JINYANG DU
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PROFESSIONAL EXPERIENCE

Research Scientist, University of Montana (2012-present)
Adjunct Professor, University of Montana (2022 – Present)

EDUCATION

Ph.D. Cartography and GIS, 2006, Chinese Academy of Sciences
M.S. Cartography and GIS, 2003, Wuhan University

PROJECTS

- High resolution mapping of surface soil freeze-thaw status and active layer thickness for improving understanding of permafrost dynamics and vulnerability, NASA.
- Development of a High Resolution Flood and Drought Monitor for the BuPuSa basins, Princeton Climate Institute Inc and UNESCO.
- Develop a Satellite and AI Enhanced Forecast System for Field-level (30-m) Early Drought Detection for Montana, University of Montana.
- Spaceborne Synthetic Aperture Radar (SAR) for modeling soil moisture, DOE LM.
- Satellite Driven Assessment of Regional Snow Trends in Alaska, NATIONAL PARK SERVICE.
- High-Resolution Satellite Mapping and Gauging for Rivers and Lakes in the BorealArctic, NASA.

AWARDS

IEEE Geoscience and Remote Sensing Society 2015 Highest Impact Paper Award
Science China (Earth Sciences) 2016 Best Paper Award
Remote Sensing 2017 Best Reviewer Award

SELECTED PUBLICATIONS (*Citation >6300; H-Index 34*)

Du, J., Kimball, J.S., Jencso, K., Hoylman, Z., Brust, C., Ketchum, D., Xu, Y., Lu, H. and Sheffield, J., 2024. Machine-learning based multi-layer soil moisture forecasts—An application case study of the Montana 2017 flash drought. *Water Resources Research*, *60*(10), p.e2023WR036973.

Donahue, K., Kimball, J.S., **Du, J.**, Bunt, F., Colliander, A., Moghaddam, M., Johnson, J., Kim, Y. and Rawlins, M.A., 2023. Deep learning estimation of northern hemisphere soil freeze-thaw dynamics using satellite multi-frequency microwave brightness temperature observations. Frontiers in big Data, 6, p.1243559.

Du, J., Kimball, J.S., Chan, S.K., Chaubell, M.J., Bindlish, R., Dunbar, R.S. and Colliander, A., 2023. Assessment of Surface Fractional Water Impacts on SMAP Soil Moisture Retrieval. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing.

Du, J., Kimball, J.S., Bindlish, R., Walker, J.P. and Watts, J.D., 2022. Local scale (3-m) soil moisture mapping using SMAP and planet superdove. Remote Sensing, 14(15), p.3812.

Johnson, M.S., Matthews, E., **Du, J.**, Genovese, V. and Bastviken, D., 2022. Methane emission from global lakes: New spatiotemporal data and observation‐driven modeling of methane dynamics indicates lower emissions. Journal of Geophysical Research: Biogeosciences, 127(7), p.e2022JG006793.

Du, J., Kimball, J.S., Sheffield, J., Pan, M., Fisher, C.K., Beck, H.E. and Wood, E.F., 2021. Satellite flood inundation assessment and forecast using SMAP and landsat. IEEE journal of selected topics in applied earth observations and remote sensing, 14, pp.6707-6715.

Du, J., Kimball, J.S., Velicogna, I., Zhao, M., Jones, L.A., Watts, J.D. and Kim, Y., 2019. Multicomponent satellite assessment of drought severity in the contiguous United States from 2002 to 2017 using AMSR‐E and AMSR2. Water Resources Research, 55(7), pp.5394-5412.

Du, J., Watts, J.D., Jiang, L., Lu, H., Cheng, X., Duguay, C., Farina, M., Qiu, Y., Kim, Y., Kimball, J.S. and Tarolli, P., 2019. Remote sensing of environmental changes in cold regions: Methods, achievements and challenges. Remote Sensing, 11(16), p.1952.

Du, J., Kimball, J.S., Galantowicz, J., Kim, S.B., Chan, S.K., Reichle, R., Jones, L.A. and Watts, J.D., 2018. Assessing global surface water inundation dynamics using combined satellite information from SMAP, AMSR2 and Landsat. Remote sensing of environment, 213, pp.1-17.

Du, J., Kimball, J.S., Jones, L.A., Kim, Y., Glassy, J.M. and Watts, J.D., 2017. A global satellite environmental data record derived from AMSR-E and AMSR2 microwave Earth observations. Earth System Science Data, 9, p.791.

Kim, Y., Kimball, J.S., Glassy, J. and **Du, J.**, 2017. An extended global Earth system data record on daily landscape freeze–thaw status determined from satellite passive microwave remote sensing. Earth System Science Data, 9(1), pp.133-147.

Du, J., J. S. Kimball, L. A. Jones., 2016. Passive microwave remote sensing of soil moisture based on dynamic vegetation scattering properties for AMSR-E. IEEE Trans. Geosci. Remote Sens., 54(1), 597-608.