

## Haijun Li

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## Education

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**Department of Geographical Sciences, University of Maryland, College Park, USA** 2022.08 – present

- Doctor of Philosophy, Geographical Sciences

**Department of Geosciences, Texas Tech University, Lubbock, USA** 2020.08 – 2022.08

- GPA: 4.0/4.0, Doctor of Philosophy, Geosciences

**State Key Laboratory of Information Engineering in Surveying, Mapping and Remote**

**Sensing (LIESMARS), Wuhan University, Wuhan, China** 2014.09 – 2017.06

- Grade: 89.1/100, Master of Science, Cartography and Geographical Information System
- Thesis: *Impact Assessments of Sand Dredging on Suspended Sediments Concentration Using Remote Sensing and Hydrodynamic Model for Poyang Lake, China*

**School of Resource and Environmental Sciences, Wuhan University, Wuhan, China** 2010.09 – 2014.06

- GPA: 3.7/4.0, Rank: 3/70, Bachelor of Science, Geographical Information System
- Thesis: *Two-dimensional Hydrodynamic Numerical Simulation and Verification Using Remote Sensing for Poyang Lake, China*

## Employment

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**Graduate Research Assistant, Department of Geographical Sciences, University of Maryland, College Park, USA** 2022.08 - present

**Graduate Research Assistant, Department of Geosciences, Texas Tech University, Lubbock, USA** 2020.08 - 2022.08

**Senior Software Engineer, NetEase Network Co. Ltd., Hangzhou, China** 2017.07 - 2020.06

- Big data analysis and processing platforms development using Hadoop Ecosystem Components (Java/Scala)
- Data synchronization between heterogeneous sources (PostgreSQL/MySQL/MongoDB/Oracle/HDFS)

**Intern of Software Engineer, Fiberhome Technologies Co. Ltd., Wuhan, China** 2016.08

- Network resources administration system development based on Eclipse (Java)
- Experiences on software development life cycle including requirement collection and analysis, feasibility study, design, coding, testing, deployment and maintenance

## Publications

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- **Li, H.**, Song, X.P., Hansen, M.C., Becker-Reshef, I., Adusei, B., Pickering, J., Wang, L., Wang, L., Lin, Z., Zalles, V., Potapov, P., Stehman, S.V. & Justice, C.O. (2023). Development of a 10-m resolution maize and soybean map over China: Matching satellite-based crop classification with sample-based area estimation. *Remote Sensing of Environment*, 294, p.113623. DOI: 10.1016/j.rse.2023.113623. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0034425723001748>
- Song, X. P., **Li, H.**, Potapov, P., & Hansen, M. C. (2022). Annual 30 m soybean yield mapping in Brazil using long-term satellite observations, climate data and machine learning. *Agricultural and Forest*

*Meteorology*, 326, 109186. DOI: 10.1016/j.agrformet.2022.109186. Available at: <https://www.sciencedirect.com/science/article/pii/S0168192322003732>

- Lu, J., **Li, H.**, Chen, X., & Liang, D. (2019). Numerical study of remote sensed dredging impacts on the suspended sediment transport in China's largest freshwater lake. *Water*, 11(12), 2449. DOI: 10.3390/w11122449. Available at: <https://www.mdpi.com/2073-4441/11/12/2449>
- **Li, H.**, Chen, X., Lu, J., Zhang, P., Qi, H. D., & Chen, L. (2016). Numerical simulation of suspended sediment concentration in Lake Poyang during flood season considering dredging activities. *Journal of lake Sciences*, 28, 421-431. DOI: 10.18307/2016.0223. Available at: [http://www.jlakes.org/ch/reader/view\\_abstract.aspx?doi=10.18307/2016.0223](http://www.jlakes.org/ch/reader/view_abstract.aspx?doi=10.18307/2016.0223)

## Conferences

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- Lee J.A., Aziz M.T., **Li H.**, Wang X. (2023). Decadal Changes in Relative Aeolian Transport Potential in Major Global Dust Source Regions. 2023 International Conference on Aeolian Research, 9-14 July, Las Cruces, New Mexico, USA. Available at: [https://www.icarxi.com/wp-content/uploads/wpforms/646-1ec3a9bb46b05e84dc2bf268699b5155/ICAR\\_ABSTRACT\\_Jeff\\_Lee-01205e7ad868ad183b716bd3dd4a00c4.pdf](https://www.icarxi.com/wp-content/uploads/wpforms/646-1ec3a9bb46b05e84dc2bf268699b5155/ICAR_ABSTRACT_Jeff_Lee-01205e7ad868ad183b716bd3dd4a00c4.pdf)
- Rahman S.S., Lee J.A., **Li H.**, Aziz M.T. (2023). Testing global stilling with ERA5 reanalysis data. AAG Annual Meeting, 23-27 March, Denver, Colorado, USA. Available at: <https://aag.secure-platform.com/aag2023/organizations/main/gallery/rounds/54/details/38822>
- **Li, H.**, Song, X.P., Hansen, M.C., Becker-Reshef, I., Adusei, B., Pickering, J., Wang, L., Wang, L., Lin, Z., Zalles, V., Potapov, P., Stehman, S.V. & Justice, C.O. (2022). Development of a 10 m Resolution Maize and Soybean Map Over China. AGU Fall Meeting, Abstract GC23A-03, 11-15 December, Chicago, Illinois, USA. Available at: <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1079673>
- Song, X. P., **Li, H.**, Potapov, P., & Hansen, M. (2022). Crop Type and Yield Mapping Using Long-term Satellite Observations, Weather and Field Data. AGU Fall Meeting, Abstract B43B-01, 11-15 December, Chicago, Illinois, USA. Available at: <https://agu.confex.com/agu/fm22/meetingapp.cgi/Paper/1117218>

## Research Experience

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### **National-scale crop type mapping using satellite data, machine learning and field survey** 2020 - present

- Petabyte-scale satellite data processing on High-Performance Computing (HPC) clusters
- A 10-m resolution national crop type map for maize and soybean in China, in 2019

### **Soybean yield mapping in Brazil using satellite imagery, climate data and machine learning** 2020 - present

- Satellite data, climate data and statistics combination for soybean yield modeling
- High-resolution annual soy yield maps over Brazil 2001-2020

### **National geographic condition monitoring and mapping of Jiangxi Province, China** 2016.09 – 2017.03

- Thematic mapping, spatial analysis of soil fertility and pollution using the Chinese 2nd national soil survey dataset, remote sensing images and GIS

### **Environmental analysis and administration for Erhai Lake Basin, China** 2015.01 - 2015-08

- Programming for satellite images processing for Erhai Lake Basin (Java/C#/gdal)
- Remote sensing retrieval of parameters, including floating algae index (FAI) for algae bloom monitoring, chlorophyll, total suspended matter (TSM) and water clarity via the Secchi disk depth (SDD)

### **Hydrodynamic numerical simulation and verification using remote sensing for** 2014.09 - 2016-09

#### **Poyang Lake, China**

- Simulation of the hydrodynamic process of Poyang Lake from 2011 to 2015, based on meteorological and hydrological data using Delft3D numerical model
- Suspended sediment concentration simulation with sand dredging activities detected from Landsat images
- Hydrological dynamics analysis with extreme climate conditions like droughts and floods

## Fieldwork Experience

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### Crop type and crop phenology fieldwork, USA 2023.08

- Collecting ground information of crop type and crop phenology over stratified random sites for maize and soybean maps validation, in the states of MD, PA, WV, OH, IN, IL, MS, KY, TN, AR, MS, AL, LA, GA, SC, NC and VA

### Crop type and crop phenology fieldwork, in Southern Great Plains, USA 2022.06 – 2022.07

- Collecting ground information of crop type and crop phenology over stratified random sites for maize, soybean and winter wheat maps validation, in the states of NE, KS, OK, CO, NM and TX

### Soil moisture observation around Poyang Lake, in Jiangxi Province, China 2017.03

- Collecting soil moisture measurements data from hydrological stations around Poyang Lake

### Taizhou Bay field observation, in Zhejiang Province, China 2016.08

- In-situ data collection including chlorophyll concentration, suspended sediments concentration, water clarity

### Poyang Lake field observation, in Jiangxi Province, China 2014.09

- In-situ measurements of water quality parameters including chlorophyll concentration, suspended sediments concentration, water clarity, total nitrogen (TN) and total phosphorus (TP), water spectrum data collecting

## Skills

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### Professional Software and Skills

- Java, Scala, Shell, Python, C++, MATLAB, IDL
- ENVI, ERDAS, ArcGIS, QGIS
- Satellite Image Processing, Mapping, Visualization, Spatial Analysis

### English Proficiency

- IELTS: 7.5 (Listening 8.0, Reading 9.0, Writing 6.5, Speaking 6.0)
- GRE: 314, Verbal: 151 (51%), Quantitative: 163 (82%), Analytical Writing: 4.0 (57%)

## Honors and Awards

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- 2022 Study Abroad Competitive Scholarship, Texas Tech University  
Gary Elbow Scholarship, Texas Tech University
- 2021 Geography Excellence Scholarship, Texas Tech University  
General Geosciences Scholarship, Texas Tech University
- 2016 Graduate Fellowship, Wuhan University
- 2015 Graduate Fellowship, Wuhan University
- 2014 Excellent Bachelor's Degree Dissertation Award in Hubei Province  
Outstanding Undergraduate, Wuhan University
- 2013 Outstanding Student Award, Wuhan University  
Guang-Hua Scholarship, Wuhan University  
The Third Prize Scholarship, Wuhan University
- 2012 National Encouragement Scholarship, Wuhan University  
The First Prize Scholarship, Wuhan University  
Merit Student Award, Wuhan University
- 2011 National Encouragement Scholarship, Wuhan University  
Merit Student Award, Wuhan University