Dr. Christian Seiler
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EDUCATION

Ph.D. Earth System Science Group, Wageningen University, The Netherlands, 2009-2014

M.Sc. Earth System Science Group, Wageningen University, The Netherlands, 2006-2008

B.Sc. Faculty of Forest and Environment, University of Eberswalde, Germany, 2001-2003

PROFESSIONAL APPOINTMENTS

2018-present Research Scientist, Climate Processes Section, Science & Technology Branch, Environment and Climate Change Canada, Government of Canada

2016-2018 Research Climatologist, Pacific Climate Impacts Consortium (PCIC), University of Victoria (UVic), Canada

2016-present Adjunct Assistant Professor, School of Earth and Ocean Sciences, UVic

2013-2015 Postdoctoral research fellow, PCIC, UVic

2012-2013 Visiting researcher, Canadian Centre for Climate Modelling and Analysis, Science & Technology Branch, Environment and Climate Change Canada, Government of Canada

2008-2009 Consultant, Foundation Friends of Nature, Bolivia

2008 Visiting researcher, International Center for Tropical Agriculture, Colombia

2004-2006 Consultant, Foundation Friends of Nature, Bolivia

PUBLICATIONS

Refereed Journal Articles

Melton, J.R., Arora, V.K., Wisernig-Cojoc, E., **Seiler, C.**, Fortier, M., Chan, E. and Teckentrup, L., 2020. CLASSIC v1.0: the open-source community successor to the Canadian Land Surface Scheme (CLASS) and the Canadian Terrestrial Ecosystem Model (CTEM)-Part 1: Model framework and site-level performance. *Geoscientific Model Development*, pp.1-40. accepted.

Swart, N. C., Cole, J. N. S., Kharin, V. V., Lazare, M., Scinocca, J. F., Gillett, N. P., Anstey, J., Arora, V., Christian, J. R., Hanna, S., Jiao, Y., Lee, W. G., Majaess, F., Saenko, O. A., **Seiler, C.**, Seinen, C., Shao, A., Solheim, L., von Salzen, K., Yang, D., and Winter, B., 2019. The Canadian Earth System Model version 5 (CanESM5. 0.3). *Geoscientific Model Development*, 12(11), pp.4823-4873.

Catto, J.L., Ackerley, D., Booth, J.F., Champion, A.J., Colle, B.A., Pfahl, S., Pinto, J.G., Quinting, J.F. and **Seiler, C.**, 2019. The future of midlatitude cyclones. *Current Climate Change Reports*, 5(4), pp.407-420.

Seiler, C., 2019. A climatological assessment of intense extratropical cyclones from the potential vorticity perspective. *Journal of Climate*, 32(8), pp.2369-2380.

Seiler, C., Zwiers, F.W., Hodges, K.I. and Scinocca, J.F., 2018. How does dynamical downscaling affect model biases and future projections of explosive extratropical cyclones along North America?s Atlantic coast?. *Climate Dynamics*, 50(1-2), pp.677-692.

Rezaee, S., **Seiler, C.**, Pelot, R. and Ghasemi, A., 2016. Will commercial fishing be a safe occupation in future? A framework to quantify future fishing risks due to climate change scenarios. *Weather and Climate Extremes*, 13, pp.73-85

Seiler, C. and Zwiers, F.W., 2016. How will climate change affect explosive cyclones in the extratropics of the Northern Hemisphere?. *Climate Dynamics*, 46(11-12), pp.3633-3644.

Seiler, C. and Zwiers, F.W., 2016. How well do CMIP5 climate models reproduce explosive cyclones in the extratropics of the Northern Hemisphere?. *Climate Dynamics*, 46(3-4), pp.1241-1256.

Seiler, C., Hutjes, R.W.A., Kruijt, B. and Hickler, T., 2015. The sensitivity of wet and dry tropical forests to climate change in Bolivia. *Journal of Geophysical Research: Biogeosciences*, 120(3), pp.399-413.

Seiler, C., Hutjes, R.W.A., Kruijt, B., Quispe, J., Anez, S., Arora, V.K., Melton, J.R., Hickler, T. and Kabat, P., 2014. Modeling forest dynamics along climate gradients in Bolivia. *Journal of Geophysical Research: Biogeosciences*, 119(5), pp.758-775.

Seiler, C., Hutjes, R.W. and Kabat, P., 2013. Likely ranges of climate change in Bolivia. *Journal of Applied Meteorology and Climatology*, 52(6), pp.1303-1317.

Seiler, C., Hutjes, R.W. and Kabat, P., 2013. Climate variability and trends in Bolivia. *Journal of Applied Meteorology and Climatology*, 52(1), pp.130-146.

Seiler, C. and Moene, A.F., 2011. Estimating actual evapotranspiration from satellite and meteorological data in Central Bolivia. *Earth Interactions*, 15(12), pp.1-24.

Other Publications

Seiler, C., 2014. The Sensitivity of Tropical Forests to Climate Variability and Change in Bolivia. *Wageningen University*. ISBN 978-90-6173-923-0.

Fundación Amigos de la Naturaleza, 2009. Climate Change Adaptation Atlas for the Department of Santa Cruz, Bolivia. *Santa Cruz de la Sierra - Bolivia*, ISBN: 978-99905-66-55-0

SCIENTIFIC SOFTWARE DEVELOPMENT

Seiler, C, 2019. amber: Automated Model Benchmarking for the Canadian Land Surface Scheme. R package version 0.1.6. `https://CRAN.R-project.org/package=amber`

GRANTS

2018 Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant (105,000 CAD) (Principal Investigator)

2015 Marine Environmental Observation, Prediction and Response (MEOPAR) sponsorship program (1,000 CAD)

2014 MEOPAR sponsorship program (2,500 CAD)

2009 Ph.D. research grant, Wageningen Institute for Environment and Climate Research (WIMEK), Wageningen University (90,000 EUR)

GRADUATE STUDENTS

2019-present Raj Deepak (PhD; with Prof. Adam Monahan)

TEACHING

2018 EOS 433/550, *The Climate System*, School of Earth and Ocean Sciences, University of Victoria (instructor).

2016 EOS 491/562A, *An Introduction to Climate Physics*, Advanced Topics in Earth and Ocean Sciences, School of Earth and Ocean Sciences, University of Victoria (instructor).

CONFERENCES

Oral Presentations

Seiler, C. *Benchmarking land surface models*, presented at 2020 Canadian Meteorological and Oceanographic Society (CMOS), Ottawa, Canada, May 27 (virtual presentation).

Seiler, C. and Zwiers F.W., 2017. *Piecewise Potential Vorticity Inversion for Intense Extratropical Cyclones*, Abstract A44B-07 at 2017 Fall Meeting, American Geophysical Union (AGU), New Orleans, USA, Dec 11-15.

Seiler, C., Zwiers F.W. and Hodges K.I., 2016. *Does dynamical downscaling affect model biases and projections of explosive extratropical cyclones?*, Abstract ID: 8773, presented at 2016 Canadian Meteorological and Oceanographic Society (CMOS), Fredericton, Canada, May 29 to Jun 2.

Seiler, C. and Zwiers F.W., 2015. *How Will Climate Change Affect Explosive Cyclones in the Extratropics of the Northern Hemisphere?*, Abstract A43I-06 at 2015 Fall Meeting, American Geophysical Union (AGU), San Francisco, USA, Dec 14-18.

Seiler, C., 2014. *Coastal Storms in Canada simulated by CMIP5 Climate Models*, Abstract 1D5.1 ID:7173 presented at 2014 Canadian Meteorological and Oceanographic Society (CMOS), Rimouski, Canada, Jun 1-5.

Poster Presentations

Seiler, C. Benchmarking land surface processes in the Canadian Earth System Model, Abstract 544833 at 2019 Fall Meeting, American Geophysical Union (AGU), San Francisco, USA, Dec 9-13.

Shippee N.J., **Seiler, C.** and Zwiers F.W., 2017. *Seasonal Predictability of Extratropical Cyclone Statistics in the Canadian Seasonal to Interannual Prediction System (CanSIPS)*, Abstract 1143 presented at the 97th American Meteorological Society Annual Meeting, Seattle, USA, Jan 25.

Seiler, C. and Zwiers F.W., 2014. *Explosive cyclones in CMIP5 climate models*, Abstract A23F-3323 presented at 2014 Fall Meeting, American Geophysical Union (AGU), San Francisco, USA, Dec 15-19.

Seiler, C., Hutjes R.W.A., Kruijt B. and Hickler T., 2014. *The Sensitivity of Wet and Dry Tropical Forests to Climate Change in Bolivia*, Abstract B11G-0118 presented at 2014 Fall Meeting, American Geophysical Union (AGU), San Francisco, USA, Dec 15-19.

Seiler, C., 2012. *Climate Variability and Trends in Bolivia*, Abstract Vol. 14, EGU2012-7561 presented at 2012 European Geosciences Union (EGU) General Assembly, Vienna, Austria, Apr 22-27.

INVITED TALKS

Seiler, C., 2019. *Climate modelling: the role of the land surface*, Guest lecture, School of Environmental Studies, Queen's University, Oct 28.

Seiler, C., 2019. *Climate modelling: the role of the land surface*, Guest lecture, Biology Department, Queen's University, Oct 7.

Seiler, C., 2019. *Terrestrial Ecosystem Modelling*, Departmental Seminar, Department of Geography and Planning, Queen's University, Sep 25.

Seiler, C., 2019. *A climatological assessment of intense extratropical cyclones from the potential vorticity perspective*, School of Earth and Ocean Sciences Seminar Series, University of Victoria, Mar 5.

Seiler, C., 2019. *A climatological assessment of intense extratropical cyclones from the potential vorticity perspective*, School of Earth and Ocean Sciences Seminar Series, University of Victoria, Mar 5.

Seiler, C., 2018. *A climatology of mechanisms that generate intense extratropical cyclones in the Northern Hemisphere*, Pacific Climate Seminar Series, University of Victoria, Jan 31.

Seiler, C., 2017. *Biases and projections of explosive cyclones in global and regional climate models*, Community Climate Science Seminars, University of Victoria, Mar 8.

Seiler, C., 2015. *Understanding climate model biases and projections of explosive cyclones*, Earth Sciences Department, Syracuse University, Dec 1.

Seiler, C., 2015. *Explosive cyclones in CMIP5 climate models*, Department of Geography Lecture Series, University of Victoria, Jan 23.

Seiler, C., 2015. *Working with climate model data*, MEOPAR regional training event, University of British Columbia, Jun 22.

SERVICE TO PROFESSION

Manuscript reviews

Nature Climate Change, Nature Geosciences, Climate Dynamics, Journal of Climate, Journal of Geophysical Research - Atmosphere, International Journal of Climatology, Climatic Change, Atmosphere-Ocean, Irrigation and Drainage

Proposal reviews

Polar Knowledge Canada (POLAR), Apr 5, 2017

Supervisory committee

2020-present Sean Vanderluit (M.Sc. Candidate), Biology Department, Queen's University

Event Organizing

2015-2016 Community Climate Science Seminars at the University of Victoria

2015 MEOPAR's 2nd annual scientific meeting, Vancouver, Jun 16-18

2015 MEOPAR training workshop, University of British Columbia, Jan 22

MEDIA COVERAGE

2017 Interview with the Canadian Broadcasting Corporation Newfoundland & Labrador, Central Morning Show, *Less storms, but with more force*, Mar 20

MISCELLANEOUS

Languages German (native), English (excellent), Spanish (excellent)

Citizenship Citizen of Canada and Germany

Leave Parental leave Apr 2018 - Sep 2018