

Curriculum Vitae

Phillip H. Larson, PhD

Assistant Professor of Geography

Director, Earth Science Programs

Co-Director, AGES Laboratory

Minnesota State University, Mankato

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PROFESSIONAL POSITIONS

Assistant Professor of Geography:

Minnesota State University, Mankato, MN. 2013-Present.

Director of Earth Science Programs:

Minnesota State University, Mankato, MN. 2014-Present.

Co-Director, AGES (Archeology, Geography and Earth Science)

Minnesota State University, Mankato, MN. 2016-Present.

Lead Graduate Teaching Assistant:

School of Geographical Sciences and Urban Planning - Arizona State University, Tempe, AZ.
2009-2013.

EDUCATION

Doctor of Philosophy (Ph.D.) in Geography, August 2013.

Arizona State University, School of Geographical Sciences and Urban Planning, Tempe, AZ

Research interests: fluvial geomorphology and drainage basin evolution, transverse drainage processes, landscape evolution and paleoenvironmental/paleogeographic change, arid/desert geomorphology, aeolian geomorphology, granitic and volcanic landscapes, pediments, stream terraces, alluvial fans.

Dissertation: "Desert fluvial terraces and their relationship with basin development in the Sonoran Desert, Basin and Range: Case studies from south-central Arizona."

Master of Arts (M.A.) in Geography, May 2011

Arizona State University, School of Geographical Sciences and Urban Planning, Tempe, AZ

Research Exam (Anthony J. Brazel Award Winner 2010-2011)

Bailey Research Scholarship (2010)

Master's Research: "Landform development in the South Mountains Metamorphic Core Complex."

Bachelor of Science (B.S.) in Geography-Resource Management, May 2008

Physical Geology - Minor

University of Wisconsin-Eau Claire, Department of Geography and Anthropology, Eau Claire, WI

REFEREED PUBLICATIONS

Oh, J.S., Seong, Y.B., **Larson, P.H.**, Hong, S.C., Yu, B.Y. (Submitted). Asymmetric hillslope retreat on Rock Peak, San Tan Mountains, Arizona, USA: Caprock lithology control on tableland evolution. *Geomorphology*.

Yuan, F., **Larson, P.H.**, Mulvihill, R., *Libby, D., Nelson, J., Grupa, T., Moore, R. (2017). Mapping and Analyzing Stream Network Changes in Watonwan River Watershed, Minnesota, USA. *International Journal of Geo-Information*. DOI: 10.3390/ijgi6110369

Schaetzl, R., **Larson, P.H.**, Faulkner, D.J., Running, G.L., Jol, H.M., and Rittenour T. (2017 Online). Eolian sand and loess deposits indicate west-northwest paleowinds during the Late Pleistocene in western Wisconsin, USA. *Quaternary Research*.

Larson, P.H., Meek, N., Dorn, R.I., Douglass, J., Seong, Y.B., (2016). How Rivers Cross Mountains. *Annals of the American Association of Geographers Special Issue: Mountains*. DOI: 10.1080/24694452.2016.1203283

Larson, P.H., Kelley, S., Dorn, R.I., Seong Y.B. (2016). Pace of Landscape Change in the northeastern Sonoran Desert, United States. *Annals of the American Association of Geographers*. DOI: 10.1080/24694452.2016.1201420

Faulkner, D., **Larson, P.H.**, Jol, H.M., Running, G.L., Loope, H.M., and Goble, R.J. (2016). Episodic Incision and Terrace Formation Resulting from Abrupt Late-Glacial Base-Level Fall, Lower Chippewa River, Wisconsin, USA. *Geomorphology*. 266: 75-95. DOI:10.1016/j.geomorph.2016.04.016

Seong, Y.B., **Larson, P.H.**, Dorn, R.I. and Yu, B.Y. (2016). Evaluating process domains in small arid granitic watersheds: Case study of Pima Wash, South Mountains, Sonoran Desert, USA. *Geomorphology*. 255: 108-124. DOI: 10.1016/j.geomorph.2015.12.014

Larson, P.H., Dorn, R.I., Faulkner, D.J, Friend, D.A. (2015). Toe-Cut Terraces: A Review and Criteria to Differentiate from Traditional Fluvial Terraces. *Progress in Physical Geography*. DOI: 10.1177/0309133315582045

Larson, P.H. and Dorn, R.I. (2014). Strath Development in Small Arid Watersheds: Case Study of South Mountain, Sonoran Desert, Arizona. *American Journal of Science*. 314: 1202-1223.

Larson, P.H., Dorn, R.I., *Palmer, R.E., *Bowles, Z., *Harrison. E., *Kelley S., Schmeeckle, M. W., Douglass, J. (2014). Pediment Response to Drainage Basin Evolution in South-Central Arizona. *Physical Geography*. DOI: 10.1080/02723646.2014.931089

Dorn, R.I., Dorn, J., *Harrison, E., *Gutbrod, E., Gibson, S., **Larson, P.H.**, Cervený, N., Lopat., N., Groom, K.M., Allen, C.D. (2012). Case Hardening Vignettes from the Western USA: Convergence of Form from a Divergence of Hardening Processes. *Association of Pacific Coast Geographers Yearbook*. 74: 112.

Larson, P.H. and Dorn, R.I. (2012). Painting Yosemite Valley: A Case Study From the Rock Coatings Encountered at Half Dome. *Physical Geography* 33: 165-182

Larson, P.H., Dorn, R.I, Douglass, J., Gootee, B.F., Arrowsmith, R. (2010). Stewart Mountain Terrace: A New Salt River Terrace with Implications for Landscape Evolution of the Lower Salt River Valley, Arizona. *Journal of the Arizona-Nevada Academy of Science* 42 :26-35

REFEREED PUBLICATIONS IN PREPARATION

(Titles and authorship is preliminary and may change by date of submission)

Jeong, A., Seong, Y.B., Barlett, D., Dorn, R., **Larson, P.H.**, DePonty, J., Skotnicki, S., Douglass, J. (to be submitted Sept 2018). Aggradational piracy as a mechanism of ongoing drainage evolution: Insights from the Salt River, Arizona. (for Geomorphology - Special Issue on Drainage Integration in Extensional Tectonic Settings)

Larson, P.H., Seong, Y.B., Dorn, R.I. (to be submitted Sept 2018). Revival of the great rivers of central Arizona. (for Geomorphology - Special Issue on Drainage Integration in Extensional Tectonic Settings)

*Hilgendorf, Z, *Millett, J., *Swanson, M., Meek, N., Douglass, J., **Larson, P.H.** (to be submitted Sept 2018). From lakes to canyons: Understanding the revitalization of Lake Overflow. (for Geomorphology - Special Issue on Drainage Integration in Extensional Tectonic Settings)

Skotnicki, S., Seong, Y.B., Dorn, R.I., **Larson, P.H.**, etc. (to be submitted Sept 2018). Title TBD: Integration and arrival of the Salt River in Phoenix Basin and the genesis of basin sediments/ground water aquifers in the Basin and Range. (for Geomorphology - Special Issue on Drainage Integration in Extensional Tectonic Settings)

Larson, P.H., *Millett, J., Running, G.L., Faulkner, D.J., Schaetzl, R., and Zanner., C. (to be submitted June 2019). Significance, distribution and chronology of aeolian sand stringers in western Wisconsin and southern Minnesota (for Aeolian Research).

*Millett, J., **Larson, P.H.**, Running, G.L., Faulkner, D.J., and Jol, H.M. (to be submitted June 2019). The formation and distribution of aeolian cliff-top dunes within a glaciofluvial outwash valley, Chippewa River, Wisconsin. (for Quaternary Research).

Larson, P.H., *Millett, J., Running, G.L., Faulkner, D.J., others (to be submitted June 2019). Cliff-top/perched dunes: genesis, significance and criteria to understand an equifinal form. (for Progress in Physical Geography or Earth Science Reviews)

Larson, P.H., *Millett, J., *Anzalone, C., Schaetzl, R., Running, G.L., Faulkner, D.J. (to be submitted fall 2019). Paleoenvironmental significance and character of eolian deposition in western Wisconsin, USA. (for Quaternary Research).

Larson, P.H. (to be submitted spring 2020). The Rock Varnish Revolution - Revisiting Dorn and Oberlander (1981). (for Progress in Physical Geography - Classics Revisited)

Larson, P.H. and Dorn, R.I. (to be submitted spring 2020). Revisiting the Pediment Problem. (for Progress in Physical Geography).

*Hilgendorf, Z., Hoppie, B., and **Larson, P.H.** (to be submitted fall 2018). Analysis of nonpoint source pollution mitigation strategies within an agricultural watershed: Cobb River watershed, Minnesota River Basin, south-central Minnesota. (American Journal of Water Resources)

* denotes graduate student authors, authors in *italics* indicate undergraduate authors

NON-REFEREED PUBLICATIONS, REPORTS, and/or PUBLISHED ABSTRACTS

*Oubre, M., Escobar, L., **Larson, P.** (2018). Habitat Suitability for Four Species of Invasive Carp in the Minnesota River, South-Central Minnesota, USA. Abstracts with Programs: American Fisheries Society annual meeting, Atlantic City, Spring 2018.

*Millett, J., *Anzalone, C., *Coonen, K., Jansen, E., Gardner, D.,* **Larson, P.H.**, Running, G., Faulkner, D., Schirmer, R. (2018). Sandy Aeolian Deposition in Southeaster Minnesota and Western Wisconsin: A Forgotten and Poorly Understood Sandy Aeolian Landscape. Preliminary Results. Abstracts with Programs: American Association of Geographers annual conference, New Orleans, Spring 2018.

*Oubre, M., Escobar, L., **Larson, P.**, Water Resources Center. (2017). A Framework for Moedling the Risk of Biological Invasions. Abstracts with Programs: American Fisheries Society annual conference, Tampa Bay, Fall 2017.

*Oubre, M., Escobar, L., **Larson, P.**, Water Resources Center. (2017). Predicting Invasion Risk for Invasive Carp in the Minnesota River. Abstracts with Programs: American Fisheries Society annual conference, Tampa Bay, Fall 2017.

Yuan, F., **Larson, P.H.**, *Mulvihill, R., Nelson, J., Grupa, T., Moore, R.* (2017). Stream Network Changes and Environmental Impacts in Watonwan River Watershed. Abstracts with Programs: American Association of Geographers annual conference, Boston, Spring 2017.

Arnold, S., Brown, A., **Larson, P.H.**, Schirmer, R.C. (2017). A machine-learning geospatial methodology for identifying Native American burial mounds and earthworks from high resolution LiDAR datasets, Minnesota, USA: Implications for research in Geoarcheology and Geomorphology. Abstracts with Programs: American Association of Geographers annual conference, Boston, Spring 2017.

*Hilgendorf, Z.T., Moore, R., *Swanson, M., *Salfer, J.T., *Libby, D., **Larson, P.H.**, *Richards, M., Batzlaff, B.* (2017). Refining and evaluating a method of hydro-modification of LIDAR

derived DEMs in agricultural land-use dominated watersheds. County Ditch 57 watershed, Minnesota, USA. Abstracts with Programs: American Association of Geographers annual conference, Boston, Spring 2017.

Yuan, F., *Mulvihill, R., **Larson, P.H.**, *Libby, D., and *Hilgendorf, Z. (2016). Mapping and Analyzing Stream Network Changes in Watonwan River Watershed. Minnesota GIS/LIS Consortium Annual Meeting, Duluth, Fall 2016.

*Libby, D.J. and **Larson, P.H.** (2016). Assessing Historical Planform Channel Change Within an Altered Watershed: Minnesota River, Minnesota, USA. Abstracts with Programs: Geological Society of America annual conference, Denver, Fall 2016.

*Libby, D.J., **Larson, P.H.**, *Hilgendorf, Z., *Williams, V.A., *Chadwick-Camp, M., *Howell, D.W., Aeikens, A.L., Scheeler, D.J., Millett, J.J., and Rothmeier, K.P.* (2016). Assessing Error and Uncertainty in Remote Analysis of Channel Change Dynamics and Morphology. Case Study: Minnesota River, Minnesota, USA. Abstracts with Programs: Association of American Geographers annual conference, San Francisco, Spring 2016.

*Hilgendorf, Z., **Larson, P.**, and Hoppie, B. (2016). Analysis of nonpoint source pollution mitigation strategies within an agricultural watershed: Cobb River watershed, Minnesota River Basin, south-central Minnesota - Preliminary Results. Abstracts with Programs: Association of American Geographers annual conference, San Francisco, Spring 2016.

*Libby, D.J., **Larson, P.H.**, Belmont, P., Faulkner, D.J. (2016). Quantifying Historic Channel Change Dynamics of the Minnesota River, south-central Minnesota, USA. Abstracts with Programs: Association of American Geographers annual conference, San Francisco, Spring 2016.

*Hilgendorf, Z., **Larson, P.** and Hoppie, B. (2015). County Ditch 57: Understanding the Implications of Intensive Agricultural Practices within First-Order Drainages and their Effects on the Larger System. Abstracts with Programs: Association of American Geographers: West Lakes Regional Conference, Fall 2015

*Brown, A., *Smith, C., Schirmer, R., and **Larson, P.** (2015). Archeology and Landscape Geomorphology in Three Dimensions: Integrating Photogrammetrically and LiDAR Derived Point Clouds for Multi-Scale 3D Analysis. Abstracts with Programs: Association of American Geographers annual conference, Chicago, IL. Spring 2015.

*Smith, C., *Brown, A., **Larson, P.H.**, and Wittkop, C. (2015). The Significance of Alluvial Fans in the Landscape Evolution of the lower Minnesota River Valley: Preliminary Results. Abstracts with Programs: Association of American Geographers annual conference, Chicago, IL. Spring 2015.

Williams, V. and **Larson, P.H.** (2014). Geostatistical and Geospatial Analysis of I/I into Wastewater Treatment Infrastructure. Presented at the Association of American Geographers annual conference, Tampa Bay, FL. Spring 2014.

Larson, P.H., Dorn, R.I., *Kelley, S. (2013). Reconstructing Paleotopography, Geomorphic

Processes and Landscape Evolution in Response to Drainage Basin Integration - Salt and Verde Rivers, Basin and Range, Arizona: Preliminary Results. Abstracts with Programs. Presented at the Geological Society of America annual conference, Denver, CO. Fall 2013.

Larson, P.H. (2011). Landform and Drainage Development in a Metamorphic Core Complex, Basin and Range, South-Central Arizona. Abstracts with Programs. Presented at the Association of American Geographers annual conference, New York, NY. Spring 2011.

Larson, P.H., Dorn, R., *Gutbrod, E., *Gibson, S., Harrison, E.*, Schmееckle, M. (2009). Introduction to Geomorphology: An Online SQ Experience. Presented at the Association of American Geographers annual conference, Las Vegas, NV. Spring 2009.

Olson, L.M., Larson, P.H., Hupy, J., Jol, H.M., Faulkner, D.J., Running, G.L. (2007). Late Quaternary Eolian Dunes and Fluvial Terraces of the Lower Chippewa River Valley. Presented at the Association of American Geographers annual conference, Boston, MA, Spring of 2008.

Larson, P.H., *Dryer, W.P., Mc Donald, J., Baker, A.*, Running, G.L., Faulkner, D.J., Jol, H.M. (2007). Geomorphology of Cliff-Top Parabolic Dunes within the Lower Chippewa River Valley, Upper Putnam Park, Eau Claire, Wisconsin. Presented at the Association of American Geographers annual conference, Boston, MA, Spring of 2008.

Larson, P.H., *Mc Donald, J.M., Dryer, W.P., Pascal, E.G.*, Jol, H.M., Craig, M., Warnke, D.A., Teitler, L., (2007). High Resolution GPR Investigation of a Lake Manly Shoreline Deposit, Death Valley, California. Presented at the Geological Society of America annual conference, Denver, CO, fall 2007.

Speer, D.M., Larson, P.H., Faulkner, D.J., Running, G.L., Jol, H.M., (2007). Post-Glacial History of the Lower Chippewa River, Western Wisconsin: A Progress Report. Presented at the Association of American Geographers annual conference, San Francisco, CA, spring 2007.

* denotes graduate student authors, authors in *italics* indicate undergraduate authors

BOOKS AND BOOK CHAPTERS

Hargitai, H. and **Larson, P.H.** (2015). "Valley Terrace" in The Encyclopedia of Planetary Landforms. Springer.

Larson, P.H. and Dorn, R.I. (2015). "Radiometric dating/techniques" in The International Encyclopedia of Geography: People, the Earth, Environment and Technology. Wiley Blackwell.

Larson, P.H., *Harrison, E.J., and *Palmer, E. (2013). Introductory Physical Geography Laboratory Manual, 10th edition, Hayden McNeil: Michigan.

Larson, P.H. (2012). Introductory Physical Geography Laboratory Manual, 9th edition, Hayden McNeil: Michigan.

* denotes graduate student authors, authors in *italics* indicate undergraduate authors

HIGHER EDUCATION TEACHING EXPERIENCE AND SERVICE

Minnesota State University – Courses

Geog101 - Introduction to Physical Geography (GE3, GE10)
Geog313 - Natural Disasters (GE2)
Geog409/509 - Water Resources
Geog440/540 - Field Methods
Geog415/515 - Earth Surface Processes
Geog416W/516 - Fluvial Geomorphology and Hydrology (W - Writing Intensive)
Geog417/517 - Quaternary Environments and Climate Change
Geog440 – Desert Southwest (Field Course)
Geog499 – Applied Geomorphology
Geog610 - Issues in Physical Geography (2017: Geomorphology of the Colorado Plateau/Arid Geomorphology/Arid Environments)
Geog 677 – Advanced Fluvial Geomorphology/Sediment Transport

Arizona State University - Courses

GPH 211-Landform Processes (online)
GPH 111-Introduction to Physical Geography

K-12 Outreach/Service

AVID tutor (Math and Science)- Connolly Middle School, Tempe, AZ
Arizona Geographic Alliance Summer Workshop Co-Instructor
National Geographic Geography Bee Judge (Minnesota State Championship 2017)
Director of Earth Science Programs, Minnesota State University (2014-present)
Earth-Space Science Teaching Reaccreditation, Minnesota State University (2016, 2018)

HONORS/AWARDS:

- Dr. Duane Orr Teacher of the Year Award Nomination (2018) - Minnesota State University Student Association
- Advisor Recognition Award Nomination (2018; not eligible to win because of prior win) - Minnesota State University
- Presidential Teaching Scholar Fellowship (2016) - Minnesota State University
- Advisor Recognition Award (2016) - Minnesota State University
- Innovation with Technology Award (2015) – Minnesota State University
- Anthony J. Brazel Research Exam Award (2010-2011) – Arizona State University
- Mathew G. Bailey Scholarship Award (2010) – Arizona State University
- Undergraduate Excellence in Research Award (2008) – University of Wisconsin-Eau Claire

- University of Wisconsin-Eau Claire Outstanding Senior Award (2008) - University of Wisconsin-Eau Claire

INVITED TALKS:

- Minnesota State University Geography Colloquia Series Talk: A River Runs Through It: Creating Rivers in the Basin and Range, pt. 2 (2015)
- Midwest Undergraduate Geography Symposium. Gustavus Adolphus. Keynote Address: A River Runs Through It: Creating Rivers in the Basin and Range. (2015)
- Minnesota State University Geography Colloquia Series: Bedrock Strath Development in Small Arid Watersheds (2013)
- Earth Science Seminar Series - University of Wisconsin Eau Claire: Implications of Strath Development and Landscape Evolution in Small Arid Watersheds: South Mountain, AZ. (2013)

PROFESSIONAL ASSOCIATIONS

- Member, Association of American Geographers
- Member, American Geophysical Union
- Member, Geological Society of America

EXTERNAL AND INTERNAL RESEARCH FUNDING:

(in Prep) A River Runs Through It: Creating Rivers in the Basin and Range (National Science Foundation) – Estimated Proposal Total: **\$650,000. PI – Phillip Larson**, Co-PI's- Ronald Dorn (ASU), Steve Skotnicki (AZGS), Yeong Bae Seong (Korea U), Ian Walker (ASU), John Douglass (Paradise Valley Community College).

(2017) Landslide Hazards and Impacts on Minnesota's Natural Environment. Environmental and Natural Resources Trust Fund (Legislative-Citizen Commission on Minnesota Resources) – Proposal Total: \$500,000. PI- Dr. Karen Gran (U of Minnesota – Duluth), Dr. Andrew Wickert (U of Minnesota), Dr. Carrie Jennings (Freshwater Society), **Co-PI - Phillip Larson**. MSU Total: **\$51,964**.

(2016) Presidential Teaching Scholar Fellowship (MSU) - **\$7,300, PI- Phillip Larson**

(2016) Minnesota Archeology Integrated Database (Minnesota Department of Transportation) - **\$140,805, PI – Dr. Ronald Schirmer, Co-PI – Phillip Larson**

(2015) Minnesota Archeology Integrated Database (Minnesota Department of Transportation) - **\$257,068, PI – Dr. Ronald Schirmer, Co-PI – Phillip Larson**

(2015) Faculty Research Grant (MSU) - **\$4,900** - Cosmogenic Nuclide Dating of basin sediment cores, Arizona. (**PI - Phillip Larson**)

(2015) Minnesota DNR - Invasive Carp/Minnesota River Geomorphology Project - **\$424,928** – Geomorphic/Riparian analysis of the Minnesota River and floodplain change history. (**Project Director and PI - Phillip Larson**, Co-PI – Dr. Patrick Belmont (Utah State), Co-PI – MSU Water Resources Center).

(2014) Minnesota Archeology Integrated Database (Minnesota Department of Transportation) - **\$256,972**. PI – Dr. Ronald Schirmer, **Co-PI – Phillip Larson**, Co-PI – Chad Wittkop

(2014) School of Social and Behavior Sciences Special Funding (MSU) - **\$3,000** - Cosmogenic Nuclide Dating in the Salt and Verde River Valley, AZ (**PI - Phillip Larson**)

(2014) Faculty Improvement Grant (MSU)- **\$2,500** - Professional development - Optical Stimulating Luminescence at Utah State University (**PI- Phillip Larson**)

(2014) Faculty Research Grant (MSU)- **\$5,000** - Optical Stimulated Luminescence dating of fluvial terraces and aeolian dunes in the Chippewa River Valley, WI (**PI - Phillip Larson**).

(2011) Mathew G. Bailey Scholarship Award (ASU) - **~\$800** - Field work on the Salt and Verde River Valleys. (**PI - Phillip Larson**)

GRADUATE STUDENTS SUPERVISED:

Student	Thesis Project	Year Graduated	Current Position
Carson A. Smith	Floodplain Inundation Mapping: An Evaluation of Geospatial Tools on the Minnesota River, MN.	2013 - 2016 (Geography)	Amec Foster Wheeler
Andrew Brown (Chair – Ron Schirmer, Anthropology)	MAID – Minnesota Archeological Integrated Database	2014 – 2016 (Anthropology)	MAID (MNDOT) as content expert/specialist.
Devon Libby	Evaluating Historic Channel Change along the Minnesota River and Remote Techniques for Measuring Change	2014 – 2017 (Geography)	Houston Engineering

Vinson Williams	A Geospatial Approach to Assessing I/I in Wastewater Infrastructure: Case Study of Minneapolis/St. Paul, MN.	2015 – 2017 (Geography)	Barr Engineering
Zach Hilgendorf	Understanding the Impact of Intensive Agricultural Land-use and Effectiveness of Engineering First Order Drainages to Mitigate Impact: Beauford and County Ditch 57, Cobb River Drainage Basin, MN.	2015 - current (Geography)	M.S. Student - MSU PhD Student – Arizona State (Begin: Fall, 2018)
Melissa Oubre	Spatial Analysis of Potential Invasive Carp Habitats and Barrier Placement: Relating Floodplain Geomorphology to Invasive Carp Behavior, Minnesota River, MN.	2015 - current (Biology)	M.S. Student – MSU Intern, Minnesota DNR PhD Student – Bowling Green (Begin: Fall, 2018)
Jason Millett	Cliff-top dune formation in the lower Chippewa River valley, westcentral Wisconsin.	2017 - current	M.S. Student - MSU

<http://mavdisk.mnsu.edu/larsop2/geomarmot/>

Clayton Anzalone	Distribution and Significance of Sand Stringers in westcentral Wisconsin and southern Minnesota.	2017 – current	M.S. Student - MSU
Kira Kuehl	Stream Terraces of the Minnesota River Valley, Minnesota.	2017 – current	M.S. Student - MSU
Melissa Swanson	Assessment of Hillslope Hazards in the Minnesota River Valley, Minnesota.	2017 – current	M.S. Student - MSU