

# BEATRICE L GORDON, Ph.D.

**P:** (307) 620-5020 | **E:** blgordon@stanfordalumni.org | **LI:** linkedin.com/in/beatrice-gordon-3141ba66/ |  
**PW:** beaticelgordon.com | **ORCID:**0000-0002-4396-0904

## EDUCATION

- 2022 **Ph.D. Hydrogeology, University of Nevada Reno, Reno, NV**  
Graduate Dean's Fellowship—1 of 5 for all incoming graduate students, Babbitt Fellow  
A socio-hydrologic assessment of mountain water supply vulnerability to changing snowmelt,  
Dr. Adrian Harpold
- 2016 **M.S. Water Resources, University of Wyoming, Laramie, WY**  
Graduate Merit Fellow, Mary Mead Fellowship for Women in Agriculture, Outstanding MS  
Determination of evapotranspiration and return flow in a semi-arid agricultural system,  
Dr. Scott Miller
- 2010 **B.A. Environmental History & English Literature, Stanford University, Stanford, CA**  
Phi Beta Kappa, NCAA Division 1 Athlete, Fellow Stanford Humanities Center
- 2006 **Diploma, St. Paul's School, Concord, NH**  
Magna Cum Laude, Distinction in Humanities

## RESEARCH EXPERIENCE

- 2023-** **Post-Doctoral Scholar**, Desert Research Institute, Division of Hydrologic Sciences
- Lead design of decision-making support tool for climate adaptation in agriculture
  - Economic analysis of demand management in irrigated agriculture
  - Liaise between hydrology subgroup and applied economics on a \$5 million USDA grant
- 2019-2022** **PhD Candidate**, Nevada Mountain Ecohydrology Lab
- Published on snow and streamflow using large-scale models and gridded data
  - Published on statistical tool for uncertainty assessment using large-scale models and gridded data, produced new data product
  - Designed resilience assessment for adaption in irrigated agriculture in western US
  - Produced metrics-based assessments to improve system resilience
- 2016-2019** **Research Analyst**, Stanford University Woods Institute for the Environment
- Performed legal research on environmental water transactions
  - Conducted technical, economic, and legal research on groundwater management in CA
  - Co-developed and implemented an assessment of ecosystem services in the western US
  - Published financial risk assessment of green infrastructure in major global cities
- 2013-2016** **Research Assistant**, Wyoming Center for Environmental Hydrology and Geophysics
- Published 3-year study on agricultural return flows using hydrologic and geophysical data
  - Oversaw communication about research and results with diverse stakeholders
  - Designed and managed data gathering, sharing, and analysis with multiple partners
  - Lead and mentored a team of technicians in a remote location over multiple field seasons

**2009-2010 Undergraduate Research Fellow, Stanford Humanities Center**

- Targeted research under Dr. Lael Weis on the role of private property and land ownership on Civic Republicanism
- Research on equality, national personality, and civic virtue through public lands, particularly National Parks

**PROFESSIONAL EXPERIENCE**

**2011, 2013 Wildland Firefighter, Bighorn National Forest**

- Member of Blacktooth Fire Use Module (2013)
- Member of Engine Crew (2011)

**2011-2013 Junior Environmental Specialist, Apache Corporation**

- Co-led corporate sustainability report, designed water use reporting for investors and shareholders
- Led corporate environmental affairs in Argentina, Gulf Coast, Permian Basin, and Egypt
- Coordinated environmental reporting for OPIC and MIGA

**2011 Intern, Environmental Defense Fund**

- Targeted GIS work on conveyance infrastructure in California

**PUBLICATIONS**

**PEER-REVIEWED JOURNAL ARTICLES**

- In Prep* [9] **Gordon, B. L.**, Boisrame, G. F., Ajami, N.K., Carroll, R. W., Leonard, B., Albano, C.M., Mizukami, N., Koebele, E.A., Andrade-Rodriguez, M.A., & Harpold, A. A. Water Management Can Reduce Agricultural Vulnerability to Decreasing Snowpack.
- Submitted* [8] **Gordon, B. L.**, Koebele, E.A., Rego, J.J., Harpold, A. A., & Ajami, N.K. Improving Water Vulnerability Assessments for Rapidly Changing Hydrologic and Social Conditions
- 2022** [7] **Gordon, B. L.**, Brooks, P. D., Krogh, S. A., Boisrame, G. F., Carroll, R. W., McNamara, J. P., & Harpold, A. A. (2022). Why does snowmelt-driven streamflow response to warming vary? A data-driven review and predictive framework. *Environmental Research Letters*.
- 2022** [6] **Gordon, B. L.**, Crow, W. T., Konings, A. G., Dralle, D. N., & Harpold, A. A. (2022). Can We Use the Water Budget to Infer Upland Catchment Behavior? The Role of Data Set Error Estimation and Interbasin Groundwater Flow. *Water Resources Research*, 58(9)
- 2021** [5] Krogh, S. A., Scaff, L., Sterle, G., Kirchner, J., **Gordon, B.**, Harpold, A. (2021). Diel streamflow cycles suggest more sensitive snowmelt-driven streamflow to climate change than land surface modeling. *Hydrology and Earth System Sciences Discussions*, 1-41.
- 2021** [4] Claes, N., Paige, G. B., **Gordon, B. L.**, Parsekian, A. D., Miller, S. N. (2021). Hydrologic modeling of reach scale fluxes from flood irrigated fields. *Journal of Hydrology*, 598, 126254.

- 2020** [3] **Gordon, B.L.**, Paige, G.B., Miller, S.N., Claes, N., Parsekian, A.D. (2020). Field scale quantification indicates potential for variability in return flows from flood irrigation in the high-altitude western US. *Agricultural water management*, 232, 106062.
- 2019** [2] **Gordon, B. L.**, Kowal, V., Khadka, A., Chaplin-Kramer, R., Roath, R., & Bryant, B. P. (2019). Existing accessible modeling tools offer limited support to evaluation of impact investment in rangeland ecosystem services. *Frontiers in Sustainable Food Systems*, 3, 77.
- 2018** [1] **Gordon, B. L.**, Quesnel, K. J., Abs, R., & Ajami, N. K. (2018). A case-study based framework for assessing the multi-sector performance of green infrastructure. *Journal of environmental management*, 223, 371-384.

## REPORTS & BRIEFS FOR POLICYMAKERS

- 2018** Conrad, C., **Gordon, B.L.**, Moran, T.A., Blomquist, W., Martinez, J., Szeptycki, L., (2018) California's new landscape for groundwater governance
- 2018** Szeptycki, L., Pilz, D., O'Connor, R., & **Gordon, B.** (2018). Environmental Water Transactions in the Colorado River Basin: A Closer Look.

## POPULAR MEDIA & BLOGS

- 2022** **Gordon, B. (2022).** "Study Explores Climate Influences on snowmelt-fed water supplies."
- 2019** **Gordon, B.**, K.J. Quesnel, J.M. Wolfand, and P. Hamel. "Using Nature to Tackle Water Infrastructure Challenges: Frontiers of Green Infrastructure Research at Stanford." *Water in the West Insight blog*.
- 2018** **Gordon, B.**, "The Value of Mentorship: Water in the West's Newsha Ajami." *Water in the West Insight blog*.
- 2018** **Gordon, B.**, "All Roads Lead to Water in the West: Q & A with Stanford's Landreth Visiting Fellow Letty Belin." *Water in the West Insight blog*.
- 2017** **Gordon, B.** "AGU 2017 Fall Meeting Roundup." *Water in the West's Insight blog*.
- 2017** **Gordon, B.** "Stanford's Rosemary Knight wins 2017 Outstanding Educator Award." *Water in the West Insight blog*
- 2017** **Gordon, B.** "Q & A with California Farmers: Cannon Michael and Brandon Morris." *Water in the West Insight blog*.
- 2017** **Gordon, B.** "Why We Can't Just Suck It Up: The Challenges of Groundwater Recharge in California." *Water in the West Insight blog*.
- 2017** **Gordon, B.** "Is CA's Drought Over? We're Asking the Wrong Question." *Water in the West Insight blog*.

2016 **Gordon, B.** “Measuring Return Flows” Western Confluence Magazine

## AWARDS & AFFILIATIONS

- 2022 Outstanding Student Paper, **University of Nevada Reno**, Graduate Program in Hydrologic Sciences
- 2021-2022 Babbitt Fellow, Lincoln Institute of Land Policy, (\$10,000)
- 2020-2021 Jerry & Betty Wilson Scholarship, **University of Nevada Reno** (\$4,000)
- 2021 3 Minute Thesis (3MT) Competition, 3<sup>rd</sup> place, **University of Nevada Reno**, (\$750)
- 2020 Outstanding PhD Student, **University of Nevada Reno**, Graduate Program in Hydrologic Sciences
- 2019 Graduate Dean’s Fellow, **University of Nevada Reno** (\$40,000) \*First awardee for Graduate Program in Hydrologic Sciences
- 2016 Outstanding MS Student, **University of Wyoming**, College of Agriculture
- 2015-2016 Mary Mead Fellowship for Women in Agriculture, **University of Wyoming**, (\$2,000)
- 2013-2015 Graduate Merit Fellowship, **University of Wyoming**, (\$13,000)
- 2010 Phi Beta Kappa (Top 10% of graduating class), **Stanford University**  
*Finalist*, Hoefler Prize for Excellence in Undergraduate Writing, **Stanford University**  
*Awardee*, Bill Lane Center for the American West, **Stanford University** (\$7,000)
- 2009-2010 Undergraduate Fellowship, **Stanford Humanities Center**
- 2006-2007 Athletic Scholarship, **Stanford University**, Athletics Department
- 2007, 2008, 2010 Student-Athlete Award, **Stanford University**, Athletics Department  
Division 1 Athlete, **National Collegiate Athletic Association**

## OUTREACH & SERVICE

- 2020- Member, **Unlearning Racism in the Geosciences (URGE) Pod**, Graduate Program in Hydrologic Sciences
- 2019- Volunteer, **Skype a Scientist**
- 2019- Member, Board of Directors, **Greater Yellowstone Coalition**, Audit and Finance Committee

- 2018- Reviewer: **Water Resources Research • Journal of Environmental Management • Science of the Total Environment • Agricultural Water Management • Journal of Sustainable Finance and Investment**
- 2017- Member, Board of Directors, **Plank Stewardship Initiative**, Program Committee

## PRESENTATIONS

### EXTERNAL INVITED TALKS

- 2017 *Quantifying the value of good management: Ecosystem services in the context of rangelands.* Society for Range Management Annual Meeting, California
- 2016 *Measuring return flows*, Wyoming Game and Fish Meeting

### CONFERENCE ORAL PRESENTATIONS

- 2023 **Gordon, B.L.** Headwater Reservoir Management Must Consider Hydrological Supply and Agricultural Demand In a Future With Less Snowpack. Nevada Water Resources Association Annual Meeting.
- 2022 **Gordon, B. L.**, Harpold, A., Ajami, N.K., Albano, C.M., Boisrame, G., Carroll, R., Leonard, B., Headwater Reservoir Management Must Consider Hydrological Supply & Agricultural Demand In a Future With Less Snowpack. American Geophysical Union (AGU) Fall Meeting
- 2020 **Gordon, B.L.**, A Harpold, WT Crow. Using triple collocation of precipitation and evapotranspiration products to reduce uncertainty and improve inferences of catchment-scale water budgets. American Geophysical Union (AGU) Fall Meeting

### SELECTED POSTER PRESENTATIONS

- 2021 **Gordon, B.L.**, Harpold, A.A., Koebele, E.A., Ajami, N.K., Boisrame, G.B., Andrade, M. "Adapting index-based vulnerability assessments in rapidly changing coupled upland-agricultural systems in the western US." American Geophysical Union (AGU) Fall Meeting
- Gordon, B.L.**, Harpold, A.A., Carroll, R.W.H., Ajami, N.K. " Accounting for built and natural storage is necessary to estimate the true vulnerability of downstream water supplies." American Geophysical Union (AGU) Fall Meeting
- 2020 Harpold, A.A., Krogh, S.A, Scaff, L., Sterle, G., Kirchner, J.W., **Gordon, B.L.** "Diel observations suggest earlier snowmelt-driven streamflow than land surface modeling" American Geophysical Union (AGU) Fall Meeting
- 2019 **Gordon, B.L.**, Harpold, A.A., Dralle, D.. "The role of plant available water storage capacity in modulating the value of snow accumulation for upland ecosystems" American Geophysical Union (AGU) Fall Meeting

Harpold, A.A., Brooks, P.D., Kohler, M., Sturtevant, J., **Gordon, B.L.**, Dettinger, M. "How ready is the hydrologic sciences for the loss of seasonal snowpacks (and what can be done)?" American Geophysical Union (AGU) Fall Meeting

## SKILLS & TRAINING

- Computational modeling & climate data processing
- Big data management & organization
- Hydrological field instrumentation
- Programming in Matlab, R, Python
- Spatial analysis in Google Earth Engine, ArcGIS
- Interdisciplinary research
- Stakeholder outreach & communication
- Public & investor relations
- Scientific communication
- Data visualization

## COURSEWORK

Advanced Natural Resources Economics • Advanced Surface Water Hydrology • Bayesian Hierarchical Modeling • Differential Equations • Linear Algebra • Elements of Research Computing • Engineering & Environmental Geophysics • Geostatistics • Groundwater Hydraulics • Hydrogeophysics • Hydrologic Fluid Dynamics • Modeling Flow & Contaminant Transport • Soil Physics • Spatial Hydrology • Water Quality Analysis • Wildland Hydrology • Geographic Information Systems in Water Resources • Global Change, Crop Production & Impacts on Hydrology • Hydrology & Policy: Actions, Implications, and Solutions

## RELEVANT TRAINING

Rosgen Stream Restoration • National Wildfire Coordinating Group trainings (e.g., S-110, S-190, S-290) • WRF-Hydro • SWAT

## PROFESSIONAL MEMBERSHIPS

Phi Beta Kappa • Phi Kappa Phi • American Geophysical Union • Block S Society (Stanford University)