

## Professor Dr. Julia Boike

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&

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### Website

Google Scholar	<a href="http://goo.gl/U7GIBL">http://goo.gl/U7GIBL</a>
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LOOP	<a href="https://loop.frontiersin.org/people/524201/overview">https://loop.frontiersin.org/people/524201/overview</a>

### Degrees

2006/10 – 2012/02	Habilitation, Chemistry and Earth Sciences, Ruprecht Karl University, Heidelberg, Germany
1993/10 – 1997/03	Doctorate, PhD, Geosciences, Potsdam University, Germany
1990/10 – 1993/09	Master's, Geography, Wilfrid Laurier University, Canada
1987/10 – 1990/09	Pre-Diploma, Physical Hydrology, Albert-Ludwigs-University, Freiburg, Germany

### Recognitions

1997	First Annual Award for Arctic Research Excellence of the Arctic Research Consortium of the U.S. (ARCUS)
1995	Horton Hydrology Research Grant of the American Geophysical Union (AGU)

### User Profile

Research Interests	Permafrost hydrologic and thermal processes, energy and water exchange between permafrost and atmosphere
Geographical Regions	Travel to field sites every year for more than 25 years: northern Canadian, Russian (Siberia), and European Arctic (Svalbard)
Responsibilities	Running long term observatories (Svalbard, Arctic Siberia)

### Employment

2003/02 – ongoing	Senior researcher (group leader), Alfred-Wegener-Institute, Helmholtz-Center for Polar- and Marine Research, Germany
2000/09 – 2003/01	Postdoctoral Fellow, Water and Environmental Research Center, University of Alaska, Fairbanks (stipend German National Academy of Sciences Leopoldina)
1997/04 – 2000/08	Postdoctoral Fellow, Alfred-Wegener-Institute, Helmholtz-Center for Polar- and Marine Research, Germany
1993/10 – 1997/03	PhD student, Potsdam University, Germany

### Affiliations

2017/07 – ongoing	Geography Department, Humboldt University, Berlin
2003/02 – ongoing	Alfred-Wegener-Institute, Helmholtz-Center for Polar- and Marine Research, Germany

2006/01 – 2017/01 Lecturer, Ruprecht Karl University, Heidelberg, Germany  
 2000/09 – 2003/01 Assistant Professor, University of Alaska, USA  
 1997/04 – 2000/08 Postdoctoral Fellow, Alfred-Wegener-Institute, Helmholtz-Center for Polar- and Marine Research, Germany  
 1993/10 – 1997/03 PhD student, Alfred-Wegener-Institute, Helmholtz-Center for Polar- and Marine Research, Germany

**Board members** Advisory Board, Next-Generation Ecosystem Experiments (NGEE Arctic)  
 Expert in Global Cryosphere Watch (GCW) working structure of WMO  
 Steering committee member T-MOSAIc

**International Collaboration Activities** [T-MOSAIc permafrost thaw](#)  
[MOSES permafrost thaw](#)  
 Co-Principal Coordinator, [PAGE21](#) (Changing Permafrost in the Arctic and its Global Effects in the 21st Century), 2011 – 2015

**Supervision (direct)** ➤ 25 (including PhDs, Masters + BSc)

**Supervision (indirect, i.e. committee member)** ➤ 40 (including PhDs, Masters + BSc)

#### 10 top Publications

- 1) Nitzbon, J., Westermann, S., Langer, M., Martin, L.C.P., Strauss, J., Laboor, S., **Boike, J.** (2020): Fast response of cold ice-rich permafrost in northeast Siberia to a warming climate. *Nat Commun*, 11: 2201, doi: 10.1038/s41467-020-15725-8
- 2) Muster, S., Riley, W.J., Roth, K., Langer, M., Aleina, F.C., Koven, C.D., Lange, S., Bartsch, A., Grosse, G., Wilson, C.J., Jones, B.M., **Boike, J.** (2019): Size Distributions of Arctic Waterbodies Reveal Consistent Relations in Their Statistical Moments in Space and Time. *Frontiers in Earth Science*, 7: 1-15, doi: 10.3389/feart.2019.00005.
- 3) Abnizova, A., Siemens, J., Langer, M. and **Boike, J.** (2012): Small ponds with major impact: The relevance of ponds and lakes in permafrost landscapes to carbon dioxide emissions. *Global Biogeochemical Cycles*, AGU, 26 (2), doi:10.1029/2011GB004237.
- 4) **Boike, J.**, Grau, T., Heim, B., Günther, F., Langer, M., Muster, S., Gouttevin, I., Lange, S. (2016): Satellite-derived changes in the permafrost landscape of central Yakutia, 2000–2011: Wetting, drying, and fires. *Global and Planetary Change*, 139: 116-127.
- 5) Liljedahl, A.K., **Boike, J.**, Daanen, R.P., Fedorov, A.N., Frost, G.V., Grosse, G., Hinzman, L.D., Iijima, Y., Jorgenson, J.C., Matveyeva, N., Necsoiu, M., Reynolds, M.K., Romanovsky, V.E., Schulla, J., Tape, K.D., Walker, D.A., Wilson, C.J., Yabuki, H., Zona, D. (2016): Pan-Arctic ice-wedge degradation in warming permafrost and its influence on tundra hydrology. *Nature Geoscience*, 9: 312-318, doi:10.1038/ngeo2674.
- 6) **Boike, J.**, Kattenstroth, B., Abramova, K., Bornemann, N., Chetverova, A., Fedorova, I., Fröb, K., Grigoriev, M., Grüber, M., Kutzbach, L., Langer, M., Minke, M., Muster, S., Piel, K., Pfeiffer, E.-M., Stoof, G., Westermann, S., Wischnewski, K., Wille, C. and Hubberten, H.-W. (2013): Baseline characteristics of climate, permafrost and land cover from a new permafrost observatory in the Lena River Delta, Siberia (1998–2011). *Biogeosciences*, 10: 2105-2128, doi:10.5194/bg-10-2105-2013.
- 7) **Boike, J.**, Roth, K. and Ippisch, O. (2003): Seasonal snow cover on frozen ground: Energy balance calculations of a permafrost site near Ny-Ålesund, Spitsbergen. *Journal of Geophysical Research (Atmosphere)*, 108(D2), 8163, 4/1-11, doi:10.1029/2001JD000939.
- 8) Langer, M., S. Westermann, S., **Boike, J.**, Kirillin, G., Grosse, G., Peng, S. and Krinner, G. (2017): Rapid degradation of permafrost underneath waterbodies in tundra landscapes - towards a

representation of thermokarst in land surface models, *Journal of Geophysical Research - Earth Surface*, doi:10.1002/2016JF003956.

- 9) Antonova, S., Kääb, A., Heim, B., Langer, M. and **Boike, J.** (2016): Spatio-temporal variability of X-band radar backscatter and coherence over the Lena River Delta, Siberia. *Remote Sensing of Environment*, 182, 169-191, doi:10.1016/j.rse.2016.05.003.
- 10) Muster, S., Langer, M., Abnizova, A., Young, K.L. and **Boike, J.** (2015): Spatio-temporal sensitivity of MODIS land surface temperature anomalies indicates high potential for large-scale land cover change detection in permafrost landscapes. *Remote Sensing of Environment*, 168: 1–12, doi:10.1016/j.rse.2015.06.017.