

MASF 3060 Coastal Zone Management

MASF 4001 Critical Reading and Scientific Writing

CAMS 3000 Seminar and Presentation Skills

RESEARCH

Physical Shelf Dynamics

Coastal Processes

Field Data Collection and Analysis

Numerical Modelling

PUBLICATIONS

Journals

Claereboudt, M. and Bruss, G. Modelling Lagrangian transport in the North-West Arabian Sea - larval dispersal and connectivity patterns of coral reefs. Submitted to Coral Reefs.

Al-Yahyai, D., Gallardo, W., Claereboud, M. and Bruss, G. Spatio-temporal variation of water quality parameters and hydrography at a Gilthead sea bream (*Sparus aurata*) cage culture farm off the coast of Quriyat (Sea of Oman). Aquatic Living Resources. (Accepted Oct. 2020)

K.A. Al-Hashmi, S.A.Piontkovski, G. Bruss, W.Hamza, M.Al-Junaibi, Yu.Bryantseva and E.Popova. 2019. Seasonal variations of plankton communities in coastal waters of Oman. International Journal of Oceans and Oceanography. 13-2, pp. 395-426.

Schulz, D.; Bruss, G. and Mayerle, R. 2018. KFKI-Projekt MOSES, Modellierung des mittelfristigen Seegangsklimas im deutschen Nordseekuestengebiet. Die Kueste 80. pp. 133-142.

Mayerle, R., Al-Subhi, A., Fernandez, J., Salama, A., Bruss, G., Zubier, K., Runte, K., Turki, A., Hesse, K., Jastania, H., Ladwig, N. and Mudarris, H. Development of a coastal information system for the

management of Jeddah coastal waters in Saudi Arabia, *Computers & Geosciences*, Volume 89, April 2016, Pages 71-78, ISSN 0098-3004.

Augustin, N., Schmidt, M., Devey, C.W., Al-Aidaros, A. M., Krten, B., Eisenhauer, A., Brckmann, W., Dengler, M., van der Zwan, F.M., Feldens, P., Kwasnitschka, T., Bantan, R. A., Basaham, A., Metz, Dirk, Hagemann, J., Al-Dhouyan, I. O., Al-Farawati, R., Al-Haj, A., Al-Nomani, S., Al-Nuwairah, M., Al-Mehana, W., Al-Sofyani, A., Al-Yousef, S., Al-Barakati, A., Audritz, S., Bauersachs, T., Bruss, G., Elgara, A. E., El-Sherbini, M., Haredy, R., Hissmann, Karen, Jamal, M., Khomayis, H. S., Kotob, A., Laurila, T., Linke, Peter, McGinnis, Daniel, Orif, I. M., Pena-Garcia, D., Raddatz, Jacek, Sas, A., Sawall, Yvonne, Schauer, Jrgen, Sommer, Stefan, Winder, M. and Walther, S. 2015. The Jeddah Transect Project: Extensive mapping of the Red Sea Rift. *InterRidge News*. pp. 68-73.

Kuerten, B., Al-Aidaros, A.M., Kuerten, S., El-Sherbiny, M.M., Devassy, R.P., Struck, U., Zarokanellos, N., Jones, B.H., Hansen, T. Bruss and G., Sommer, U. 2016. Carbon and nitrogen stable isotope ratios of pelagic zooplankton elucidate ecohydrographic features in the oligotrophic Red Sea, *Progress in Oceanography*, Volume 140, January 2016, Pages 69-90, ISSN 0079-6611.

Madah, F. , Mayerle, R. , Bruss, G. and Bento, J. 2015. Characteristics of Tides in the Red Sea Region, a Numerical Model Study. *Open Journal of Marine Science*, 5, 193-209.

Fernandez, J., Mayerle, R., Al-Subhi, A., Salama, A. and Bruss, G. 2015. Development of a Coastal Information System for the Management of Jeddah Coastal Waters in Saudi Arabia. *Journal of Computers & Geosciences* Fery, N., Zubier, K., Al-Subhi, A. and Bruss, G. 2015. Evaluation of the Sea State near Jeddah based on recent Observations and Model Results. *Journal of Operational 8 Publications Oceanography* 8 (1), 1-10.

Bruss, G., Jimenez, N., Eiben, H. and Mayerle, R. 2009. Determination of design parameters for coastal protection at the German Baltic Sea coast based on scenario simulations. *Die Kueste* 75, 163-190. in German.

Jimenez, N.; Bruss, G.; Eiben, H. und Mayerle, R. 2009. Modelling of waves during extreme events within the Baltic Sea and reconstruction of the historic storm of 1872. *Die Kueste* 75, 191-206. in German.

Bruss, G. und Bork, I. 2009. Comparison of the two hydrodynamic model systems applied in the framework of the project MUSTOK. *Die Kueste* 75, 231-254. in German.

Book chapters

Mayerle, R. and Bruss, G. 2015. Coastal Models: State of the Art and Future Developments. In Bernhard Thalheim & Ivor Nissen (Eds.), *Science and Art of Modelling* (pp. 335-355), Berlin/Boston, de Gruyter. In German.

Conferences

Gerd Bruss, Dawood Al-Yahyai, Wenresti Gallardo and Michel Claereboud. 2020. Circulation and thermal structure on the northern Omani shelf. AGU - Ocean Sciences Meeting 16-21 February 2020, San Diego.

Dawood Al-Yahyai, Wenresti Gallardo, Michel Claereboud, Gerd Bruss. 2019. Temporal and Spatial Variation in Water Quality Parameters in Gilthead Sea Bream (*Sparus aurata*) Cage Culture Farm in the Coast of Quriyat (Sea of Oman). Oral Communication to Ecological Intensification: A New paragon for Sustainable Aquaculture Conference 28-30 October 2019.

Gerd Bruss, Andy Kwarteng, Mahad Baawain, Ahmad Sana, Prerana Chitrakar, Farid Al-Abdali and Harib Al-Habsi. 2018. Coastal currents on the northern Omani shelf. 13th International Conference on Coasts, Ports, and Marine Structures. Nov. 2018, Tehran, Iran.

Prerana Chitrakar, Ahmad Sana, Mahad Baawain, Abdullah Al-Mamun, Gerd Bruss and Andy Kwarteng. 2018. Preliminary assessment of water quality at the coast of Muscat, Oman. 13th International Conference on Coasts, Ports, and Marine Structures. Nov. 2018, Tehran, Iran.

Bruss, G. Research at Department of Marine Science and Fisheries. 2018. International forum on Remote Sensing Applications in Physical Oceanography, SQU Muscat, Tuesday 25th September 2018

Bruss, G. and Claereboudt, M. 2017. Modelling Lagrangian transport in the North-West Arabian Sea - larval dispersal and connectivity patterns of coral communities. 2nd National Conference on Agriculture and Fisheries Research, SQU, April 3-4, 2017

Zheng, X., Bruss, G., Mayerle, R. and Tang, C. 2014. Surface Current Analysis from High Frequency Radar Measurement of the Coast of Yantai, China. Proceedings of the 11th International Conference on Hydrosience & Engineering, Hamburg, Germany.

Fery, N., Bruss, G., Al-Subhi, A. and Mayerle, R. 2012. Numerical study of wind-generated waves in the Red Sea. Proceedings of the 4th international conference on the application of physical modeling to port and coastal protection, Ghent, Belgium.

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Bruss, G., Goennert, G. and Mayerle, R. 2010. Extreme scenarios at the German North Sea coast - a numerical model study. Proceedings of 32nd Conference on Coastal Engineering, Shanghai, China.

Bruss, G. and Mayerle, R. 2009. Investigations on the influence of the wind drag coefficient in storm surge models. Proceedings of International Conference in Ocean Engineering, IIT Madras, Chennai, India.

Bruss, G., Jimenez, N., Eiben, H., Heinrichs, M., Riemer, J. and Mayerle, R. 2008. Design scenarios for coastal protection structures on the German Baltic Sea coast. Proceedings of 31st Conference on Coastal Engineering, Hamburg, Germany.

Bruss, G., Eiben, H., Jimenez, N. and Mayerle, R. 2010. Storm Surges in the German Baltic Sea. Storm Surges Congress, University of Hamburg, Germany.

Pena, D., Bruss, G. and Mayerle, R. 2010. Modelling of storm surges in the Elbe Estuary. Storm Surges Congress, University of Hamburg, Germany

Technical Reports

Niederndorfer, K., Bruss, G. and Mayerle, R. 2016. Planung Grossliegeplatz Emden, Los 6.2 - Wasserbauliche System-analyse. Final Report. Niedersachsen Ports Proj.-Nr.: 15057. FTZ Westkste, Kiel University.

Niederndorfer, K., Bruss, G. and Mayerle, R. 2016. Einschätzung zur Vertiefung der Liegewanne an der Emspier auf 10,12 m. Final Report. Niedersachsen Ports - Proj.-Nr.: 15057 - 2. FTZ Westkste, Kiel University.

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Bruss, G. and Mayerle, R. 2010. Hydrodynamic model study on extreme wave heights in the area of the planned pier at Timmendorfer Beach. Final report for Timmendorf Beach Community.

Mayerle R., Bruss, G. and Osinski, R. 2010, Sensitivity study on the physics of storm surges in the German Bight. Final report for Hamburg Agency of roads, bridges and waters.

Bruss, G., Mayerle, R. and Block, J. 2009. Model studies to evaluate alternative measures to improve the accessibility to port Friedrichskoog, North Sea. Final report for Ministry of Energy, Agriculture, the Environment and Nature, The state of Schleswig Holstein.

Bruss, G., Jimenez, N., Eiben, H. and Mayerle, R. 2009. Development of methods to determine relevant design parameters for coastal protection on the German Baltic Sea coast. BMBF 03KIS053 / KFKI 85. Final report to the KFKI-project MUSTOK. Federal Ministry of Education and Research, Germany.