Nishan Bhattarai

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Email: nbhattar@umich.edu

CURRENT POSITIONS

University of Michigan, **Ann Arbor, MI**
Research Fellow, School for Environment and Sustainability (Fall 2016 -)
Advisor: Dr. Meha Jain

ACADEMIC BACKGROUND

University of Michigan, **Ann Arbor, MI**
School for Environment and Sustainability
Postdoctoral Research Fellow, (Sep 2016 -)
Advisor: Dr. Meha Jain

Tufts University, Medford, MA
Center for International Environment and Resource Policy at The Fletcher School of Law & Diplomacy
Postdoctoral Research Fellow, 2015-2016/Advisor: Dr. Avery Cohn

SUNY College of Environmental Science & Forestry (SUNY-ESF), Syracuse, NY
Department of Environmental Resources Engineering
Ph.D. Environmental Resources Engineering, 2015/*Advisor:* Dr. Lindi J. Quackenbush

Auburn University, Auburn, AL
Department of Biosystems Engineering and School of Forestry and Wildlife Sciences
M.S. Forestry, 2010/Advisors: Dr. Mark Dougherty and Dr. Latif Kalin

Tribhuvan University, Nepal
B.S. Forestry, 2006

PAPERS IN PEER-REVIEWED JOURNALS (PUBLISHED ONLY)

1. Richards, P., Cohn, A., Arima, E., VanWey, L., & **Bhattarai, N.** 2017. Enforcement evasion highlights need for better satellite monitoring for forest governance. *Conservation Letters.* [Link]
2. **Bhattarai, N.**, Quackenbush, L.J., Im, Jungho, & Shaw, S.B., 2017. A new optimized algorithm for automating endmember pixel selection in the SEBAL and METRIC models. *Remote Sensing of Environment*, *196*: 178-192. [Link]
3. Wagle, P., **Bhattarai, N.***, Gowda, P., & Kakani, V. 2017. Performance of five surface energy balance models for estimating daily evapotranspiration in high biomass sorghum. *ISPRS Journal of Photogrammetry and Remote Sensing, 128: 192-203.* [Link]
4. Richards, P. Arima, E., VanWey, L., Cohn, A., & **Bhattarai, N.** 2016. Are Brazil's Deforesters Avoiding Detection? *Conservation Letters.* [Link]
5. **Bhattarai, N.**, Shaw, S. B., Quackenbush, L. J., Im, J., & Niraula, R. 2016. Evaluating five remote sensing-based single-source surface energy balance models for estimating daily evapotranspiration rates in a humid subtropical climate. *International Journal of Applied Earth Observation and Geoinformation* 49: 75-86 [Link]

6. **Bhattarai, N.**, Quackenbush, L.J., Dougherty, M., & Marzen, L. 2015. A simple Landsat–MODIS fusion approach for monitoring seasonal evapotranspiration at 30 m spatial resolution. *International Journal of Remote Sensing* 36: 115-143. [Link]
7. Shaw, Stephen B., Marrs, J., **Bhattarai, N.**, & Quackenbush, L.J. 2014. Longitudinal Study of the Impacts of Land Cover Change on Hydrologic Response in Four Mesoscale Watersheds in New York State, USA. *Journal of Hydrology* 519: 12-22. [Link]
8. **Bhattarai, N.,** Dougherty, M., Marzen, L., & Kailn, L. 2012.Validation of evaporation estimates from a modified surface energy balance algorithm for land model in the south-eastern US. *Remote sensing letters* 3: 511-519. [Link]

***** *indicates shared first authorships*

NON-REFERRED PUBLICATIONS

Bhattarai, N. and Jain, M. 2016. Understanding the climate-included variations in the seasonal water demands of irrigated crops in Northern India. AGU Fall meetings Abstracts, December 11-16, 2016, San Francisco, CA.

Bhattarai, N. 2015. Single-source surface energy balance algorithms to estimate evapotranspiration from satellite-based remotely sensed data, PhD Dissertation, SUNY-ESF.

Bhattarai, N., Quackenbush L.J., Jungho, Im, and Shaw, S. B Automation of Endmember Pixel Selection in SEBAL/METRIC Model. AGU Fall meetings Abstracts, December 14-18, 2015, San Francisco, CA.

Bhattarai, N., Quackenbush L.J., & Shaw, S. B. 2014. Comparison of four single-source surface energy balance-based models for estimating remotely sensed daily ET. Abstracts from the ASABE 2014 International Symposium on ET. April 7-11, 2014, Raleigh, NC.

Bhattarai, N. & Quackenbush, L.J. 2013. A data fusion approach for monitoring remotely sensed seasonal ET. AGU Fall meetings Abstracts, December 9-13, 2013, San Francisco, CA.

Bhattarai, N., Quackenbush, L.J., Calandra, L., Im, J., & Teale, S. 2012. An automated object-based approach to detect Sirex-infestation in pines. Proceedings of American Society for Photogrammetry and Remote Sensing (ASPRS) 2012 Annual conference, March 19-23, Sacramento, CA.

Bhattarai, N., Quackenbush, L.J., Calandra, L., Im, J., & Teale, S. 2011. Spectral analysis of Scotch pine infested by Sirex Noctillo. Proceedings of ASPRS 2011 Annual conference, May 1-5, 2011, Milwaukee, WI.

Bhattarai, N. 2010. Use of Remotely Sensed Data to Quantify Plant Water Use from Irrigated Lands in Wolf Bay Watershed Area, MS Thesis, Auburn University.

EXPERIENCE

Research Fellow, University of Michigan Ann Arbor	Sep 2016-
Research Affiliate, Tufts University, Medford, MA	Sep 2016- August 2017
Postdoctoral Research Fellow, Tufts University, Medford, MA	Aug 2015- Sep 2016
STEM Mentor, Research Foundation for the SUNY, Syracuse, NY	Jan 2015 – May 2015

Research Project Assistant, Research Foundation for the SUNY, Syracuse, NY	Sep – Dec 2014
Research/Field Tech, University of Illinois, Urbana-Champaign, IL	Jun – Aug 2014
Graduate Assistant, SUNY-ESF, Syracuse, NY	Aug 2011 – May 2014
Conservation Science Intern, World Wildlife Fund for Nature, Washington, DC	Jun – Aug 2013
Research Aide, Research Foundation for the SUNY, Syracuse, NY	May – Aug 2012
Research Project Assistant, Research Foundation for the SUNY, Syracuse, NY	Aug 2010 – Aug 2011
Research Assistant, Biosystems Engineering, Auburn University, AL	Aug 2008 – Aug 2010
International Corps Member, EarthCorps, Seattle, WA	Jun – Dec 2007

ORAL PRESENTATIONS

- Understanding the climate-included variations in the seasonal water demands of irrigated crops in Northern India. AGU Fall meetings, December 11-16, 2016, San Francisco, CA.
- Introduction of automated calibration approaches to the surface energy balance-based ET algorithms, ASPRS annual Conference, March 23-27, 2014, Louisville, KY.
- Comparison of four single-source surface energy balance-based models for estimating remotely sensed daily ET. ASABE 2014 International Symposium on ET. April 7-11, 2014, Raleigh, NC.
- Application of remote sensing and surface energy balance algorithms in estimating ET in the southeastern US. 24th ASPRS 2013 annual conference, March 24-28, 2013, Baltimore, MD.
- Using remote sensing and geospatial techniques in hydrological applications. NYGeoCon. NYGIS Association, November 12-13, 2013, Saratoga Springs, NY.
- Calibration of the InVEST water yield model- An automated approach, World Wildlife Fund-US, August 9, 2013 Washington, DC.
- A coupled multi-sensor fusion & surface energy balance algorithm approach to derive spatially-distributed seasonal ET.22nd GIS/SIG Annual Spatial/Digital Mapping Conference, April 16, 2013, Pittsford, NY.
- An automated object-based approach to detect Sirex-infestation in pines. 23rdASPRS 2012 annual conference, March 19-23, 2012, Sacramento, CA.

AWARDS AND HONORS

Research grants

Raymond Von Dran Fund ($2,000). Micro-Hydro consultants, Raymond Von Dran Fund, Syracuse University, summer 2012. PIs: Nishan Bhattarai, John MacDonald, Prakhyat Thapa. Summer 2012 **ConForM/Danida fellowship (**~$250**).** Good governance in community forestry. PI: Nishan Bhattarai. 2005-2006.

Awards

- ERE Departmental Award for Academic Excellence (2014), SUNY-ESF, $1,000
- AGU Student travel award (2013), American Geophysical Union (AGU), $500
- CNY Graduate Student of the year (2013), ASPRS, $500
- Ta Liang Memorial Award (2013), ASPRS, $2,000
- ESF travel grants (2012-2013), ESF, $500 and $250

- Research in Need travel grant (2012), GSA, SUNY-ESF, $250

PROFESSIONAL SERVICES

Peer reviewer

Remote Sensing of Environment, International Journal of Remote Sensing, Hydrological Processes, Remote Sensing, IEEE-JSTARS, Stochastic Environmental Research & Risk Assessment, GIScience & Remote Sensing, PLOS ONE, Water, Transaction of ASABE, Science of the Total Environment, Applied Water Science, Sustainability

Professional Memberships

American Geophysical Union (AGU), 2013-present
American Society for Photogrammetry and Remote Sensing (ASPRS), 2010-present
American Society of Agricultural and Biological Engineers (ASABE), 2013-2014
Nepalese Forester Association (NFA), 2007-present
Association of Nepalese Agricultural Professionals of America (NAPA), 2016-present

Judge

External project Advisor for International Initiate for Impact Evaluation (3ie)
Judge for outstanding student paper awards at the 2016 AGU fall meetings

Volunteer

Student assistant and volunteer for ASPRS 2012-2014 Annual Conferences

COMPUTER SKILLS

- ***Programming Languages*:**
  - Fluent in MATLAB and R
  - Advanced skills in High-Performance Computer (HPC) cluster systems and SSH Client.
  - Good knowledge of Google Earth Engine API (JavaScript)
  - Basic knowledge in Python, C/C++, and Visual Basic
- ***GIS and Remote Sensing tools*:** Advanced skills in ArcGIS, QGIS, ENVI, and ERDAS IMAGINE
- ***Other Software Packages:*** AutoCAD, HEC-HMS, SAS, SPSS, SigmaPlot, SQL Server, Photoshop, Office.