



**Regional Hydrology Laboratory**

The University of Montana

Missoula, Montana 59812

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<http://hs.umt.edu/RegionalHydrologyLab/>

Nov 1, 2018

**Postdoctoral research opportunity on remote sensing of agricultural yields and water use**

The Numerical Terradynamic Simulation Group ([NTSG](#)) and the Regional Hydrology Lab at the University of Montana (UM) invite applications for a postdoctoral researcher to exploit remote sensing derived estimates of crop yields and water use developed by our team and use them to drive a hydro-economic modeling framework to investigate how farmers allocate land and water resources in response to climate variability, economic and policy constraints.

The successful candidate will be part of a NASA and USDA funded interdisciplinary team of researchers including remote sensing specialists, hydroclimatologists, and water policy specialists developing transformative decision support tools and integrated hydro-economic models of agricultural production. The models are driven by field observations, multi-sensor satellite remote sensing of crop yields and water use, outputs from regional climate models, and socioeconomic data for Montana agricultural systems. The candidate will be expected to develop their own research within the overall project framework and will interact with Principal Investigators, other research scientists, public and private industry stakeholders. The candidate will also participate as a productive member of a larger interdisciplinary research group pioneering new ecological remote sensing applications.

The duties for the position will include digital image processing and integration of multi-sensor and multi-scale satellite remote sensing and other geospatial data into a newly developed hydro-economic model of agricultural production; adding new features and components to the model; improving or developing model-data integration methods; simulating the impact of alternative climate, water and policy scenarios on agricultural resource allocation (water and land), water value; rural revenues, and water stocks; conducting independent research, writing scientific papers and publishing in peer-reviewed scientific journals; conducting public outreach and giving oral presentations on research findings.

Qualifications

We seek candidates with the following skills:

- A PhD in environmental engineering, eco-hydrologic modeling or a related discipline
- Understanding of numerical methods for data integration and analysis, including data assimilation methods and optimization techniques
- Experience in hydrologic or ecosystem process modeling
- Experience using and manipulating raster and vector geospatial datasets
- Programming experience in python with a bonus for experience with C/C++
- Experience in both Linux and Windows environments

- Proficiency in conducting independent scientific research and demonstrated ability to publish in the peer-reviewed scientific literature
- Ability to communicate and interact well with others in a large interdisciplinary research group
- Experience and interest in agricultural systems and applications is also desired

#### Position Details:

- The successful applicant will be employed by the University of Montana on a 12-month Letter of Appointment, including competitive salary, medical/dental and retirement benefits.
- The position is located on the University of Montana campus in Missoula, MT.
- Contracts are renewed annually and may continue for up to 3 years depending on funding availability and job performance.

#### About UM

The University of Montana is a unit of the Montana University System with approximately 12,000 undergraduate and graduate students and 500+ full-time faculty members. It is located in Missoula, a culturally vibrant community of about 70,000, surrounded by mountain grandeur which was recently ranked in the “[top 20 best college towns with a population of less than 250,000](#)” by the American Institute for Economic Research and ranked 9<sup>th</sup> in Outside Magazine’s “[The 16 Greatest Places to Live in America](#)” in 2014. Many national publications recognize Missoula for its high [quality of life](#). Abundant recreational opportunities in surrounding state and national forests and nearby Glacier National Park and Yellowstone National Park complement a thriving intellectual atmosphere.

The University of Montana is an Affirmative Action/Equal Opportunity employer and has a strong institutional commitment to the principle of diversity in all areas. In that spirit, we are particularly interested in receiving applications from a broad spectrum of qualified people who would assist the University in demonstrating its essential values of innovation and creativity, impact, openness, and partnership.

To learn more about the University of Montana, Missoula, and the State of Montana, please visit the links below.

- [University of Montana](#)
  - [University Highlights](#)
- [City of Missoula](#)
  - [Destination Missoula](#)
  - Video: [There's This Place](#)
  - [Missoula Area Chamber of Commerce](#)
- [State of Montana](#)
  - [Visit Montana](#)

**Criminal Background Investigation is required prior to Offer of Employment.**

In accordance with University policy, finalists for this position will be subject to criminal background investigations.

**ADA/EOE/AA/Veteran's Preference.**

Reasonable accommodations are provided in the hiring process for persons with disabilities. For example, this material is available in alternative format upon request. As an Equal Opportunity/Affirmative Action employer, we encourage applications from minorities, veterans, and women. Qualified candidates may request veterans' or disabilities preference in accordance with state law.

**References** \*References not listed on the application materials may be contacted; notice may be provided to the applicant.

**Testing** Individual hiring departments at UM may elect to administer pre-employment tests, which are relevant to essential job functions.

**Employment Eligibility.** All New Employees must be eligible and show employment eligibility verification by the first date of employment at UM, as legally required (e.g., Form I-9).

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How to Apply

**Priority Application Date: February 1, 2019. Position is open until filled.**

Please submit the following application materials to Prof. Marco Maneta:  
marco.maneta@umontana.edu

- **Curriculum vitae**– listing education and describing work experience
- **Statement of research interests** – to the attention of Dr. Marco Maneta or Dr. John Kimball
- **Professional References** – names and contact information for three (3) professional references.

**Job Location**

Missoula, Montana, United States

**Position Type**

Full-Time/Regular