

Stefan Sobolowski, Ph.D.

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Work Package Leader

RESEARCH INTERESTS/QUALIFICATIONS

Dynamics of past, present and future climate, climate variability and change from global to regional scales ♦ Physical mechanisms that drive climate impacts, including meteorological and hydrological responses, to both internal and external forcings ♦ Collaboration with stakeholder communities to distill basic research into useful climate information, knowledge and services

EDUCATION

2010 Ph.D., Earth and Environmental Engineering, Columbia University, NYC, USA
2005 Masters, Physical Geography, Hunter College, CUNY, NYC, USA

CURRENT & PREVIOUS POSITIONS AND AFFILIATIONS

2018-present Research Professor (Forsker I): NORCE Climate & the Bjerknes Centre for Climate Research, Bergen, Norway
2018-present Affiliate researcher, Centre for Energy and Climate Transformations (CET), University of Bergen
2018-present Research Theme co-leader: Climate Impacts on Nature and Society, NORCE Climate
2017-2018 Research Professor (Forsker I): Uni Research Climate & the Bjerknes Centre for Climate Research, Bergen, Norway
2011-2017 Senior Research Scientist (Forsker II): Uni Research Climate and the Bjerknes Centre for Climate Research, Bergen, Norway
2013-2015 Research Leader – Regional Climate & Climate Services: Uni Research Climate, Bergen, Norway
2010-2011 Postdoctoral fellow, Dept. of Geosciences, University of North Carolina-Chapel Hill, USA

PROJECTS, PROFESSIONAL ACTIVITIES & COLLABORATIONS

2019(Jan.)-present Contributing Author to the IPCC Working Group I Sixth Assessment Report
2018(Jan.)-present Centre for Early Sapiens Behaviour (SapienCE), co-investigator: leader of climate modeling activities.
2018(Jan.)-present Enhancing Mechanistic Understanding of mid-latitude Large-scale circulation Errors (EMULATE), Principal Investigator, work package 2 leader.
2017(May)-present HiddenCosts co-investigator, work package 1 lead.
2016(Oct.)-present Dynamics of Arctic–Midlatitude teleconnections: mechanisms, robustness and tropical modulation (DynAMiTe), Co-Principal Investigator.
2016(Aug.)-2017 Investigating the future evolution of Norwegian glaciers and hydrological impacts: an integrated modeling approach (EVOGLAC), Coordinator and work package 4 leader.

- 2016(May)-present CORDEX-FLAGSHIP PILOT STUDY on Convective Processes over Europe and the Mediterranean, Co-Principal Investigator.
- 2016(April)-2017 Relevant, reliable and robust local scale climate projections for Norway (R3), Principal Investigator.
- 2015-present EURO-CORDEX, Co-coordinator (<http://www.euro-cordex.net/>).
- 2013-2014 Norwegian Centre for Climate Services: Member, founding leader group.

RECENT GRANT AWARDS (total grant/amount to home institute)

- 2018 BIOPATH: Research Council of Norway grant nr. 294534, *Co-Investigator* (~8.6/2.5million NOK)
- 2017 EMULATE SKD-internal project, *Principal Investigator* (~8/1.6 million NOK)
- 2017 Early Sapiens Behaviour (SapienCE): Research Council of Norway centre of excellence, *Co-Investigator* (~136/20 million NOK)
- 2016 Hidden Costs: Research Council of Norway grant nr. 268243, *Co-Investigator* (~11/3million NOK)
- 2015 R3: Research Council of Norway grant nr. 255397, *Principal Investigator* (~10/6million NOK)
- 2015 DYNAMITE: Research Council of Norway grant nr. 255027, *Co-Principal Investigator* (~10/2.7million NOK)
- 2015 EVOGLAC: Research Council of Norway grant nr. 255049, *Co-Investigator* (~10/3.5million NOK)
- 2014 ExPrecFlood: Research Council of Norway grant nr. 244175/E10, *Co-Investigator* (~10/1.5million NOK)

SELECTED PUBLICATIONS (total = 34, h-index = 12)

1. Coppola, E., Sobolowski, S., Pichelli, E., Raffaele, F., Ahrens, B., Anders, I., ... Warrach-Sagi, K. (2018). A first-of-its-kind multi-model convection permitting ensemble for investigating convective phenomena over Europe and the Mediterranean. *Climate Dynamics*. <https://doi.org/10.1007/s00382-018-4521-8>
2. Pontoppidan, M., Kolstad, E. W., Sobolowski, S., & King, M. P. (2018). Improving the Reliability and Added Value of Dynamical Downscaling via Correction of Large-Scale Errors: A Norwegian Perspective. *Journal of Geophysical Research: Atmospheres*. <https://doi.org/10.1029/2018JD028372>
3. Jacob, D., Kotova, L., Teichmann, C., Sobolowski, S. P., Vautard, R., Donnelly, C., ... H, M. T. (2018). Climate Impacts in Europe Under +1.5°C Global Warming. *Earth's Future*. <https://doi.org/10.1002/2017EF000710>
4. King, M. P., Herceg-Bulić, I., Bladé, I., García-Serrano, J., Keenlyside, N., Kucharski, F., ... Sobolowski, S. (2018). Importance of late fall ENSO teleconnection in the Euro-Atlantic sector. *Bulletin of the American Meteorological Society*. <https://doi.org/10.1175/BAMS-D-17-0020.1>
5. Sellevold, R., Sobolowski, S., & Li, C. (2016). Investigating Possible Arctic–Midlatitude Teleconnections in a Linear Framework. *Journal of Climate*, 29(20), 7329–7343. <https://doi.org/10.1175/JCLI-D-15-0902.1>
6. Kolstad, E. W., Sobolowski, S. P., & Scaife, A. A. (2015). Intraseasonal Persistence of European Surface Temperatures. *Journal of Climate*, 28(13), 5365–5374. <https://doi.org/10.1175/JCLI-D-15-0053.1>
7. Pavelsky, T. M., Sobolowski, S., Kapnick, S. B., & Barnes, J. B. (2012). Changes in orographic precipitation patterns caused by a shift from snow to rain. *Geophysical Research Letters*, 39(18), L18706. <https://doi.org/10.1029/2012GL052741>

8. Sobolowski, S., Gong, G., & Ting, M. (2011). Investigating the Linear and Nonlinear Stationary Wave Response to Anomalous North American Snow Cover. *Journal of the Atmospheric Sciences*, 68(4), 904–917. <https://doi.org/10.1175/2010JAS3581.1>
9. Sobolowski, S., Gong, G., & Ting, M. (2010). Modeled Climate State and Dynamic Responses to Anomalous North American Snow Cover. *Journal of Climate*, 23(3), 785–799. <https://doi.org/10.1175/2009JCLI3219.1>
10. Sobolowski, S., Gong, G., & Ting, M. (2007). Northern Hemisphere winter climate variability: Response to North American snow cover anomalies and orography. *Geophysical Research Letters*, 34(16). <https://doi.org/10.1029/2007GL030573>

SELECTED TALKS

- 2019 Sobolowski, S. (invited) Addressing the usability gap: critical challenges in transitioning from research to services and applications. 5th Conference on Modelling Hydrology, Climate and Land Surface Processes, Lillehammer, Norway.
- 2019 Sobolowski, S. and C. Li (invited) Weather and climate extremes in a changing climate. *Norwegian Hull Club Global Energy and Special Risks Seminar*. 7, February, London, UK.
- 2018 Sobolowski, S et al., (invited) The WCRP-CORDEX Flagship Pilot Study on Convection year two update: successes, challenges and the way forward. *GEWEX Workshop on Convection Permitting Modeling*. 4-6, September 2016, Boulder, CO USA.
- 2018 Sobolowski, S., Li, C., & M. King. Links between strong ENSO events and late fall Barents-Kara climate. *Polar2018 Conference*, 19-23 June 2018, Davos, Switzerland.
- 2018 Sobolowski, S., Coppola, E., et al. (invited) A first-of-its-kind multi-model convection permitting ensemble for investigating convective phenomena over Europe and the Mediterranean. *European Geophysical Union annual meeting*, April 2018.
- 2017 Sobolowski, S. (invited) Developing Climate Services in Norway: experiences, successes and challenges. *Rosby Center 20yr. Anniversary*. 13-14 Sept. SMHI, Norrköping, Sweden
- 2016 Sobolowski, S et al., (invited) Coordinated high-resolution modeling of convective phenomena over Europe and the Mediterranean. *GEWEX Workshop on Convection Permitting Modeling*. 6-8, September 2016, Boulder, CO USA.
- 2016 Sobolowski, S et al., Precipitation seasonality, variability and associated dynamical processes over eastern Africa. *International Conference on Regional Climate – CORDEX 2016*, May 17-20, Stockholm, Sweden.
- 2015 Sobolowski, S et al., European Climate at the +2C threshold: cause for concern? *European Conference on Climate Adaptation*, May 11-14, Copenhagen, Denmark.
- 2014 Sobolowski, S (invited), Why the +2C target matters. Tekna 2 Grader Magasin launch seminar, Nov. 20, 2014, NTNU, Trondheim, Norway.
- 2014 Sobolowski, S (invited), Climate Services session. Bergen Research Summer School, June 23-July 4, <http://www.uib.no/rs/bsrs>.

TEACHING, SUMMER SCHOOLS & WORKSHOPS

Klimathon II: A Solutions Oriented Workshop for Climate Services to Norwegian Communities, Bergen, Norway

- *March 19-20, 2019* Organized by: Reeve, M., Kvamsås, H., Sobolowski, S., Schrage, J., Waage, S., Omdahl, L., and S. Neby.

Klimathon: A Solutions Oriented Workshop for Climate Services to Norwegian Communities, Bergen, Norway

- *January 8-9, 2018* Organized by: Reeve, M., Kvamsås, H., Sobolowski, S., Kolstad, E., Vandvik, T., and S. Neby.

CHES: Land surface modeling course, GFI Bergen, Norway

- *October 2-6, 2017* Lecturer: Hydrology.

Bergen Summer Research School, Bergen, Norway

- *June 15-16, 2017* Lecturer: Climate Services.

R3 Stakeholder workshop, Bergen, Norway

- *September 1, 2016* Organized by: Sobolowski, S., Neby, S. and E. Kolstad.

Bergen Summer Research School, Bergen, Norway

- *June 20, 2016* Lecturer: European water resources in an uncertain future.

ResClim-IMPACT2C Summer School, Rosendal, Norway

- *June 29-July 4, 2014* Lecturer and person responsible for course design and content, logistics and organization.

PROFESSIONAL AFFILIATIONS AND SERVICE

Conference Sessions

2019(spring) Co-convener EGU session CL5.04 Convection permitting atmospheric modeling

2019(spring) Co-convener EGU session AS1.4 Biases in weather and climate models: representing important sub-grid processes, understanding large-scale drivers and paths to improvement

Mentorship/Service

2019(spring) Supervisor: Basile Poujol (internship, M.S. candidate Ecole Normale Supérieure)

2018(spring) Committee member: Maria Karypidou (Ph.D. candidate, AUTH)

2018(spring) Supervisor: Lilan Chen (visiting Ph.D. student Nanjin University)

2017(fall) Co-supervisor: Xinshu Fu (visiting Ph.D. student Nanjin University)

2017-present Co-supervisor: Siew Yu "Peter" Feng (Ph.D. candidate, University of Bergen)

2017-present Co-supervisor: Dr. Clio Michel (postdoc, University of Bergen)

2016-17 Co-supervisor: Helene Asbjørnsen (M.S. University of Bergen)

2015-16 Co-supervisor: Raymond Sellevold (M.S. University of Bergen)

Member

2012-present European Geophysical Union

2005-present American Geophysical Union

2005-present American Meteorological Society

Reviewer

Journal of Climate, Geophysical Research Letters, International Journal of Climatology, Bulletin of the American Meteorological Society (BAMS), Climate Services, JGR-Atmospheres, Earth and Planetary Science Letters, Climate Dynamics, Atmospheric Chemistry and Physics, Tellus-A, Austrian Climate Research Program (ACRP), National Science Foundation (USA), Belmont Forum expert reviewer