



# The Nature of Water

MARCH 6TH & 7TH, 2023  
MLK JR. BUILDING, WEST PAULEY BALLROOM, 2ND FLOOR  
2495 BANCROFT WAY, BERKELEY, CA 94720

## DR. JESSICA V. FAYNE

*Jointly Appointed LSA Collegiate and Presidents Postdoctoral Fellow of the University of Michigan Department of Earth and Environmental Sciences*



## BIOGRAPHY

Dr. Jessica Fayne is the Jointly Appointed LSA Collegiate (LSACF) and Presidents Postdoctoral Fellow (PPFP) and incoming Assistant Professor (Fall 2024) of the University of Michigan Department of Earth and Environmental Sciences. Her interest in studying human living conditions and natural disasters led her to study geography and remote sensing. Dr. Fayne graduated with a Master of Science in Geographic and Cartographic Sciences from George Mason University (GMU) in 2015. Between her Master's Degree and beginning her Ph.D. program at the University of California, Los Angeles (UCLA), she was involved in numerous NASA-affiliated projects focusing on damage caused by water-related natural disasters using satellite imagery. Dr. Fayne graduated with a PhD in Geography from UCLA in May 2022 and conducted postdoctoral research in the Department of Electrical Engineering at the University of Southern California (USC). Her research uses remote sensing tools and datasets to study water attributes such as water availability, frozen or liquid state, aquatic vegetation presence, and turbulence. This work crosses fields of electrical engineering (radar science), civil engineering (hydrology), urban planning (land use), and geography (spatial analytics). With these research interests, she is developing algorithms for the recently launched Surface Water and Ocean Topography (SWOT) satellite, a NASA mission aimed at studying sea level rise, water availability, and climate change. Dr. Fayne has published several first-author and co-authored peer-reviewed articles and three datasets and is writing six more articles on geography, hydrology, and remote sensing.

## TALK TITLE

**Surface Water  
From Space:  
Mapping  
Changing Water  
Levels Using New  
Radar Satellites**

## QUOTE

*"Using satellites, we can understand the dynamics of water quantity and state, which helps us understand current and historical hydrologic trends and improve our resilience to ongoing climatic changes."*

Dr. Jessica V. Fayne