

# Johanna Buchner

SILVIS Lab ◦ Dept. Forest and Wildlife Ecology ◦ University of Wisconsin-Madison  
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## RESEARCH INTERESTS

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I am interested in broad-scale land-cover change due to anthropogenic activity. My goal is to improve our current understanding of how socio-economic drivers change our landscape and how these changes affect biodiversity. I want to apply that knowledge to improve land-use management and support conservation efforts.

## EDUCATION

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Since 10/2015 (expected graduation summer 2020)

**Doctoral Student in Forestry, University of Wisconsin-Madison, USA**

SILVIS Lab, Department of Forest and Wildlife Ecology, (advisor: Dr. Volker C. Radeloff)

*Working title: Land-use change in the Caucasus Mountains and the role of ethnic differences, national policies, and armed conflicts*

2012 – 2015

**Master of Science Degree in Environmental Sciences, University of Trier, Germany**

Department of Environmental Remote Sensing and Geoinformatics, (advisors: Dr. Thomas Udelhoven, Dr. Achim Röder)

2008 – 2011

**Bachelor of Science Degree in Biogeography, University of Trier, Germany**

Department of Biogeography, (advisors: Dr. Michael Veith, Dr. Jörg Müller)

2005 – 2007

Environmental Engineering Science, University of Bayreuth, Germany

## PROFESSIONAL & RESEARCH EXPERIENCE

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Since 07/2015

**Research Assistant, University of Wisconsin - Madison, USA**

SILVIS Lab, Department of Forest and Wildlife Ecology

*Mapping broad land-cover change in the Caucasus Mountains and determining the effect of armed conflicts on land cover and protected areas*

07/2019 – 08/2019

**Visiting Scientist, University of California - Berkeley, USA**

LUC Lab, Department of Environmental Science, Policy, & Management

*Mapping cropland abandonment in the Caucasus Mountains and quantifying the effect of different armed conflicts on cropland in the region*

08/2014 – 11/2014

**Visiting Scientist, University of Wisconsin - Madison, USA**

SILVIS Lab, Department of Forest and Wildlife Ecology,

*Comparing static versus dynamic data sets for species distribution modeling of a large herbivore in Botswana*

04/2013 – 04/2015

**Graduate Assistant, University of Trier, Germany**

Department of Environmental Remote Sensing and Geoinformatics

- Data acquisition, data analysis, validation sampling for accuracy assessment*
- 02/2014 – 04/2014 **Internship, Luxembourg Institute of Science and Technology (LIST), Luxembourg**  
Environmental Research and Innovation (ERIN), Remote Sensing and Ecosystem Processes  
*Assimilation of satellite data into a crop growth model to improve yield estimates*
- 12/2011 – 05/2012 **Internship, University of Auckland, New Zealand**  
School of Biological Science  
*Data analysis, mapping of bat species*
- 08/2010 – 10/2010 **Internship, Consultancy for Environmental Studies “Büro für ökologische Studien”, Germany**  
*Assessment of contaminated rivers, preparing expert reports for the construction of wind power stations, mapping of bat species*
- 08/2009 – 12/2013 **Internship and Graduate Assistant, Bavarian Forest National Park, Germany**  
Department of Conservation and Research  
*Data acquisition, data analysis, field work, lab work*

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#### TEACHING EXPERIENCE

- Spring 2018/'19/'20 Teaching Assistant for Forest Biometry (Lead Lecturer: Dr. Volker C. Radeloff), Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, USA
- 08/2015 3-day 'Maxent' workshop, lead and design of lecture and lab  
University of Jaktusk, Yakutia, Russia
- 04/2010 – 09/2010 Teaching Assistant for Applied Genetics (Lead Lecturer: Dr. Brunhilde Blömeke), Department of Environmental Toxicology, University of Trier, Germany

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#### PEER-REVIEWED PUBLICATIONS

- Yin, H., V. Butsic, **J. Buchner**, T. Kuemmerle, A. V. Prishchepov, M. Baumann, E. V. Bragina, H. Sayadyan, and V. C. Radeloff. (2019): Agricultural abandonment and re-cultivation during and after the Chechen Wars in the northern Caucasus. *Global Environmental Change*, 55: 149-159.
- Yin, H., A. V. Prishchepov, T. Kuemmerle, B. Bleyhl, **J. Buchner**, and V. C. Radeloff. (2018): Mapping agricultural land abandonment using spatial and temporal segmentation of dense Landsat time series. *Remote Sensing of Environment*, 210:12-24.
- Müller, J., Brandl, R., **Buchner, J.**, Pretzsch, H., Seifert, S., Strätz, C., Veith, M., Fenton, B. (2013): From ground to above canopy - Bat activity in mature forests is driven by vegetation density and height. *Forest Ecology and Management*, 306:179-184.
- Seibold, S., **Buchner, J.**, Bässler, C., Müller, J. (2013): Ponds in acidic mountains are more important for bats in providing drinking water than insect prey. *Journal of Zoology*, 290:302-308.

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#### MANUSCRIPTS IN REVIEW & SUBMITTED

- Buchner, J.**, Yin, H., Frantz, D., Kuemmerle, T., Askerov, E., Bakuradze, T., Bleyhl, B., Elizbarashvili, N., Komarova, A., Lewińska, K. E., Rizayeva, A., Sayadyan, H., Tan, B., Tepanosyan, G., Zazanashvili, N., Radeloff, V. C. (in review): Land-cover change

in the Caucasus Mountains since 1987 based on the topographic correction of multi-temporal Landsat composites. *Remote Sensing of Environment*.

Yin, H., A. de Oliveira Brandao Junior, **J. Buchner**, D. Helmers, B. G. Iuliano, N. E. Kimambo, K. E. Lewińska, E. Razenkova, A. Rizayeva, N. Rogova, S. A. Spawn, Y. H. Xie, and V. C. Radeloff (in review): Monitoring cropland abandonment with Landsat time series. *Remote Sensing of Environment*.

Lewińska, K. E., P. Hostert, **J. Buchner**, B. Bleyhl, and V. C. Radeloff (submitted): Short-term vegetation loss versus decadal degradation of grasslands in the Caucasus based on Cumulative Endmember Fractions. *Remote Sensing of Environment*.

#### SCIENTIFIC TALKS

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**Buchner, J.**, Yin, H., Frantz, D., Bleyhl, B., Kuemmerle, T., Bakuradze, T., Komarova, A., Rizayeva, A., Sayadyan, H., Tepanosyan, G., Radeloff, V. C. (2019): Large-area land-cover and land-use change mapping in the Caucasus Mountains using topographically corrected multi-temporal Landsat composites. AAG annual meeting, Washington DC., USA, 3-7 April 2019

**Buchner, J.**, Yin, H., Radeloff, V. C. (2017): Effects of Armed Conflicts and other Socio-economic Shocks on Land Use Change in the Caucasus. GOFC-GOLD Caucasus Regional Network Kick-off Meeting, Tbilisi, Georgia, 11-12 September 2017

#### CONFERENCE POSTER

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**Buchner, J.**, Bateman, B. L., Röder, A., Radeloff, V. C., Stellmes, M., Fynn, R. W. S., Udelhoven, T. (2016): Large herbivore movements versus seasonal variation in vegetation in the Okavango ecosystem based on dynamic satellite data. North American Congress for Conservation Biology, Madison, USA, 17-20 July 2016

#### AWARDS & SCHOLARSHIPS

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2017	Center for Russia, East Europe, and Central Asia (CREECA), UW-Madison, CREECA Graduate Student Research Travel Award, \$3,000
2014	German Academic Exchange Service (DAAD) PROMOS, Scholarship for academic training and continuing education abroad, 1100€
2012	German Academic Exchange Service (DAAD) PROMOS, Scholarship for academic training and continuing education abroad, 975€

#### PROFESSIONAL TRAINING & TECHNICAL SKILLS

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EO College: Echoes in Space – Introduction to Radar Remote Sensing  
 Esri Training (Virtual Campus): Learning ArcGIS Spatial Analyst  
 Software packages: ArcGIS, ENVI, Stata, R, MAXENT, Office Suite

#### OUTREACH

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Serving as supporting scientist for junior high-school students in the Climate Detectives school project initiated by the European Space Agency Education Office ([http://www.esa.int/Education/Climate\\_detectives](http://www.esa.int/Education/Climate_detectives))

#### LANGUAGES

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English – advanced (fluent in writing and speaking)  
 German – native