

Curriculum Vitae

Yaqian He

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ACADEMIC APPOINTMENTS

08/2020- **Assistant Professor** in the Department of Geography, University of Central Arkansas, Conway, AR

09/2018- 07/2020 **Postdoc Research Fellow** in the Department of Geography, Dartmouth College, Hanover, NH

EDUCATION

2013-2018 **Ph.D.** in Geography in the Department of Geology and Geography, West Virginia University, Morgantown, WV.

2010-2013 **M.S.** in Cartography and GIS in the Department of Geography, Beijing Normal University, China.

2006-2010 **B.E.** in Surveying Engineering in the Dept. of Environment Science and Spatial Informatics, China Univ. of Mining and Tech., China.

RESEARCH INTERESTS

Remote Sensing; GIS; Geostatistics; Land Use and Land Cover Change; Climate Modeling; Climate Change; Land-Atmosphere Interaction

REFEREED PUBLICATIONS

Published

2020

22. He, Y., Lee, E. and Mankin, J. S., 2020. Seasonal tropospheric cooling in Northeast China associated with cropland expansion. *Environmental Research Letters*, 15, 034032.
21. Li, Y., Chen, Y., Wang, F., He, Y. and Li, Z., 2020. Evaluation and projection of snowfall changes in High Mountain Asia based on NASA's NEX-GDDP high-resolution daily downscaled dataset. *Environmental Research Letters*, 15(10), p.104040.
20. You, G., Liu, B., Zou, C., Li, H., McKenzie, S., He, Y., Gao, J., Jia, X., Arain, M.A., Wang, S. and Wang, Z., Sensitivity of vegetation dynamics to climate variability in a forest-steppe transition ecozone, north-eastern Inner Mongolia, China. *Ecological Indicators*, 120, p.106833.
19. You, G., Arain, M.A., Wang, S., McKenzie, S., Xu, B., He, Y., Wu, D., Lin, N., Gao, J. and Jia, X., 2020. Inter-annual Climate Variability and Vegetation Dynamic in the Upper Amur (Heilongjiang) River Basin in Northeast Asia. *Environmental Research Communications*, 2 (6), p.061003.

2019

18. Ji, X., Li, X., He, Y* and Liu, X., 2019. A simple method to improve estimate of county-level economic in China by using nighttime light data and GDP growth rate. *ISPRS International Journal of Geo-Information*, 8(9), pp. 419. (*corresponding author)
17. Song, C+, He, Y+, Bo, Y., Wang, J., Ren, Z., Guo, J. and Yang, H., 2019. Disease relative risk downscaling model to localize various epidemiologic indicators for mapping hand, foot, and mouth disease over China. *Stochastic Environmental Research and Risk Assessment*, pp. 1-19. (+contribute equally)

16. Gaertner, B.A., Zegre, N., Warner, T., Fernandez, R., **He, Y.** and Merriam, E.R., 2019. Climate, forest growing season, and evapotranspiration changes in the central Appalachian Mountains, USA. *Science of The Total Environment*, 650, pp.1371-1381.

2018

15. **He, Y.**, Warner, T., McNeil, B. and Lee, E., 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(4), pp.506.
14. Lee, E. and **He, Y.**, 2018. Could the enhanced forests reduce summer warming in the southern China?. *Journal of Climate Research*, 13(4), pp.345-359.
13. Lee, E., **He, Y.** and Park, Y-L., 2018. Effects of climate change on the phenology of *Osmia cornifrons*: implications for population management. *Climatic Change*, 150(3-4), pp.305-317.
12. Song, C., **He, Y.**, Bo, Y., Wang, J., Ren, Z. and Yang, H., 2018. Risk assessment and mapping of hand, foot, and mouth disease at the county level in mainland China using spatiotemporal zero-inflated Bayesian hierarchical models. *International Journal of Environmental Research and Public Health*, 15(7), pp.1476.

2017

11. **He, Y.**, Lee, E. and Warner, T.A., 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, pp.201-217.
10. Lee, E., **He, Y.** and Shanmugasundaram, J., 2017. Geography of Monsoons. In Oxford Bibliographies in Geography. Ed. Barney Warf. New York: Oxford University Press.

2016

9. **He, Y.** and Lee, E., 2016. Empirical relationships of sea surface temperature and vegetation activity with summer rainfall variability over the Sahel. *Earth Interactions*, 20(6), pp.1-18.
8. **He, Y.**, Bo, Y., Chai, L., Liu, X. and Li, A., 2016. Linking in situ LAI and fine resolution remote sensing data to map reference LAI over cropland and grassland using geostatistical regression method. *International Journal of Applied Earth Observation and Geoinformation*, 50, pp.26-38.
7. Ahn, J.J., Son, Y., **He, Y.**, Lee, E. and Park, Y.L., 2016. Effects of temperature on development and voltinism of *Chaetodactylus krombeini* (Acari: Chaetodactylidae): implications for climate change impacts. *PloS One*, 11(8), pp.e0161319.

2015

6. **He, Y.**, Bo, Y., de Jong, R., Li, A., Zhu, Y. and Cheng, J., 2015. Comparison of vegetation phenological metrics extracted from GIMMS NDVIg and MERIS MTCI data sets over China. *International Journal of Remote Sensing*, 36(1), pp.300-317.
5. Lee, E., **He, Y.**, Zhou, M. and Liang, J., 2015. Potential feedback of recent vegetation changes on summer rainfall in the Sahel. *Physical Geography*, 36(6), pp.449-470.
4. Zhu, Y., Kang, E.L., Bo, Y., Tang, Q., Cheng, J. and **He, Y.**, 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), pp.5021-5035.
3. Liu, X., Bo, Y., Zhang, J. and **He, Y.**, 2015. Classification of C3 and C4 vegetation types using MODIS and ETM+ blended high spatio-temporal resolution data. *Remote Sensing*, 7(11), pp.15244-15268.
2. Zheng, L., Bo, Y. and **He, Y.**, 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)

2013

1. Li, A., Bo, Y., Zhu, Y., Guo, P., Bi, J. and **He, Y.**, 2013. Blending multi-resolution satellite sea surface temperature (SST) products using Bayesian maximum entropy method. *Remote Sensing of Environment*, 135, pp.52-63.

TEACHING EXPERIENCE

2020	Instructor of <i>GIS</i> , Department of Geography, University of Central Arkansas.
2020	Instructor of <i>Geographic Field Technique</i> , Department of Geography, University of Central Arkansas.
2020	Instructor of <i>Cartography</i> , Department of Geography, University of Central Arkansas.
2020	Guest Lecture “Spatial statistics: from data to information”, Department of Geology, University of Dayton.
2019	Guest Lecture ‘The monsoon climate’ in <i>future faculty teaching series</i> , Dartmouth Center for the Advancement of Learning.
2018	Guest Lecture ‘A magic line- division of climate and land use/cover in China’ in <i>World Regional Geography course</i> , Department of Geology and Geography, West Virginia University.
2016	Summer Instructor of <i>World Regional Geography</i> at Department of Geology and Geography, West Virginia University. (3 hours/day, 12 undergraduate students)
2016	Guest Lecture ‘Remote sensing of vegetation: Normalized Difference Vegetation Index (NDVI)’ in <i>Climate and watersheds course</i> , <i>Division of Forest and Natural Resources</i> , West Virginia University.
2011	Lab Instructor of <i>Introduction to Remote Sensing</i> at Department of Geography, Beijing Normal University, China. Instructor: Dr. Yanchen Bo. (Spring Semester, 60 undergraduate students)

PRESENTATIONS

Oral

1. He, Q., Meng, Q., Flatley, W., Buenemann, M., **He, Y.** 2020. Agricultural Aid and Deforestation in sub-Saharan Africa: A Sub-national Causal Analysis Based on Remotely Sensed Data of Sierra Leone, *American Association of Geographers*, Virtual Meeting, Nov 17-19.
2. **He, Y.** 2020. Land use and land cover change impacts on regional climate. *Department of Geology, University of Dayton*, Feb 4. (Invited)
3. He, Q. and **He, Y.**, 2019. Water conflict: an empirical test for neo-malthusian view with remote sensing data. *American Political Science Association*, Washington DC, Aug. 29-Sep. 01.
4. **He, Y.**, Mankin, J. S. and Lee, E., 2019. Agricultural expansion in Northeast China and its impacts on regional climate. *American Association of Geographers*, Washington DC, Apr. 3-7.
5. Lee, E., **He, Y.** and Park, Y-L., 2019. Could the future climate change pose a risk or benefit to bee development. *American Association of Geographers*, Washington DC, Apr. 3-7.
6. Yadav, S., Lee, E. and **He, Y.**, 2019. Spatio-temporal evaluations of reanalysis surface temperatures in the Tibetan Plateau. *American Association of Geographers*, Washington DC, Apr. 3-7.
7. Shull, N., Lee, E. and **He, Y.**, 2019. April vegetation greenness and its impact on near-surface climate conditions in South-Central Appalachia. *American Association of Geographers*, Washington DC, Apr. 3-7.
8. **He, Y.**, McNeil, B., Warner, T.A. and Lee, E., 2018. 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.
9. Yadav, S., Lee, E. and **He, Y.**, 2018. 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.

10. He, Q., Pang, X. and **He, Y.**, **2018**. Link Remote Sensing and Political Science: An Application of Foreign Development Aid. *Asian Political Methodology Meetings*, Seoul, Korea, Jan. 11-12.
11. He, Q. and **He, Y.**, **2017**. Evaluating Agriculture Aid- A New Approach based on Remotely Sensed Data. *American Political Science Association*, San Francisco, CA, Aug. 31-Sep. 03.
12. Gaertner, B., Nicolas, Z., Fernandez, R. and **He, Y.**, **2016**. Climate warming impacts on phenological patterns and hydrology in Central Appalachia, United States. *American Geophysical Union Fall Meeting*, San Francisco, California, Dec. 12- 16.
13. **He, Y.**, Lee, E., and Warner, T. A., **2016**. 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.
14. **He, Y.**, Lee, E. and Warner, T. A., **2016**. Detect geographic and temporal patterns of land use and land cover change in China. *West Virginia GIS Conference*, Morgantown, WV, May 3- 6.
15. **He, Y.** and Lee, E., **2015**. Empirical relationships of oceanic heat sources and vegetation activity with summer rainfall over the Sahel. *American Association of Geographers*, Chicago, Illinois, April 21-25.
16. Bo, Y., and **He, Y.**, **2014**. 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.
17. **He, Y.** and Bo, Y., **2011**. A consistency analysis of MODIS MCD12Q1 and MERIS Globcover land cover datasets over China. *19th International Conference on Geoinformatics*, Shanghai, China, June 24-26.

Poster

1. **He, Y.**, Chipman, J., and Mankin, J. S. 2020. Rapid Indo-Malaysian land cover and land use change over the last 35 years, *American Association of Geographers*, Virtual Meeting, Dec. 1-17 (**with 3-minute talk**).
2. **He, Y.** and Mankin, J. S., **2019**. Disentangling warming- from land use- induced precipitation changes over China. *American Geophysical Union*, San Francisco, Dec 09-13.
3. **He, Y.**, Lee, E. and Mankin, J. S., **2018**. The influence of Northeastern China cropland expansion on regional climate. *American Geophysical Union*, Washington DC, Dec 10-14.
4. **He, Y.**, Lee, E. and Warner, T. A., **2016**. 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.
5. Lee, E., **He, Y.**, Zhou, M. and Liang, J., **2016**. Potential feedback of recent vegetation changes on summer rainfall in the Sahel. *American Association of Geographers*, San Francisco, CA, Mar. 29- Apr. 2.
6. Lee, E., **He, Y.**, Ahn, J.J. and Park, Y-L. **2015**. Effects of future climate change on interactions between pollinator bees and bee parasites. *American Association of Geographers*, Chicago, Illinois, April 21-25.
7. Meng, L., Lee, E. and **He, Y.**, **2015**. Spatial and temporal variations of agriculture irrigated in China. *American Association of Geographers*, Chicago, Illinois, April 21-25.
8. **He, Y.** and Lee, E., **2014**. 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.
9. **He, Y.**, Bo, Y., Zhu, Y. and Li, A., **2013**. 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.
10. **He, Y.**, Bo, Y. and Li, A., **2012**. 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.
11. Ji, X., Bo, Y., Cheng, J., **He, Y.** and Liu, X., **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, June 8-11.

GRANT

Pending

2020 **Principle Investigator:** *Quantifying Agricultural Aid Impacts on Deforestation in Ethiopia Using Remote Sensing Data*, Early Career Grant, National Geographic Society (09/01/2021-08/32/2020), with Qingqian He (Co-PI), Beza Nisrane (Project member), and Rongting Xu (Project member) (\$10,000) (Pending).

Funded

2020 **Principle Investigator:** *Statewide land cover and land use change mapping to constrain uncertainty in the carbon budget in Arkansas*, University Research Council, University of Central Arkansas (05/2021-12/2022) (\$5,178).

2020 Faculty Development Grant, University of Central Arkansas (\$750).

2020 **Co-Investigator:** *Assessing Adaptation Feedbacks to Present and Future Climate Extremes*, Neukom Institute CompX, Dartmouth College (01/2020- 01/2021); with Justin S. Mankin (PI) and Ethan Coffel (Co-PI) (\$39,800).

2019 Postdoctoral Scholar Professional Development Award, Dartmouth College (\$750).

2018 Open Access Author Fund, West Virginia University (\$1700.43).

2014-2018 Graduate Student Travel Funds, West Virginia University (\$3,200).

2016 Travel Funds to CESM Tutorial, Mesa Lab, National center for atmospheric research (NCAR), Boulder, CO (~\$1,200).

2016 IGARSS Student Travel Funds, IEEE Geoscience and Remote Sensing Society, Beijing, China (\$300).

2015 Travel Funds to NCL Workshop, Corporate Technical Training Center (CTTC), NCAR, Boulder, CO (\$1,200).

2014 Graduate Student Travel Funds, William E. Vehse Endowment, West Virginia University (\$200).

Not-Funded

2020 **Co-Investigator:** *Quantifying land-cover and land-use change hotspots using high resolution mapping for detecting and attributing climate extremes*, NASA Land Cover and Land Use Change Program (01/2021-01/2024), with Justin S. Mankin (PI) and Benjamin Cook (Co-PI).

2018 **Principal Investigator:** *Mapping global land cover and land use change to constrain uncertainty in the carbon budget*, The Arthur L. Irving Institute for Energy and Society, Dartmouth College (01/2019-01/2020); with Justin S. Mankin (Co-PI).

2018 **Co-Investigator:** *Identifying impacts of dryland irrigation and the consequent climate variability on smallholder farmers in Rajasthan, India*, NASA Land Cover and Land Use Change Program (2020-2022); with Eungul Lee (PI) and Martina Angela Caretta (Co-PI).

2016 **Co-Investigator:** *Effects of deforestation and afforestation on regional summer rainfall in China*, NSF Doctoral Dissertation Research Improvement (DDRI) Awards (07/01/2016-05/31/2018); with Eungul Lee (PI).

2016 **Co-Investigator:** *Land use and land cover change influences on summer rainfall in Mainland China*, NASA Earth and Science Fellowship (NESSF) program (07/01/2016-06/30/2017); with Eungul Lee (PI).

AWARDS

Scholarship Awards

2018 Chinese Government Award for Outstanding Self-financed Student Abroad (\$6,000).

2017 Outstanding Merit Fellowship, West Virginia University (\$17,000).

2010-2013 Tuition Waiver Scholarship, Beijing Normal University, China.
 2009 Chinese National Scholarship (~\$1,200).
 2007-2008 First Place Scholarship, China University of Mining and Technology, China (~\$700).

Competition Awards

2018 Finalist in Remote Sensing Specialty Group Student Honors Paper Competition, AAG, New Orleans.
 2016 First Place in the Student Oral Competition, WV GIS Conference, Morgantown, West Virginia.

STUDENT MENTORING

2018 Nathan Shull (West Virginia University) (undergraduate)
 2010 Zheng Li (Beijing Normal University, China) (undergraduate)

PROFESSIONAL ACTIVITIES

Service to Profession

2015-present **Peer-Reviewer:** *Global Biology Change* (1), *Environmental Research Letters* (3), *Geophysical Research Letters* (2), *ISPRS Journal of Photogrammetry and Remote Sensing* (2); *Frontiers of Earth Science* (4), *Atmosphere* (1), *International Journal of Remote Sensing* (3), *Journal of Arid Environments* (2), *Remote Sensing Letters* (1), *Sensors* (4), *Applied Geography* (1), *Remote Sensing* (13), *Sustainability* (5), *Climate* (1), *Environmental Research Communications* (1), *Journal of Asia-Pacific Entomology* (1), *Journal of Mountain Science* (1)
 2020-present **Topic Board** of *Atmosphere*
 2020-present **Reviewer Board** of *Remote Sensing*
 2020-present **Reviewer Board** of *Sustainability*
 2020-2021 **Guest editor** of jointed special issue: Land and Monsoon Interactions: Physical and Societal Aspects of Asian Monsoons in *Land and Climate*.
 2020 **Judge** of Outstanding Student Presentation Awards, AGU.
 2019 **Co-organizer:** Integrating remotely-sensed data into climate models, *American Association of Geographers*, Washington, DC.
 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

2019 Future Faculty Teaching Series, Dartmouth Center for the Advancement of Learning.
 2019 Creating Inclusive Course Materials, Dartmouth Center for the Advancement of Learning.
 2017 Grant Writers' Seminar & Workshop, West Virginia University.

WORKSHOPS

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.

INTERN EXPERIENCE

2014-2015 **Summer Intern** at WV GIS Technical Center, West Virginia.

2010-2011 **Assistant Officer** of Graduate Affairs, Beijing Normal University, China.

2010 **Summer Intern**, Xuzhou Institute of Survey and Mapping, Jiangsu province, China.

PROFESSIONAL MEMBERSHIPS

2018-present American Geophysical Union

2013-present American Association of Geographers

2016-present IEEE Geoscience and Remote Sensing Society