Likai Zhu, PhD

University of Wisconsin-Madison
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EDUCATION

2010 – 2014 **University of Florida –** Gainesville, FL, USA
Ph.D. in Geography (Remote sensing) (Advisor: Jane Southworth)
Fund: Alumni Graduate Fellowships at the University of Florida ($20,000/yr)
Dissertation title: Remote sensing based vegetation dynamics in southern Africa: Physiographic gradients determine the relative importance of environmental controls on savanna vegetation

2007 – 2010 **Peking University –** Beijing, China
Master of Science in Physical Geography (Advisor: Jijun Meng)

2003 – 2007 **Qufu Normal University** – Shandong, China
Bachelor of Science in Geography

PROFESSIONAL EXPERIENCE

2015/6 – Postdoctoral research associate, SILVIS Lab, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, USA (Advisor: Volker Radeloff)

2015/3 – 2015/5 Postdoctoral research associate, Ocean College, Zhejiang University– Hangzhou, Zhejiang, China (Advisor: Jiaping Wu)

2013/9 – 2013/12 OPS, Sabine Grunwald's Lab, Soil & Water Science Department, University of Florida, USA

TEACHING EXPERIENCE

2015/3 – 2015/5 Course lecturer of *Geographic Information Science and Technology* (Ocean College, Zhejiang University)

2012/8 – 2013/5 Lab instructor of both courses: *Geographic Information Systems in Research & Foundations of Geographic Information Systems* (Department of Geography, University of Florida)

2011/8 – 2011/12 Lab instructor of both courses: *Remote sensing & Introductory Digital Image Processing* (Department of Geography, University of Florida)

PUBLICATIONS

12. **Zhu L**, Radeloff VC & Ives AR (2017) Characterizing global patterns of frozen ground with and without snow cover using microwave and MODIS satellite data products. ***Remote Sensing of Environment***, 191, 168–178.

11. **Zhu L**, Radeloff VC & Ives AR (2017) Improving the mapping of crop type patterns in the US Midwest by fusing Landsat and MODIS satellite data. ***International Journal of Applied Earth Observation and Geoinformation***, 58, 1–11.
10. **Zhu L**, Southworth J & Meng J (2015) Comparison of the driving forces of spring phenology among savanna landscapes by including combined spatial and temporal heterogeneity. ***International Journal of Biometeorology***, 59, 1373–1384.
9. **Zhu L** & Meng J (2015) Determining the relative importance of climatic drivers on spring phenology in grassland ecosystems of semi-arid areas. ***International Journal of Biometeorology***, 59, 235–249.
8 **Zhu L** & Southworth J (2013) Disentangling the relationships between net primary production and precipitation in southern Africa savannas using satellite observations from 1982 to 2010. ***Remote Sensing***, 5, 3803–3825.
7. **Zhu L**, Meng J & Mao X (2013) Analyzing land-use change in the farming-pastoral transitional region using autologistic model and household survey. ***Chinese Geographical Science***, 23,716–728.
6. Southworth J, **Zhu L**, Bunting E, Ryan SJ, Herrero H, Waylen PR & Hill M (2015) Changes in vegetation persistence across global savanna landscapes, 1982-2010. ***Journal of Land Use Science***, DOI: 10.1080/1747423X.2015.1071439.
5. Meng J, Xiang Y, Yan Q, Mao X & **Zhu L** (2015) Assessment and management of ecological risk in an agricultural–pastoral ecotone: case study of Ordos, Inner Mongolia, China. ***Natural Hazards***, 79, 195–213.
4. Campo-Bescos M, Muñoz-Carpena R, Kaplan D, Southworth J, **Zhu L** & Waylen PR (2013) Beyond precipitation: Physiographic thresholds dictate the relative importance of environmental drivers on savanna vegetation. ***PLos ONE***, 8, e72348.
3. Campo-Bescos M, Muñoz-Carpena R, Southworth J, **Zhu L**, Waylen PR, & Bunting E. (2013) Combined spatial and temporal effects of environmental controls on long-term monthly NDVI in southern Africa savanna. ***Remote Sensing***, 5, 6513–6538.
2. Southworth J, Rigg L, Gibbes C, Waylen P, **Zhu L**, McCarragher S & Cassidy L (2013) Integrating dendrochronology, climate and satellite remote sensing to better understand savanna landscape dynamics in the Okavango Delta, Botswana. ***Land***, 2, 637–655.
1. **Zhu L** & Meng J (2010) Study on rainfall variations in the middle part of Inner Mongolia, China during the past 43 years. ***Environmental Earth Sciences***, 60, 1661–1671.

PUBLICATIONS (IN CHINESE)

7. Meng J, Wang X, You N & **Zhu L** (2016) Dynamic changes of landscape connectivity for ecological lands and distance thresholds in the middle reaches of the Heihe River, Northwest China. *Chinese Journal of Applied Ecology*, 17(6): 1715–1726.

6. Meng J, **Zhu L** & Mao X (2012) Multi-scale analysis of land-use change drivers in the Mu Us Desert in the past 30 years. *Transactions of the Chinese Society of Agricultural Engineering*, 20:1–13.
5. Meng J, **Zhu L**, Yang Q & Mao X (2012) Building land-use ecological security pattern of Ordos. *Acta Ecologica Sinica*, 32(21): 1–12.
4. **Zhu L**, Meng J, Liu Y & Zhou P (2011) Livelihoods of farming and grazing households and their linkage to land use pattern in farming-pastoral transitional zone: a case study of Uxin Banner in Ordos, Inner-Mongolia. *Acta Scientiarum Naturalium Universitatis Pekinensis*, (1):136–143.
3. **Zhu L** & Meng J (2010) Spatio-temporal rainfall variations in the middle part of Inner Mongolia, China. *Arid Zone Research*, 27(4): 59–67.
2. Liu Y, Meng J & **Zhu L** (2010) Progress in the research on regional ecological security pattern. *Acta Ecologica Sinica*, 30 (24): 300–309.
1. **Zhu L** & Meng J (2009) Progress and prospects of land-use/cover change models. *Progress in Geography*, 28 (5): 782–790.

MANUSCRIPTS UNDER REVIEW/IN PREPARATION

Zhu L, Meng J, Li F, and You N (2017) Predicting the shifts in spring onset and false springs in China during the 21st century. *International Journal of Biometeorology* (In revision)

You N, Meng J, and **Zhu L** (2017) Sensitivity and resilience of ecosystems to climate variability in the Heihe River Basin.

Miller C, Barton BT, **Zhu L**, Radeloff VC, Oliver KM, Harmon JP and Ives AR (2017) Interactive effects of night warming and light pollution on top-down control of insect pests.

PRESENTATIONS

Barton BT, Harmon J, Ives AR, Oliver K, Radeloff VC & **Zhu L** (2016) Landscape diversity, broad-scale disturbance, and the eco-evo dynamics of pea aphids and parasitoids. *Ecology Society of America Annual Meeting, August 11, Fort Lauderdale, Florida.*

Zhu L, Volker VR & Ives AR (2016) Combining satellite-derived snow cover and freeze/thaw data to characterize global patterns of frozen ground with and without snow cover. *3rd North American Congress for Conservation Biology, July 18, Madison, Wisconsin.*

Zhu L, Volker VR & Ives AR (2016) Characterizing global patterns of frozen ground with and without snow cover using AMSR-E and MODIS satellite data products. *NASA Biodiversity and Ecological Forecasting Team Meeting, May 4 – 6, Silver Spring, Maryland.*

Zhu L, Volker VR, Ives AR & Barton BT (2015) Mapping Crop Patterns in Central US Agricultural Systems from 2000 to 2014 Based on Landsat Data: To What Degree Does

Fusing MODIS Data Improve Classification Accuracies? *AGU Fall Meeting, December 17, San Francisco, California.*

Gavilan C, Grunwald S, Quiroz R, & **Zhu L** (2015) Modeling Soil Organic Carbon Variation Along Climatic and Topographic Trajectories in the Central Andes. *AGU Fall Meeting, December 17, San Francisco, California.*

Southworth J, Waylen P, Bunting E, **Zhu L**, Huffaker R, Campo-Bescos M, Munoz-Carpena R & Kaplan D (2015) Using time-series and dynamic factor analysis to model and explain the combined spatial and temporal effects of environmental drivers on vegetation growth in southern Africa. *AAG Annual Meeting, April 22, Chicago, Illinois.*

Zhu L & Southworth J (2014) Interannual variability of global terrestrial net primary production derived from satellite observations, 1982-2010. *AAG Annual Meeting, April 12, Tampa, Florida.*

Southworth J, Campo-Bescos M, Munoz-Carpena R, Kaplan D, Waylen P, **Zhu L** & Bunting E, (2014) Using dynamic factor analysis to model the combined spatial and temporal effects of environmental covariates on NDVI in southern Africa and to develop new land change analysis techniques. *Global Land Project 2nd Open Science Meeting, March 19-21, Berlin, Germany.*

Zhu L, Meng J & Guo Y (2011) Combining spatially explicit model with household survey to analyze land use change and drivers in farming-grazing transitional region. *AAG Annual Meeting, April 14, Seattle, Washington.*

Programs Participated

2013 — 2017 The role of taxonomic, functional, genetic, and landscape diversity in food web responses to a changing environment. *USA National Science Foundation, Dimensions of Biodiversity* **– main participant**

2014 — 2017 Developing and testing the Dynamic Habitat Index from Terra and Aqua MODIS data for biodiversity and conservation science. *NASA: The Science of Terra and Aqua* **– participant**

2014 — 2017 Ecological adaptability of land use under the constraints of water resource in the middle reach of Heihe River. *China National Science Foundation* **– participant**

2009 — 2012 Understanding and predicting the impact of climate variability and climate change on land use and land cover change via socio-economic institutions in Southern Africa. *NASA Land-Cover/Land-Use Research Program* **– main participant**

2009 — 2011 Study on ecological security pattern based on land use change in Ordos during the past 30 years. *China National Science Foundation* **– main participant**

FELLOWSHIPS AND AWARDS

2010 – 2014	Alumni Graduate Fellowships Fund at the University of Florida ($80,000)
2007 – 2010	Master student scholarship at the Peking University
2010	Outstanding master student of the Peking University
2007	Outstanding undergraduate of Shandong Province
2007	Outstanding undergraduate of the Qufu Normal University

PROFESSIONAL SKILLS

- Skilled at GIS/Remote sensing software**: *ArcGIS, GDAL, QGIS, ERDAS Imagine, ENVI & Orfeo ToolBox***
- Skilled at ***Python, R, & MATLAB programming***
- Skilled at ***Linux system operating and bash scripting***
- Basic knowledge in ***C, C++, C# and Java programming***

PROFESSIONAL ACTIVITIES

Manuscripts reviewed for: *Remote Sensing, International Journal of Remote Sensing, GIScience & Remote Sensing, Ecological Indicators, Global and Planetary Change, Environmental Earth Science, Geocarto International, Journal of Mountain Science.*

PROFESSIONAL SOCIETIES

American Association of Geographers
American Geophysical Union