Johanna Buchner

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RESEARCH INTERESTS

My research aims to advance our current understanding of how socio-economic drivers affect our landscape by combining satellite imagery and statistics to improve future land-use management and support conservation efforts.

EDUCATION

9/2015 – present	**Doctoral Student in Forestry**, **University of Wisconsin-Madison, USA** SILVIS Lab, Department of Forest and Wildlife Ecology, (advisor: Dr. Volker C. Radeloff) Title: Wars, protected areas, and land-cover change in the Caucasus Mountains
2012 – 2015	**M.Sc. in Environmental Sciences, University of Trier, Germany** Department of Environmental Remote Sensing and Geoinformatics, (advisors: Dr. Thomas Udelhoven, Dr. Achim Röder)
2008 – 2011	**B.Sc. 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

07/2015 – present	**Research Assistant, University of Wisconsin-Madison, USA** SILVIS Lab, Department of Forest and Wildlife Ecology Mapping broad-scale land-cover change in the Caucasus Mountains using 30 years of satellite imagery and machine learning algorithms for classification, determining the effect of wars on land abandonment, and assessing the effectiveness of protected areas on forests using econometrics
07/2019 – 08/2019	**Visiting Scholar, University of California-Berkeley, USA** LUC Lab, Department of Environmental Science, Policy, & Management Mapping cropland abandonment with satellite imagery in the Caucasus Mountains and quantifying the effect of different wars on cropland in the region using matching statistics and logistic panel regression
04/2013 – 03/2015	**Graduate Assistant, University of Trier, Germany** Department of Environmental Remote Sensing and Geoinformatics Data acquisition and data analysis of satellite imagery, validation sampling for accuracy assessment
08/2014 – 11/2014	**Visiting Scholar, University of Wisconsin-Madison, USA** SILVIS Lab, Department of Forest and Wildlife Ecology,

Comparing static versus dynamic datasets including remotely sensed imagery for species distribution modeling of a large herbivore in Botswana

02/2014 – 04/2014	**Intern, Luxembourg Institute of Science and Technology (LIST), Luxembourg**
	Environmental Research and Innovation (ERIN), Remote Sensing and Ecosystem Processes
	Atmospheric correction of satellite imagery with ATCOR, crop growth modeling to improve yield estimates
02/2008 – 07/2013	**Intern and Graduate Assistant, Bavarian Forest National Park, Germany**
	Department of Conservation and Research
	Data acquisition, data analysis, field work, lab work
01/2012 – 03/2012	**Intern, University of Auckland, New Zealand**
	School of Biological Science
	Data analysis, mapping of bat species
08/2010 – 10/2010	**Intern, 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

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 Yakutsk, Yakutia, Russia
04/2010 – 09/2010	Teaching Assistant for Applied Genetics (Lead Lecturer: Dr. Brunhilde Blömeke), Department of Environmental Toxicology, University of Trier, Germany

PEER-REVIEWED PUBLICATIONS

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. (2020): Land-cover change in the Caucasus Mountains since 1987 based on the topographic correction of multi-temporal Landsat composites. Remote Sensing of Environment. 248:111967.

Lewińska, E. L., Hostert, P., **Buchner, J.**, Bleyhl, B., Radeloff, V. C. (2020): Short-term vegetation loss versus decadal degradation of grasslands in the Caucasus based on Cumulative Endmember Fractions. Remote Sensing of Environment. 248:111969.

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 (2020): Monitoring cropland abandonment with Landsat time series. Remote Sensing of Environment. 246:111873.

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.

SCIENTIFIC TALKS

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

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

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€

TECHNICAL SKILLS & PROFESSIONAL TRAINING

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

OUTREACH

Served 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)

LANGUAGES

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