

ZACK GUIDO | CURRICULUM VITAE

University of Arizona, 1064 E. Lowell Street, Tucson, AZ 85721

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EDUCATION

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| 2010-15 | Ph.D. UNIVERSITY OF ARIZONA , School of Natural Resources and Environment, Tucson, AZ
<i>Dissertation:</i> Informing Climate Adaptation: Climate Impacts on Glacial Systems and the Role of Information Brokering in Climate Services
<i>Committee members:</i> Shirley Papuga (chair), Gregg Garfin, Jennifer McIntosh, Jim Buizer, Joellen Russell |
| 2006 | M.Sc. UNIVERSITY OF COLORADO , Geoscience, Boulder, CO
<i>Thesis:</i> Climate forcing on the evolution of valley glaciers in the San Juan Mountains, Colorado |
| 2000 | B.A. LAFAYETTE COLLEGE , Geoscience, Easton, PA |

RESEARCH INTERESTS AND EXPERTISE

Climate impacts on water systems and environmental resources
Human-environment interactions, human dimensions of global change
Climate adaptation, with a focus on climate services, transdisciplinary science, and science communication

APPOINTMENTS

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| 2013-p | PROGRAM MANAGER AND RESEARCH SCIENTIST, Institute of the Environment, Tucson, Arizona |
| 2013-p | RESEARCH AFFILIATE, Climate Assessment for the Southwest (CLIMAS), Tucson, Arizona |
| 2008-13 | ASSOCIATE STAFF SCIENTIST, CLIMAS, Univ. of Arizona, Tucson, Arizona |
| 2005-p | CO-DIRECTOR & CO-FOUNDER, Terra Resource Development International (501c3), Laguna Beach, CA |
| 2007-08 | HYDROLOGIST, Errol L. Montgomery and Associates, Tucson, Arizona |
| 2004-06 | GRADUATE RESEARCH ASSISTANT, Institute for Arctic and Alpine Research, Univ. of Colorado, Boulder, CO |
| 2000-03 | PEACE CORPS, Bolivia, South America |

GRANTS AWARDED: 9 FOR \$11,271,788

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| 2018 | Integrating Seasonal and Sub-seasonal Climate Information into Public Health Contexts: Co-Producing Decision Support Applications in Puerto Rico and Dominica. National Oceanic and Atmospheric Administration, 09/2018-08/2020, \$690,042, Z. Guido (PI), Lichtveld, M., Duncan, B., Anderson, J., Mason, S. |
| 2017 | Mid-Term Review of the Global Framework for Climate Services, World Meteorological Organization, 4/25/17-10/25/17, \$75,160, Guido, Z. (co-PI), Gerlak, A. (co-PI), and Knudson, C. |
| 2013-17 | IRAP: Integrating Climate Information and Decision Processes for Regional Climate Resilience, National Oceanic and Atmospheric Administration (NOAA) and United States Agency of International Development (USAID), 9/2013-8/2018, \$6,500,000. Buizer, J. and Goddard, L (lead PIs); Guido, Z. et al. (co-Investigators) |
| 2012-17 | Adapting to Climate Variability, Thresholds, and Extremes in the Southwest: The Climate |

	Assessment for the Southwest (CLIMAS), National Oceanic and Atmospheric Administration (NOAA), 09/12–08/17, \$3,481,238. Overpeck J. (lead PI), Colby, B., Comrie, A., Crimmins, M. Dubois, D., Ferguson, D., Frizvold, G., Garfin, G., Guido, Z., Hartmann, H., Owen, B., Wilder, M., Woodhouse, C.
2015	Valuation of Drought Information Service, Engility, 6/2015–11/2016, \$59,000, J. Buizer, (PI), Rahman, T., and Guido, Z.
2012–15	Climate and Weather Services for Disaster Management: A FEMA, NWS, and CLIMAS Collaboration, National Oceanic and Atmospheric Administration (NOAA), 09/12–08/14, \$165,263, M. Crimmins (PI), Guido, Z., and Meadow, A.
2012–13	Contributions to www.climate.gov, 8/12–8/13, \$17,000, Z. Guido (PI).
2010–13	Climate Change Boot Camps, National Oceanic and Atmospheric Administration (NOAA), 09/10–08/13, \$274,085. D. Ferguson (PI), Buizer, J., Chhetri, N., Guido, Z., Quay, R., Roy, M.
2010–11	Water Resource Adaptation Strategies in Developing Countries: Climate Change “Realities”, Univ. AZ–Vice Present of Research Faculty Small Grant, 09/10–08/11, \$10,000, S. Papuga (PI) and Guido, Z.

GRANTS SUBMITTED: 3 FOR \$3,447,766

2018	Integrated strategic management of natural resources in the territory of Moctezuma, Sonora, Mexico. National Consortium for the Regional Scientific Development and Innovation—The University of Arizona National Council of Science and Technology, \$52,800, H. Zarate (Co-PI; University of the Sierra, Moctezuma, Sonora) and Guido, Z. (Co-PI)
2018	Climate Services for Equitable & Effective Climate Adaptation. National Science Foundation, 2018–2021, \$1,598,770, D. Liverman (PI), Guido, Z. (Co-I), Gerlak, A., Knudson C., Anchukaitis, K.
2016	Climate information for all? Creating effective & equitable climate services. National Science Foundation. 2017–2021, \$ 1,796,196, D. Liverman (PI), Guido, Z. (Co-I), Gerlak, A., Knudson C., Anchukaitis, K.

ACADEMIC PUBLICATIONS (27 TOTAL): 14 PEER REVIEW; 5 IN PEER REVIEW; 8 PROFESSIONAL REPORTS

Year (#)	PEER REVIEW: PUBLISHED
2019 (14)	C. Knudson and Guido Z. The missing middle of climate services: Layering multiway, two-way, and one-way modes of communicating seasonal climate forecasts. <i>Climatic Change</i> .
2019 (13)	Z. Guido , Knudson C., and Campbell, D. Knowing the Context: Can Climate Services Be Effectual for Small Landholding Farmers? <i>Climate and Development</i> .
2019 (12)	Mahon, R., Greene, C., Cox, S. A., Guido, Z., Gerlak, A. K., Petrie, J. A., ... Farrell, D. 2019: Fit for purpose? Transforming National Meteorological and Hydrological Services into National Climate Service Centers. <i>Climate Services</i> .
2018 (10)	A. K. Gerlak, Guido, Z. , Vaughan, C., Rountree, V., Greene, G., Liverman, D., Trotman, A., Mahon, R., Cox, S., Mason, S.J., Jacobs, K.L., Buizer, J.L., Van Meerbeek, C., and Baethgen, W.E. 2017: Progress and challenges of the Caribbean Climate Outlook Forum: Building a framework for process-oriented evaluation of Regional Climate Outlook Forums: <i>Weather Climate and Society</i> .
2017 (9)	B. S. Underwood, Guido Z. , Gudipudi, P., and Feinberg, Y. 2017: Increased Costs to U.S. Pavement Infrastructure from Future Temperature Rise. <i>Nature Climate Change</i> .

- 2016 (8) **Z. Guido**, McIntosh, J., Papuga, S., and Meixner, T. 2016: Seasonal glacial meltwater contributions to surface water in the Bolivian Andes: A case study using environmental tracers. *Journal of Hydrology: Regional Studies*.
- 2016 (7) **Z. Guido**, Rountree, V., Greene, C., Gerlak, A., and Trotman, A. 2016: Connecting Climate Information Producers and Users: Boundary Organization, Knowledge Networks, and Information Brokers at Caribbean Climate Outlook Forums. *Weather, Climate and Society*.
- 2016 (6) A. M. Meadow, **Guido, Z.** Crimmins, C., and McCleod, J. 2016: From Principles to Action: Applying the National Research Council's Principles for Effective Decision Support to the Federal Emergency Management Agency's Watch Office, *Climate Services*.
- 2015 (5) A. M. Meadow, Ferguson, D. B., **Guido, Z.**, Horangic, A., Owen, G., and Wall, T. 2015: Moving Toward the Deliberate Co-Production of Climate Science Knowledge, *Weather, Climate, and Society*.
- 2013 (4) **Z. Guido**, Hill, D., Crimmins, M., and Ferguson, D., 2013: Informing decisions with a climate synthesis product: implications for regional climate services. *Weather, Climate and Society*.
- 2012 (3) J. S. Kargel, Alho, P., Buytaert, W., CÈlleri, R., Cogley, J. G., Dussaillant, A., **Guido, Z.**, Haerberli, W., Harrison, S., Leonard, G., Maxwell, A., Meier, C., Poveda, G., Reid, B., Reynolds, J., Rodrìguez, C. A. P., Romero, H., and Schneider, J. 2012: Glaciers in Patagonia: Controversy and prospects. *Eos Trans. AGU*, v. 93.
- 2009 (2) D. J. Ward, Anderson, R.S, **Guido, Z.**, and Briner, J.P. 2009: Numerical modeling of cosmogenic deglaciation records, Front Range and San Juan Mountains, Colorado. *Journal of Geophysical Research*, 114.
- 2007 (1) **Z. Guido**, Ward, D. J. and Anderson, R. S. 2007: Pacing the post-LGM demise of the Animas Valley Glacier and the San Juan Mountain Icecap, Colorado. *Geology* 35 (8): 739-742.

PEER-REVIEW: IN REVIEW

- (1) A. Gerlak, Mason, S., Daly, M., Liverman, D., **Guido, Z.**, Soares, M.B., Vaughan, C., Knudson, C., Greene, C., Buizer, J., Jacobs, K. The Gnat and the Bull: Do Climate Outlook Forums Make a Difference? *Bull. of Am. Met. Soc.*
- (2) **Z. Guido**, Knudson, C., Madajewicz, M., Rhiney, K., Finan, T. Shocks and Cherries: The Production of Vulnerability Among Smallholder Coffee Farmers in Jamaica. *World Dev.*
- (3) Rhiney, K., Knudson, C., **Guido, Z.** Cultivating Crisis: Coffee, Climate, and the More-than-Human Geographies of the Leaf Rust Disease Epidemic in Jamaica. *Annals of Am. Assoc. of Geographers.*
- (4) **Z. Guido**, Zimmer, A. Lopus S., *et al.* Farmer Forecasts: Impacts of Seasonal Rainfall Expectations on Agricultural Decision-Making in Sub-Saharan Africa. *Climate Risk Management.*
- (5) S. Lopus, Waldman, K., Guido, Z. Caylor, K., and Evans. T Changing population and climate threaten irrigated African Agriculture. *Population and Development Review.*

PROFESSIONAL REPORTS

- 2017 (8) A. Gerlak, **Guido, Z.** and Knudson, C. 2017: The Mid-Term Review of the Global Framework for Climate Services, World Meteorological Organization. pp.68 (<http://bit.ly/2BFCUXC>).
- 2016 (7) T. Rahman, Buizer, J., and **Guido, Z.** 2016: The Economic Impact of Seasonal Drought Forecast Information Service in Jamaica, 2014-2015. University of Arizona. pp. 62 (<http://bit.ly/2oCN8n1>).
- 2014 (6) **Z. Guido**, Buizer, J., Finan, T., Gavin, S., L., Gerlak, A., Goddard, Greene, C., Johnson, R.,

- Liverman, D., Mason, S., Muñoz, A. (2014). An International Research and Applications Project (IRAP) Caribbean Workshop Report: Integrating Climate Information and Decision Processes for Regional Climate Resilience. University of Arizona Institute of the Environment and Columbia University International Research Institute for Climate and Society. pp. 48 (<http://bit.ly/2p5SZCS>).
- 2014 (5) D. B., Ferguson, Thomas, R., **Guido, Z.**, Ethen, L., Zucker, C., Chorover, G., and Johnson, R. 2014. Planning for Change in Southern Arizona: A report from the Southern Arizona Regional Climate Summit for Municipal Leaders. Tucson, AZ: Climate Assessment for the Southwest (<http://bit.ly/2pnZZrq>).
- 2013 (4) **Z. Guido**, 2013: Drought on the Rio Grande, *Rural Connections*, 7(1): 7–10 (<http://bit.ly/2pobU8Q>).
- 2012 (3) D. Ferguson and **Guido, Z.**, 2012: Communicating Climate Variability: La Niña Drought Tracker. Climate Service Partnership, Climate Service Case studies (<http://bit.ly/2pobU8Q>).
- 2010 (2) **Z. Guido**, and Hartman, H., 2010. The interface of science and policy: an IAI-NCAR Colloquium provides perspective. Inter-American Institute for Global Change (<http://bit.ly/2pkccR1>).
- 2009 (1) **Z. Guido**, Ferguson, D.B, and Garfin, G., 2009. Putting Knowledge into Action: Tapping the Institutional Knowledge of U.S. Fish and Wildlife Service Regions 2 and 8 to Address Climate Change. Tucson, AZ: Climate Assessment for the Southwest (<http://bit.ly/2oz3BqE>).

SELECT ORAL PROF CONFERENCE PRESENTATIONS: 30 TOTAL (10 NOT SHOWN); 9 INVITED

- Dec 2018 “Climate Information Services for Adaptation: What Does it Mean to Know the Context?”, American Geophysical Union Annual Conference, New Orleans, LA
- Nov 2018 “The Challenges of Resilience among Blue Mountain Coffee Producers in Jamaica,” Resilience Measurement, Evidence, and Learning Conference, New Orleans, LA.
- Dec 2017 “Challenges to the Transdisciplinarity of Climate Services: A Coffee Farming Case from Jamaica’s Blue Mountains,” American Geophysical Union Annual Conference, New Orleans, LA. Poster.
- Apr 2017 “Information Access for Small Farmers in Jamaica’s Coffee Sector: Hurdles for Climate Services,” American Association of Geographers annual conference, Boston, MA
- Dec 2016 **(Invited)** “Climate Services and The Role of the Social Sciences,” Caribbean Climate Outlook Forum, Grenada
- May 2016 **(Invited)** “Climate and Weather Information Services: Theory and Practice,” Caribbean Climate Outlook Forum, Dominica
- Mar 2016 “Social, Environmental, and Climate Stresses Experienced by Jamaican Blue Mountain Coffee Farmers,” Association of American Geographers annual meeting, San Francisco
- Jun 2014 **(Invited)** “Integrating Climate Adaptation into Planning,” 39th Annual Natural Hazards Research and Applications Workshop, Broomfield, CO
- Apr 2014 “Contrasting Approaches for Connecting Climate-related Research to Decision Making: From Melting Andean Glaciers to Western US Floods.” School of Natural Resources and Environment Departmental Seminar, Tucson, AZ
- Apr 2014 **(Invited, plenary speaker)** “Connecting Climate and Water Research to Decision Making: The road less traveled,” Earth Week Symposium, Univ. of Arizona, Tucson, AZ
- Feb 2014 “The Climate Context in which Extreme Events Unfold,” Federal Emergency Management Agency RISC meeting, Oakland, CA

May 2013	(Invited) “Potential impacts in the SW in a warming world: What do 122 experts say?” Sky Island Alliance Climate Adaptation Workshop, Tucson, AZ
Dec 2012	“Informing Decisions with a Climate Synthesis Product: Implications for Regional Climate Services,” American Geophysical Union annual conference, San Francisco, CA
Sep 2012	(Invited) “The Climate Context: Seasoned and Emerging Research on Climate Variability and Change in the Southwest.” Arizona Hydrological Society annual symposium, Phoenix, AZ
May 2012	(Invited) “Climate Adaptation in Developing Countries. Adaptation Futures,” Tucson, AZ
Dec 2011	(Invited) “A brief tour of climate change impacts now and in the future: what it means for the Southwest?” Water Resources for Ranches and Cattle workshop, Laughlin, NV
Jul 2011	“Regional Climate Services: Taking advantage of climate events to inform decisions.” 19th Conference on Applied Climatology, Asheville, NC
Jul 2010	(Invited) “Improving climate services in the West: Evaluation lessons from CLIMAS.” Federation of Earth Science Information Partners (ESIP) summer meeting, Knoxville, TN
Jan 2010	“Meeting demand for the undervalued climate service: having ability to engage in medium-term projects.” American Meteorological Society annual meeting, Atlanta, GA
Sep 2009	“Putting Knowledge into action: Tapping to the institutional knowledge of U.S. Wildlife Service to address climate change.” Sustainability of semi-Arid Hydrology and Riparian Areas annual meeting, Tucson, AZ

GENERAL PUBLIC SCIENCE COMMUNICATION ACTIVITIES: 75 PODCASTS; 36 FEATURE ARTICLES

2012-p	Host, Southwest Climate Podcast (http://www.climas.arizona.edu/media/podcasts)
2012-13	Writer, ClimateWatch Magazine, an on-line magazine published by NOAA (www.climate.gov)
2008-13	Science editor, Southwest Climate Outlook—a monthly, e-publication; published 36 feature articles between 2008–2012 (www.climas.arizona.edu/swco)
2009-13	Writer, Southwest Climate Change Network—a website that improves climate literacy in the Southwest (www.swclimatechangenetwork.org)

STAKEHOLDER WORKSHOPS ORGANIZED AND LED

Jan 2018	(3 rd in 3-part workshop series) Six workshops hosted in communities in the Blue Mountains; total participation ~175 coffee farmers. Goals: discuss climate risk and train farmers on the new information tools.
Aug 2017	(2 nd in 3-part workshop series) Six workshops hosted in communities in the Blue Mountains; total participation 175 coffee farmers. Goals: discuss climate risk and train farmers on the new information tools.
June 2017	(1 st in 3-part workshop series) 6 workshops hosted in the Blue Mountains; total participation 190 coffee farmers. Goals: discuss climate risk and train farmers on the new information tools.
Apr 2017	2-day “Training of the Trainers Workshop: Developing tools to manage disease and climate risks.” Participants include farmers, extension, and key actors in the coffee supply chain. Spanish Town, Jamaica; 40 participants.

- Oct 2016 2-day workshop with coffee farmers and sector stakeholders, including the International Institute for Cooperation on Agriculture, ACIDI-VOCA, the Jamaica Coffee Industry Board, Jamaican Met Service, University of West Indies, and the FAO. Kingston, Jamaica; 20 participants.
- Jun 2016 2-week training on social science approaches and methods that advance climate services for the Caribbean Institute of Meteorology and Hydrology; Tucson, Arizona; 15 participants.
- Jan 2016 2-day workshop with coffee farmers and sector stakeholders, including the International Institute for Cooperation on Agriculture, ACIDI-VOCA, the Jamaica Coffee Industry Board, Jamaican Met Service, and University of West Indies. Kingston, Jamaica; 25 participants.
- Dec 2014 Advancing Climate Resilience: New Conversations About Climate Risks; Antigua and Barbuda; 73 participants from 22 countries.
- May 2014 Integrating Climate Information and Decision Processes for Regional Climate Resilience in the Caribbean; Kingston, Jamaica; 86 participants from 26 countries (<http://irap.iri.columbia.edu/capacity-building/climate-workshop>).
- Nov 2013 Regional Climate Summit for Municipal Leaders: Economic, Health, Water and Transportation Impacts; Flagstaff, AZ; 85 participants (www.climas.arizona.edu/workshops/Southern-AZ-Regional-Climate-Summit).
- Oct 2013 Advancing Climate Adaptation and Resiliency Planning in Flagstaff; Flagstaff, AZ; 33 participants (www.climas.arizona.edu/events/2966).
- Oct 2012 Hydrologic Extremes in a Warming World: California Perspectives II; La Jolla, CA; 18 participants (www.climas.arizona.edu/workshops/hydrologic-extremes2).
- Oct 2012 Arizona Municipal Climate Planning Workshop; Phoenix, AZ; 30 participants (www.climas.arizona.edu/workshops/AZ-Municipal-Climate-Planning).
- May 2011 Hydrologic Extremes in a Warming World: California Perspectives I; La Jolla, CA; 25 participants.