# Thomas C. Piechota, Ph.D., P.E., F.ASCE

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**EDUCATION** 

Certificate Harvard University Graduate School of Education, (2015)

Institute for Management and Leadership in Education

Ph.D. <u>University of California, Los Angeles</u>, (1997)

Major Field: Civil and Environmental Engineering (Water Resources)
Minor Fields: Atmospheric Sciences and Environmental Engineering

M.S. <u>University of California, Los Angeles</u>, (1993)

Civil and Environmental Engineering (Water Resources)

B.S. <u>Northern Arizona University</u>, Flagstaff, Civil Engineering (1989)

### **APPOINTMENTS**

2016 – present: **Professor** – Chapman University, Fowler School of Engineering and Schmid College of Science and Technology, Environmental Science and Policy

2016 – 2021: **Vice President for Research** – Chapman University, Office for Research: This was the inaugural Vice President for Research at Chapman and reported to the President as part of the Leadership Team. Responsibilities included oversight of Office of Sponsored Projects Services, Office of Research Integrity, Office of Industry Alliances and Commercialization and the Animal programs. Responsibilities also included advancement of strategic initiatives, faculty development, partnerships with outside entities, and promotion of efforts with external stakeholders (e.g., businesses, government agencies, political offices). Accomplishments include:

- Established the Office of Research including Sponsored Projects Service, Research Integrity, Industry Alliances and Commercialization
- Increase in research expenditures by 4X (\$5.4M to \$27M) during period FY2016 to 2020
- Assisted in the designation of Chapman as an R2 High Research Activity institution in 2018
- Lead Restarting Research COVID-19 Task Force Subgroup 2020
- Developed four internal funding programs to support faculty research, scholarship and creative activities (Faculty Opportunity Fund, COVID-19 Rapid Response Fund, Innovation in Diversity, Equity and Inclusion and Grant Writers Bootcamp)

# 2013 (July) – 2016: Vice President for Research and Economic Development

2012 (June) – 2013 (July): **Vice President for Research and Dean of the Graduate College**Division of Research & Economic Development (UNLV): This position reports to the President and is a member of the President's Cabinet. Responsibilities include oversight of the Division of Research and Economic Development and oversight budget of approximately \$10,000,000 and 50 employees. Vice President reports included the Office of Sponsored Programs, Office of Research Integrity, Office of Economic Development (including Technology Transfer. Small Business Development Center and Research Foundation), Research Infrastructure, Office of Undergraduate Research, Graduate College (until July 1, 2013) and various interdisciplinary Institutes. Responsibilities also include advancement of research initiatives, research strategic and master planning, and promotion of efforts with external stakeholders (e.g., businesses, government agencies, political offices). Accomplishments included:

- Increase in research expenditures by 76% (\$35.9M to \$62.8M during period FY2013 2016)
- Lead Top Tier strategic plan research subcommittee that lead to UNLV R1 designation in 2018.
- Tripled patent applications from 2013 to 2015
- Established the Office of Economic Development, Office for Undergraduate Research, and Export Control Office
- Established new model for university-level Institutes and the creation of the Nevada Institute for Personalized Medicine and integration of International Gaming Institute
- Increased industry partnerships including Tesla, Cleveland Clinic Lou Ruvo Center for Brain Health, Switch Communications, Varian Medical Systems, National Security Technologies

### 2011 (January) -2012 (June):

**Associate Vice President for Interdisciplinary Research**, Division of Research & Graduate Studies (UNLV): This position reported directly to the Vice President for Research with responsibilities including oversight of large research and education initiatives, renewable energy education programs, on campus seed grant programs, development of government and industry partnerships, development of gift proposals, and development of research support services for faculty and external constituents. This includes oversight of budgets of approximately \$1,500,000 per year and 2 professional staff, 3 interns, 10 interdisciplinary research faculty teams, and approximately 20 graduate students through various research projects. Accomplishments included:

- Established the Faculty Opportunity Award Seed Grant program to stimulate grant-funded activity. It has resulted in a 10:1 return on investment of external grants and contracts.
- Developed the Research Match web tool that highlights UNLV research expertise
- Successful UNLV application for the DOE Solar Decathlon 2013 (UNLV ended up taking 2<sup>nd</sup> place in the world and 1<sup>st</sup> place in the nation)
- Development of the graduate renewable energy education program

### 2008 (January) - 2010 (December):

**Director of Sustainability & Multidisciplinary Research**, Division of Research and Graduate Studies (UNLV): This position reported directly to the Vice President for Research and was responsible for moving forward the Urban Sustainability Initiative (urban21.unlv.edu). In addition, facilitating other interdisciplinary research and education on and off campus in a variety of different research areas related to urban sustainability. Duties included oversight of research budgets for sustainability programs at UNLV and on campus seed grant programs, development of gift proposals, and development of new renewable energy education programs. Personnel oversight included 11 graduate students, 1 professional staff, 2 interns, and 5 interdisciplinary faculty research teams.

- Directed the Urban Sustainability Initiative and the administration of DOE grants for interdisciplinary teams (over \$1 million)
- Developed and directed the solar and renewable energy minor. This program was supported by \$1.6 million in donor support.
- Successful as a co-PI on the state-wide NSF Climate Change for Nevada project (\$15 million over 5 years).

2008-2013:	<b>Director</b> , Solar and Renewable Energy Education Programs (UNLV)	
2010-2016:	Professor	University of Nevada, Las Vegas Department of Civil, Environmental, & Construction Engineering
2007 2010:	Visiting Engineer (on sabbatical) Associate Professor	U.S. Bureau of Reclamation (Boulder City) 2005 – University of Nevada, Las Vegas
1999 - 2005:	Assistant Professor	University of Nevada, Las Vegas
1997 - 1999:	Postdoctoral Fellow & Lecturer	University of California, Los Angeles
1993 - 1997:	Graduate Researcher	University of California, Los Angeles
1989 - 1993:	Staff Engineer	Stevenson, Porto, & Pierce Inc., Irvine, California

#### HONORS AND AWARDS

- **Fellow,** American Society of Civil Engineers, 2021 present
- Award of Excellence for Chapman Forward Research Magazine, Council for Advancement and Support of Education (CASE), Bronze (2018 Edition), Gold (2020 Edition)
- Invited Lead Author on the Southwest Chapter of the National Climate Assessment, 2013.
- Invited Lecturer for U.S. State Department, International Programs, Egypt 2010.
- **Secretary of the Interior's Annual Partners in Conservation Award** for participation in Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead, 2009.
- ASCE Region 8 Faculty Advisor of the Year, 2008
- UNLV, Howard R. Hughes, College of Engineering Outstanding Teacher, 2007
- ASCE Zone IV Outstanding Student Chapter Faculty Advisor, 2004
- UNLV, Howard R. Hughes College of Engineering Distinguished Teacher Award, 2004
- ASCE ExCEEd New Faculty Excellence in Teaching Award, 2003
- ASEE Section Outstanding Teacher Award, 2003
- National Science Foundation Faculty Early Career Development (CAREER) Award, 2003.
- **ASCE Excellence in Civil Engineering Education (ExCEEd) Teaching Workshop** West Point 2001, **Assistant Mentor** Northern Arizona University 2002 and University of Arkansas 2003.
- Outstanding Teacher of the Year, UNLV Department of Civil & Environmental Engineering, 2001, 2002, 2005.
- Faculty Advisor for **Parsons Brinkerhoff Student Design Project,** 2<sup>nd</sup> place, *Semi-Permeable Fish Control Structure Design*, 2000.
- Selected for the **NSF Engineering Education Scholars Workshop**, 2000.
- Best Paper of the Year, ASCE Journal of Hydrologic Engineering, 1999

### **PROFESSIONAL ACTIVITIES**

- Professional Engineering (P.E.) Licenses, California (C 54496)
- Fellow, American Society of Civil Engineers (ASCE)
  - Surface Water Committee (2006 to 2009)
  - ➤ Committee for Student Activities (CSA) (2006 to 2011) (Chair from 2008 2009)
  - > Task Committee on Climate Variations, Climate Change & Water Resources Engineering (2000–2003)
  - > Task Committee on Drought Monitoring, Prediction, and Mitigation (2006 to 2009)
  - > Task Committee on Climate Change (2007 to 2011)
  - ➤ Officer of Southern Nevada Branch (2006 2011) (President from 2009 2010)
  - Officer of Nevada Section (2014 2016)
- Faculty Advisor, Student Chapter of ASCE at University of Nevada, Las Vegas (2003 to 2016)
- Member, American Geophysical Union (AGU)
- Member, Chi Epsilon, National Civil Engineering Honor Society
- Member, American Society for Engineering Education (ASEE)
- Member, Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI)
- Member, U.S. Bureau of Reclamation Hydrology Work Group (2006 to 2010)
- Member, UNLV Research Foundation Board (2012 to 2016)
- Member, Internal Advisory Board, Clinical and Translational Research Infrastructure Network (2013-2016)
- Member, External Advisory Board, Clinical and Translational Research Infrastructure Network (2016 2021)
- Associate Editor, *Journal of Hydrologic Engineering* (2000 to 2007)
- Lead Author, National Climate Assessment 2013 Report Southwest Region Chapter (2011-2012)

- Participant in ABET Training class (Spring 2006)
- Reviewer for 18 journals, 2 books, and 4 federal funding agencies
- Review Panels for National Science Foundation (NSF) and Vice President for Research at UNLV
- Intersections: Supervisor Anti-Harassment Training (2016)
- Mentor, AACP Catalyst Accelerating Research Leadership (Dr. Keykavous Parang) (2017 2018)
- Board Member, OCTANe (2018 2021)
- Editorial Board, *Water* (2018 present)
- Member, Society Research Administration (SRA) (2018 2020)
- Member, AUTM (2018 2020)
- Program Committee, National Academy of Inventors 9th Annual Meeting (2019-2020)
- Advisory Board Member, Thompson Policy Institute (2020 2021)

#### **COMMUNITY ACTIVITIES**

- St. Thomas More Pastoral Council (2005-2011, President 2009-2011)
- Member, City of Las Vegas Green Council (2008 to 2010)
- Member, City of Henderson Parks and Recreation Board (2009 to 2010)
- Chair, City of Henderson Citizen Advisory Committee (2010 to 2016)
- Member, Regional Transportation Commission Stakeholder Advisory Committee (2009 to 2010)
- Member, State of Nevada Governor's Workforce Investment Board, Green and Renewable Energy Sector Council (2011 to 2016)
- Vice Chair, City of Henderson, Ad Hoc Budget Committee (2013)
- Member, Nevada Industry Excellence Advisory Board (2014 to 2016)
- Sts. Simon & Jude Catholic Church (Jr. High Ministry, High School Ministry, Fall Festival Board, Welcome Retreat, 2018 present)

#### **FUNDED RESEARCH PROJECTS**

- 1. Quantitative Health Science Initiative (now called the Nevada Institute of Personalized Medicine), Nevada Governors Office of Economic Development, April 2014 2016
- 2. Solar Decathlon, Team Las Vegas, Department of Energy, February 2012 November 2013.
- 3. *Community Facilities Energy Education Program*, City of Las Vegas, April 2010 August 2012.
- 4. *Resource Conservation and a Sustainable Las Vegas.* Department of Energy, November 2009 October 2012.
- 5. *Nevada Infrastructure for Climate Change Science, Education, and Outreach.* National Science Foundation, September 2008 August 2013.
- 6. Las Vegas Water in the 21st Century Multi-Disciplinary Research Project. Department of Energy, August 1, 2008 to July 31, 2012.
- 7. Improving Decision Support of Daily Water Scheduling in Lower Colorado River Basin Using NASA Products from AQUA, TERRA, and TRMM. National Aeronautics and Space Administration (NASA), Nevada EPSCOR, July 1, 2008 to December 30, 2008.
- 8. Weather Modification Impacts and Forecasting of Streamflow. Wyoming Water Development Commission, June 2007 June 2010.
- 9. Improving Ensemble Streamflow Prediction Using Interdecadal/Interannual Climate Variability and Model Uncertainties, National Oceanic and Atmospheric Administration (NOAA), August 2007 July 2010.
- 10. *Investigation of Climate Related Issues Relevant to the Bureau of Reclamation,* Bureau of Reclamation, June 2006 August 2008.
- 11. Flood Warning System for the Clark County Wetlands Park, U.S. Geological Survey, April 2006 March 2009.
- 12. Assessment of Watershed Drought Using Remote Sensing, National Science Foundation, EPSCOR, June 2005 August 2005.

- 13. *The Role Sea Surface Temperature Variability and Watershed Soil Moisture,* National Science Foundation, EPSCOR, June 2003 July 2005.
- 14. *CAREER: Improved Hydrologic Drought Forecasting Using Climate Information*, National Science Foundation, February 1, 2003 January 31, 2008.
- 15. Long-Range Water Supply Forecasting for Nevada and the Colorado River Basin, U.S. Geological Survey, May 1, 2002 to April 30, 2004.
- 16. *Efficient Water Use on Construction Sites*, U.S. Bureau of Reclamation and Southern Nevada Water Authority, May 1, 2002 to April 30, 2004.
- 17. Relevance of Research on Climate Variability, Climate Change, and Long-Range Forecasts to Water Agencies in Southern Nevada and the Colorado River Basin, Southern Nevada Water Authority, July 1, 2001 to June 30, 2002.
- 18. *Environmental Impacts from the Application of Dust Suppressants to Disturbed Lands*, U.S. Environmental Protection Agency (EPA), October 15, 2001 to September 30, 2002.
- 19. Water Quality Impacts from Surfaces Treated with Dust Suppressants and Soil Stabilizers, Clark County Health District, Las Vegas Valley Water District, Clark County Flood Control District, City of Las Vegas, and UNLV ARI, October 1, 2000 to March 31, 2002.
- 20. *Investigation of Pollutant Loads in Urban Runoff,* UNLV New Investigator Award, June 1, 2000 to May 31, 2001.
- 21. *Study of Semi-Permeable Fish Control Structures*, U.S. Bureau of Reclamation, May 2000 to Sept 2001.
- 22. Development of a Source Water Assessment Plan for Las Vegas Valley Surface Water Runoff into Lake Mead, Nevada Bureau of Health Protection Services and UNLV ARI, May 2000 to September 2003.
- 23. *Microbiological and Limnological Evaluations of the Las Vegas Wash/Bay System,* Nevada Division of Environmental Protection and UNLV ARI, May 2000 to November 2001.

# **JOURNAL PUBLICATIONS (Impact Factor)**

- 1. Hassani, M., **T. Piechota**, H.S. Atamia. Prediction of cultivation areas for the commercial and an early flowering wild accession of *Salvia hispanica* L. in the United States. *Agronomy*, 2022, 12(7), 1651; <a href="https://doi.org/10.3390/agronomy12071651">https://doi.org/10.3390/agronomy12071651</a>. (Impact Factor 4.1)
- 2. Formetta, G., J. Kam, S. Sadeghi, G. Tootle, **T. Piechota**. Atlantic Ocean Variability and European Alps Winter Precipitation. *Water*, 2021, 13, 337. <a href="https://doi.org/10.3390/w13233377">https://doi.org/10.3390/w13233377</a> (Impact Factor 3.10)
- 3. Lynam, L., and **T. Piechota**, 2021. California Drought Outlooks Based on Climate Change Models' Effects on Water Availability. *Water*, 2021, 13, 3211, <a href="https://doi.org/10.3390/w13223211">https://doi.org/10.3390/w13223211</a> (Impact Factor 3.10)
- 4. El-Askary, H., A. Fawzy, R. Thomas, W. Li, N. LaHaye, E. Linstead, **T. Piechota**, D. Struppa, M.A. Sayed. Assessing the Vertical Displacement of the Grand Ethiopian Renaissance Dam During its Filling Using InSAR Technology and It Potential Acute Consequences on the Downstream Countries. *Remote Sensing*, 2021, 13, 4287. <a href="https://doi.org/10.3390/rs13214287">https://doi.org/10.3390/rs13214287</a> (Impact Factor 4.51)
- 5. Li, W, W. Perera, E. Linstead, R. Thomas, H, El-Askary, **T. Piechota**, D. Struppa. Investigating decadal changes of multiple hydrological products and land cover changes in the Mediterranean Region for 2009-2018. *Earth Systems and Environment*, 2021. <a href="https://doi.org/10.1007/s41748-021-00213-w">https://doi.org/10.1007/s41748-021-00213-w</a> (Impact Factor 2.70)
- 6. Kansara. P., W. Li, H. El-Askary, V. Lakshmi, **T. Piechota**, D. Struppa, M.A. Sayed. An Assessment of the Filling Process of the Grand Ethiopian Renaissance Dam and Its Impact on the Downstream Countries. *Remote Sensing.* 2021, 13(4). <a href="https://doi.org/10.3390/rs13040711">https://doi.org/10.3390/rs13040711</a> (Impact Factor 4.51)
- 7. Li, W., H. El-Askary, R. Thomas, S.P. Tiwari, K.P. Manikandan, **T. Piechota**, D. Struppa. An Assessment of the Hydrological Trends using Synergistic Approaches of Remote Sensing and Model

- Evaluations over Global Arid and Semi-Arid Regions. *Remote Sensing*. 2020, 12 (23). <a href="https://doi:10.3390/rs12233973">https://doi:10.3390/rs12233973</a> (Impact Factor 4.51)
- 8. Le, J.A., H.M. El-Askary, M. Allali, E. Sayed, H. Swellem, **T.C. Piechota**, D.C. Struppa. Characterizing El Niño-Southern Oscillation Effects on the Blue Nile Yield and the Nile River Basin Precipitation using Empirical Mode Decomposition. *Earth Systems and Environment*. 2020. <a href="https://doi.org/10.1007/s41748-020-00192-4">https://doi.org/10.1007/s41748-020-00192-4</a> (Impact Factor 2.70)
- 9. Li, W., R. Thomas, H. El-Askary, **T. Piechota**, D. Struppa, K.A. Abdel Ghaffar. Investigating significance of aerosols in determining coronavirus fatality rate among three European countries. *Earth Systems and Environment*. 2020. <a href="https://doi.org/10.1007/s41748-020-00176-4">https://doi.org/10.1007/s41748-020-00176-4</a> (Impact Factor 2.70)
- 10. Li, W., H. El-Askary, V. Lakshmi, **T.C. Piechota**, D. Struppa. Earth Observation and Cloud Computing in support of Two Sustainable Development Goals for the River Nile Watershed Countries. *Remote Sensing*. 2020. 12(9), 1391; https://doi.org/10.3390/rs12091391 (Impact Factor 4.51)
- 11. Li, W., S. P. Tiwari, H. M. El-Askary, M. A. Qurban, V. Amiridis, K. P. ManiKandan, M. J. Garay, O. V. Kalashnikova, **T. Piechota**, D. Struppa. Synergistic use of Remote Sensing and Modeling for Estimating Net Primary Productivity in the Red Sea with VGPM, Eppley-VGPM and CbPM models Intercomparison. 2020. *IEEE Transactions on Geoscience and Remote Sensing*. In press. (Impact Factor 5.63)
- 12. Gapper, J, H. El-Askary, E. Linstead, **T. Piechota**. Coral Reef Change Detection in Remote Pacific Islands using Support Vector Machine Classifiers. 2019. *Remote Sensing*. 11(13), 1525: <a href="https://doi.org/10.3390/rs11131525">https://doi.org/10.3390/rs11131525</a> (Impact Factor 4.51)
- 13. Oubeidillah, A, G. Tootle, **T. Piechota**. Incorporating Antecedent Soil Moisture into Streamflow Forecasting. *Hydrology*. 2019. 6, 50; doi:10.3390/hydrology6020050. <a href="https://www.mdpi.com/2306-5338/6/2/50">https://www.mdpi.com/2306-5338/6/2/50</a> (Impact Factor 2.02)
- 14. Li, W, H. Elaskary, M. Qurban, J. Li, K.P. ManiKandan, **T. Piechota.** Using Multi-indices Approach to Quantify Mangrove Changes over the Western Arabian Gulf along Saudi Arabia Coast *Ecological Indicators*. 2019. 102, 734-745. <a href="https://doi.org/10.1016/j.ecolind.2019.03.047">https://doi.org/10.1016/j.ecolind.2019.03.047</a> (Impact Factor 3.98)
- 15. Gapper, J, H. El-Askary, E. Linstead, **T. Piechota**. Evaluation of Spatial Generalization Characteristics of a Robust Classifier as Applied to Coral Reef Habitats in Remote Islands of the Pacific Ocean. 2018. *Remote Sensing*. 10(11), 1774: <a href="https://www.mdpi.com/2072-4292/10/11/1774">https://www.mdpi.com/2072-4292/10/11/1774</a> (Impact Factor 4.51)
- 16. Li, W., H. Elaskary, M. Qurban, M. Proestakis, M. Garay, O. Kalashnikova, V. Amiridis, A. Gkikas, E. Marinou, **T. Piechota**, K. P. Manikandan. An Assessment of Atmospheric and Meteorological Factors Regulating Red Sea Phytoplankton Growth. 2018. *Remote Sensing*. 10, 673; <a href="http://www.mdpi.com/2072-4292/10/5/673">http://www.mdpi.com/2072-4292/10/5/673</a>. (Impact Factor 4.51)
- 17. El-Askary, H., J. Li, **T. Piechota**, T. Ta, A. Jong, X. Zhang, T. Yang, 2018. Impacts of Aerosols on the Retreat of the Sierra Nevada Glaciers in California. 2018. *Aerosol and Air Quality Research.* 18(5) 1317-1330. DOI: 10.4209/aaqr.2018.03.0089. <a href="http://www.aaqr.org/article/detail/AAQR-18-03-0A-0089">http://www.aaqr.org/article/detail/AAQR-18-03-0A-0089</a> (Impact Factor 2.59)
- 18. Acharya, A and **T.C. Piechota**, 2016. Analysis of Past Storm Events and Their Contribution to Flooding for the Clark County Wetlands Park. *International Journal of Modern Engineering*, 6(1), 5-16, (Impact Factor 3.0)
- 19. Tang, C., D. Chen, B.T. Crosby, **T.C Piechota**, J.M. Wheaton, 2014. Is the PDO or AMO the climate driver of soil moisture in the Salmon River Basin, Idaho? *Global and Planetary Change*, 120, 16 23 (Impact Factor 3.16)
- 20. Acharya, A., **T. Piechota**, K. Lamb, 2013. Impacts of Climate Change on Extreme Precipitation Events Over Flamingo Tropicana Watershed. *Journal of American Water Resources Association*, 49(2), 359-370. DOI: 10.1111/jawr.12020. (Impact Factor 1.96)
- 21. Kalra, A., W.P. Miller, K.W. Miller, S. Ahmad, **T. Piechota**, 2013. Using Large-Scale Climatic Patterns for Improving Long Lead Time Streamflow Forecasts for Gunnison and San Juan River Basins.

- Journal of Hydrological Processes, 27(11)), 1543–1559, DOI: 10.1002/hyp.9236. (Impact Factor 2.50).
- Anderson, S.R., C.L. Moser, G.A. Tootle, H.D. Grissino-Mayer, J. Timilsena, T. Piechota, 2013. Snowpack Reconstructions Incorporating Climate in the Upper Green River Basin (Wyoming). Tree-Ring Research, 68(2), 105-114 DOI <a href="http://dx.doi.org/10.3959/2011-8.1">http://dx.doi.org/10.3959/2011-8.1</a>. (Impact Factor – 0.92).
- 23. Acharya, A., **T.C. Piechota**, G. Tootle, 2012. Quantitative Assessment of Climate Change Impacts on the Hydrology of the North Platte River Watershed, Wyoming. *Journal of Hydrologic Engineering*, 17(10), 1071-1083. (Impact Factor 1.38).
- 24. Miller, W.P., R.A. Butler, **T.C. Piechota**, J. Prairie, K. Grantz, G.M. DeRosa, 2012. Water Management Decisions using Multiple Hydrologic Models Within the San Juan River Basin Under Changing Climate Conditions. *Journal of Water Resources Planning and Management*, 138:5, 412-420 (Impact Factor 1.71).
- 25. Najafia, M.R., H. Moradkhania, **T. Piechota**, 2012. Ensemble Streamflow Prediction: Climate Signal Weighting Methods vs. Climate Forecast System Reanalysis. *Journal of Hydrology*, 442–443, 105–116, DOI: 10.1016/j.jhydrol.2012.04.003 (Impact Factor 2.96).
- 26. Tang, C., B.T. Crosby, J.M. Wheaton, **T.C. Piechota**, 2012. Assessing Streamflow Sensitivity to Temperature Increases in the Salmon River Basin, Idaho. *Global and Planetary Change*, 88-89 (2012), 32-44, doi:10.1016/j.gloplacha.2012.03.002. (Impact Factor 3.16)
- 27. Miller, W.P., and **T.C. Piechota**, 2011. Trends in Western U.S. Snowpack and Related Upper Colorado River Basin Streamflow. *Journal of the American Water Resources Association*, 47(6), 1197–1210. DOI: 10.1111/j.1752-1688.2011.00565.x (Impact Factor 1.96).
- 28. Tang, C. **T.C Piechota,** and D. Chen, 2011. Relationships Between Oceanic–Atmospheric Patterns and Soil Moisture in the Upper Colorado River Basin. *Journal of Hydrology*, 411(2011), 77-90, doi:10.1016/j.jhydrol.2011.09.035.
- 29. Lamb, K.W., **T.C. Piechota**, O.A. Aziz, and G.A. Tootle, 2011. A Basis For Extending Long-Term Streamflow Forecasts In The Colorado River Basin. *Journal of Hydrologic Engineering*, 16(12), 1000-1008, doi:10.1061/(ASCE)HE.1943-5584.0000153 (Impact Factor 1.38).
- 30. Oubeidillah, A.A., G.A. Tootle, C. Moser, **T. Piechota**, K. Lamb, 2011. Upper Colorado River and Great Basin Streamflow and Snowpack Forecasting using Pacific Oceanic-Atmospheric Variability. *Journal of Hydrology*, 410 (2011), 169-177, doi: 10.1016/j.jhydrol.2011.09.030. (Impact Factor 2.96).
- 31. Acharya, A., **T.C. Piechota**, H. Stephen, G. Tootle, 2011. Modeled Streamflow Response Under Cloud Seeding in the North Platte River Watershed. *Journal of Hydrology*, 409 (2011), 305-314, doi: 10.1016/j.jhydrol. 2011.08.027. (Impact Factor 2.96).
- 32. Miller, W.P., **T.C. Piechota**, S. Gangopadhyay, and T. Pruitt, 2011. Development of Streamflow Projections under Changing Climate Conditions over Colorado River Basin Headwaters. *Hydrology and Earth System Sciences*, 15, 2145-2164, doi:10.5194/hess-15-2145-2011, (Impact Factor 3.59)
- 33. Aziz, O. A., G. A. Tootle, S. T. Gray, and **T. C. Piechota**, 2011, Identification of Pacific Ocean sea surface temperature influences of Upper Colorado River Basin snowpack, *Water Resources Research*, 46, W07536, doi:10.1029/2009WR008053. (Impact Factor 3.15).
- 34. Stephen, H., S. Ahmad, **T.C. Piechota**, 2010. Relating surface backscatter response from TRMM precipitation radar to soil moisture: results over a semi-arid region. *Hydrology and Earth System Science*, 14(2): 193-204. (Impact Factor 3.59)
- 35. Stephen, H., S. Ahmad, and **T.C. Piechota**, 2010. Land Surface Brightness Temperature Modeling Using Solar Insolation. *IEEE Transaction on Geoscience and Remote Sensing*, 48(1), 491-498. (Impact Factor-3.47)
- 36. Tootle, G.T., **T.C. Piechota**, O. Aziz, W.P. Miller, V. Lakshmi, J.A. Dracup, C. Jerla, 2009. 2009-2010 El Niño: Hydrologic Relief for Parts of the U.S.?. *EOS Transactions*, 90(50), 481-292.
- 37. Tang, C., **T. Piechota**, 2009. Spatial and Temporal Soil Moisture and Drought Variability in the Upper Colorado River Basin. *Journal of Hydrology*, *279*(2009), *122-135*. (Impact Factor 2.96)

- 38. Timilsena, J., **T. Piechota,** G. Tootle., and A. Singh, 2009. Associations of Interdecadal/Interannual Climate Variability and Long-Term Colorado River Basin Streamflow. *Journal of Hydrology*, 365 (2009), 289-301. (Impact Factor-2.96)
- 39. Soukup, T., O. Aziz, G. Tootle, **T. Piechota**, and S. Wulff, 2009. Long Lead-time Streamflow Forecasting of the North Platte River Incorporating Oceanic-Atmospheric Climate Variability. *Journal of Hydrology*, 368 (2009), 131-142. (Impact Factor-2.96)
- 40. Miller, W.P., and **T.C. Piechota**, 2008. Regional Analysis of Trend and Step Changes Observed in Hydroclimatic Variables Around the Colorado River Basin. *Journal of Hydrometeorology*, 9(5), 1020-1034. (Impact Factor-3.27)
- 41. Kahya, E., S. Kalayci, and **T. C. Piechota**, 2008. Streamflow Regionalization: A Case Study of Turkey. *Journal of Hydrologic Engineering*, 13(4), 205-214. (Impact Factor-1.38)
- 42. Kalra, A., **T.C. Piechota**, R. Davies, and G.A. Tootle, 2008. Changes in U.S. Streamflow and Western U.S. Snowpack. *Journal of Hydrologic Engineering*, *13*(*3*), 156-163. (Impact Factor-1.38)
- 43. Timilsena, J., and **T.C. Piechota**, 2008. Regionalization and Reconstruction of Snow Water Equivalent in the Upper Colorado River Basin. *Journal of Hydrology*, DOI 10.1016/j.jhydrol.2007.12.024. (Impact Factor-2.96)
- 44. Tootle, G.A., **T.C. Piechota,** and F. Gutiérrez, 2008. The Relationships between Pacific and Atlantic Ocean Sea Surface Temperatures and Colombian Streamflow Variability. *Journal of Hydrology*, 349(3-4,)268-276. DOI 10.1016/j.jhydrol.2007.10.058. (Impact Factor-2.96)
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### **CONFERENCE AND INVITED PRESENTATIONS**

- 1. L Lynam, **T Piechota**. California Drought Outlooks Based on Climate Change Models' Effects on Water Availability. *2021 American Geophysical Union Fall Meeting*. *2021*.
- 2. YV Wang, A Sebastian, SH Kim, **T Piechota**, M Kafatos. *2021 American Geophysical Union Fall Meeting*. *2021*.
- 3. S Perera, W Li, HM El-Askary, RH Maneja, **T Piechota**, D Struppa. The analysis of the beach changes in two islands as major sea turtle nesting sites in the northern Arabian Gulf using multiple image. *2020 American Geophysical Union Fall Meeting*. 2020.
- 4. HM El-Askary, W Li, R Thomas, VV Lakshmi, **T Piechota**, D Struppa. Investigations of the filling procedure of the Grand Ethiopian Renaissance Dam and its potential impact for the downstream countries using multi-satellite optical and radar imagery. *2020 American Geophysical Union Fall Meeting*. 2020.
- 5. N Todorov, W Li, HM El-Askary, **T Piechota**, D Struppa. Investigation of the Trends and Model Evaluations of multiple Hydrological Parameters over Global Arid Regions. *2020 American Geophysical Union Fall Meeting*. 2020.
- 6. HM El-Askary, W Li, S Kazadzis, PG Kosmopoulos, D Struppa, **T Piechota**. Case studies on using earth observations addressing key environmental challenges along the sustainable development goals, *2019 American Geophysical Union Fall Meeting*. 2019.
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- 8. S Perera, W Li, HM El-Askary, E Linstead, **TC Piechota**. Forecast drought in MENA region by predicting vegetation indicators with Machine Learning models. *2019 American Geophysical Union Fall Meeting*. 2019.
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- 10. J Le, HM El-Askary, M Allai, **TC Piechota,** D Struppa. Recurrent Neural Networks and the study of Internal Node Activations for the understanding of Greater California Drought and El Nino Interactions. *2019 American Geophysical Union Fall Meeting*. 2019.
- 11. J Li, W Li, **T Piechota**, HM El-Askary. Satellite-based Estimates of Groundwater Depletion in Basin of Sinai Peninsula, Red Sea, East Coast and Western Desert and Nile Delta in Egypt. *2019 American Geophysical Union Fall Meeting*. 2019.

- 12. Santos, N.I, **T.C. Piechota**, W.P. Miller, S. Ahmad. Climate Projections and Drought: Verification for the Colorado River Basin. Presented at the 2018 *American Geophysical Union Fall Meeting*.
- 13. Santos, N.I, **T.C. Piechota**, W.P. Miller, S. Ahmad. Climate Projections and Drought: Verification for the Colorado River Basin. Presented at the 2017 *American Geophysical Union Fall Meeting*.
- 14. Lamb, K.W, J. Fayne, A. Kalra, W.P. Miller, V. Lakshmi, G.A. Tootle, **T.C. Piechota**. 2015-16 ENSO, Precipitation, and the Ridiculously Resilient Ridge. Presented at the 2016 *American Geophysical Union Fall Meeting*, December 12-16, 2016.
- 15. Pathak, P., A. Kalra, M. Bernardez, M. Bernardez, K.W. Lamb, W.P. Miller, G.A. Tootle, J. Fayne, V. Lakshmi, N.I. Santos, **T.C. Piechota**. Trends and shift changes in the SWE in the western US. Presented at the 2016 *American Geophysical Union Fall Meeting*, December 12-16, 2016.
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- 135. Brown, E., **T. Piechota**, X. Vargas, and J. Dracup, 1994. Analsis de series de caudales en Chile durante las fases extremas de ENSO. presented at the *XVI Congreso Latinoamericano de Hidráulica se reunió*, en Santiago los dias 22 y 23 de Agosto, 1994. Asociación Internacional de Investigaciones Hidráulicas.
- 136. **Piechota, T.C.**, J.A. Dracup, E.F. Brown, T.A. McMahon, and F.H.S. Chiew, 1994. Streamflow Patterns in Panama and Chile Associated With the Extreme Phases of the Southern Oscillation. presented at the *American Geophysical Union, 1994 Western Pacific Geophysics Meeting*, Hong Kong, July 25-29.
- 137. **Piechota, T.C.**, J.A. Dracup, E.F. Brown, T.A. McMahon, and F.H.S. Chiew, 1994. South American Streamflow and the Extreme Phases of the Southern Oscillation. presented at the *Eleventh Annual Pacific Climate (PACLIM) Workshop*, Asilomar, California, April 19-22.
- 138. **Piechota, T.C.**, and J.A. Dracup, 1993. Precipitation and Temperature Patterns in the United States Associated with ENSO. presented at the *American Geophysical Union, 1993 Fall Meeting*, San Francisco, California, December 6-10.

# **GRADUATE STUDENTS (PHD)**

- 1. Anil Acharya, PhD. "Impacts of Climate Change and Weather Modification on Hydrologic Characteristics of Watersheds in the Western United States" (May 2011)
- 2. Kenneth Lamb, PhD. "Improving Ensemble Streamflow Prediction Using Interdecadal/Interannual Climate Variability" (December 2010)
- 3. William Paul Miller, PhD. "Hydroclimatic Impacts as an Effect of Climate Change over the Colorado River Basin" (May 2010)
- 4. Janak Timilsena, PhD. "Reconstruction of Hydrologic and Climatic Variability in the Colorado River Basin" (Summer 2007)
- 5. Chunling Tang, Ph.D. "Soil Moisture and Hydrological Drought in the Upper Colorado River Basin" (Spring 2007)

6. Glenn Tootle, Ph.D. "Interdecadal and Interannual Pacific Ocean Climatic Influences for Improved Water Management" (August 2005)

## **GRADUATE STUDENTS (MASTERS)**

- 1. Hilary Ego, M.S. "Farmer Responses to Drought: A Review Of Global Arid and Semi-Arid Case Studies" (Spring 2015)
- 2. Russell Skuse, M.S. "Soil Moisture Recognition and the Spatial Distribution of Storm Activity in the Mojave Desert Using High-Resolution Aster and Modis Imagery for Thermophysical Mapping" (Spring 2013)
- 3. Daniel Bunk, M.S. "Changing Demands from Riparian Evapotranspiration and Free-water Evaporation in the Lower Colorado River Basin Under Different Climate Scenarios" (Fall 2012)
- 4. Christine Riland, M.S. (Fall 2008), Non-Thesis
- 5. Dave Betley, M.S. "HEC-RAS Steady And Unsteady Flow Model Analysis for the Las Vegas Wash" (Spring 2007)
- 6. Satya Chataut, M.S. "Development of a Flood Forecasting Model for Flamingo-Tropicana Watershed in the Las Vegas Valley" (Fall 2006)
- 7. Lloyd Desotell, M.S. (Spring 2006) Non-Thesis
- 8. Jeff McBride, M.S. (Spring 2006) Non-Thesis
- 9. Calvin Black, M.S. (Spring 2005) Non-Thesis
- 10. Silvia Albuquerque, M.S. "A System Model for Source Water Assessment in the Las Vegas Valley" (Summer 2004)
- 11. Harrison Steed, M.S. (Summer 2004) Non-Thesis
- 12. Craig Pribila, M.S. (Spring 2004) Non-Thesis
- 13. Daniel Wiesner, M.S. (Spring 2004) Non-Thesis
- 14. Philip Walker, M.S., "Assessment of Septic Tank Discharges on the Lower Colorado River Water Quality" (Summer 2003)
- 15. Uma Malik, M.S., "Nonpoint Source Pollution during Dry and Wet Weather Flows in an Urbanized Watershed" (Summer 2003)
- 16. Vivek Singh, M.S., "Hydrologic Impacts due to Application of Dust Suppressants" (Spring 2003)
- 17. Marcelo Reginato, M.S., "GIS for Source Water Assessment and Nonpoint Source Modeling in the Las Vegas Valley" (Summer 2002)
- 18. Jill Reilly, M.S., "Applicability of SCS Methods for Estimating Watershed Rainfall-Runoff Response: Case Study of July 8, 1999 Storm Event" (Spring 2002)

### **UNDERGRADUATE RESEARCH ADVISING**

- 1. Lauren Lynam "California Drought Projections Based on Climate Change Model's Effects on Water Availability" (Spring 2021)
- 2. Parsa Hassani "Climate Impacts on New Variety of Chia Plants: (Fall 2021 Spring 2022)
- 3. Rama Bedri "Changes in Western U.S. Streamflow Extremes Under Climate Change" (Spring 2022)

#### **UNDERGRADUATE SENIOR PROJECT ADVISING**

- 4. Jaime Reddic, Alvin Morris IV, Michelle Thung, Brook Gebrechristos, Getachew Melaku "Laughlin Town 9,000 Acre Master Plan Sustainable Community" (Spring 2009)
- 5. Andrew Karasa, Pavel Kontchakov, Ernie Mejia, Tony Tambaoan, "Windriver Canyon Condominiums Feasibility Report" (Spring 2009)
- 6. Kevin Bross, Michael Cunningham "Subsurface Irrigation for Golf Courses (Spring 2008).
- 7. Dianne Espinoza, Erin Nelson, Kyra Okazaki, Sarah Cole, Steven Letus, "Green School" (Spring 2008)
- 8. Elicia Kettles, Keith Letus, Jennifer Nuesca, "Heat Wave Water Park Water and Wastewater Design (Fall Spring 2006).

- 9. Nathan Hall, Christiana Astarita, Kevie Remynse. "Cornerstone Detention Basin and Multi-Use (Fall Spring 2006)
- 10. Bisrat Alemayehu, Jason Ghadery, Lexido De Los Santos. "Project GREEN Green Valley Ecology, Environment, and Nature Phase III" (Spring Summer 2006)
- 11. Camille Calimlim, Rob Davies, Chariti Blas, "A Disinfection Strategy Combing Organic Acids and Solar Disinfection" (Fall Spring 2006)
- 12. Ching Wang (Honor Thesis), "Project GREEN: "Community Outreach Utilizing Web-based Tools" (Fall Spring 2005)
- 13. Kelly Dehn, Ching Wang, Brandon Doty, "Modifications to Pittman Wash as a Multipurpose Facility" (Fall Spring 2005)
- 14. Colby Temple, Steve Jones, Laura Prewitt, "Project GREEN" (Spring Summer 2004)
- 15. Brian Ruegge and Nate Wilson, "River Mountains Water Treatment Facility South Plant Overflow Water Reclamation Structure" (Spring 2004)
- 16. Micah Kagimoto and John Mele, "Crystal Springs Phase I Sewer Improvement" (Spring 2003)
- 17. Daryl Lattimore, Jason Dineen, "Fantasy Island Subdivision" (Summer 2001 Fall 2001)
- 18. Brian Patschull, Robert Welch, Michael Heishman, "Orchard Detention Basin" (Fall 2000 Spring 2001)
- 19. Emily Randall, Scott Patton, Philip Wisely, "La Riqueza Road Drainage Channel and Roadway Improvements" (Summer Fall 2000)
- 20. Kevin Love, Carmen Vizcarra, "Beal Lake/Topock Marsh Razorback Sucker Habitat Restoration Project" (Summer Fall 2000)
- 21. James Cooper, Ray Falcon, and Andrew Weaver, "Pecos Road Extension" (Fall 1999 Spring 2000)

### **COURSE RESPONSIBILITIES**

### University of Nevada, Las Vegas

- CEE 110 Introduction to Civil Engineering Design (lecture and laboratory)
- CEE 198/298/398 Ethics and Profession Practice of Engineering
- CEE 406(606) Hydrologic Analysis and Design
- CEE 367 Fluid Mechanics (lecture and laboratory)
- CEE 413 Water Resources Engineering
- CEE 495(695) Computer Applications in Water Resources Engineering
- CEG 750 Urban Runoff Quality and Control
- CEG 704 Environmental and Water Resource Systems
- CEG 795 Water Resources Modeling and GIS
- CEE 795 Climate Change

### **Chapman University**

- HCOM 597 Successful Grant Writing
- ENV 491 Independent Research

#### **UNIVERSITY SERVICE**

# University (University of Nevada, Las Vegas)

- Nevada Environmental Science and Technology Advisory Council (NESTAC): 1999 2002
- Water Resources Management Steering Committee (2002 2016)
- University Faculty Workload Taskforce (Spring 2004)
- Advisory Board for the Teaching and Learning Center (Fall 2004 to Spring 2006)
- President's Sustainability Task Force (2008)
- Solar and Renewable Energy Minor Advisory Committee (Summer 2009 to 2017)
- Sustainability Council (Fall 2009 to present)
- President's Review Committee (Spring 2010)

- Chair, Environmental Studies Program Task Force (Fall 2011)
- Consortium for Faculty Professional Opportunities (Spring 2012 Fall 2012)
- Advisor, Solar Decathlon Team (2011 2013)
- Co-Chair, Top Tier Research, Scholarship and Creative Activities Committee (2015 2016)
- Faculty Senate
  - o Library Committee (Fall 2000 Spring 2002)
  - o General Education Committee (Fall 2005 Spring 2007)
  - o Campus Affairs Committee (Fall 2007 Spring 2008)

### College of Engineering (University of Nevada, Las Vegas)

• First Year Experience Design committee (Fall 2001 – Spring 2002)

## School/Department (University of Nevada, Las Vegas)

- Faculty Advisor for National Student Steel Bridge Competition held at UNLV (Fall 2008 Spring 2009)
- Faculty Advisor for the Student Chapter of the American Society of Civil Engineers (Spring 2003-present).
- Department Chair Search Committee (November 2002 March 2003)
- Chair of Search Committee for Visiting Professor Water Resources Engineering (Fall 2003 Spring 2004)
- University Workload Committee (Spring 2005)
- Technician Search Committee (Spring 2005)
- Search Committee for Water Resources Engineering Faculty Position (Fall 2005 Spring 2006)
- Recruitment and Retention Committee (August 2006 to present)
- Chair of Search Committee for Environmental Engineering Faculty Position (Spring 2007)
- Curriculum Committee (Fall 2007)
- Member of Search Committee for Environmental Engineering Faculty Position (Fall 2011 Spring 2012).