

Curriculum Vitae

Yaqian He

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EDUCATION

- 2013- May 2018 **Ph.D.** in Geography (Climatology) in the Department of Geology and Geography, West Virginia University.
Dissertation: *Impacts of land use and land cover change on summer rainfall in China*
- 2010-2013 **M.S.** in Cartography and GIS in the Department of Geography, Beijing Normal University, China.
Thesis: *Estimating LAI reference map using field LAI data and Landsat TM/ETM+ data based on geostatistical method*
- 2006-2010 **B.E.** in Surveying Engineering in the Dept. of Environment Science and Spatial Informatics, China Univ. of Mining and Tech., China.
Thesis: *A consistency analysis of MODIS MCD12Q1 and MERIS Globcover land cover datasets over China*

HONORS AND AWARDS

Scholarship Awards

- 2017-2018 Outstanding merit fellowship, West Virginia University (\$17,000).
2010-2013 Tuition waiver scholarship, Beijing Normal University, China.
2009 National scholarship, China (~\$1,200).
2007-2008 First place scholarship, China University of Mining and Technology, China (~\$600).

Competition Awards

- 2016 First place in the student oral competition, WV GIS conference, Morgantown, West Virginia.

Travel Funds

- 2016 CESM tutorial, Mesa Lab, National center for atmospheric research (NCAR), Boulder, CO (~\$470).
2016 IGARSS student travel funds, IEEE Geoscience and Remote Sensing Society, Beijing, China (\$300).

- 2015 NCL workshop, Corporate Technical Training Center (CTTC), NCAR, Boulder, CO (\$1,200).
- 2014-2016 Graduate student travel funds, West Virginia University (Total: \$3,000).
- 2014 Graduate student travel funds, William E. Vehse Endowment, West Virginia University (\$200).

RESEARCH EXPERIENCE

- 2013-2017 **Research Assistant**, Department of Geology and Geography, West Virginia University.
- Investigating the causality between vegetation greenness and increasing summer rainfall in the Sahel, West Africa (funded by a WVU Senate Grant for Research and Scholarship)
 - Estimating future change of the temperature-dependent multitrophic interactions among bees, bee parasite (mite), and blueberries in the eastern U.S. under future climate change scenarios (funded by USDA)
 - Exploring effects of human-induced land use/cover changes on summer monsoon rainfall over East Asia (funded by WVU Program to Stimulate Competitive Research Grant)
- 2010-2013 **Research Assistant**, Department of Geography, Beijing Normal University, China.
- Estimating LAI reference map using field LAI data and Landsat TM/ETM+ data using geostatistical methods (funded by NSF of China)
 - Comparing vegetation phenology using different remotely sensed data (funded by National key basic research program of China)

REFEREED PUBLICATIONS

Published

12. He, Y., T. A. Warner, B. E. McNeil, and E. Lee, 2018: Reducing Uncertainties in Applying Remotely Sensed Land Use and Land Cover Maps in Land-Atmosphere Interaction: Identifying Change in Space and Time. *Remote Sensing*, 10, 506.
11. Lee, E., Y. He, and J. Shanmugasundaram, 2017: "Geography of Monsoons." In Oxford Bibliographies in Geography. Ed. Barney Warf. *New York: Oxford University Press*.
10. He, Y., E. Lee, T. A. Warner, 2017: A time-series of annual land use and land cover maps of China from 1982 to 2013 generated using AVHRR GIMMS NDVI3g data. *Remote Sensing of Environment* 199, 201-217.

9. He, Y., E. Lee, **2016**: Empirical relationships of sea surface temperature and vegetation activity with summer rainfall variability over the Sahel. *Earth Interactions* 20(6), 1-18.
8. He, Y., Y. Bo, L. Chai, X. Liu, and A. Li, **2016**: Linking in situ LAI and fine resolution remote sensing data to map reference LAI over cropland and grassland using geostatistical method. *International Journal of Applied Earth Observation and Geoinformation* 50, 26-38.
7. Ahn, J.J., Y. Son, Y. He, E. Lee, Y-L. Park, **2016**: Effects of Temperature on Development and Voltinism of *Chaetodactylus krombeini* (Acari: Chaetodactylidae): Implications for Climate Change Impacts. *PLoS ONE* 11(8): e0161319.
6. He, Y., Y. Bo, R. de Jong, A. Li, Y. Zhu, and J. Cheng, **2015**: Comparison of vegetation phenological metrics extracted from GIMMS NDVIg and MERIS MTCI datasets over China. *International Journal of Remote Sensing*, 2015, 36(1), 300-317.
5. Lee, E., Y. He, M. Zhou, and J. Liang, **2015**: Potential feedback of recent vegetation changes on summer rainfall in the Sahel, *physical geography*, 36(6), 449-470.
4. Zhu, Y., E. Kang, Y. B, Q. Tang, J. Cheng, and Y. He, **2015**: A Robust Fixed Rank Kriging Method for Improving the Spatial Completeness and Accuracy of Satellite SST Products. *IEEE Transactions on Geoscience and Remote Sensing*, 53(9), 5021-5035.
3. Liu, X., Y. Bo, J. Zhang, Y. He, **2015**: Classification of C3 and C4 Vegetation Types Using MODIS and ETM+ Blended High Spatio-Temporal Resolution Data. *Remote Sensing*, 7(11), 15244-15268.
2. Zheng, L., Y. Bo, and Y. He, **2015**: Comparison of natural vegetation phenology developed from MODIS and CYCLOPES and GLASS LAI data product based on dynamical threshold method: a case study in three provinces of Northeast China. *Remote Sensing Technology and Application*, 30 (6), 1103-1112. (Chinese with English abstract)
1. Li, A., Y. Bo, Y. Zhu, P. Guo, J. Bi, and Y. He, **2013**: Blending multi-resolution satellite sea surface temperature (SST) products using Bayesian maximum entropy method. *Remote Sensing of Environment*, 135, 52-63.

Submitted/In Preparation

4. Lee, E., Y. He, and Y-L. Park: Effects of future climatic change on the phenology of the Japanese hornfaced bee: Implications for pollinator management under the increasing temperature scenarios, *Climatic Change* (In revision)
3. Song, C., Y. He, Y. Bo, J. Wang, Z. Ren, and H. Yang: Spatiotemporal risk assessment and mapping of hand, foot, and mouth disease at the county level in mainland China using spatiotemporal zero-inflated models, *International Journal of Environmental Research and Public Health* (In revision)

2. **He, Y.**, and E. Lee: Observational cooling effect in the troposphere over Northeast China during later summer (In preparation)
1. **He, Y.**, and E. Lee: Roles of afforestation on summer rainfall in Yangtze river basin of China (In preparation)

PRESENTATIONS

Proceeding Papers

3. **He, Y.**, E. Lee, and T. A. Warner, **2016**: Continuous annual land use and land cover mapping using AVHRR GIMMS NDVI3g and MODIS MCD12Q1 datasets over China from 1982 to 2012. *IEEE on International Geoscience and Remote Sensing Symposium (IGARSS)*, Beijing, China.
2. **He, Y.**, and Y. Bo, **2011**: A consistency analysis of MODIS MCD12Q1 and MERIS Globcover land cover datasets over China. *19th International Conference on Geoinformatics*, Shanghai, China.
1. Ji, X., Y. Bo, J. Cheng, **Y. He**, and X. Liu, **2012**: The method of assessing shape similarity of object-based classification result of remote sensing imagery. *Second International Workshop on Earth Observation and Remote Sensing Applications*, Shanghai, China.

Abstracts

18. **He, Y.**, B., McNeil, T. A. Warner, and E. Lee, Reducing Uncertainties in Applying Remotely Sensed Land Use and Land Cover Maps in Land-Atmosphere Interaction: Identifying Change in Space and Time, *American Association of Geographers*, New Orleans, LA, Apr. 10- Apr. 14, 2018.
17. Yadav, S., E. Lee, and **Y. He**, The impact of temperature change in Tibetan Plateau on summer rainfall on western Nepal, *American Association of Geographers*, New Orleans, LA, Apr. 10- Apr. 14, 2018.
16. He, Q., X. Pang, and **Y. He**, Link Remote Sensing and Political Science: An Application of Foreign Development Aid. *Asian Political Methodology Meetings*, Seoul, Korea, Jan. 11-12, **2018**.
15. He, Q., and **Y. He**, Evaluating Agriculture Aid- A New Approach based on Remotely Sensed Data. *American Political Science Association*, San Francisco, CA, Aug. 31-Sep. 03, **2017**.
14. Gaertner, B., Z. Nicolas, R. Fernandez, and **Y. He**, Climate warming impacts on phenological patterns and hydrology in Central Appalachia, United States. *American Geophysical Union Fall Meeting*, San Francisco, California, Dec. 12- 16, **2016**.

13. **He, Y.**, E. Lee, and T. A. Warner, Continuous annual land use and land cover mapping using AVHRR GIMMS NDVI3g and MODIS MCD12Q1 in China from 1982 to 2012. *IEEE International Geoscience and Remote Sensing Symposium*, Beijing, China, July10-15, **2016**.
12. **He, Y.**, E. Lee, and T. A. Warner, Detect geographic and temporal patterns of land use and land cover change in China. *West Virginia GIS Conference*, Morgantown, WV, May 3- 6, **2016**.
11. **He, Y.**, E. Lee, and T. A. Warner, Land use and land cover change detection based on AVHRR GIMMS NDVI3g and MODIS MCD12Q1 in Northeast China from 1982 to 2012. *American Association of Geographers*, San Francisco, CA, Mar. 29- Apr. 2, **2016**.
10. Lee, E., **Y. He**, M. Zhou, and J. Liang, Potential feedback of recent vegetation changes on summer rainfall in the Sahel. *American Association of Geographers*, San Francisco, CA, Mar. 29- Apr. 2, **2016**.
9. **He, Y.**, and E. Lee, Empirical relationships of oceanic heat sources and vegetation activity with summer rainfall over the Sahel. *American Association of Geographers*, Chicago, Illinois, April 21-25, **2015**.
8. Lee, E., **Y. He**, J. J. Ahn, and Y-L. Park, Effects of future climate change on interactions between pollinator bees and bee parasites. *American Association of Geographers*, Chicago, Illinois, April 21-25, **2015**.
7. Meng, L., E. Lee, and **Y. He**, Spatial and temporal variations of agriculture irrigated in China. *American Association of Geographers*, Chicago, Illinois, April 21-25, **2015**.
6. **He, Y.**, and E. Lee, Comparisons of AVHRR GIMMS NDVI and MODIS NDVI datasets based on three temporal resampling methods over the Sahel in Africa. *American Association of Geographers*, Tampa, Florida, April 8-12, **2014**.
5. Bo, Y., and **Y. He**, Linking in situ LAI and fine resolution remote sensing data to estimate the reference LAI for the coarse resolution satellite LAI products validation based on the geostatistical regression. *SPIE: Remote sensing for Agriculture, Ecosystem, and Hydrology*, Amsterdam, Netherlands, Sep. 22-25, **2014**.
4. **He, Y.**, Y. Bo, Y. Zhu and A. Li, Estimating spatial means of elementary sampling unit using MSN theory for field Leaf Area Index collection. *35th International Symposium on Remote Sensing of Environment*, Beijing, China, April 22-26, **2013**.
3. **He, Y.**, Y. Bo, and A. Li, Validation and Inter-comparison of GLASS, MODIS and CYCLOPES Global Leaf Area Index Products over the BigFoot and VALERI sites. *First International Symposium on Land Remote Sensing: Algorithms and Products*, Chengdu, China, **2012**.

2. Ji, X., Y. Bo, J. Cheng, **Y. He**, and X. Liu, The method of assessing shape similarity of object-based classification result of remote sensing imagery. *Second International Workshop on Earth Observation and Remote Sensing Applications*, Shanghai, China, June 8-11, **2012**.
1. **He, Y.**, and Y. Bo, A consistency analysis of MODIS MCD12Q1 and MERIS Globcover land cover datasets over China. *19th International Conference on Geoinformatics*, Shanghai, China, June 24-26, **2011**.

SKILLS

Programming Language	Matlab, Python, R, IDL, Grades, NCL, C, Fortan
Software Package	ENVI, ArcGIS, Erdas Imagine, MRT, Panoply
Operating System	Mac OS, Windows, Unix, Linux
Climate Model	NCAR CESM, using the Yellowstone supercomputer system Intermediate complexity global climate model (Planet Simulator: PlaSim)

WORKSHOPS AND SUMMER SCHOOLS

2016	Community Earth System Model (CESM) Tutorial, Mesa Lab, National center for atmospheric research (NCAR), Boulder, CO.
2015	NCAR common language (NCL) workshop, Corporate Technical Training Center (CTTC), NCAR, Boulder, CO.

PROPOSAL WRITING EXPERIENCE

2016	Co-Investigator: <i>Land use and land cover change influences on summer rainfall in Mainland China</i> , NASA Earth and Science Fellowship (NESSF) program (07/01/2016-06/30/2017; \$30,000); with Eungul Lee (PI). (declined)
2016	Co-Investigator: <i>Effects of deforestation and afforestation on regional summer rainfall in China</i> , NSF Doctoral Dissertation Research Improvement (DDRI) Awards (07/01/2016-05/31/2018; \$10,948); with Eungul Lee (PI). (declined)
2015	Co-Investigator: <i>The role of human-induced land use and land cover change in controlling summer rainfall in China</i> , NSF Doctoral Dissertation Research Improvement (DDRI) Awards (09/01/2015-05/31/2017; \$14,167); with Eungul Lee (PI). (declined)

TEACHING EXPERIENCE

- 2016 **Summer Instructor** of *World Regional Geography* at Department of Geology and Geography, West Virginia University. (3 hours/day, 12 undergraduate students)
- 2011 **Lab Instructor** of *Introduction to Remote Sensing* at Department of Geography, Beijing Normal University, China. Instructor: Dr. Yanchen Bo. (Spring Semester, 60 undergraduate students)

CAMPUS AND DEPARTMENTAL TALKS

1. **He, Y.**, Remote sensing of vegetation: Normalized Difference Vegetation Index (NDVI), in *Climate and watersheds course, Division of Forest and Natural Resources, West Virginia University*, Mar. 28, **2016**.

PROFESSIONAL ACTIVITIES

Service to Profession

- 2015-present **Peer-Reviewer:** *Global Biology Change* (1), *International Journal of Remote Sensing* (3), *Journal of Arid Environments* (2), *Remote Sensing Letters* (3), *Sensors* (1), *Applied Geography* (1), *Environmental Research Letters* (1), *Remote Sensing* (1)
- 2018 **Co-organizer:** Monsoon geography: physical and societal aspects of monsoon, *American Association of Geographers*, New Orleans, Louisiana.
- 2016 **Co-organizer and Chair:** Land cover dynamics session, *IEEE International Geoscience and Remote Sensing Symposium*, Beijing, China.
- 2014 **Volunteer**, American Association of Geographers, Tampa, Florida.

Service to Department

- 2016-2017 **Geography Graduate Colloquium Committee**, Department of Geology and Geography, West Virginia University.

Faculty Development

- 2017 Grant Writers' Seminar & Workshop, West Virginia University.

PROFESSIONAL MEMBERSHIPS

- 2013-present American Association of Geographers
- 2016-present IEEE Geoscience and Remote Sensing Society