

Vahid Rahmani

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CURRENT APPOINTMENTS

Assistant Professor Biological and Agricultural Engineering Kansas State University, Manhattan, KS	2016-Present
Adjunct Researcher Kansas Biological Survey (KBS), Lawrence, KS	2016-Present

EDUCATION

Ph.D. in Biological and Agricultural Engineering, Kansas State University (KSU), Manhattan, KS, USA	2014
M.S. in Civil and Environmental Engineering, Shiraz University (SU), Shiraz, Iran	2009
B.S. in Civil and Environmental Engineering, Amir-Kabir University, Tehran, Iran	2007

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher Kansas Biological Survey, Lawrence, KS	2014-2016
Graduate Research Assistant KSU: Biological and Agricultural Engineering Department, Manhattan, KS	2011-2014
Graduate Teaching Assistant KSU: Biological and Agricultural Engineering Department, Manhattan, KS	2013
Graduate Teaching Assistant KSU: Department of Civil Engineering, Manhattan, KS	2010-2011
Graduate Research Assistant KSU: Department of Civil Engineering, Manhattan, KS	2010-2011
Graduate Research Assistant SU: Department of Civil & Environmental Engineering, Shiraz, Iran	2007-2009
Research Assistant SU: Center for Sustainable Development and Environmental Research, Shiraz, Iran	2007-2009
Civil Engineer Arge Tachar Construction Company, Shiraz, Iran	2007

GRANTS

- Development of Wetlands in Aging Reservoirs: Opportunities to Enhance Wetland Capacity and Improve Water Quality, *U.S. Environmental Protection Agency (U.S. EPA)*. (10/01/2015 – 09/30/2017). \$322,585
PI. Co-PIs: Donald Huggins, Jude Kastens, Craig Freeman, Jerry deNoyelles, and Edward Martinko

- Examining Sedimentation and Water Quality of Small Impoundments: \$90,065
Sediment Capturing Opportunity Upstream of Federal Reservoirs, *U.S. Geological Survey (USGS)*. (03/01/2016 – 02/28/2018)
PI. Co-PIs: Donald Huggins, Jude Kastens, Jerry deNoyelles, and Edward Martinko
- KSU Engineering College Research & Graduate Program Travel Award, \$500 2014
- KSU Graduate Student Council Annual Travel Award, \$500 2014
- NSF Studies of Precipitation, Flooding, and Rainfall Extremes across Disciplines (SPREAD) Workshop, \$1200 2014
- NSF World Weather Open Science Conference, \$2200 2014
- NSF NCAR Command Language (NCL) Workshop, \$1200 2014
- KSU Graduate Student Council Annual Travel Award, \$750 2014
- NSF Studies of Precipitation, Flooding, and Rainfall Extremes across Disciplines (SPREAD) Workshop, \$1200 2013
- KSU Graduate Student Council Annual Travel Award, \$500 2013
- KSU Graduate Student Council Annual Travel Award, \$500 2012
- Sigma Xi Annual Student Travel Award, \$250 2012

SELECTED PUBLICATIONS

Refereed Journal Articles

- **Rahmani, V.**, S.L. Hutchinson, J.M.S. Hutchinson, and A. Anandhi (2014), Extreme Daily Rainfall Event Distribution Patterns in Kansas, *Journal of Hydrologic Engineering*, 19(4), 707-716, 10.1061/(ASCE)HE.1943-5584.0000839
- **Rahmani, V.**, S.L. Hutchinson, J.A. Harrington, Jr., J.M.S. Hutchinson, and A. Anandhi (2015), Analysis of Temporal and Spatial Distribution and Change-points for Annual Precipitation in Kansas, USA, *International Journal of Climatology*, 35(13), 3879-3887, DOI: 10.1002/joc.4252
- **Rahmani, V.**, S.L. Hutchinson, J.A. Harrington, Jr., and J.M.S. Hutchinson (2015), Analysis of Frequency and Magnitude of Extreme Rainfall Events with Potential Impacts on Flooding; a Case Study from the Central United States, *International Journal of Climatology*, DOI: 10.1002/joc.4577
- Anandhi, A., S.L. Hutchinson, J.A. Harrington Jr., **V. Rahmani**, M.B. Kirkham, and C.W. Rice (2016), Changes in Spatial and Temporal Trends in Wet, Dry, Warm, and Cold Spell Length or Duration Indices in Kansas, USA, *International Journal of Climatology*, DOI: 10.1002/joc.4619
- Schroeder, A.J., J.J. Gourley, J.D. Hardy, J. Henderson, P. Parhi, **V. Rahmani**, K.A. Reed, R.S. Schumacher, B.K. Smith, and M.J. Taraldsen (2015), The Development of a Flash Flood Severity Index, *Journal of Hydrology*, accepted

- **Rahmani, V.**, J.H. Kastens, F. deNoyelles, M.E. Jakubauskas, E.A. Martinko, D.G. Huggins, C. Gnau, P.M. Liechti, S.W. Campbell, R.A. Callihan, and A.J. Blackwood (2015), Examining Storage Capacity Loss and Sedimentation Rate of Large Reservoirs in the U.S. Great Plains, in review

Conference Proceedings

- **Rahmani, V.**, JH Kastens, FJ deNoyelles, DG Huggins, and EA Martinko (2015), Aging Reservoirs in a Changing Climate: Examining Storage Loss of Large Reservoirs and Variability of Sedimentation Rate in a Dominant Cropland Region, Poster Presentation, *American Geophysical Union (AGU) Annual International Meeting*, San Francisco, CA. December 16, 2015
- **Rahmani, V.**, SL Hutchinson, JA Harrington, Jr., and JMS Hutchinson (2014), Changes in the Extreme Rainfall Events Trends and Variability in Kansas, USA, Poster Presentation, *American Geophysical Union (AGU) Annual International Meeting*, San Francisco, CA. December 18, 2014
- **Rahmani, V.**, SL Hutchinson, JA Harrington, Jr, JMS Hutchinson, and A Anandhi (2014), A Study of the Magnitude and Distribution of Daily and Monthly Heavy Rainfall in Kansas, Oral Presentation, *American Meteorological Society (AMS) Annual International Meeting*, Atlanta, GA. Feb 5, 2014
- Reed, KA, AJ Schroeder, JD Hardy, J Henderson, KR Ryberg, JE LeClerc, BK Smith, **V Rahmani**, P Parhi, MJ Taraldsen, RS Schumacher, and JJ Gourley (2014), The Development of a Flash Flood Severity Index, Poster Presentation, *American Meteorological Society (AMS) Annual International Meeting*, Atlanta, GA. Feb 3, 2014
- **Rahmani, V.**, SL Hutchinson, JA Harrington, Jr, JMS Hutchinson, and A Anandhi (2013), Combination Effect of Antecedent Moisture Condition and Extreme Rainfall Events on Runoff, Poster Presentation, *American Geophysical Union (AGU) Annual International Meeting*, San Francisco, CA. Dec 9, 2013
- **Rahmani, V.**, SL Hutchinson, JA Harrington, Jr, JMS Hutchinson, and A Anandhi (2013), Impacts of Rainfall Distribution and Antecedent Moisture Condition on Runoff, Poster Presentation, *Annual National NSF EPSCoR Conference*, Nashville, TN. Nov 5, 2013
- **Rahmani, V.**, SL Hutchinson, A Anandhi, JK Koelliker, JMS Hutchinson, and JA Harrington, Jr. (2013), Risk Analysis of Water Control Structures in Agricultural Fields, Oral Presentation, *American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting*, Kansas City, MO. July 22, 2013
- **Rahmani, V.**, SL Hutchinson, JMS Hutchinson, and A Anandhi (2012), Trend Analysis of Annual and Seasonal Rainfall in Kansas, Oral Presentation, *American Geophysical Union (AGU) Annual International Meeting*, San Francisco, CA. December 3, 2012
- **Rahmani, V.**, SL Hutchinson, JMS Hutchinson, and A Anandhi (2012), Historical Extreme Rainfall Events Analysis for Kansas, Oral Presentation, *American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting*, Dallas, TX. July 31, 2012
- Karimi-Jashni, A, **V Rahmani**, and M Rezayee (2008), Environmental Impacts of Rural Developing in Fars Province, Shiraz, Iran
- **Rahmani, V.**, and N Talebbeydokhti (2008), Management & Recovery of Construction and Demolition Waste, *International Annual Civil Student Conference*, Shiraz, Iran

SELECTED AWARDS

- KSU: Department of Biological and Agricultural Engineering graduate student of the year 2014
- Governor, Annual Conference on the Future of Water in Kansas, 2nd Place 2014
- Annual KSU Research Forum, 1st Place 2013
- Governor, Annual Conference on the Future of Water in Kansas, 1st Place 2013
- NSF National EPSCoR Conference, Representative for the State of Kansas, Nashville, TN 2013
- Sigma Xi, Annual KSU Interdisciplinary Research Session, 1st Place 2013
- KSU Research and the State Session, 2nd Place 2013
- Kansas State Annual Capitol Graduate Research Summit, Kansas State University Representative, Topeka, KS 2013
- Annual KSU Research Forum, 1st Place 2012
- KSU Research and the State Session, 1st Place 2012
- National Science Foundation EPSCoR Research Assistantship 2011-2014
- SU: Top Graduate Student, Civil and Environmental Engineering Department 2007-2009

SELECTED PRESENTATIONS

- **Rahmani, V**, JF deNoyelles, DG Huggins, JH Kastens, and EA Martinko (2015), Reservoir Water Supply Management: Potential Impacts of Precipitation and Discharge Pattern on Reservoir Sedimentation, Oral Presentation, *Annual University of Kansas Postdoctoral Association Symposium*, Lawrence, KS. May 7, 2015
- **Rahmani, V**, SL Hutchinson, JA Harrington, Jr., and JMS Hutchinson (2015), Extreme Rainfall Events Trends and Variability in Kansas, USA, Poster Presentation, Poster Presentation, *Annual University of Kansas Postdoctoral Association Symposium*, Lawrence, KS. May 7, 2015
- **Rahmani, V**, SL Hutchinson, and JA Harrington, Jr. (2014), Kansas Variability and Trends in Extreme Precipitation Indices, Poster Presentation, *Governor's Conference on the Future of Water in Kansas*, Manhattan, KS. Nov 13, 2014
- **Rahmani, V**, SL Hutchinson, JA Harrington, Jr, JMS Hutchinson, and A Anandhi (2013), Long-term Wet and Dry Period Trends in Kansas, Poster Presentation, *Annual Governor's Conference on the Future of Water in Kansas*, Manhattan, KS. Oct 25, 2013
- **Rahmani, V**, SL Hutchinson, JA Harrington, Jr, JMS Hutchinson, and A Anandhi (2013), Precipitation Distribution Patterns in the Changing Climate, Oral Presentation, *Kansas NSF EPSCoR Annual Meeting*, Lawrence, KS. Oct 7, 2013
- **Rahmani, V**, SL Hutchinson, A Anandhi, JK Koelliker, JMS Hutchinson, and JA Harrington, Jr. (2013), Climate Change Impacts on Available Water from Rainfall, Poster Presentation, *Annual Environmental Engineering Conference*, Lawrence, KS. April 17, 2013
- **Rahmani, V**, SL Hutchinson, A Anandhi, JK Koelliker, JMS Hutchinson, and JA Harrington, Jr. (2013), Antecedent Rainfall Condition Impact on Water Control Structures, Oral Presentation, *Annual K-State Research Forum*, Manhattan, KS. March 27, 2013
- **Rahmani, V**, and SL Hutchinson (2012), Abrupt rainfall change detection in Kansas, Poster Presentation, *Annual Research and the State Poster Session*, Kansas State University, Manhattan, KS. November 27, 2012

- **Rahmani, V**, and SL Hutchinson (2012), Extreme rainfall event distributions in Kansas for the last century, Poster Presentation, *Annual Kansas Water Environment Association*, Lawrence, KS. April 18, 2012
- **Rahmani, V**, and SL Hutchinson (2012), Heavy Rainfall Events Distribution Patterns in Kansas Over the Last Century, Oral Presentation, *Annual K-State Research Forum*, Manhattan, KS. March 8, 2012
- **Rahmani, V**, SL Hutchinson, JMS Hutchinson, and A Anandhi (2012), Intense Rainfall Events Distribution Pattern in Kansas State, Poster Presentation, *Kansas NSF EPSCoR Conference*, Manhattan, KS. January 5, 2012

SELECTED CONFERENCES/WORKSHOPS

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| • USACE Adaptive Hydraulics 2D Reservoir Modeling workshop, Lawrence, KS | 2015 |
| • NSF Studies of Precipitation, Flooding, and Rainfall Extremes across Disciplines (SPREAD) workshop, Boulder, CO | 2014 |
| • NSF NCAR Command Language (NCL) workshop, Boulder, CO | 2014 |
| • NSF Studies of Precipitation, Flooding, and Rainfall Extremes across Disciplines (SPREAD) workshop, Fort Collins, CO | 2013 |

OUTREACH SERVICE/PUBLICATION

- **Presentation to public**
V Rahmani, Value of Water for Kansas Community, IDEATE Lawrence workshop, Lawrence, KS. October 24, 2015
- **Presentation to elementary and middle school students**
V Rahmani, Watersheds and Water Quality, *Earth Awareness Researchers for Tomorrow's Habitat (E.A.R.T.H.) 2014 Workshop*, Manhattan, KS. May 9, 2014
- **Presentation in Kansas State University open house**
Rahmani, V, SL Hutchinson, JK Koelliker, JMS Hutchinson, A Anandhi, and JA Harrington, Jr. (2013), Water Availability in the Changing Climate, Poster Presentation, *Kansas State University*, Manhattan, KS. April 20, 2013
- **Presentation to state legislators and the board of regents**
Rahmani, V, SL Hutchinson, and A Anandhi (2013), Sudden Rainfall Change in Kansas over the Last Century, Poster Presentation, *Annual Capitol Graduate Research Summit (CGRS)*, Topeka, KS. April 14, 2013
- **Rahmani, V.**, S.L. Hutchinson, and A. Sheshukov (2015), Kansas Climate: Precipitation and Trends, *Agricultural Experiment Station and Cooperative Extension Service*, Kansas State University, in preparation
- **Rahmani, V**, S.L. Hutchinson, and A. Sheshukov (2015), Kansas Climate: Stormwater Management, *Agricultural Experiment Station and Cooperative Extension Service*, Kansas State University, in preparation

GRADUATE ADVISEES

Loeffler, Kaitlyn, M.Sc., (Co-Advisor). Expected: Summer 2017
 Civil, Environmental, and Architectural Engineering, University of Kansas
 Thesis: Development of wetlands in aging reservoirs

PROFESSIONAL MEMBERSHIPS/SERVICE

Memberships

American Geophysical Union (AGU), American Society of Agricultural and Biological Engineers (ASABE), American Society of Civil Engineers (ASCE), American Meteorological Society (AMS), Environmental Water Resources Institute (EWRI)

Journal Reviewer

Applied Geography, Hydrologic Engineering, Hydrological Processes, Stochastic Environmental Research and Risk Assessment, Papers in Applied Geography