

Bhuwan Thapa

Assistant Professor

Department of Geography and Planning
Appalachian State University

PO Box 32066, Rankin Science West 323A

Boone, NC 28608

thapab@appstate.edu

EDUCATION

- 2021 **Graduate Certificate.** Data Science and Analytics
University of Missouri, Columbia, MO
- 2018 **Ph.D.,** Geography (Minor in Agricultural and Resources Economics)
University of Arizona, Tucson, AZ
Dissertation: “*Resilience of irrigated agriculture to global change in Western and Central Nepal.*”
- 2009 **Master of Public Policy** (Minor in Environmental Policy)
University of Maryland College Park, MD
- 2006 **Bachelor of Science,** Environmental Science *Magna Cum Laude*
McNeese State University, Lake Charles, LA
- 2003 **Bachelor of Science,** Environmental Science
St. Xavier’s College, Kathmandu, Nepal

EMPLOYMENT

- 2022- **Assistant Professor,** Appalachian State University, Boone, NC, US
- 2020 –2022 **Postdoctoral Fellow,** University of Missouri, Columbia, MO, US
- 2018 –2020 **Postdoctoral Fellow,** Indiana University - Purdue University Indianapolis, IN, US
- 2015 –2018 **Ph.D. Fellow,** International Centre for Integrated Mountain Development,
Kathmandu, Nepal
- 2013 –2018 **Graduate Research Associate,** School of Geography and Development & Udall
Center for Studies in Public Policy, University of Arizona, AZ, US
- 2012 –2013 **Environmental Specialist,** Danish Hydraulic Institute, Nepal Office
- 2011 –2012 **River Environment Management Consultant,** Japan Water Agency, Japan
- 2008 –2009 **Research Assistant,** National Center for Smart Growth, University of Maryland
College Park, MD, US
- 2007- 2008 **Research Assistant,** Center for Integrative Environment Research, University of
Maryland College Park, MD, US
- 2006 –2007 **Environmental Analyst,** A4 Scientific Inc., Houston, TX, US

GRANTS, AWARDS, AND HONORS

Grants and intramural research funding

- 2021 Agroforestry for climate risk management: effectiveness of windbreaks in reducing crop loss in Midwest, USA. PI: S. Lovell, Co-PIs: **B. Thapa**, T. Hossain, Z. Cai, P. Guinan. US Department of Agriculture. (2022-2024) [co-pi: \$116,812]
- 2019 Service-Learning Assistantship: Community-engaged research on mapping and analysis of urban agriculture in Indianapolis, IN. PI: **B. Thapa**, Co-PI: J. Wilson & R. Bein. Center for Service & Learning, Indiana University – Purdue University Indianapolis. [\$9,000]
- 2018 Implications of industrial copper mining on water security to global change in Arizona, US. Institute of Ecology and Environment and French National Center for Scientific Research: PI: **B. Thapa**. [\$6,000]

Grants under review

- 2022 Enhancing Computational Pathways in Undergraduate Environmental Majors. PI: L. Doner, Co-PIs: B. Thapa, K. Meierdiercks, R. Kuo, R.G. Kofmann. National Science Foundation. [co-pi: \$99,540]
- 2022 Mapping Trees in Future Climates: Integrating Knowledge, Data, and Tools to Enhance Agroforestry Adoption for Climate Resilience. PI: M. Shea, Co-PI: T. Ford, B. Thapa, K. Wolz. [co-pi: \$22,972]

Fellowships and travel grants

- 2018 Graduate Student Council Travel Grant, University of Arizona [\$680]
- 2015 Ph.D. Fellowship, HI-AWARE project of International Center for Integrated Mountain Development, Kathmandu, Nepal [\$104,803]
- 2015 Climate & Society Graduate Fellowship, University of Arizona [\$5000]

Honors

- 2006 Phi Kappa Phi Honor Society, McNeese State University, LA
- 2005,06 President's Honor Roll, McNeese State University, LA

PUBLICATIONS

Peer-reviewed articles

1. Reynolds, H.L., Mincey, S., Montoya, R. D., Hamlin, S., Sullivan, A., **Thapa, B.**, Wilson, J., Rosing, H., Jarzen, J., & Grove, M. (2021). Green infrastructure for urban resilience: a trait-based framework. *Frontiers in Ecology and the Environment*. 1540-9295, <https://doi.org/10.1080/17565529.2020.1840962>
2. **Thapa, B.**, Banerjee, A., Wilson, J., & Hamlin, S. (2021). Strategic placement of urban agriculture: A spatial optimization approach. *Urban Agriculture & Regional Food Systems*, 6(1). <https://doi.org/10.1002/uar2.20019>
3. **Thapa, B.**, & Rahman, T. (2021). Multi-level determinants of crop choice to water stress in smallholder irrigation system of Central Nepal. *Climate and Development*, 13:7, 581-592. <https://doi.org/10.1080/17565529.2020.1840962>
4. **Thapa, B.**, & Scott, C. A. (2019). Institutional Strategies for Adaptation to Water Stress in Farmer-Managed Irrigation Systems of Nepal. *International Journal of the Commons*, 13(2), 892–908. <https://doi.org/10.5334/ijc.901>

5. Merrey, D. J., Hussain, A., Tamang, D. D., **Thapa, B.**, & Prakash, A. (2018). Evolving high altitude livelihoods and climate change: A study from Rasuwa District, Nepal. *Food Security*, 10(4), 1055–1071. <https://doi.org/10.1007/s12571-018-0827-y>
6. Scott, C. A., Albrecht, T. R., De Grenade, R., Zuniga-Teran, A., Varady, R. G., & **Thapa, B.** (2018). Water security and the pursuit of food, energy, and earth systems resilience. *Water International*, 43(8), 1055–1074. <https://doi.org/10.1080/02508060.2018.1534564> **[International Best Paper for 2018]**
7. Mills-Novoa, M., Borgias, S. L., Crootof, A., **Thapa, B.**, de Grenade, R., & Scott, C. A. (2017). Bringing the Hydrosocial Cycle into Climate Change Adaptation Planning: Lessons from Two Andean Mountain Water Towers. *Annals of the American Association of Geographers*, 107(2), 393–402. <https://doi.org/10.1080/24694452.2016.1232618>
8. Vij, S., Moors, E., Ahmad, B., Md. Arfanuzzaman, Bhadwal, S., Biesbroek, R., Gioli, G., Groot, A., Mallick, D., Regmi, B., Saeed, B. A., Ishaq, S., **Thapa, B.**, Werners, S. E., & Wester, P. (2017). Climate adaptation approaches and key policy characteristics: Cases from South Asia. *Environmental Science & Policy*, 78, 58–65. <https://doi.org/10.1016/j.envsci.2017.09.007>
9. **Thapa, B.**, Scott, C., Wester, P., & Varady, R. (2016). Towards characterizing the adaptive capacity of farmer-managed irrigation systems: Learnings from Nepal. *Current Opinion in Environmental Sustainability*, 21, 37–44. <https://doi.org/10.1016/j.cosust.2016.10.005>
10. de Grenade, R., House-Peters, L., Scott, C., **Thapa, B.**, Mills-Novoa, M., Gerlak, A., & Verbist, K. (2016). The nexus: Reconsidering environmental security and adaptive capacity. *Current Opinion in Environmental Sustainability*, 21, 15–21. <https://doi.org/10.1016/j.cosust.2016.10.009>
11. Scott, C., & **Thapa, B.** (2015). Environmental security. In Ellen Wohl (ed.) *Oxford Bibliographies in Environmental Science*. Oxford University Press, New York. doi: 10.1093/OBO/9780199363445-0012.

Book chapter

1. Scott, C.A., Crootof, A., **Thapa, B.**, & Shrestha, R.K. (2016). The water-food-energy nexus in the Ganges Basin: Challenges and opportunities. In L. Bharati, B.R. Sharma, V. Smakhtin (eds.), *The Ganges River Basin: Status and Challenges in Water, Environment and Livelihoods*, Routledge, London, pp. 138-153.

CONFERENCE PRESENTATIONS

- 2022 **Thapa, B.**, S. Lovell, Z. Cai, KSM T. Hossain, MY Kwon. Agroforestry for climate risk management: Effectiveness of windbreaks in reducing crop loss in the Midwest, USA. 5th *World Congress on Agroforestry*, Quebec City, Canada. July 17-20.
- 2021 **Thapa, B.**, S. Lovell. Spatial techniques to quantify aboveground carbon sequestration in agroforestry: A state-of-art review. *North American Agroforestry Conference*, Online. June 28 –2 July.
- 2020 Hamlin, S., S. Mincey, S. Freeman-Day, **B. Thapa**, C. McGill, H. Gregory, H. Reynolds. Race, income, and urban forest quality: A spatial analysis of environmental justice in Indiana. *Annual Meeting of American Association of Geographers, Seattle, WA*. 7-11 April.
- 2019 **Thapa, B.**, S. Hamlin, H. Reynolds, D. Habeeb. Mapping and analysis of urban green infrastructure. Workshop conducted at the *Annual Conference of American Community Garden Association*, Indianapolis, Indiana. 12-15 September.
- 2019 **Thapa, B.**, J. Wilson, H. Reynolds, A. Banerjee, S. Hamlin, E. Hatch, D. Habeeb, A. Sullivan. “Urban agriculture and community resilience: A spatial analysis of the accessibility

- to urban agriculture in Indianapolis, Indiana.” Poster presented at the *Annual Meeting of American Association of Geographers*, Washington DC 3-7 April.
- 2018 **Thapa, B.** “Do networks facilitate community institutions to cope and adapt to changes? Empirical evidence from irrigated agriculture in Nepal.” Paper presented at the *Annual Meeting of American Association of Geographers*, New Orleans, LA. 10-14 April.
- 2016 **Thapa, B.,** C.A. Scott, P. Wester. “Assessment of climate change adaptation in farmer-managed irrigation systems in Trishuli sub-basin of Central Nepal.” Paper presented at Inaugural Retreat and *Workshop of the Ostrom Center for the Advanced Study of Natural Resources Governance*, Asian Institute of Technology, Bangkok, Thailand. 13-16 July.
- 2016 **Thapa, B.** “Towards characterizing institutional adaptive capacity: the case of farmer-managed irrigation systems in Nepal.” Paper presented at *5th Global Conference of Initiative of Climate Adaptation Research and Understanding through the Social Sciences* at Indian School of Business, Hyderabad, India. June 30 – July 2.
- 2014 **Thapa, B.,** N. Chhetri, B. Willems, M. Shrestha, C.A. Scott. “Social-ecological observatories of Mountain Water Towers: Comparative assessment framework.” Paper presented at *Global Fair and Workshop on Long-Term Observing Systems of Mountain Social-Ecological Systems*, Reno, NV. 16-19 July.
- 2009 Kaza, N., C. Towe, X. Ye, **B. Thapa.** “An Economic Model of Land Conversion Incorporating Multiple End Uses.” Paper presented at the *Annual Meeting of Agricultural and Applied Economist Association*, Milwaukee, Wisconsin. 26-28 July.
- 2008 Reiling, S., **B. Thapa.** “Reality Check Plus – Implications of Climate Change and Entropy on Energy Demand in the State of Maryland.” Paper presented at *Science and Technology in Society Conference*, Washington D.C. April.

TALKS AND OTHER PRESENTATIONS

- 2019 Scott, C., T. Albrecht, R. de Grenade, A. Zúñiga-Teran, R. Varady, **B. Thapa**, A. Crotoof, M. Wilder, N. Pineda, S. Buechler, A. Gerlak, A.L. Ley, M.B.C. Ayala, M. Rivera-Torres. “The Nexus of Water, Energy, and Food Securities: Human Well-Being and Climate Resilience.” Talk presented at the *Second International Seminar on Water Security*, Mexico. September.
- 2019 Reynolds, H., S. Hamlin, **B. Thapa**, J. Wilson, S. Mincey, R. Montoya, D. Habeeb, G. Merle, A. Sullivan, E. Hatch, S. Freeman-Day. “Green cities: resilient communities. Urban green infrastructure inventory and analysis.” Talk presented at *Environmental Resilience Institute Data Summit*, Indiana University, Bloomington, IN. August 5.
- 2018 Reynolds, H., S. Mincey, R. Montoya, J. Wilson, S. Hamlin, **B. Thapa**, A. Sullivan, E. Hatch, A. Doster. “Green cities: resilient communities. Urban green infrastructure inventory and analysis.” Talk presented at *Midwest Sustainability Directors Meeting*, Indianapolis, IN. November.

CONFERENCE PROCEEDINGS AND POLICY DOCUMENTS

2016. **Thapa, B.** 2016. Roundtable Proceedings on “Farmer-managed irrigation systems at a Crossroads – Mapping climate and socio-ecological challenges” held in Kathmandu on March 11. Internal Report of the International Centre for Integrated Mountain Development, Kathmandu, Nepal.
<http://lib.icimod.org/record/32240/files/hiawareIRFMIS.pdf>
- 2016 Shrestha, A., U. Sherchan, S. Vij, S. Dandekhya, S. M. Sen, ..., **B. Thapa**, ... A. Pandey. Conference Proceedings of *The Climate Change Adaptation Policy and Science Conference* held in New Delhi, India. Internal Report of The International Centre for Integrated Mountain

- Development, Kathmandu, Nepal, 24-25 February.
<http://lib.icimod.org/record/31952/files/HiAware-InternalReport16.pdf>
- 2015 **Thapa, B.**, C.A. Scott, R.G. Varady, R. de Grenade. Strengthening water security through research and science- policy dialogues. *International Water Resources Association Newsletter*.
http://iwra.org/doc/IWRA_Newsletter_March2015.pdf.
- 2014 **Thapa, B.**, R. Varady, C.A. Scott. Measuring Water Security: An Assessment of the 2013 Asian Development Bank Outlook National Water Security Index. *Environmental Scientist*. 3.23. https://www.the-ies.org/sites/default/files/journals/water_security_oct_14.pdf

BLOG AND NEWS COVERAGE

- 2017 **Thapa, B.** Ph.D. Research in Nepal – Part 2: Diary notes from the field. International Water Security Network. <http://www.watersecuritynetwork.org/ph-d-research-in-nepal-part-2-diary-notes-from-the-field/>
- 2015 **Thapa, B.** How farmers are responding to Gorkha Earthquake, climatic and socioeconomic changes in Nepal. Climate Assessment for the Southwest, A US National Oceanic and Atmospheric Administration (NOAA) supported initiative at University of Arizona. <http://www.climas.arizona.edu/blog/bhuwan-thapa-climas-climate-society-fellow>
- 2015 Varady, R. 2015. Natural disasters in Nepal and the impact on water, energy and human security – conversation with Bhuwan Thapa. International Water Security Network. <http://www.watersecuritynetwork.org/natural-disasters-in-nepal-and-the-impact-on-water-energy-and-human-security/>

TEACHING AND ADVISING

Teaching

Appalachian State University

PLN 4030/5030 Planning for Climate Resilience (Fall 2022)

PLN2410 Town, City, and Regional Planning (Fall 2022)

University of Missouri

Fall 2021 NAT8001: Research Methods in Agroforestry Systems, U. Missouri (Online)

University of Arizona

Sum. 2018 GEOG302: Introduction to Sustainable Development, U. Arizona (In-person)

Winter 2017 GEOG367: Population Geography, U. Arizona (Online)

Student Supervision

Thesis Committee Member

Current Sophie Ryan, M.A. in Geography, Appalachian State University (current)

2021 Bikalpa Adhikari, M.Sc. in Geography, Indiana University – Purdue University Indianapolis, IN

2021 Brandon Katz, M.Sc. in Geography, Indiana University – Purdue University Indianapolis, IN

Undergraduate research

2019,2020 Angela Campbell, B.A. in Anthropology, Service Learning Project, Indiana University – Purdue University Indianapolis, IN

2019,2020 Sneha Shah, B.Sc. in Public Affairs, Service Learning Project, Indiana University – Purdue University Indianapolis, IN

2011-2013 Eight Capstone Projects, National College, Kathmandu, Nepal

PROFESSIONAL SERVICES

Departmental Service

2022 Search Committee for Planning Assistant Professor

Disciplinary Service

2022 - current Associate Editor, Journal of Environmental Studies and Sciences

2020 - current Review Editor for Politics of Technology and Sustainability (specialty section of Frontiers in Political Science)

Manuscript reviews

2021 IPCC Sixth Assessment Report Climate Change 2021: Impacts, Adaptation and Vulnerability

2021 Frontiers in Sustainable Food Systems

2020 Current Opinion in Environmental Sustainability

2020 International Journal of Environment

2019, 2017 World Development

2018, 2017, 2016 Water International

2018 Ecology & Society

2018 Climate Policy

2018, 2021 International Journal of the Commons

2017 Global Environmental Change

2015 Community Development Journal

Other Services

2021-current Editorial Team, Bi-monthly Newsletter, Nepali Academics in America.

2021 Facilitator of networking circle "Land use and climate resilience," Agroforestry Symposium, January 28-30, 2021.

2017-2018 Student representative at Faculty Meetings, School of Geography & Development, University of Arizona

2015-2018 President, Nepalese Student Association, University of Arizona

AFFILIATIONS

American Association of Geographers

Nepali Academics in America

Association for Temperate Agroforestry