Jiwei Li

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Assistant Professor
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Academic Appointments

2021 –   Assistant Professor – Center for Global Discovery and Conservation Science, School of Earth and Space Exploration, Arizona State University

2019 – 2020   Postdoctoral Scholar – Center for Global Discovery and Conservation Science, Arizona State University

2018 – 2019   Postdoctoral Scholar – Carnegie Institution for Science, Stanford University

Education

PhD	Geosciences, University of Massachusetts Amherst	Sept. 2012 – May 2018
MSc	Remote Sensing, Capital Normal University	Sept. 2009 – July 2012
BS	Computer Science, Northwest University	Sept. 2004 – July 2008

Publications

Peer-reviewed journal articles
(* corresponding author)
(Underline: Graduate advisee, * Corresponding author)
H-index: 16. Total citations: 714. Google Scholar

In progress

30   Jianghai Peng, **Jiwei Li ***, Large scale shallow seagrass meadow spatial and temporal mapping based on a deep-learning method. (*draft available*)

29   Thomas C Ingalls, **Jiwei Li ***, Yvonne Sawall, Robert E. Martin, David Thompson, Gregory P. Asner. Imaging Spectroscopy Investigations in Wet Carbon Ecosystems: A Comprehensive Review (1995-2022) and Future Directions. (*draft available*)

28   Mitchell B Lyons*, Nicholas J Murray, Emma V Kennedy, Eva M Kovacs, Carolina Castro-Sanguino, Stuart R Phinn, Rodney Borrego Acevedo, Alexandra Ordoñez Alvarez, Jeremy Wolff, Chantel Say, Paul Tudman, Kathryn Markey, Meredith Roe, Robert F Canto, Helen E Fox, Brianna Bambic, Zoë Lieb, Gregory P Asner, Paulina M Gerstner, David E Knapp, **Jiwei Li**, Matthew Skone, Eldan Goldenberg, Kirk Larsen, Chris M Roelfsema. High-resolution global maps of coral reef habitat. (*in review*)

27   **Jiwei Li** *, Satellite monitoring of colored dissolved organic matter (CDOM) dynamics in six large Arctic rivers. (*in review*)

Published

26   **Jiwei Li**, Gregory P. Asner *. Global analysis of benthic complexity in shallow coral reefs. *Environmental Research Letter*.

25   Xingguang Yan, Jing Li *, Di Yang *, **Jiwei Li**, Tianyue Ma, YiTing Su, Jiahao Shao and Rui Zhang, A Random Forest Algorithm for Landsat Image NDWI and MNDWI Chromatic Aberration Restoration Based on GEE Cloud Platform: a case study of Yucatán Peninsula, Mexico (2022). *Remote Sensing*, *14*(20), 5154. DOI

24   Rachel Carlson *, **Jiwei Li**, Larry B. Crowder, Gregory P. Asner. Large-scale effects of turbidity on coral bleaching in the Hawaiian Islands. (2022). *Frontiers in Marine Science*, 1678. DOI.

23   **Jiwei Li**, Rachel R. Carlson, David E. Knapp, Gregory P. Asner *, Shallow coastal water turbidity monitoring using Planet Dove satellites (2022). *Remote Sensing in Ecology and Conservation*. 2022 DOI.

22   Steven R. Schill *, Valerie Pietsch McNulty, F. Joseph Pollock, Fritjof Lüthje, **Jiwei Li**, David E. Knapp, Joseph Kington, Trevor Mcdonald, George T. Raber, Ximena Escovar-Fadul, Gregory P. Asner. Regional high-resolution benthic habitat data from Planet Dove imagery for conservation decision-making and marine planning (2021). *Remote Sensing*. 2021, 13(21), 4215. DOI.

21   Rongguang Ni, Jinyan Tian *, Xiaojuan Li, Dameng Yin, **Jiwei Li**, Huili Gong, Jie Zhang, Lin Zhu, Dongli Wu, An enhanced pixel-based phenological feature for accurate paddy rice mapping with Sentinel-2 in Google Earth Engine (2021). *ISPRS Journal of Photogrammetry and Remote Sensing*. 178: 282-296

20   Rachel R. Carlson, Luke J. Evans, Shawna A. Foo, Bryant Grady, **Jiwei Li**, Megan Seeley, Yaping Xu, Gregory P. Asner * (2021), Synergistic Benefits of Conserving Land-Sea Ecosystems. *Global Ecology and Conservation*, e01684.

19   **Jiwei Li**, David E. Knapp, Mitchell Lyons, Chris Roelfsema, Stuart Phinn, Steven R. Schill, Gregory P. Asner * (2021), Automated global coastal water bathymetry mapping using Google Earth Engine. *Remote Sensing*. 2021, 13(8), 1469. DOI

      • Selected by Remote Sensing journal as Cover article.

Prior to 2021

18   Yaping Xu, Nicholas R. Vaughn, David E. Knapp, Roberta E. Martin, Christopher Balzotti, **Jiwei Li**, Shawna Foo, Greg Asner * (2020), Coral bleaching detection in the Hawaiian

Islands using spatio-temporal standardized bottom reflectance and Planet Dove satellites. *Remote Sensing.* 2020, 12, 3219. [DOI](#)

17 **Jiwei Li**, David E. Knapp, Nicholas S. Fabina, Emma Kennedy, Kirk Larsen, Mitchell Lyons**,** Nicholas Murray, Stuart Phinn, Chris Roelfsema, Gregory P. Asner * (2020). A global coral reef probability map generated using convolutional neural networks. *Coral Reefs.* Sept 24, 2020. [DOI](#)
- News coverage: [ASU now,](#) [Scienmag,](#) [ScienceDaily,](#) [Phys.org,](#) [Bioengineer.org,](#) [Lab Manager.](#)

16 Lin Guo, Huili Gong *, **Jiwei Li**, Lin Zhu *, Lin Liao, Ying Sun, Yongsheng Li, Zhenxin Zhang, Leyin Hu, Mingliang Gao, Chaofan Zhou, Rui Cheng, Jiahui Zhou (2020), Understanding uneven land subsidence in Beijing China by integrating geophysical prospecting seismic resonance and InSAR technologies. *Geophysical Research Letters.* e2020GL088676. [DOI](#)

15 **Jiwei Li**, Nicholas S. Fabina, David E. Knapp, Gregory P. Asner * (2020), The sensitivity of multi-spectral satellite sensors to benthic habitat change. *Remote Sensing.* 2020, 12, 532. [DOI](#)

14 Mitchell Lyons *, Chris Roelfsema, Emma Kennedy, Eva Kovacs, Rodney Borrego, Kat Markey, Meredith Roe, Doddy Yuwono, Daniel Harris, Stuart Phinn, Gregory P. Asner, **Jiwei Li**, David Knapp, Nicholas Fabina, Kirk Larsen, Dimosthenis Traganos, Nicholas Murray (2020), Mapping the world's coral reefs using a global multiscale earth observation framework. *Remote Sensing in Ecology and Conservation.* 25 March 2020. [DOI](#)

13 Jamison Gove *, Jonathan Whitney, Margaret McManus, Joey Lecky, Felipe Carvalho, Jennifer Lynch, **Jiwei Li**, Philipp Neubauer, Katharine Smith, Jana Phipps, Don Kobayashi, Karla Balagso, Emily Contreras, Mark Manuel, Mark Merrifield, Jeffrey Polovina, Gregory Asner, Jeffrey Maynard, Gareth Williams (2019), Prey-sized plastics are invading larval fish nurseries. *Proceedings of the National Academy of Sciences.* Nov 11, 2019. [DOI](#)
- News coverage: [National Geographic,](#) [EurekAlert!,](#) [BBC,](#) [ASU now,](#) [NOAA,](#) [World Econimic Forum,](#) [StarAdvertiser,](#) [Vice,](#) and other 31 news outlets.

12 **Jiwei Li**, David E Knapp, Steven R. Schill, Chris Roelfsema, Stuart Phinn, Miles Silman, Joseph Mascaro, Gregory P. Asner * (2019), Adaptive bathymetry estimation for shallow coastal waters using Planet Dove satellites. *Remote Sensing of Environment.* 232: 111302. [DOI](#)

11 **Jiwei Li**, Steven R. Schill, David E Knapp, Gregory P. Asner * (2019), Object-based mapping of coral reef habitats using Planet Dove satellites. *Remote Sensing.* 2019, 11, 1445. [DOI](#)
- Selected by Remote Sensing journal as [Cover article](#).

10   Chaofan Zhou, Huili Gong *, Beibei Chen, Xiaojuan Li, **Jiwei Li**, Xu Wang, Mingliang Gao, Yuan Si, Lin Guo, Min Shi, Guangyao Duan (2019), "Quantifying the contribution of multiple factors to land subsidence in the Beijing Plain, China with machine learning technology." *Geomorphology.* DOI

9   Beibei Chen, Huili Gong, Kunchao Lei, **Jiwei Li** *, Chaofan Zhou, Mingliang Gao, Hongliang Guan, Wei Lv (2019), Land subsidence lagging quantification in the main exploration aquifer layers in Beijing plain, China. *International Journal of Applied Earth Observation and Geoinformation.* 75:54-67. DOI
  - Highlighted by UNESCO Land Subsidence International Initiative.

8   **Jiwei Li,** Qian Yu *, Yong Q. Tian, Brian L. Backer, Paul Siqueira, Nathan Torbick, Spatio-temporal variations of CDOM in shallow inland waters from a semi-analytical inversion of Landsat-8 (2018). *Remote Sensing of Environment.* 218: 189-200. DOI
  - Highlighted by NASA Landsat team.

7   **Jiwei Li,** Qian Yu *, Yong Q. Tian, David F. Boutt (2018), Effects of Landcover, Soil property and temperature on co-variations of DOC and CDOM in inland waters. *Journal of Geophysical Research: Biogeosciences*, 123. DOI
  - Selected as AGU EOS Research Spotlights.

6   Aifen Zhong, Anqi Wang *, **Jiwei Li**, Tingbao Xu, Dan Meng, Yinghai Ke, Xiaojuan Li, Yun Chen (2018), Downscaling of passive microwave soil moisture images based on spectral analysis. *International Journal of Remote Sensing,* 1:50-67. DOI

5   **Jiwei Li,** Qian Yu *, Yong Q. Tian, Brian L. Backer (2017), Remote sensing estimation of colored dissolved organic matter (CDOM) in optically shallow waters. *ISPRS Journal of Photogrammetry and Remote Sensing*, 128: 98-110. DOI
  - AAG national student paper competition award.

4   Huijiao Qiao, Yong Q. Tian *, Qian Yu, Hunter J. Carrick, Mark Francek, **Jiwei Li** (2017), Snowpack enhanced dissolved organic carbon export during a variety of hydrologic of events in an agricultural landscape, midwestern USA. *Agricultural and Forest Meteorology*. 246 (2017): 31-41. DOI

3   Chaofan Zhou, Huili Gong *, Beibei Chen, **Jiwei Li**, Mingliang Gao, Feng Zhu, Wenfeng Chen, and Yue Liang (2017), InSAR time-series analysis of land subsidence under different land use types in the eastern Beijing plain, China. *Remote Sensing.* 2017, 9, 380. DOI

2   Beibei Chen, Huili Gong *, Xiaojuan Li, Kunchao Lei, Youquan Zhang, **Jiwei Li**, Zhaoqin Gu, Yanan Dang (2011), Spatial-temporal characteristics of land subsidence corresponding to dynamic groundwater funnel in Beijing municipality, China. *Chinese Geographical Science*, vol.21(6), pages.753-764, 2011. DOI

1   Kunchao Lei, Huili Gong *, Xiaojuan Li, Beibei Chen, **Jiwei Li**, Liulin Song (2011), The application of PS-InSAR technology on land subsidence in Cangzhou region. *Advanced Materials Research*, vol.268-270, pages.1934-1939, 2011. DOI

Other peer-reviewed publications

Jing Sun, Qiangqiang Yuan, **Jiwei Li**, Chunping Zhou, Huanfeng Shen * (2018), License plate image super-resolution based on the intensity-gradient prior combination. *Journal of Image and Graphics*, Vol (23):6. (*In Chinese with English abstract*)

Jiwei Li, Huili Gong *, Xiaojuan Li (2011), Land Subsidence Spatio-temporal Variation Analysis based on Multiple Source Data Field in Tianjin, China. *Proceeding of 7th International Symposium on Digital Earth (ISDE7)*, Perth, Australia.

Yanan Dang, Huili Gong *, Xiaojuan Li, Beibei Chen, **Jiwei Li** (2011): The analysis of land subsidence in Tianjin basing on interferometric synthetic aperture radar (InSAR) technique. *Proceeding of 2011 International Conference on Multimedia Technology (ICMT),* Hangzhou, China

Selected media

"This imaginative tech is transforming conservation", ASU News, https://news.asu.edu/20221114-solutions-imaginative-tech-transforming-conservation

"Allen Coral Atlas provides breakthrough tools for coral reef conservation", State Press, https://www.statepress.com/article/2021/09/allen-coral-atlas-tools-coral-reef-conservation

"Refining Remote Sensing of Dissolved Organic Carbon in Waterways", AGU EOS, https://eos.org/research-spotlights/refining-remote-sensing-of-dissolved-organic-carbon-in-waterways

Conference presentation & Invited talks

2023. 05   Invited Talk, *A new approach to monitoring global shallow water turbidity*. NOAA Coastal Watch.

2022. 07   Invited Talk, *Satellite monitoring of global shallow waters*. ASU Grand Challenges Scholars Program Summer Institute Faculty Talk.

2022.05   Invited Talk, *Combing cloud-based computing, CubSats, and machine learning in global coastal water monitoring*. NASA Advancing Women's Prosperity in the Workplace, ASU, USA

2022.05   Invited Talk, *Multi-discipline training of environmental science program*. Nanjing University, China

2021.11   Invited Talk, *Coral Atlas: global monitoring of shallow water coral reefs*. The 3rd wetland remote sensing conference. Beijing, China

2021.10	Invited Talk, *Global coral reef monitoring system building in Google Earth Engine*. The 5th Geo-spatial big data and cloud computing conference. Beijing, China.
2021.09	Invited Talk, *Coastal shallow water turbidity monitoring using Planet Dove satellites*. Planet Explore 2021. US.
2021.08	Invited Talk, *Coral Atlas, global coral reef monitoring system*. Capital Normal Universiyt, Beijing, China.
2021. 07	Invited Talk, *Monitoring global coral reefs*. ASU Grand Challenges Scholars Program Summer Institute Faculty Talk.
2021.01	Invited Talk, *Global coral reef monitoring system for conservation and management*, Arizona State University, AZ, USA
2020.12	Invited Talk, *Global shallow water remote sensing monitoring*, Hong Kong University of Science and Technology, Hong Kong, China
2019.02	Invited Talk, *Water-Land-Human nexus exploration using remote sensing technology*, Texas Tech University, TX, USA
2018.07	Invited Talk, *Satellite benthic mapping for the Caribbean Regions*, Planet Inc., San Francisco, USA.
2018.04	Invited Talk, *Estimation of water bio-optical properties in inland waters using a remote sensing approach*, SUNY College of Environmental Science and Forestry, NY, USA.
2018.04	Invited Talk, *Remote sensing detection of inland water quality*, 2018 NESS Annual Meeting
2017.12	Poster presentation. *Remote sensing estimation of terrestrially derived colored dissolved organic matter input to the Arctic Ocean.* AGU fall meeting, New Orleans, LA, USA.
2017.10	Oral presentation. *Land cover and hydrology effects on DOC/CDOM co-variations in freshwaters*, Umass Amherst Graduate Student Research Talks, Amherst, USA.
2017.08	Oral presentation. *The spatial and seasonal analysis of the CDOM based on the large satellite remote sensing data*, The 25th International Conference on Geoinformatics, Buffalo, NY, USA.
2017.04	Oral presentation. *Spatio-temporal Variations of Colored Dissolved Organic Matters in Lake Water Observed with Landsat-8 Operational Land Imager (OLI) Sensors,* AAG Annual Meeting, Boston, MA, USA.
2016.03	Oral presentation. *Remote Sensing Estimation of Colored Dissolved Organic Matter in optically shallow waters*, 2nd place of Student Honors Paper Competition, Remote Sensing Special Group (RSSG), AAG Annual Meeting, SF, CA, USA.
2014.07	Oral presentation. *Monitoring of Terrestrial Dissolved Organic Carbon Exportation*, IOCCG Summer Lecture Series 2014: Frontiers in Ocean Optics and Ocean Color Science, Villefranche-sur-Mer, France.
2012.06	Oral presentation. *Land Subsidence in Tianjin, China: Hydrogeology and Geology Control of the Ground Surface Deformation.* 2nd place of UNESCO Chair Young

Scholar Summit Student Paper Award, UNESCO Chair in Hydroinformatics and Ecohydrology, Beijing, China.

2011.07   Poster presentation. *Land Subsidence Spatio-temporal Variation Analysis based on Multiple Source Data Field in Tianjin*, 7th International Symposium on Digital Earth (ISDE7), Perth, Australia.

2011.05   Poster presentation. *Tianjin Land Subsidence Monitoring through the InSAR Technology*, International InSAR Technology Seminars, Beijing, China.

Teaching experiences

Instructor

2022 spring   SES 598, Cloud-based remote sensing

2021 fall   SES 502, Exploring SESE research

2017 summer   Geography 397G, Intro to GIS, online course, Umass Amherst

2016 summer   Geography 468, GIS and Spatial Analysis, online course, Umass Amherst

Student mentoring

In progress

Thomas Ingalls   (2022 - now, Arizona State University, Doctoral Student)

Jianghai Peng   (2022 - now, Arizona State University, Doctoral Student)

Will Greene   (2023 - now, Arizona State University, Doctoral Student, NSF GRFP
fellow)

Alumni

Swati Mahapatra   (2021 - 2023, Arizona State University, research internship)

Shan Gao   (2021- 2023, Arizona State University, research internship)

Nicholas Johnson   (2019, Arizona State University, master student capstone project)

Randy Fulford   (2019, Arizona State University, master student capstone project)

Jingwei Lian   (2019, Arizona State University, TNC mapping project)

Professional activities

Member, NASA Surface Biology and Geology (SBG) Mission algorithm working group

Journal editorial services

Journal of Remote Sensing (AAAS partner journal): Editorial board member
Remote Sensing (impact factor: 4.509): Guest Editor, Topical advisory panel

Journal reviewer:

Remote Sensing of Environment
Global Change Biology
Coral Reefs
ISPRS Journal of Photogrammetry and Remote Sensing
IEEE Transactions on Geoscience and Remote Sensing
Journal of Remote Sensing
Journal of Applied Ecology
Frontiers in Marine Science
Marine Pollution Bulletin
Remote Sensing
Progress in Physical Geography
GIS sciences and Remote Sensing
International Journal of Digital Earth
Remote sensing letters
GeoJournal
Sensors
Natural Hazards
Water
Geosciences
Sustainability
Electronics
Cogent Engineering