UNIVERSITY OF HAWAIʻI / RESEARCH OPPORTUNITY 03 / GRADUATE RESEARCH

PhD Student in Water & AI

Hydrology / Remote sensing / AI for water hazards

From orbit to the streambank: turn observations into better decisions about water.

UNIVERSITY OF HAWAIʻI • DOCTORAL RESEARCH

We are recruiting a PhD student who already holds a master's degree and is eager to connect two big questions: How can satellites help us understand reservoir water levels, and how can sensors, cameras, and AI help communities recognize water-related hazards as they happen?

Research you could shape

- **See reservoirs from space.** Combine satellite imagery and in-water gauges to estimate reservoir levels, track change, and test methods useful for drought resilience and dam safety.
- **Understand hazards on the ground.** Link stream, coastal, and weather observations with camera imagery and historical event records to recognize meaningful flood and hazard conditions.
- **Build and test methods.** Develop reproducible Python/AI/geospatial analyses, validate them against observations, quantify uncertainty, and turn results into papers and usable data products.
- **Work with people who use the data.** Collaborate with researchers, agencies, and communities on what information is actionable and how to communicate it.

What makes a strong fit

- **Academic background.** A completed master's degree in hydrology, geoscience, environmental/civil engineering, geography, remote sensing, computer/data science, or a related field.
- **Quantitative curiosity.** Experience with programming and data analysis (Python preferred), plus interest in geospatial and hydrologic questions.
- **Research mindset.** Eagerness to learn, test assumptions, communicate clearly, and develop an original dissertation with practical value.
- **Great extras.** Satellite imagery, machine learning, computer vision, field sensing, hydrologic modeling, or science communication. You need not know all of these.

Possible work spans both field observations and computational analysis. The dissertation direction will be developed with the student, drawing on their experience and research interests.

The graduate program, campus location, and funding arrangements will be tailored to the selected candidate's background, qualifications, and research interests, subject to University of Hawaiʻi admission requirements and funding availability.

Start a conversation

Email Chris Shuler at cshuler@hawaii.edu with a brief introduction, CV, and research interests. Graduate application instructions will be shared with interested candidates.

Graduate admission and funding are subject to University of Hawaiʻi requirements and availability. Research topics may evolve with the selected student's interests.