

# He Yin

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Department of Forest and Wildlife Ecology  
University of Wisconsin – Madison  
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## EDUCATION

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- 2014      **PhD** Geography, Humboldt University of Berlin, Germany  
Committee: Patrick Hostert (Supervisor), Tobias Kuemmerle, Thomas Udelhoven  
Thesis: *Understanding land use and land cover change in Inner Mongolia using remote sensing time series*. magna cum laude.
- 2009      **MSc** Physical Geography, Peking University, China  
Supervisor: Yanglin Wang  
Thesis: *Desertification assessment in Inner Mongolia based on vegetation dynamics*.
- 2006      **BS** Ecological Tourism, Northeast Forestry University, China  
Supervisor: Hongxian Yu  
Thesis: *Environmental protection and ecological design for Jingpo Lake National Park*.

## PROFESSIONAL EMPLOYMENT

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- 2015-  
Current      Postdoctoral Researcher  
Department of Forest and Wildlife Ecology, University of Wisconsin-Madison, USA  
Mentor: Volker Radeloff
- 2014–2015      Postdoctoral Researcher  
Center for Development Research (ZEF), University of Bonn, Germany  
Mentor: Asia Khamzina
- 2009-2010      Research Assistant  
College of Urban and Environmental Sciences, Peking University, China  
Mentor: Yanglin Wang

## PUBLICATIONS (PEER REVIEWED)

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- Yin, H.**, Pflugmacher, D., Li, A., Li, Z.G. and Hostert, P. (2018): Land use and land cover change in Inner Mongolia – understanding the effects of China’s re-vegetation programs. *Remote Sensing of Environment*. 204: 918-930
- Yin, H.**, Khamzina, A., Pflugmacher, D. and Martius, C. (2017): Forest cover mapping in post-Soviet Central Asia using multi-resolution remote sensing imagery. *Scientific Reports*. 7:1375
- Cai J.L. , Varis, O. and **Yin, H.** (2017): China's water resources vulnerability: A spatio-temporal analysis during 2003-2013. *Journal of Cleaner Production*. 142: 2901-2910
- Cai J.L. , **Yin, H.** and Varis, O., (2016): Impacts of industrial transition on water use intensity and energy-related carbon intensity in China: A spatio-temporal analysis during 2003-2012. *Applied Energy*. 183:1112-1122

- Wang, R., Zhang, Y.Z., Wünnemann, B., **Yin, H.**, Xia, F., Zhou, L.F. and Diekmann, B. (2015): Linkages between Quaternary climate change and sedimentary processes in Hala Lake, northern Tibetan Plateau, China. *Journal of Asian Earth Sciences*. 107: 140-150
- Yin, H.**, Pflugmacher, D., Kennedy, R.E., Sulla-Menashe, D. and Hostert, P. (2014): Mapping annual land cover changes using MODIS time series. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*. 7(8): 3421-3427
- Li, Z.G., Yang, P., Tang, H.J., Wu, W.B., **Yin, H.**, Liu, Z.H. and Zhang, Li. (2014): Response of maize phenology to climate warming in Northeast China between 1990 and 2012. *Regional Environmental Change*. 14, 39-48.
- Liu, X.Q., Wang, Y.L., Peng, J., Ademola, K.B. and **Yin, H.** (2013): Assessing vulnerability to drought based on exposure, sensitivity and adaptive capacity: A case study in middle Inner Mongolia of China. *Chinese Geographical Science*, 1, 13-25
- Yin, H.**, Udelhoven, T., Fensholt, R., Pflugmacher, D. and Hostert, P. (2012): How Normalized Difference Vegetation Index (NDVI) trends from Advanced Very High Resolution Radiometer (AVHRR) and Système Probatoire d'Observation de la Terre VEGETATION (SPOT VGT) time series differ in agricultural areas: An Inner Mongolian case study. *Remote Sensing*, 4, 3364-3389
- Huang, Y., Cai, J.L., **Yin, H.** and Cai, M.T. (2009): Correlation of precipitation to temperature variation in the Huanghe River (Yellow River) basin during 1957-2006. *Journal of Hydrology*, 372, 1-8
- Peng, J., Wu, J.S., **Yin, H.**, Li, Z.G., Chang, Q. and Mu, T.L. (2008): Rural land use change during 1986-2002 and its ecological effects in Lijiang, China, based on remote sensing and GIS. *Sensors*, 8, 8201-8223

*Publications in Chinese with English abstract*

- Yin, H.**, Li, Z.G., Wang, Y.L. and Cai, F. (2011): Assessment of desertification using time series analysis of hyper-temporal vegetation indicator in Inner Mongolia. *Acta Geographica Sinica*, 66, 653-661
- Li, Z.G., Tang, H.J., Yang, P., Zhou, Q.B., Wang, Y.L., Wu, W.B., **Yin, H.** and Zhang, L. (2011): Identification and application of seasonality parameters of crop growing season in Northeast China based on NDVI time series data. *Acta Scientiarum Naturalium Universitatis Pekinensis*, 47, 882-892
- Yin, H.**, Li, Z.G. and Wang, Y.L. (2011): A review on the research progress of desertification assessment. *Chinese Journal of Plant Ecology*, 35, 345-352
- Cai, J.L., **Yin, H.** and Huang, Yi. (2010): Ecological function regionalization: a review. *Acta Ecologica Sinica*, 30, 3018-3027
- Yin, H.**, Wang, Y.L., Cai, J.L. Lv, X.F. and Liu, X.Q. (2009): Regional ecological risk assessment: Its research progress and prospect. *Chinese Journal of Ecology*, 28, 969-975
- Yin, H.**, Wang, Y.L. and Peng, J. (2009): Variation analysis on precipitation and temperature in middle and upper reach of Yellow River Basin during 1956 to 2006. *Research of Soil and Water Conservation*, 16, 35-39

**BOOK CHAPTER**

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- Liu, X.Q., **Yin, H.** and Braimoh, A.K. (2014): Vulnerability assessment diagram: A case study on drought in Middle Inner Mongolia, China. *In Braimoh, A. and Huang, H.Q (eds). Vulnerability of Land Systems in Asia*. Wiley-Blackwell Press. Pp: 63-74

**GRANTS**

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- pending*      Zhu, L.K. and Yin, H. Identification of fast-growing tree plantations in agroforestry system

- using Landsat time series, **Natural Science Foundation of Shandong**, 2018-2020, ¥ 20,000
- 2017 Radeloff, V., Hostert, P., Griffiths, P. and Yin, H. Monitoring the dynamics of abandoned agriculture, fallow fields and grasslands, with harmonized Landsat and Sentinel-2 data. **NASA Land-Cover and Land-Use Change Program (LCLUC) Multi-Source Land Imaging Science**, 2018-2020, US\$ 647,487
- 2017 Radeloff, V., Butsic, V., Nita, M., Yin, H., Ghambashidze, G., Hayadyan, H., Elizbarashvili, N., Mammadov, R. and Kuemmerle, T. Long-term land degradation in the Caucasus. **NASA Land-Cover and Land-Use Change Program**, 2018-2020, US\$ 874,000
- 2016 Zuckerberg, B., Radeloff, V., Pidgeon, A., Bonter, D., McCabe, J. and Yin, H. Re-wilding urban environments: Integrating remote sensing and citizen science to study the environmental context and ecological consequences of returning avian predators. **NASA Citizen Science for Earth Systems Program**, 2017-2020, US\$ 172,270 (with option to submit follow up proposal for US\$ 1,500,000 after first year)
- 2015 Postdoctoral grant; Robert Bosch Foundation (€ 13,800 EURO)
- 2014 Postdoctoral grant; Center for International Forestry Research (€ 26,400 EURO)
- 2014 Research grant; Humboldt Innovation (€ 3,900 EURO)
- 2013 Travel grant; International Office, Humboldt University of Berlin (€ 2,500 EURO)
- 2011 Travel grant; Humboldt University of Berlin (€ 3,000 EURO)
- 2008 Kwang-Hua Scholarship; Peking University (¥ 3,000 YUAN)
- 2005 First Prize Scholarship; Northeast Forestry University (¥ 3,000 YUAN)
- 2004 Second Prize Scholarship; Northeast Forestry University (¥ 2,000 YUAN)
- 2003 First Prize Scholarship; Northeast Forestry University (¥ 3,000 YUAN)

## TEACHING EXPERIENCE

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- 2016 Invited lecture: Land-use and land-cover change in the Caucasus and the Chechen Wars (Center for Russia, East Europe, and Central Asia at the University of Wisconsin–Madison 2016 Fall Lecture Series)
- 2012 Invited lecture: Time series analysis of remote sensing imagery, Land System Science (Humboldt University of Berlin)
- 2008 Teaching assistant: Landscape Ecological Planning and Design (Peking University)
- 2008 Teaching assistant: Rural Geography (Peking University)

### *Pedagogical training*

The Learning Environment and Pedagogics (LEaP) workshop. Organizer: University of Wisconsin-Madison Teaching Academy, 23-24 August 2017 (<https://teachingacademy.wisc.edu/i-leap-and-ta-leap/>)

## MENTORING EXPERIENCE

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- since 2016 Johanna Buchner, PhD thesis “Effects of Socio-economic shocks/armed conflicts on land use change in the Caucasus” (University of Wisconsin–Madison)

2014-2015 Tigest A Gessesse, PhD thesis "Above- and below-ground carbon stocks in semi-arid land-use systems under integrated watershed management in Gergera watershed, Ethiopia" (University of Bonn, Germany)

## CONFERENCE AND WEBINAR CONTRIBUTIONS

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### *Organization of sessions*

The Global Land Project third Open Science Meeting (GLP 3rd OSM 2016), "Young scientist forum on mapping land use and land cover change using remote sensing techniques", Beijing China, Oct 2016.

### *Conference Presentations*

**Yin, H.**, Butsic, V., Buchner, J., Baumann, M., Kuemmerle, T., Prishchepov, A., Buchner, J., Bragina, E. and Radeloff, V. Chechen Wars triggered land use change in the North Caucasus (Oral presentation at the Association of American Geographers at the AAG Annual Meeting, April 2018, New Orleans).

McCabe, J., **Yin, H.**, Cruz, J., Radeloff, V., Pidgeon, A., Bonter, D. and Zuckerberg, B. Integrating remote sensing and citizen science to study the environmental context and ecological consequences of returning avian predators (Poster presentation at the American Geophysical Union Fall Meeting, Dec 2017, New Orleans).

Cai, J.L., **Yin, H.** and Varis, O. Impact of urbanization on water use and energy-related CO<sub>2</sub> emission of residential consumption in China: A spatio-temporal analysis during 2003-2012 (Oral presentation at the American Geophysical Union Fall Meeting, Dec 2017, New Orleans).

McCabe, J., **Yin, H.**, Cruz, J., Radeloff, V., Pidgeon, A., Bonter, D. and Zuckerberg, B. Recent colonization of North American urban landscapes by Accipiter hawks (Oral presentation at the joint Meeting of the American Ornithological Society and the Society of Canadian Ornithologists, July-August 2017, East Lansing).

McCabe, J., **Yin, H.**, Cruz, J., Radeloff, V., Pidgeon, A., Bonter, D. and Zuckerberg, B. Recent colonization of North American urban landscapes by Accipiter hawks (Oral presentation at the National Wildlife Society meeting, September 2017, Albuquerque).

Radeloff, V., **Yin, H.**, Buchner, J., Baumann, M., Bleyhl, B., Bragina, E., Kuemmerle, T., Sayadyan, H. and Tan, B. Land use change in the Caucasus Mountains due to ethnic differences, national policies, and armed conflicts (Oral presentation at the NASA Land-Cover and Land-Use Change Program Science Team Meeting, April 2017, Rockville).

McCabe, J., Cruz Bernal, J., **Yin, H.**, Radeloff, V., Pidgeon, A., Bonter, D. and Zuckerberg, B. Re-wilding urban environments: Studying the environmental context and ecological consequences of returning avian predators (Poster presentation at the NASA Biodiversity and Ecological Forecasting Team Meeting, May 2017).

Cai, J.L., Yin, H. and Varis, O. Impacts of industrial transition on water use intensity and energy-related carbon intensity in China: A spatio-temporal analysis during 2003-2012 (Oral presentation at the American Geophysical Union Fall Meeting, Dec 2016, San Francisco).

**Yin, H.**, Bleyhl, B., Buchner, J., Kuemmerle, T., Tan, B. and Radeloff, V. Land use and land cover change in the Caucasus Mountains after the collapse of the Soviet Union (Oral presentation at the Global Land Project 3rd Open Science Meeting, October 2016, Beijing China).

**Yin, H.**, Buchner, J., Bleyhl, B., Bragina, E., Kuemmerle, T., Tan, B. and Radeloff, V. Long-term forest change in the Caucasus using remote sensing time series (Poster presentation at the North America Congress for Conservation Biology, July 2016, Madison).

- Yin, H.**, Bleyhl, B., Buchner, J., Kuemmerle, T., Tan, B. and Radeloff, V. Land use change in the Caucasus and the Chechen Wars (Poster presentation at the NASA Land-Cover and Land-Use Change Program Science Team Meeting, April 2016, North Bethesda).
- Gessesse, T.A., Khamzina, A., **Yin, H.** and Amelung, W. Changes in land cover and ecosystem carbon stocks under integrated watershed management in Tigray, Ethiopia (Poster presentation at the International Association for Landscape Ecology- German Chapter Annual Conference. October 2015, Bonn Germany).
- Kumar, N., Voigt, H., **Yin, H.** and Yamac, S. Nexus of multi-disciplines for sustainable water resource management: concepts, interlinkages and models (Poster presentation at the “Sustainable Development Goals: A water perspective” organized by the German Federal Ministry of Education and Research. August 2015, Bonn Germany).
- Yin, H.**, Haas, S., Martius, C. and Khamzina, A. Forest cover change between 2000 and 2014 in Central Asia (Poster presentation at the 8th International Workshop on the Analysis of Multi-temporal Remote Sensing Images. July 2015, Annecy France).
- Yin, H.**, Jacob, A., Martius, C. and Khamzina, A. Forest cover mapping in Central Asia using multiple-resolution imagery (Oral presentation at the 36th International Symposium on Remote Sensing of Environment. May 2015, Berlin Germany).
- Yin, H.**, Jacob, A., Martius, C. and Khamzina, A. Forest cover and land degradation mapping in Central Asia – Implications for carbon sequestration (Poster presentation at the Climate Engineering Conference 2014. August 2014, Berlin Germany).
- Yin, H.**, Pflugmacher, D. Li, Z.G. and Hostert, P. Land use and land cover change in Inner Mongolia – understanding the effects of China’s re-vegetation programs (Oral presentation at the 2nd Global Land Project Open Science Meeting. March 2014, Berlin Germany).
- Li, Z.G., **Yin, H.**, Yang, P., Tang, H.J., Wu, W.B., Chen, Z.X., Liu, Z.H., Tan, J.Y. and Zhang, L. Response of maize cropping system to climate warming in Northeast China in the past 30 years (Oral presentation at the 2nd Global Land Project Open Science Meeting, March 2014, Berlin Germany).
- Yin, H.**, Pflugmacher, D. and Hostert, P. Mapping annual land cover changes using MODIS time series (Poster presentation at the Joint workshop of the EARSeL 5th Land Use & Land Cover Workshop and NASA LCLUC Science Team, March 2014, Berlin Germany).
- Yin, H.**, Pflugmacher, D., Li, Z.G. and Hostert, P. Assessing land degradation in Inner Mongolia using MODIS time series (Oral presentation at the 7th International Workshop on the Analysis of Multi-temporal Remote Sensing Images, June 2013, Banff Canada).
- Yin, H.**, Wang, Y.L. and Chang Q. A study on multi-scale effect of urban landscape pattern based on the wavelet transform in Shenzhen (Poster presentation at the Xth China Landscape Ecology Congress. September 2007, Beijing China).

### *Webinars*

- Radeloff, V., **Yin, H.**, Buchner, J., Frantz, D. and Tan, B. Land use change in the Caucasus Mountains due to ethnic differences, national policies, and armed conflicts (NASA LCLUC Webinar, March 2017).

### **TRAINING**

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- Neural Network and Deep Learning, Organizer: Andrew Ng, Coursera, November 2017
- Hierarchical Modeling and Analysis of Spatial-Temporal Data. Organizers: Andrew Finley & Ben Zuckerberg, UW-Madison, 20 April 2017
- The European Space Agency (ESA) 4th Advanced Training Course in Land Remote Sensing. Organizer: The European Space Agency, Athens, Greece, July 2013

## **AWARDS**

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| 2016 | Best Oral Presentation at the Global Land Project 3rd Open Science Meeting         |
| 2008 | Excellent volunteer of the Beijing 2008 Olympic & Paralympic Games                 |
| 2008 | Advanced individual of student volunteers at social practices of Peking University |
| 2006 | Graduated with honors across Heilongjiang Province of China (Rank: 1/32)           |
| 2004 | First place in TK Competition Cup of the Northeast Forestry University             |
| 2004 | Second place in the 9th National Scientific Competition Cup                        |

## **PROFESSIONAL SERVICE**

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Manuscript reviewer for:

Applied Geography, Canadian Journal of Remote Sensing, IEEE Journal of Selected Topics in Earth Observation and Remote Sensing, International Journal of Remote Sensing, Journal of Arid Environments, Journal of Environmental Management, Journal of Integrative Agriculture, Landscape Ecology, Nature - Scientific Reports, Photogrammetric Engineering & Remote Sensing, Remote Sensing, Remote Sensing Letters, Remote Sensing of Environment, Science of the Total Environment, Sustainability

## **FIELD EXPERIENCE**

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| 2016      | Azerbaijan (Baku, Shirvan National Park, Shirvan National Park) and Georgia (Tbilisi, Borjomi Nature Reserve, Kazbegi National Park) - ground truth data collection for forest disturbance and land degradation mapping (2 weeks) |
| 2014      | Uzbekistan (Tashkent, Ugam-Chatkal National Park, Khorezm, Karakalpakstan) and Kyrgyzstan (Bishkek, National Park Chon-Kemin, Jalal-Abad, Osh) - ground truth data collection for Central Asia forest cover mapping (3 weeks)     |
| 2006-2012 | China (Inner Mongolia) - MS and PhD research included ground truth data collection for land cover mapping, above- and below-ground biomass sample collection and estimation, vegetation fractional cover and plant diversity      |
| 2006      | China (Shenzhen) - land use and urban planning surveys conducted through oral interviews (2 weeks)  |
| 2005      | China (Lake Jingpo National Park) - undergrad research (1 week)   |
| 2004      | China (Lesser Khingan Mountains) - undergrad research (2 weeks)   |

## **COMMUNITY SERVICE**

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| 2012-2013 | Volunteer at the Long Night of the Sciences (in German: Lange Nacht der Wissenschaften) |
| 2008      | Volunteer at the 2008 Summer Olympic Games and Paralympic Games                         |
| 2008      | Volunteer at the 'Good Luck Beijing' tournament (the Olympic test event)                |
| 2007-2008 | Vice president of the Yoga Student Association at Peking University                     |

2005 Volunteer at annual Bird Week organized by the World Wildlife Fund (WWF) and Northeast Forestry University

## **MEMBERSHIPS**

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Association of American Geographers

Canadian Remote Sensing Society

China Wildlife Conservation Association

IEEE Geoscience and Remote Sensing Society

Society for Conservation Biology

## **REFERENCES**

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**Dr. Volker Radeloff** (Postdoctoral Advisor)

Department of Forest and Wildlife Ecology, University of Wisconsin-Madison

Email: radeloff@wisc.edu

**Dr. Patrick Hostert** (PhD Advisor)

Geography Department, Humboldt University of Berlin

Email: patrick.hostert@geo.hu-berlin.de

**Dr. Asia Khamzina** (Postdoctoral Advisor)

Div. Environmental Science and Ecological Engineering, Korea University

Email: asia\_khamzina@korea.ac.kr