

Curriculum Vitae

Dr. Helge Friedrich Goessling (Gößling)

Current employment Scientist (permanent), Head of BMBF Junior Research Group Seamless Sea Ice Prediction (SSIP)

Current affiliation Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Bremerhaven, Germany, Climate Sciences Division, Climate Dynamics Section

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Education and employment

since Nov 2017 Head of BMBF Junior Research Group Seamless Sea Ice Prediction (SSIP) as scientist (permanent) at AWI; serving as Director of the WMO-PPP International Coordination Office and Co-Speaker of the Helmholtz research program PACESII-WP3.3 "From process understanding to enabling climate prediction"; PI and Co-PI in a number of international, national, and institutional projects related to sea-ice prediction.

Oct 2014 – Oct 2017 Scientist (tenure track / permanent) at AWI, working mainly on the predictability of polar weather and climate, in particular sea ice, and climate model development; serving as Director of the WMO-PPP International Coordination Office and Co-Speaker of the Helmholtz research program PACESII-WP3.3 "From process understanding to enabling climate prediction"; PI and Co-PI in a number of international, national, and institutional projects related to sea-ice prediction.

Jun 2014 – Aug 2014 German Research Foundation Fellow (DFG grant GO 2646/1-1) at the Department of Meteorology, University of Reading, United Kingdom. Project title: "Potential predictability of Arctic climate: Analysis of simulations obtained with a new global climate model in the context of the international model comparison project APPOSITE"

Oct 2012 – Sep 2014 Postdoctoral scientist at AWI, working mainly on the predictability of polar weather and climate and contributing to coupled climate model development; this work contributed to the BMBF project "MiKliP-TORUS".

Jan 2013 Doctoral degree (Dr. rer. nat.) from the University of Hamburg. Thesis title: "Continental moisture recycling and evaporation-precipitation coupling: water as passive tracer and as active component"

Feb 2009 – Oct 2012	Doctoral candidate in climate science at the Max Planck Institute for Meteorology in Hamburg, Germany, and member of the International Max Planck Research School on Earth System Modelling (IMPRS-ESM), Hamburg, Germany, working on continental moisture recycling and evaporation-precipitation coupling.
Sep 2008	Graduation as "Diplom Biophysiker", equivalent to "MSc Biophysics"
2007 – 2008	Humboldt University, Berlin, diploma thesis entitled "Statistical Analysis of Illumina Gene Expression Data on the Berlin Fat Mouse"
2005 – 2007	Humboldt University, Berlin, advanced study period Biophysics Major subject: Theoretical Biophysics Minor subject: Experimental Biophysics Minor subject: Theoretical Biology
2005	Intermediate Diploma in Biophysics
2003 – 2005	Humboldt University, Berlin, basic study period Biophysics
2002	Helene-Lange-Gymnasium, Dortmund, Germany: Abitur (A-level)

Five Selected Publications

Goessling, H. F. and Jung, T.: "A probabilistic verification score for contours: Methodology and application to Arctic ice-edge forecasts", QJRMS, in press

Goessling, H. F. and Bathiany, S.: "Why CO₂ cools the middle atmosphere - a consolidating model perspective", Earth Syst. Dyn., doi:10.5194/esd-7-697-2016

Goessling, H. F. and Tietsche, S. and Day, J. and Hawkins, E. and Jung, T.: "Predictability of the Arctic sea ice edge", Geophys. Res. Lett., doi:10.1002/2015GL067232, 2016

Goessling, H. F. and Jung, T. and Klebe, S. and Baeseman, J. and Bauer, P. and Chen, P. and Chevallier, M. and Dole, R. and Gordon, N. and Ruti, P. and Bradley, A. and Bromwich, D. and Casati, B. and Chechin, D. and Day, J. J. and Massonnet, F. and Mills, B. and Renfrew, I. and Smith, G. and Tatusko, R.: "Paving the Way for the Year of Polar Prediction", Bull. Am. Met. Soc., doi:10.1175/BAMS-D-15-00270.1, 2016

Goessling, H. F. and Reick, C. H.: "What do moisture recycling estimates tell us? Exploring the extreme case of non-evaporating continents", Hydrol. Earth Syst. Sc., 15, 3217-3235, doi:10.5194/hess-15-3217-2011, 2011

More publications @ Google Scholar:

-> https://scholar.google.de/citations?user=tbit_aMAAAAJ

Fellowships, awards, and nominations

2017	First prize @ "Challenge to Develop and Demonstrate the Best New User-Oriented Forecast Verification Metric" for my contribution "Integrated Ice Edge Error (IIEE) & Spatial Probability Score (SPS)"; keynote lecture @ "7th International Verification Methods"
2014	DFG Fellow with the project "Potential predictability of Arctic climate: Analysis of simulations obtained with a new global climate model in the context of the international model comparison project APPOSITE"
2013	Nomination for the "Förderpreis der Deutschen Meteorologischen Gesellschaft" for my dissertation
2012	First prize @ "Wissenschaft verstehen" (Understanding science) for an article and a talk entitled "Wo kommt der Regen her?" (Where is the rain from?)
2006 – 2008	"Studienstiftung des Deutschen Volkes" Fellow

Teaching

Apr 2016	Lecturer at „Polar Prediction School 2016“, Abisko, Sweden
Winter term 2012/13	Tutor for analytical and numerical exercises accompanying the lecture "Climate Dynamics" at the University of Bremen
2007 – 2008	Assistance with lectures and seminars as student assistant at the Institute for Theoretical Biology, Humboldt University, Berlin
Oct 2005	Tutor for mathematics for first-year students, Humboldt University, Berlin

Languages

- German (native)
- English (excellent)
- French (basic)

Technical skills

- Experienced with UNIX/Linux computer environments
- Experienced with complex, highly parallelised numerical models (ECHAM, FESOM)
- Experienced with various programming and scripting languages, including FORTRAN, Python, R, NCL, Matlab, Kornshell, Bash

Miscellaneous

- Regular activity as reviewer for numerous peer-review research journals: Clim. Dyn.; Q. J. Roy. Meteor. Soc.; J. Climate; The Cryosphere; Atmos. Chem. Phys.; Hydrol. Earth Syst. Sci.; Int. J. Climatol.; Glob. Change Biol.; J. Atmos. Ocean. Techn.; JGR Oceans; JGR Atmospheres; Earth System Science Data; Earth System Dynamics
- Talks and posters (first- and co-authored) at numerous international conferences
- Developer of R software package "spheRlab" for analysis and visualization of geoscientific data on unstructured meshes:
-> <https://github.com/FESOM/spheRlab>
- Co-Lead of the Sea Ice Drift Forecast Experiment (SIDFEx):
-> <http://www.polarprediction.net/yopp-activities/sidfex/>
- Co-Lead of the polar forecast user engagement format Polar Prediction Matters:
-> <https://blogs.helmholtz.de/polarpredictionmatters/>