Norman J. Steinert

Postdoctoral researcher

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Profile

I focus on the investigation of permafrost carbon feedbacks in climate change projections of current generation climate models and corresponding dynamic instabilities in high latitude ecosystems. My research interest focuses on the analysis of land-atmosphere and land-climate interactions, including physical processes on the land surface, the carbon cycle and the biosphere. Furthermore, I extend my research to investigate high latitude ecosystems as potential tipping elements under changing warming conditions.

Links

ORCID Website GoogleScholar Research Gate

Education

PhD in Physics, "Cum Laude", Complutense University of Madrid, *Madrid, Spain* — Oct 2017 – Dec 2021

Master of Science in Meteorology, Free University of Berlin, *Berlin, Germany* — Oct 2013 – Jul 2017

Bachelor of Science in Meteorology, Free University of Berlin, *Berlin, Germany* — Oct 2010 - Sept 2013

Employment

Postdoc, NORCE - Norwegian Research Centre, *Bergen, Norway* — Jan 2022 – present

Research assistant, Global forecasters - CIEMAT, *Madrid, Spain* — Jun 2017 – Sept 2017

Intern, Reuniwatt, *Saint-Pierre, La Reunion, France* — Oct 2016 – Apr 2017

Student assistant, Max Planck Institute for Meteorology*, Hamburg, Germany* — Mar 2015 – Sept 2016

Intern, Alfred-Wegener-Institute, *Bremerhaven, Germany* — Feb 2014 – Apr 2014

Student assistant, FUB - Institute for Meteorology, *Berlin, Germany* — Nov 2013 – Jan 2015

Intern, ETH - Institute for Atmospheric and Climate Science, *Zurich, Switzerland* — Jul 2012 – Sept 2012

Student assistant, German Research Center for Geosciences, *Potsdam, Germany* — Jun 2012 – Nov 2013

Skills

Analytical Thinking

Climate Modeling

Coding and Scripting

Creative Mindset

Organization

Quick Learner

Languages

German

English

Spanish

Norwegian

Mobility

Research stay, *4 months, 2022-2023*, UK Met Office and University of Exeter, Exeter, UK

Research stay, *1 months, 2022*, Utrecht University, *Utrecht, The Netherlands*

Research stay, *3 months, 2021-2022*, Max Planck Institute for Meteorology, *Hamburg, Germany*

Supervision

Alejandro Campos Saz, Master's student, *2022*, Complutense University of Madrid, Spain

Francisco Javier Pérez Pérez, Master's student, *2021*, Complutense University of Madrid, Spain

Organization of Meetings

EUCOP6 - 6th European Conference on Permafrost, Session leader: "Modeling of permafrost-climate feedbacks in future scenarios"*, 2023*, Puigcerdà, Spain.

Publications

Schwinger, J., A. Asaadi, **N. J. Steinert**, H. Lee: *Emit now, mitigate later? Earth system reversibility under overshoots of different magnitude and duration*, **Earth System Dynamics**, In review.

Martin, M. et al.: *Ten new insights in climate science 2022*, **Global Sustainability**, In review.

de Vrese, P., G. Georgievski, J. F. Gonzalez Rouco, D. Notz, T. Stacke, **N. J. Steinert**, S. Wilkenskjeld, and V. Brovkin: *Representation of soil hydrology in permafrost regions may explain large part of inter-model spread in simulated Arctic and subarctic climate*, **The Cryosphere**, In review.

Melo-Aguilar, C. A., J. F., González-Rouco, **N. J., Steinert**, H., Beltrami, F., Cuesta-Valero, A., García-García, F., García-Pereira, E., García-Bustamante, P. Roldán-Gómez, T. Schmid and J. Navarro: *Near-surface soil thermal regime and land–air temperature coupling: a case study over Spain*, **Int. J. Climatol**., 2022.

González-Rouco, J. F., **Steinert, N. J.**, García-Bustamante, E., Hagemann, S., De-Vrese, P., Jungclaus, J. H., Lorenz, S. J, Melo-Aguilar, C., and: *Increasing the depth of a Land Surface Model: Part I: Impacts on the Subsurface Thermal Regime and Energy Storage.*, **J. Hydrometeorol**., 22(12), 3211-3230, 2021.

Steinert, N. J., González-Rouco, J. F., De-Vrese, P., García-Bustamante, E., Hagemann, S., Melo-Aguilar, C., Jungclaus, J. H., and Lorenz, S. J.: *Increasing the depth of a Land Surface Model: Part II: Temperature Sensitivity to Improved Subsurface Thermodynamics and Associated Permafrost Response.*, **J. Hydrometeorol**., 22(12), 3231-3254, 2021.

Steinert, N. J., González-Rouco, J. F., García-Bustamante, E., Melo-Aguilar, C., García-Pereira, F., and Alexeev, V.: *An adapted framework for a more accurate estimate of the required bottom boundary condition placement in Land Surface Models*., **Geophys. Res. Lett**., 48(20), e2021GRL094273, 2021.

Melo-Aguilar, C., González-Rouco, J. F., García-Bustamante, E., **Steinert, N.**, Jungclaus, J. H., Navarro, J., and Roldán-Gómez, P. J.: *Methodological and physical biases in global to subcontinental borehole temperature reconstructions: an assessment from a pseudo-proxy perspective*, **Clim. Past**, 16, 453–474, https://doi.org/10.5194/cp-16-453-2020, 2020.

Melo-Aguilar, C., González-Rouco, J. F., García-Bustamante, E., Navarro-Montesinos, J., and **Steinert, N.**: *Influence of radiative forcing factors on ground–air temperature coupling during the last millennium: implications for borehole climatology*, **Clim. Past**, 14, 1583–1606, https://doi.org/10.5194/cp-14-1583-2018, 2018.

🎗 Awards and Grants

Utrecht Network Young Researchers Grant - *Utrecht Network, April 2021*

Top 3 presentations at PhDay Physics Complutense 2019 - *Complutense University Madrid, Spain, November 2019*

Ernst-Reuter-Gesellschaft Conference Travel Grant 2016 - *Free University of Berlin, Germany, August 2016*