

*Curriculum Vitae*  
**Jason J. Gurdak, Ph.D., P.H.**  
**Associate Professor**

**CONTACT INFORMATION**

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Department of Earth & Climate Sciences  
San Francisco State University (SFSU)  
1600 Holloway Ave, San Francisco, Ca 94123

email: [jgurdak@sfsu.edu](mailto:jgurdak@sfsu.edu)  
phone: 415-728-2411  
web site: <http://online.sfsu.edu/jgurdak/>

**EDUCATION**

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**Ph.D. Geochemistry (2006)**, Department of Geology and Geological Engineering, Colorado School of Mines (CSM), Golden, CO. Dissertation: *Advances in spatial and temporal analysis of groundwater vulnerability to nonpoint-source contamination, High Plains aquifer*. PhD advisor Prof. John McCray (Dept. Civil & Environmental Engineering)

**M.S. Environmental Science and Engineering (1999)**, Department of Civil and Environmental Engineering (CEE) (formerly Department of Environmental Science and Engineering), Colorado School of Mines, Golden, CO.

**B.S. Geology (1998)**, Department of Geology, Bates College, Lewiston, ME, Thesis: *Geochemical characterization of an arsenic contaminated aquifer, Zimapán, Mexico*.

**ACADEMIC APPOINTMENTS and PROFESSIONAL POSITIONS**

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8/2015 to present	<b>Associate Professor</b> , Department of Earth & Climate Sciences, SFSU
1/2017 to 7/2017	<b>Academic Visiting Researcher</b> , Eawag (Swiss Federal Institute of Aquatic Science and Technology, ETH Domain), Dept. of Water Resources and Drinking Water, Hydrogeology Research Group, Dübendorf, Switzerland
2009 to present	<b>Associated Faculty</b> , Environmental Studies Program, Earth Systems Science (ESS) Emphasis Advisor, SFSU
2009 to 2015	<b>Assistant Professor</b> , Department of Earth & Climate Sciences, SFSU
1999 to 2009	<b>Hydrologist</b> , U.S. Geological Survey, Colorado Water Science Center, Lakewood, Colorado
1999	<b>Environmental Consultant</b> , Jehn Water Consulting, Denver, Colorado

**LEADERSHIP of INTERNATIONAL RESEARCH, EDUCATION, and OUTREACH PROGRAMS**

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2014–present	<b>Coordinator</b> , United Nations Educational, Scientific, and Cultural Organization (UNESCO)-International Hydrologic Programme (IHP), Groundwater resource assessment under the pressure of humanity and climate change (GRAPHIC). Program website: <a href="http://www.graphicnetwork.net">www.graphicnetwork.net</a>
2004–2014	<b>Expert Member</b> , UNESCO-IHP GRAPHIC program
2011–present	<b>Co-Coordinator and North American Lead</b> , Groundwater@Global Paleoclimate Signals (G@GPS) Initiative, website: <a href="http://www.gw-gps.com">www.gw-gps.com</a>

**PROFESSIONAL CERTIFICATION**

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2012 to present	<b>Professional Hydrologist in Groundwater (P.H.)</b> , (certification # 12-HGW-4012), American Institute of Hydrology (AIH).
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## GRANTS AND CONTRACTS

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Principal Investigator (PI) of >**\$1.7 million** and co-PI or collaborator of >**\$19.0 million**.

### FUNDED RESEARCH GRANTS AND CONTRACTS (28 total)

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PENDING: 2019-2021 National Science Foundation (NSF), Research Experience for Undergraduate (REU): REU Site: Sustainable Groundwater Resources, **Gurdak, J.J. (PI), \$398,362.**

PENDING: 2019-2020 National Science Foundation (NSF), EAR - Hydrologic Sciences (HS) Program: Impact of model complexity and temporal dynamics on groundwater recharge predictions, **Gurdak, J.J. (PI)**, Schirmer, M. (co-PI, Eawag), **\$374,374.**

2018-2019 Faculty Research Incentive Award Program, Water Resources & Policy Initiatives (WRPI), California State University (CSU), Title of proposal: Advancing CSU's Research and Education on California's Groundwater Sustainability, **Gurdak, J.J. (PI), \$7,876.**

2017-2018: Transforming low impact development and stormwater capture toward sustainable urban agriculture; USDA Water Resources Internship, USDA NIFA Award No. 2015-38422-24058, Award Title: Water Resources Experiential Learning for USDA Careers, Lead Agency: Cal State San Bernardino University, **Gurdak, J.J. (PI), \$10,000.**

2017-2018: Developing practical water-energy-food nexus guidelines for sustainable groundwater management, Pajaro Valley, California; USDA Water Resources Internship, USDA NIFA Award No. 2015-38422-24058, Award Title: Water Resources Experiential Learning for USDA Careers, Lead Agency: Cal State San Bernardino University, funded by CSU Water Resources & Policy Initiatives (WRPI), **Gurdak, J.J. (PI), \$10,000.**

2016-2018 Nebraska Natural Resources Commission – Water Sustainability Fund: Estimating Recharge toward Sustainable Groundwater and Agriculture, Central Platte NRD, Duane Woodward (Central Platte Natural Resource District), **Gurdak, J.J. (co-PI)**, Chris Hobza (USGS), **\$248,800.**

2016-2018 U.S. Geological Survey (USGS), Pacific Science Center: Groundwater sustainability on atolls of the Pacific Ocean, **Gurdak, J.J. (PI), \$30,000.**

2016-2019 Grant-in-Aid for Scientific Research (B-16H04971), Japanese Society for Promotion of Science (JSPS): Marine biodiversity and production of coastal ecosystem promoted by submarine groundwater: evaluation of contribution to higher trophic levels and future prediction, Jun Shoji (PI) (Hiroshima University), Ryo Sugimoto (Fukui Pref. University, co-PI), Masahiko Fujii (Hokkaido Univ., co-PI), Makoto Taniguchi (RIHN, Collaborator), Makoto Yamada (RIHN, Collaborator), **Gurdak, J.J. (Collaborator), \$160,000.**

2016-2017 International Union for Quaternary Research (INQUA), Terrestrial Processes, Deposits, and History (TERPRO): Groundwater and global palaeoclimate signals (G@GPS), Chen, J. (co-PI), Cendon, D. (co-PI), Vaikmae, R. (co-PI), Najiba Chkir Ben Jemaa (co-PI), **Gurdak, J.J. (co-PI)**, Haldorsen, S. (co-PI), Purtschert, R. (co-PI), van der Ploeg, M. (co-PI), Marcela, P. (co-PI), **\$6,000.**

- 2014-2017 U.S. Agency for International Development (USAID) and National Science Foundation (NSF) Partnership for Enhanced Engagement in Research (PEER): *Assessment of real evapotranspiration and recharge processes on two karst pilot groundwater catchments (Lebanon) using an integrated spatially distributed numerical model: Applications for water resources management purposes (project #3-26)*, Doummar, J. (PI, American University of Beirut), and **Gurdak, J.J.** (co-PI), **\$159,958**.
- 2013-2017 National Science Foundation (NSF), EAR - Hydrologic Sciences (HS) Program: *RUI: Groundwater teleconnections with interannual to multidecadal climate variability*, (NSF EAR-1316553), **Gurdak, J.J.** (PI), Ferre, P.A. (Ty) (co-PI, University of Arizona), and Maurer, E.P., (co-PI, Santa Clara University), **\$321,865**.
- 2013-2018 Japanese Ministry of Education, Research Institute for Humanity and Nature (RIHN): *Demarcation of environmental management for human environmental security in Asia-Pacific region – Nexus of water, energy, and food*, Taniguchi, M. (PI) (**Gurdak** is Leading the U.S. research group, which 1 of 7 research groups across the Asia-Pacific Ring of Fire region), **\$5.0 million**, [http://www.chikyu.ac.jp/rihn\\_e/project/R-08.html](http://www.chikyu.ac.jp/rihn_e/project/R-08.html)
- 2012-2017 UNESCO-IUGS-IGCP International Geosciences Program: *Paleoclimate information obtained from past-recharge groundwater in large basins and correlations at global scale* Cendon, D. (co-PI), Chen, J. (co-PI), **Gurdak, J.J.**, (co-PI), Haldorsen, S. (co-PI), Treidel, H., van der Ploeg, M. (co-PI), **\$58,000** <http://www.unesco.org/new/en/natural-sciences/environment/earth-sciences/international-geoscience-programme/igcp-projects/hydrogeology/project-618/>
- 2013-2015 Global Environment Facility (GEF) and United Nations Educational Scientific and Cultural Organization (UNESCO) Transboundary Waters Assessment Programme (TWAP): *Assessment of groundwater indicators for Small Island Developing States (SIDS) aquifer systems*, Allen, D.M. (PI), Taniguchi, M. (co-PI), and **Gurdak, J.J.** (co-PI), **\$60,000**.
- 2013-2016 Nebraska Environmental Trust: *Effects of climate change and agricultural land use on groundwater recharge to the Central Platte River Basin*, Woodward, D.D. (co-PI, Central Platte Natural Resources District), **Gurdak, J.J.** (co-PI), and Steele, G.V. (co-PI, US Geological Survey), **\$217,200**.
- 2013-2014 California State University (CSU) Water Resources and Policy Initiatives, Faculty Research Incentive Award Program: *Linking land-use management, climate change, and surface water-groundwater interactions to assess State nitrogen regulations*, Los Huertos, M. (PI, CSU-Monterey Bay) and **Gurdak, J.J.** (co-PI), **\$6,000**.
- 2012-2015 Department of Defense (DOD)-Strategic Environmental Research and Development Program (SERDP): *The impact of sea-level rise and climate change on department of defense installations on atolls in the Pacific Ocean* (Proposal 12 RC02-077), Storlazzi, C.D. (PI), Field, M.E. (co-PI), Swarzenski, P.W. (co-PI), Logan, J.B. (co-PI), Piniak, G.A. (co-PI), Field, D.W., (co-PI), **Gurdak, J.J.** (collaborator), **\$998,347**.
- 2012-2013 International Union for Quaternary Research (INQUA), Terrestrial Processes, Deposits, and History (TERPRO): *Groundwater and global palaeoclimate signals (G@GPS)*,

- Haldorsen, S. (co-PI), Cendon, D. (co-PI), Chen, J. (co-PI), Najiba Chkir Ben Jemaa (co-PI), **Gurdak, J.J.** (co-PI), Purtschert, R. (co-PI), Tujchneider, O. (co-PI), Vaikmae, R. (co-PI), van der Ploeg, M. (co-PI), **\$12,500** <http://www.inqua.org/projects.html>.
- 2011–2013 Nebraska Interrelated Water Management Fund: Woodward, D.D. (co-PI CPNRD), **Gurdak, J.J. (co-PI)**, and Steele, G.V. (co-PI, USGS), *Effects of climate change and agricultural land use on groundwater recharge to the Central Platte River Basin*, **\$570,000**.
- 2010–2011 San Francisco State University Office of Research and Sponsored Programs, FOA 2010-01 Facilitating Research at SFSU (Collaborative Grant): *Preparing the San Francisco State University community to understand climate change effects on groundwater resources in San Francisco*, **Gurdak, J.J.** (PI), and Nanus, L. (co-PI), **\$11,000**.
- 2008–2010 Nebraska Interrelated Water Management Fund: *Effects of climate change and agricultural land use on groundwater recharge to the Central Platte River Basin*, **Gurdak, J.J.** (PI), Woodward, D.D. (co-PI, CPNRD), and Steele, G.V. (co-PI, USGS), **\$685,000**.
- 2008 Playa Lake Joint Venture: Recharge beneath playas of the High Plains, **Gurdak, J.J.** (PI), and Roe, C.D., **\$15,000**.
- 2008–2009 U.S. Geological Survey (USGS), Global Change Program 2008 RFP: National assessment of groundwater response in selected Principal Aquifers to climate variability on interannual to multidecadal temporal scales, **Gurdak, J.J.** (PI), and Hanson, R.T. (co-PI, USGS), **\$30,000**.
- 2007–2008 USGS Center of Excellence for Geospatial Information Science (CEGIS) 2007 RFP: Methods to quantify error propagation and prediction uncertainty for GIS raster processing **Gurdak, J.J. (PI)**, and Qi, S.L. (co-PI, USGS), **\$134,500**.
- 2008-2009 USGS Office of Groundwater: National-scale assessment of groundwater response to interannual and multidecadal climate variability, **Gurdak, J.J.** (PI), Hanson, R.T. (co-PI), and Clark, B.R. (co-PI), **\$56,000**
- 2007–2009 USGS National Water Quality Assessment (NAWQA) program: Modeling the vulnerability of selected Principal Aquifers to nonpoint-source nitrate contamination, **Gurdak, J.J.** (PI) and Qi, S.L. (co-PI), **\$75,000**.
- 2007 USGS National Water Quality Assessment (NAWQA) program, Groundwater Status and Trends Project: High Plains aquifer vadose zone research network, **Gurdak, J.J.** (PI), **\$29,600**.
- 2004–2006 USGS National Water Quality Assessment (NAWQA) program: Groundwater response to climate variability, High Plains aquifer, **Gurdak, J.J.** (PI), Hanson, R.T. (co-PI), **\$70,000**.
- 2002–2005 USGS National Water Quality Assessment (NAWQA) program: Groundwater vulnerability assessment of the High Plains aquifer to nonpoint-source nitrate contamination, **Gurdak, J.J.** (PI), and Qi, S.L. (co-PI), **\$150,000**.
- 1999–2009 USGS National Water-Quality Assessment (NAWQA) program: High Plains Groundwater Quality Study, Dennehy, K.F., McMahon, P.B., Bruce, B.W., **Gurdak, J.J.**, and Qi, S.L., **\$12 million**, [http://co.water.usgs.gov/nawqa/hpgw/HPGW\\_home.html](http://co.water.usgs.gov/nawqa/hpgw/HPGW_home.html)

## PEER-REVIEWED PUBLICATIONS (49 total)

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Google Scholar (8/25/2018): 2,247 citations, h-index = 20; i10-index = 29

Underlined author denotes MS or BS student supervised by Gurdak.

### Journal Articles (29)

Doummar, J., Kassem, A., and **Gurdak, J.J.**, 2018 *Submitted – In Review*, Impact of historic and future climate on spring recharge and discharge based on an integrated numerical modelling approach: Application on a snow-governed semi-arid karst catchment area, *Journal of Hydrology*.

Lauffenburger, Z.H., **Gurdak, J.J.**, Hobza, C., Woodward, D., Wolf, C., 2018, Irrigated agriculture and future climate change effects on groundwater recharge, northern High Plains aquifer, USA, *Agricultural Water Management*, v. 204, pp. 69-80, <https://doi.org/10.1016/j.agwat.2018.03.022>

Re, V., Maldaner, C., **Gurdak, J.J.**, Leblanc, M., Carvalho Resende, T., and Stigter, T.Y., 2018, Topical Collection: Climate change research by early-career hydrogeologists. *Hydrogeology Journal*, pages 1-4, DOI: <https://doi.org/10.1007/s10040-018-1730-5>.

Carvalho Resende, T., Longuevergne, L., **Gurdak, J.J.**, Leblanc, M., Favreau, G., Ansems, N., Van der Gun, J., Gaye, C.B., and Aureli, A., 2018 *Accepted - In Press*, Assessment of climate variability impacts on groundwater resources for improved water management and policy in Africa, *Hydrogeology Journal*.

Corona, C.R., **Gurdak, J.J.**, Dickinson, J.E., Ferre, T.P.A., and Maurer, E., 2018, Climate variability and vadose zone controls on damping of transient recharge, *Journal of Hydrology*, 561, 1094-1104, <http://dx.doi.org/10.1016/j.jhydrol.2017.08.028>.

**Gurdak, J.J.**, 2017, Groundwater: Climate-induced pumping, *Nature Geoscience*, doi:10.1038/ngeo2885.

Taniguchi, M., Endo, A., **Gurdak, J.J.**, and Swarzenski, P., 2017, Water-Energy-Food Nexus in Asia Pacific Region, *Journal of Hydrology: Regional Studies*, special issue on the Water-Energy-Food Nexus of the Asia-Pacific Region, pgs 1-8.

Hejazian, M., **Gurdak, J.J.**, Swarzenski, P., Odigie, K., and Storlazzi, C., 2017, Effects of land-use change and managed aquifer recharge on hydrogeochemistry of two contracting atoll island aquifers, Roi-Namur, Republic of the Marshall Islands, *Applied Geochemistry*, 80, 58-71 <http://dx.doi.org/10.1016/j.apgeochem.2017.03.006>

Nanus, L., McMurray, J., Clow, D.W., Saros, J., Blett, T., **Gurdak, J.J.**, 2017, Spatial variation of atmospheric deposition and nitrogen critical loads for aquatic ecosystems in the Greater Yellowstone Area, *Environmental Pollution*, vol. 223, pgs. 644-656, <http://dx.doi.org/10.1016/j.envpol.2017.01.077>

**Gurdak, J.J.**, Geyer, G.E., Nanus, L., Taniguchi, M., and Corona, C.R., 2017, Scale dependence of controls on groundwater vulnerability in the water-energy-food nexus, California Coastal Basin aquifer system, *Journal of Hydrology: Regional Studies*,

<http://dx.doi.org/10.1016/j.ejrh.2016.01.002>, special issue on the Water-Energy-Food Nexus of the Asia-Pacific Region.

Velasco, E.M., **Gurdak, J.J.**, Dickinson, J.E., Ferre, T.P.A., and Corona, C., 2017, Interannual to multidecadal climate forcings on groundwater resources of the West Coast of the U.S., *Journal of Hydrology: Regional Studies*, <http://dx.doi.org/10.1016/j.ejrh.2015.11.018>, special issue on the Water-Energy-Food Nexus of the Asia-Pacific Region.

Danfoura, M. and **Gurdak, J.J.**, 2016, Redox dynamics and oxygen reduction rates of infiltrating urban stormwater beneath low impact development (LID), *Water*, 8(10), 435, doi: 10.3390/w8100435; special issue on “Urban drainage and urban stormwater management”.

Wada, C., Burnett, K., and **Gurdak, J.J.**, 2016, Sustainable agriculture irrigation management: the Water-Energy-Food Nexus in Pajaro Valley, California, *Sustainable Agriculture Research*, 5(3), 76-83, <http://dx.doi.org/10.5539/sar.v5n3p76>.

Haldorsen, S., van der Ploeg, M., Cendon, D.I., Chen, J., Chkir Ben Jemaa, N., **Gurdak, J.J.**, Purtschert, R., Tujchneider, O., Vaikmae, R., Perez, M., and Zouari, K., 2016, Groundwater and global palaeoclimate signals (G@GPS), *Episodes – Journal of International Geoscience*, 39(4).

Kuss, A.J.M., and **Gurdak, J.J.**, Groundwater level response in U.S. Principal Aquifers to ENSO, NAO, PDO, and AMO, 2014, *Journal of Hydrology*, 519, 1938-1952, doi:10.1016/j.jhydrol.2014.09.069.

Newcomer, M.E., **Gurdak, J.J.**, Sklar, L., and Nanus, L., 2013, Urban recharge beneath low impact development and the effects of climate variability and change, *Water Resources Research*, doi:10.1002/2013WR014282.

Taniguchi, M., Allen, D., and **Gurdak, J.J.**, 2013, Optimizing the Water-Energy-Food nexus in the Asia-Pacific Ring of Fire, *EOS Transactions American Geophysical Union*, vol. 94(47), p. 435, doi:10.1002/2013EO470005.

Klove, B., Ala-Aho, P., Bertrand, G., **Gurdak, J.J.**, Kupfersberger, H., Kvaerner, J., Muotka, T., Mykra, H., Preda, E., Rossi, P., Uvo, C.B., Velasco, E., Wachniew, P., and Velazquez, M.P., 2013, Climate change impacts on groundwater and dependent ecosystems, *Journal of Hydrology*, vol. 518, part B, pages 179-278 (10 October 2014), Special Issue: Climatic change impact on water: Overcoming data and science gaps, doi: <http://dx.doi.org/10.1016/j.jhydrol.2013.06.037>.

Taylor, R., B. Scanlon, P. Döll, M. Rodell, R. van Beek, Y. Wada, L. Longuevergne, M. LeBlanc, J. Famiglietti, M. Edmunds, L. Konikow, T.R. Green, J. Chen, M. Taniguchi, M.F.P. Bierkens, A. MacDonald, Y. Fan, R.M. Maxwell, Y. Yecheili, **J.J. Gurdak**, D. Allen, M. Shamsudduha, K. Hiscock, P.J.-F. Yeh, I. Holman, and H. Treidel, 2012, Groundwater and climate change, *Nature Climate Change*, doi:10.1038/nclimate1744.

**Gurdak, J.J.**, and Qi, S.L., 2012, Vulnerability of recently recharged groundwater in principal aquifers of the United States to nitrate contamination, *Environmental Science and Technology* 46(11): 6004-6012., doi:10.1021/es300688b.

- McNeeley, S.M., Tessendorf, S.A., Lazrus, H., Heikkila, T., Ferguson, I.M., Arrigo, J.S., Attari, S.Z., Cianfrani, C.M., Dilling, L., **Gurdak, J.J.**, Kampf, S.K., Kauneckis, D., Kirchhoff, C.J., Lee, J., Lintner, B.R., Mahoney, K.M., Opitz-Stapleton, Ray, P., South, A.B., Stubblefield, A.P., and Brugger, J., 2012, Catalyzing frontiers in water-climate-society research: A view from early career scientists and junior faculty, *Bulletin of American Meteorological Society*, vol. 93, no. 4, 477-484. doi: 10.1175/BAMS-D-11-00221.1.
- Green, T., Taniguchi, M., Kooi, H., **Gurdak, J.J.**, Hiscock, K., Allen, D., Treidel, H., and Aurelia, A., 2011, Beneath the surface of global change: Impacts of climate change on groundwater, *Journal of Hydrology* 405:532-560, doi:10.1016/j.jhydrol2011.05.002.
- Holman I.P., Rivas-Casado M., Bloomfield, J.P., and **Gurdak J.J.**, 2011, Identifying non-stationary groundwater level response to North Atlantic ocean-atmosphere teleconnection patterns using wavelet coherence, *Hydrogeology Journal*, doi:10.1007/s10040-011-0755-9.
- Gurdak, J.J.**, and Roe, C.D., 2010. Review: Recharge rates and chemistry beneath playas of the High Plains aquifer, USA, *Hydrogeology Journal*, 18(18), 1747-1772, doi:10.1007/s10040-010-0672-3.
- Gurdak, J.J.**, Walvoord, M.A., and McMahon, P.B., 2008. Susceptibility to enhanced chemical migration from depression-focused preferential flow, High Plains aquifer, *Vadose Zone Journal*, v. 7, no. 4, 1218–1230, doi: 10.2136/vzj2007.0145.
- McMahon, P. B., K. R. Burow, L. J. Kauffman, S. M. Eberts, J. K. Böhlke, and **Gurdak, J.J.**, 2008. Simulated response of water quality in public supply wells to land use change, *Water Resources Research*, 44, W00A06, doi:10.1029/2007WR006731.
- Gurdak, J.J.**, Hanson, R.T., McMahon, P.B., Bruce, B.W., McCray, J.E., Thyne, G.D., and R.C. Reedy, 2007. Climate variability controls on unsaturated water and chemical movement, High Plains aquifer, USA., *Vadose Zone Journal* 6(2), 533-547, doi: 10.2136/vzj/2006.0087.
- Gurdak, J.J.**, McCray, J.E., Thyne, G.D., and Qi, S.L., 2007. Latin hypercube approach to estimate uncertainty in ground water vulnerability. *Ground Water*, 45, 3, 348-361, doi: 10.1111/j.1745-6584.2006.00298.x.
- McMahon, P.B., K.F. Dennehy, B.W. Bruce, J.K. Böhlke, R.L. Michel, **J.J. Gurdak**, and D.B. Hurlbut. 2006. Storage and transit time of chemicals in thick unsaturated zones under rangeland and irrigated cropland, High Plains, United States. *Water Resources Research* 42: doi:10.1029/2005WR004417.

### **Books (2):**

- Treidel, H., Martin-Bordes, J.J., and **Gurdak, J.J.** (Eds.), 2012, Climate change effects on groundwater resources: A global synthesis of findings and recommendations, International Association of Hydrogeologists (IAH) - International Contributions to Hydrogeology, Taylor & Francis publishing, 414 p., ISBN 978-0415689366.  
<http://www.crcpress.com/product/isbn/9780415689366>

Table of Contents and Chapter 1 available here:

[http://userwww.sfsu.edu/jgurdak/Publications/Treidel\\_etal\\_2011\\_ClimateChange-Groundwater\\_tableofcontents.pdf](http://userwww.sfsu.edu/jgurdak/Publications/Treidel_etal_2011_ClimateChange-Groundwater_tableofcontents.pdf)

**Gurdak, J.J.**, 2008. Ground-water vulnerability: Nonpoint-source contamination, climate variability, and the High Plains aquifer, VDM Verlag Publishing, Saarbrucken, Germany, ISBN: 978-3-639-09427-5, 223 p.

#### **Book Chapters and Forewords (6):**

**Gurdak, J.J.**, Wolf, C., Gross, Z., Carvalho Resende, T., and Leblanc, M., 2018 - *In Review*, Groundwater, climate variability and change, Wiley Encyclopedia of Water: Science, Technology, and Society, Wiley, 17 pages.

**Gurdak, J.J.**, 2018, The Water-Energy-Food Nexus and California's Sustainable Groundwater Management Act, Endo, A. and Oh, T., (Eds.), The Water-Energy-Food Nexus: Human-Environmental Security in the Asia-Pacific Ring-of-Fire, Springer publishing, Chapter 11, pgs. 145-156, ISBN 978-981-10-7382-3.

**Gurdak, J.J.**, 2014, Chapter 8. Groundwater vulnerability, *In* Eslamian, S. (Ed.). Handbook of Engineering Hydrology, Volume 3: Environmental Hydrology and Water Management. 33 p., CRC Press, ISBN 9781466552494, (**Invited**).

**Gurdak, J.J.**, 2013, Foreword, Groundwater in the coastal zone of Asia-Pacific, C. Wetzelhuetter (Ed.), Springer, 382 p., ISBN 978-94-007-5648-9 (**Invited**).

**Gurdak, J.J.**, McMahan, P.B., and Bruce, B.W., 2012, Vulnerability of groundwater quality to human activity and climate change and variability, High Plains aquifer, USA, pp. 145-167, *In* Treidel, H., Martin-Bordes, J.J., and **Gurdak, J.J.**, (Eds.). Climate change effects on groundwater resources: A global synthesis of findings and recommendations, International Association of Hydrogeologists (IAH) - International Contributions to Hydrogeology, Taylor & Francis publishing, 414 p., ISBN 978-0415689366.

<http://www.crcpress.com/product/isbn/9780415689366>

**Gurdak, J.J.**, and McCray, J.E., 2005. Groundwater vulnerability to pesticides: statistical approaches, *in* Lehr, J.H. and Keeley, J., Water Encyclopedia: Volume 5: Ground Water, John Wiley & Sons, DOI: 10.1002/047147844X.gw1951, 594–599.

#### **U.S. Geological Survey (USGS) Reports (12):**

(USGS Peer-Review Policy: <http://www.usgs.gov/usgs-manual/500/502-3.html>)

Underlined author denotes MS or BS student supervised by Gurdak.

Steele, G.V., **Gurdak, J.J.**, and Hobza, C., 2014, Water movement through the unsaturated zone of the High Plains aquifer in the Central Platte Natural Resources District, Nebraska, 2008–12, U.S. Geological Survey Scientific Investigations Report 2014-5008, Reston, VA, 51 p.

<http://pubs.usgs.gov/sir/2014/5008/>



- Clark, B.R., Hart, R.M., and **Gurdak, J.J.**, 2011, Groundwater availability of the Mississippi Embayment, U.S. Geological Survey Professional Paper 1785, Reston, VA, 62 p.; <http://pubs.usgs.gov/pp/1785/>
- Gurdak, J.J.**, Hanson, R.T., and Green, T.R., 2009. Effects of climate variability on groundwater resources of the United States: U.S. Geological Survey Fact Sheet 2009-3074, 4 p., <http://pubs.usgs.gov/fs/2009/3074/>
- Gurdak, J.J.** Qi, S.L., and Geisler, M.L., 2009. Estimating prediction uncertainty from geographical information system raster processing: A user's manual for the Raster Error Propagation Tool (REPTool), U.S. Geological Survey Techniques and Methods 11-C3, 71 p.
- Gurdak, J.J.**, and Roe, C.D., 2009. Recharge rates and chemistry beneath playas of the High Plains aquifer—A literature review and synthesis, U.S. Geological Survey Circular 1333, 39 p.
- Gurdak, J.J.**, McMahon, P.B., Dennehy, K.F., and Qi, S.L., 2009. Water quality in the High Plains Aquifer, Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming, 1999–2004: U.S. Geological Survey Circular 1337, 63 p.
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- Steele, G.V., **Gurdak, J.J.**, and Cannia, J., 2008, Characterizing recharge across climatic and land use regions of the Great Plains, Climate Change 2008: University of Nebraska-Lincoln and USGS climate change workshop, Lincoln, NE, May 19-22, p. 7-8.
- Qi, S.L., **Gurdak, J.J.**, and Geisler, M.L., 2008, Quantifying error propagation and prediction uncertainty for raster processing using Raster Error Propagation tool (REPTool), *in* Helterbrand, W.S., and Sieverling, J.B., Proceedings of the U.S. Geological Survey Seventh Biennial Geographic Information Science workshop, Denver, Colorado, May 12-16, U.S. Geological Survey Scientific Investigations Report 2008-5074, p. 23.
- Qi, S.L., **Gurdak, J.J.**, and Geisler, M.L., 2008, Quantifying error propagation and prediction uncertainty for raster processing using Raster Error Propagation tool (REPTool), USGS Seventh Biennial Geographic Information Science (GIS) Workshop (USGS GIS 2008) – “GIS For Tomorrow’s Challenges”, May 12-16, Denver, CO.
- Gurdak, J.J.**, 2008, Forecasting Colorado streamflow under natural climate variability, Third Interagency Conference on Research in the Watershed, Estes Park, CO, September 8-11.
- Gurdak, J.J.**, Taniguchi, M., Martin, J.L., Green T., Kooi, H., Hiscock, K., Taylor, K., and Bruce, B.W., 2008, Assessing global groundwater resources under the pressures of climate change and linked human activities, National Ground Water Association, 2008 Ground Water Summit Meeting, Memphis, TN.
- Gurdak, J.J.**, and Hanson, R.T., 2007, Recharge response to natural climate variability on interannual to multidecadal timescales, EOS Trans. American Geophysical Union, 88(52), Fall Meet. Suppl., Abstract H14E-08.

- Gurdak, J.J.**, Walvoord, M.A., McMahon, P.B., 2007. Focused recharge and enhanced-chemical migration from seasonal ponding near irrigation wells, High Plains aquifer, Geological Society of America, Annual Meeting, Denver, CO.
- Gurdak, J.J.**, 2007. Climate-variability controls on groundwater sustainability, High Plains aquifer, National Ground Water Association, 2007 Ground Water Summit Meeting, Albuquerque, NM.
- Qi, S.L., and **Gurdak, J.J.**, 2007, Use of GIS in modeling groundwater vulnerability to nitrate in the High Plains aquifer, ESRI International User's Conference, San Diego, CA, June 18-22.
- Gurdak, J.J.**, 2006, Advances in spatial and temporal analysis of groundwater vulnerability to nonpoint-source contamination, High Plains aquifer, Dissertation Abstracts Intern., Ann Arbor Michigan.
- Gurdak, J.J.**, 2006, Human and climate stresses on ground water: Life and water on the High Plains aquifer, United States. Research Institute for Humanity and Nature, First International Symposium – Water and Better Human Life in the Future, Nov. 6-8, 2006, Kyoto, Japan, Abstracts with Program, Open Lectures, 34 p.
- Gurdak, J.J.**, 2006, Human and climate stresses on ground water: Life and water on the High Plains aquifer, United States. *Research Institute for Humanity and Nature, First International Symposium – Water and Better Human Life in the Future*, Nov. 6-8, 2006, Kyoto, Japan, Conference Proceed. Paper, 8 p.
- Gurdak, J.J.**, 2006, Predicting Colorado Front Range stream discharge under natural climate variability: The Cache La Poudre River case study, Managing drought and water availability in vulnerable environments: Creating a roadmap for change in the United States, Geological Society of American, Longmont, CO, September 18-20, Geological Society of America Specialty Meetings, GSA Abstracts with Programs ISSN 1556-4800, No. 3.
- Gurdak, J.J.**, 2006, Using logistic regression to assess regional groundwater vulnerability; High Plain aquifer. 5th National Water-Quality Monitoring Council meeting, May 7-11, San Jose, CA.
- Bruce, B.W., Dennehy, K.F., McMahon, P.B., **Gurdak, J.J.**, and Qi, S.L., 2006, Design considerations for assessing groundwater quality in a regional aquifer system: High Plains aquifer. 5th National Water-Quality Monitoring Council meeting, May 7-11, San Jose, CA.
- Gurdak, J.J.**, 2006, Understanding groundwater response to human- and climate-induced stresses: High Plains aquifer, International Symposium on GRAPHIC, April 4-6, Research Institute for Humanity and Nature, Kyoto, Japan
- Gurdak, J.J.**, Bruce, B.W., McMahon, P.B., and Dennehy, K.F. 2006, Techniques to assess human and climate impacts on groundwater – High Plains aquifer perspective, International Symposium on GRAPHIC, April 4-6, Research Institute for Humanity and Nature, Kyoto, Japan.
- Qi, S.L., and **Gurdak, J.J.**, 2006, Use of GIS in modeling groundwater vulnerability to nitrate in the High Plains aquifer, U.S. Geological Survey GIS Conference 2006, Denver, CO.
- Bruce, B.W., **Gurdak, J.J.**, McMahon, P.B., Hanson, R.T. 2005, Response of deep percolation in the vadose zone to climate variability, AGU Annual Fall Meeting 2005.

- Gurdak, J.J.**, Hanson, R.T., 2005, Climate variability of water quality in the High Plains aquifer, American Geophysical Union Annual Fall Meeting 2005, AGU Abstracts with Programs.
- Gurdak, J. J.**, and Thyne, G., 2005, Sorption controlled arsenic mobility in groundwater of the Zimapán Valley, Mexico, Geological Society of America Annual Fall Meeting, GSA Abstracts with Programs.
- Walvoord, M.A., **Gurdak, J.J.**, and McMahon, P.B., 2005, Focused flow near irrigation wells as a possible mechanism of regionally enhanced chemical migration in the High Plains, Central U.S., Eos Trans. American Geophysical Union, 86(52), Fall Meet. Suppl., Abstract H131-1414.
- Gurdak, J. J.**, and Qi, S.L., 2004, Predicting nitrate contamination in recently recharged groundwater: High Plains regional aquifer. AGU Annual Fall Meeting 2004, AGU Abstracts with Programs.
- Gurdak, J. J.**, and Qi, S.L., 2004, Vulnerability of recently recharged ground water in the High Plains aquifer to nitrate contamination, Geological Society of America, Fall Meeting, 36, 5.
- Weeks, E.P., McMahon, P.B., Dennehy, K.F., and **Gurdak, J.J.**, 2004, Nitrous oxide production rates at sites in the U.S. High Plains, as estimated from measurements of N<sub>2</sub>O concentration in the deep unsaturated zone, Geological Society of America, Fall Meeting, Vol. 36, No. 5.
- Qi, S.L., and **Gurdak, J.J.**, 2004, GIS and statistical groundwater vulnerability modeling: ESRI International User Conference 2004.
- Bruce, B.W., Qi, S.L., Dennehy, K.D., McMahon, P.B., and **Gurdak, J.J.**, 2004, From the water sample to the big picture – A multi-scale water-quality investigation of the High Plains aquifer. High Plains Groundwater Resources Conference: Challenges and Opportunities, Lubbock, TX.
- McMahon, P.B., Weeks, E.P., Böhlke, J.K., Michel, R.L., Dennehy, K.F., and **Gurdak, J.J.**, 2003, Transport of chlorofluorocarbons and sulfur hexafluoride in thick unsaturated zones overlying the High Plains aquifer, USGS Unsaturated Zone Interest Group, Richland, WA.
- Dennehy, K.F., McMahon, P.B., Bruce, B.W., and **Gurdak, J.J.**, 2003, Water movement through thick unsaturated zones in the High Plains aquifer, U.S. Geological Survey Unsaturated Zone Interest Group, Richland, WA.
- Gurdak, J.J.**, Armienta, M.A., and Ongley, L.K., 1998, Arsenic source determination of a contaminated aquifer, Zimapán Valley, Hidalgo, Mexico: Geological Society of America Annual Fall Meeting, Abstracts with Programs, v. 30, no. 1, p. 23.

## **INVITED TALKS, COLLOQUIA, SEMINARS, and LECTURES (43 total)**

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- 2018 Southern African Development Community (SADC)-Groundwater Management Institute (GMI), UNESCO-International Water Management Institute (IWMI-Southern Africa Groundwater Conference, theme “Adapting to climate change in the SADC region through water security – A focus on groundwater” title of talk: "The water-energy-food nexus & Sustainable Groundwater Management”, Johannesburg, South Africa, September 26-28, 2018. **(Invited Keynote Speaker)**
- 2018 Resources for Future Generations (RFG-2018) conference, "The water-energy-food nexus & California's Sustainable Groundwater Management Act (SGMA), Vancouver, British Columbia, June 19. **(Invited Keynote Speaker)**
- 2017 San Francisco State University, Dept. of Earth & Climate Sciences, Distinguished Speaker Series, “Engaging Earth Scientists in the Water-Energy-Food Nexus”, San Francisco, CA, Sept 26.
- 2017 Eawag (Swiss Federal Institute of Aquatic Science and Technology, ETH Domain), Department of Drinking Water Resources and Drinking Water, seminar titled “Predicting recharge rates and quality beneath land use and climate gradients”, Dübendorf, Switzerland, March 20.
- 2017 Eawag (Swiss Federal Institute of Aquatic Science and Technology, ETH Domain), Eawag-wide seminar titled “Beneath the surface of climate change: Managing natural climate variability toward sustainable groundwater”, Dübendorf, Switzerland, March 10.
- 2017 ETH Zurich, Institute of Environmental Engineering, Hydrology and Water Resources Management, invited seminar titled "A Water-Energy-Food Nexus approach toward sustainable groundwater and agroecosystems", Zurich, Switzerland, February 8.
- 2017 University of California, Santa Cruz (UCSC), Dept. of Environmental Studies, January 30.
- 2016 American Geosciences Institute (AGI) Critical Issues Forum 2016 – Addressing Changes in Regional Groundwater Resources: Lessons from the High Plains Aquifer, Title of talk: Groundwater policy in the face of climate change. Colorado School of Mines, Golden, Colorado, Oct 27-28 **(Invited Keynote Speaker)**
- 2016 University of California, Santa Cruz (UCSC), Dept. of Environmental Studies, January 20.
- 2015 Research Institute for Humanity and Nature (RIHN), Kyoto, Japan, October 26.
- 2015 XVth World Water Congress, Edinburgh, Scotland, May 27 **(Invited Keynote Speaker)**.
- 2015 Cooperative Institute for Research in Environmental Sciences (CIRES), University of Colorado Boulder, Boulder, CO., March 2.
- 2014 University of North Carolina at Chapel Hill, Nexus 2014 Conference, Groundwater Engineering Toward Sustainability of the Water-Food Nexus in Coastal California.
- 2014 Washington State University-Vancouver, School of the Environment, Vancouver, WA,
- 2013 Stanford University, Department of Civil and Environmental Engineering, Environmental Fluid Mechanics and Hydrology Program, Stanford, CA
- 2013 University of California, Davis, Department of Land, Air and Water Resources, Davis, CA
- 2013 University of Kansas, Department of Geology, Lawrence, KS
- 2013 Research Institute for Humanity and Nature (RIHN), Kyoto, Japan
- 2013 Stanford University, Woods Institute for the Environment, Water in the West
- 2013 Pajaro Valley Community Water Dialogue (CDW), Managed Aquifer Recharge Action Group, Watsonville, CA

- 2012 Geosyntec Inc., Oakland, CA
- 2012 San Francisco State University, Department of Geography, San Francisco, CA
- 2011 San Francisco State University, Dept. of Earth & Climate Sciences, San Francisco, CA
- 2011 UNESCO-GRAPHIC Latin American-Caribbean (LAC) Seminar “Groundwater resources, climate change, and human pressures: Assessment and adaptation in Latin America and the Caribbean, Juan Dolio, Dominican Republic.
- 2011 San Francisco State Univ., Office of Research & Sponsored Projects, San Francisco, CA
- 2010 Research Institute for Humanity and Nature, Kyoto, Japan
- 2010 Nebraska Rural Water Association, Annual Conference, Columbus, NE
- 2010 National Center for Atmospheric Research (NCAR), 2010 Junior Faculty Forum, Effects of interannual to multidecadal climate variability on water resources, Boulder, CO
- 2009 San Francisco State University, Department of Earth & Climate Sciences
- 2009 Nebraska Grout Study Conference, University of Nebraska – Lincoln, NE
- 2009 Western State Water Council, “160<sup>th</sup> Council Meeting”, Park City, UT
- 2009 San Francisco State University, Department of Earth & Climate Sciences
- 2009 University of South Florida, Department of Geology, Tampa, FL
- 2008 USGS, Center for Excellence in Geospatial Information Science, Reston, VA
- 2007 USGS, Office of Groundwater, Groundwater Sustainability, Reston, VA
- 2007 Colorado Water Conservancy District meeting, Berthoud, CO
- 2007 USGS, Center for Excellence in Geospatial Information Science, Reston, VA.
- 2006 Colorado School of Mines, Department of Environmental Science and Engineering, Watershed Systems Analysis (ESGN-527, graduate course), Golden, CO
- 2006 Research Institute for Humanity and Nature, Kyoto, Japan, Kyoto, Japan
- 2006 USGS, Colorado Water Science Center, Denver, CO
- 2006 Platte River Cooperative Hydrology Study (COHYST), Lincoln, NE
- 2006 USGS Climate Change workshop, Denver, CO
- 2006 Research Institute for Humanity and Nature, Kyoto, Japan
- 2006 National Water-Quality Monitoring Council meeting, San Jose, CA
- 2005 University of Colorado at Boulder, Introduction to Physical Geography – Landscapes and Water (GEOG-1011, undergraduate course), Boulder, CO
- 2005 USGS Workshop: The Environmental Effects of Agricultural Practices, Denver, CO
- 2005 USGS Colorado Water Science Center Seminar, Denver, CO
- 2003 USGS, Technical Groundwater Meeting; Recent and Ongoing Groundwater studies, Lubbock, TX.

## TEACHING AND ADVISING

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### San Francisco State University, Department of Earth & Climate Sciences, San Francisco, CA.

- **Current teaching responsibilities: 3/3 (9 units per semester)**
  1. Environmental Geology (ERTH 230): Spring 2010, 2011
  2. California Water (ERTH 330): Fall 2014, 2015, 2016
  3. Hydrogeology (ERTH 444/744): Fall 2009, 2010, 2011, 2012, 2013, 2016; Spring 2015
  4. Groundwater Contamination (ERTH 544/844): Spring 2011, 2016
  5. Geochemistry (ERTH 522/822): Spring 2012, 2014, 2016
  6. Seminar in Applied Geosciences (ERTH 700): Fall 2010, 2011, 2012

7. Research Methods in Geosciences (ERTH 701): Spring 2013, 2016
8. Quantitative Methods in Geosciences (ERTH 702): Fall 2017
9. Vadose Zone Hydrology (ERTH 795): Spring 2010, Fall 2015

**Colorado School of Mines, Environmental Science and Engineering Program, Golden, CO**

2007 - Vadose Zone Hydrology (ESGN 589v), Co-taught with Prof. John McCray

**U.S. Geological Survey (USGS), National Training Center, Lakewood, CO**

2004 - Statistical Methods for Hydrologists, Teaching Assistant (professional 40-hour course)

**Bates College, Department of Geology, Lewiston, ME**

1997, 1998 - Hydrogeology, Teaching Assistant

**Primary advisor or committee member for 51 undergraduate and graduate students:**

**Advising: PhD Degree Committee Membership**

**PhD Dissertation Committee Member: 1 in progress at UC Santa Cruz**

<i>Name</i>	<i>Degree</i>	<i>Dates</i>	<i>Research Project</i>
Sarah Beganskas	PhD	'14-18	<i>PhD Candidate, Dept of Earth and Planetary Sciences, U.C. Santa Cruz. Dissertation: Runoff generation, infiltration dynamics, and recharge across multiple scales: Applications for improving groundwater supply and quality</i>

**Advising: Master's Degree Committee Membership**

**MS Thesis Chair (Primary Advisor): 13 completed and 7 in progress, all at SFSU**

<b>No.</b>	<b>Name</b>	<b>Degree</b>	<b>Dates</b>	<b>Thesis Title</b>
21	Hannah Dailey	MS	'18-present	<i>In Progress: Groundwater sustainability modeling</i>
20	Suzanne Goldstein	MS	'17-present	<i>In Progress: Modeling climate change impacts on flood extent and community vulnerability , Novato Creek, Marin County, California</i>
19	Lauren Finkelstein	MS	'17-present	<i>In Progress: Implications of the Water-Energy-Food Nexus on coastal groundwater sustainability</i>
18	Jessica Rodriguez	MS	'17-present	<i>In Progress: Sensitivity of groundwater recharge to low impact development design parameters under current and future climate</i>
17	Jeremiah Smith	MS	'17-present	<i>In Progress: Implications of land use and climate change effects on recharge and groundwater sustainability</i>
16	Deandra Alvear	MS	'17-present	<i>In Progress: Water resources response to climate variability in the Pajaro Valley watershed, CA</i>
15	Cass Wolf	MS	'17-present	<i>In Progress: Implications of land use and climate change effects on recharge and groundwater sustainability</i>
14	Lawrence Fujiwara	MS	'17-present	<i>In Progress: Low impact development effects on recharge and urban groundwater sustainability</i>
13	Mehrdad	MS	'14-16	Hydrogeochemistry of two contrasting atoll island

	Hejazian			aquifers, Roi-Namur, Republic of the Marshall Islands.
12	Claudia Corona	MS	'14–16	Climate variability and vadose zone controls on damping of transient recharge fluxes. Went on to PhD at CU Boulder, Geosciences.
11	Elzie Velasco	MS	'12–15	Relations between climate variability and groundwater fluctuations in U.S. Principal Aquifers.
10	Mays Danfoura	MS	'12–14	Redox dynamics in groundwater beneath low impact development (LID).
9	Gaby Geyer	MS	'12–14	Vulnerability of recently recharged groundwater in the California coastal basins to NO <sub>3</sub> <sup>-</sup> contamination, 54 pgs.
8	Michael Wrigley	MS	'12–14	ICP-MS and XRF soil metal concentration screening comparison by quantitative analysis, 83 pgs.
7	Zi Zi Searles	MS	'10–14	Error propagation and uncertainty in predictions of nonpoint-source nitrate contamination in groundwater, 107 pgs.
6	Ryan Corbett	MS	'10–14	Mathematical modeling of fog water deposition, San Francisco, California, 42 pgs.
5	Zachary Lauffenburger	MS	'10-13	Land use and climate change controls on recharge, northern High Plains aquifer, 51 pgs. Went on to PhD at University of Montana, Geosciences.
4	Michelle Newcomer	MS	'10–12	Recharge beneath low impact development and the effects of climate variability, 102 pgs; Went on to PhD at UC Berkeley, Civil and Environmental Engineering
3	Brent Everett	MS	'09–11	Pore-scale dual-domain flow and temporal variability in recharge, High Plains aquifer, 222 pgs.
2	Dylan Duverge	MS	'09–11	Establishing background arsenic in soil of the urbanized San Francisco Bay region, 68 pgs.
1	Amber Kuss	MS	'09–11	Effects of climate variability on recharge in regional aquifers of the United States, 227 pgs. Went on to PhD at UC Santa Cruz, Environmental Studies

**Advising: MS Thesis Committee Member: 9 completed and 3 in progress all at SFSU**

No.	Name	Degree	Dates	Research Project
12	Jacob DeAngelo	MS	'17-present	In Progress: Modeling geothermal reservoirs, Great Basin, Nevada
11	Brandon Swanson	MS	'17-present	In Progress: Pressure-temperature conditions of Kyanite bearing migmatites at Ledge Mountain, Central Adirondack Highlands
10	Deseret Weeks	MA	'16-	In Progress: Synthesis of mercury science, Cache

			present	Creek watershed, MA in Geography, Resource management and environmental planning, SFSU
9	Katie Sullivan	MS	'16-17	Correlation of erupted plutonic clasts and volcanic deposits from Newberry volcano, Oregon
8	Gionata Bianchi	MS	'16-17	Particle Size Reduction in Geophysical Granular Flows: Field Data from Inyo Creek and Laboratory Experiments
7	Ellen Doudna	MA	'2015-16	Water-energy-food-climate nexus of irrigation and fracking wells in California, MA in Geography, Resource management and environmental planning, SFSU
6	Elizabeth Peters (CSU East Bay)	MS	'2015-17	Sources and residence times of groundwater near Mount Shasta determined by geochemical tracers, isotopic tracers, and evapotranspiration analysis
5	Andy Nieblas	MS	'15-16	Pressure-temperature-time-deformation history of the Lahul Valley, NW Indian Himalaya
4	Omid Arabnia	MS	'13-15	Particle size reduction in debris flows: Laboratory experiments compared to field data from Inyo Creek, CA
3	Larry Alden	MS	'12-15	Segregation ice fracturing of river bank rock: Implications of the width of bedrock channels.
2	Eric Donaldson	MS	'09–11	Geomorphic controls on spatial distribution of cobbles and boulders in stream-channel networks, 101 pgs.
1	Leah Johnson	MS	'09–11	Determination of radiocarbon in porewater dissolved organic matter using thermal sulfate reduction, 59 pgs.

**Advising: Bachelor's Degree Committee Membership**

**BS Thesis Chair (Primary Advisor): 3 completed and 1 in progress all at SFSU**

No.	Name	Degree	Dates	Thesis
4	Jillian Amaya	BS	'18-19	Cost-benefit analysis of low impact development in semi-rural, karst environment
3	Olivia Wilbur	BS, Hydrology emphasis	'17–18	Pacific island groundwater response to climate variability



2	Michelle Haskins	BS	'09–11	Structural and hydrologic implications of jointing in the Werner Creek drainage basin, Catskill Mountains, eastern New York, 30 pgs.
1	Carl Martin	BS	'09–11	Early warning geochemical indicators of seawater intrusion, Westside Basin aquifer, San Francisco, California, 69 pgs.

**BS Senior Research Project (Primary Advisor): 5 completed all at SFSU**

No.	Name	Degree	Dates	Senior Research Project
5	Dominic Eslamian	BS	'18	Assessing the future of aquifers supporting irrigated agriculture.
4	Melanie Pon	BS	'18	Effects of stormwater siltation on hydraulic conductivity of low impact development (LID) features
3	Danah Mai Phan	BS	'18	Aquifer susceptibility to arsenic contamination
2	Hector Rangel	BS	'15–16	Tracer based estimates of recharge rates beneath irrigated agriculture and rangeland, Central Platte, Nebraska
1	Eric Louie	BS	'16	2015-2016 El Nino and recharge beneath an engineered rain garden in San Francisco

**Advising: BS Thesis Committee Member: 6 completed BS Geology Theses all at SFSU**

No.	Name	Degree	Dates	Research Project
6	Nicholas Carver	BS	'17-18	Recovering multiple climate variables from single site collection of <i>Pinus ponderosa</i>
5	Jennifer Luscombe	BS	'14-2015	Proposal for the P-T-t evolution of ultra high pressure eclogites, Tso Moriri complex, NW Himalaya
4	Ryan Gunder	BS	'14-present	Improving thermobarometric modeling of Himalayan gneiss domes using chemical analysis of garnets
3	Yousef Yousfi	BS	'12–13	Channel geometry and roughness controls on discontinuous rating curves.
2	Nicholas Aiello	BS	'12–13	Constructing the Diagenetic History of a Hadrosaur Bonebed near Rudyard, Montana Using Calcite, Septarian Siderite, Ferruginous Septarian Dolomite and Limonite Concretions.
1	Jillian Amaya	BS	'12-14	Variation in density of river bed sediment in a volcanic landscape, Klamath River, Oregon.

## Advising: Non-Thesis/Non-Degree Research Projects

### Primary Research Advisor: SFSU NSF Climate Change Scholar's Program: 5 completed

No.	Name	Degree	Dates	Research Project
5	Leah Gaten-Slahor	BS	S13,F13, S14	Low impact development, climate change, and groundwater sustainability
4	Elizabeth Peters	BS	F12	Climate change effects on recharge beneath low impact development.
3	Kristofer Kaufman	BS ESS	S12	Quantifying groundwater vulnerability to climate change.
2	Ryan Ford	BS	S12, F12	Effects of interannual to multidecadal climate variability on groundwater recharge and contaminant transport.
1	Vanessa Sorrell	BA	S12	Effects of interannual to multidecadal climate variability on ice-out dates of lakes in New England.

### RESEARCH, SCHOLARSHIP, and SERVICE AWARDS by ADVISEES (>\$104,000):

- Hannah Dailey (M.S., SFSU): 2018-2019 The Professor Emerita Karen Grove and Jay Ach Fellowship (**\$10,000**)
- Lawrence Fujiwara (M.S., SFSU): 2018-2019 **ARCS Scholar** award (**\$10,000**)
- Lauren Finkelstein (M.S., SFSU): 2017-2018, Women in Science & Engineering (WISE) Scholarship Award, **\$2,000**.
- Deandra Alvear (M.S., SFSU): 2017-2018 Water Resources Experiential Learning Internship, California State University (CSU), Water Resources Policy Initiative (WRPI), **\$5,000**.
- Dominic Eslamian (B.S., SFSU): 2017-2018 Water Resources Experiential Learning Internship, California State University (CSU), Water Resources Policy Initiative (WRPI), **\$5,000**.
- Jessica Rodriguez (M.S., SFSU): 2017-2018 Water Resources Experiential Learning Internship, USDA and CSU, Water Resources Policy Initiative (WRPI) **\$5,000**.
- Lawrence Fujiwara (M.S., SFSU): 2017-2018 Water Resources Experiential Learning, USDA and CSU, Water Resources Policy Initiative (WRPI) **\$5,000**.
- Lawrence Fujiwara (M.S., SFSU): 2018 California State University (CSU) Council on Ocean Affairs, Science and Technology (COAST) Graduate Student Research Award (**\$3,000**)
- Lauren Finkelstein (M.S., SFSU): 2018 California State University (CSU) Council on Ocean Affairs, Science and Technology (COAST) Graduate Student Research Award (**\$3,000**)
- Suzanne Goldstein (M.S., SFSU): 2018 California State University (CSU) Council on Ocean Affairs, Science and Technology (COAST) Graduate Student Research Award (**\$3,000**)
- Jeremiah Smith (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2017.
- Cass Wolf (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2017
- Lauren Finkelstein (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2017.
- Jessica Rodriguez (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2017.
- Deandra Alvear (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2017.
- Lawrence Fujiwara (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2017.

17. Suzanne Goldstein (M.S., SFSU): Pestrong Geoscience Research Grant (**\$600**), 2017.
18. Claudia Corona (M.S., SFSU): Invited Commencement Speaker, San Francisco State 2016 Commencement, AT&T Park, San Francisco, May 27.
19. Mehrdad Hejazian (M.S., SFSU): 3<sup>rd</sup> Place Award - Physical Sciences, SFSU Student Research Competition, 2016.
20. Claudia Corona (M.S., SFSU): SFSU's special honor as *hood* recipient for the College of Science & Engineering, May 2016.
21. Claudia Corona (M.S., SFSU): SFSU's Graduate Distinguished Achievement Award, May 2016.
22. Claudia Corona (M.S., SFSU): 2015-2016 SFSU College of Science and Engineering, Student Travel Award (IRA) (**\$295**)
23. Mehrdad Hejazian (M.S., SFSU): 2015 California State University (CSU) Council on Ocean Affairs, Science and Technology (COAST) Graduate Student Travel Award (**\$1,000**)
24. Elzie Velasco (M.S., SFSU): SFSU's Graduate Distinguished Achievement Award, 2015.
25. Claudia Corona (M.S., SFSU): 2015-2016 **ARCS Scholar** award (**\$10,000**)
26. Claudia Corona (M.S., SFSU): 2014-2015 **ARCS Scholar** award (**\$10,000**)
27. Gaby Geyer (M.S., SFSU): 2014 CSU COAST Graduate Student Research Award (**\$3,000**)
28. Elzie Velasco (M.S., SFSU): 2013-2014 **ARCS Scholar** award (**\$10,000**)
29. Ryan Corbett (M.S., SFSU): SFSU COSE Student Project Showcase award winner, 2013.
30. Ryan Corbett (M.S., SFSU): Pestrong Graduate Teaching Assistant Award, 2013.
31. Elzie Velasco (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2013.
32. Mike Wrigley (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2013.
33. Mays Danfoura (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2013.
34. Gaby Geyer (M.S., SFSU): 2012-2013 Robert Maxwell Memorial Scholarship (**\$4,000**)
35. Elzie Velasco (M.S., SFSU): Awarded complementary student membership to the International Association of Hydrogeologists (IAH), December 2012.
36. Michelle Newcomer (M.S.): SFSU's Graduate Distinguished Achievement Award, 2012.
37. Michelle Newcomer (M.S., SFSU): Jane Lewis Fellowship, UC Berkeley.
38. Ryan Corbett (M.S., SFSU): Dawdy Hydrology Research Grant (**\$800**), 2011.
39. Michelle Newcomer (M.S., SFSU): GSA Graduate Student Research Grant (**\$1,800**), 2011.
40. Michelle Newcomer (M.S., SFSU): Research Instrument Fellowship, Decagon Devices (**\$4,660**), 2011.
41. Amber Kuss (M.S., SFSU): 1<sup>st</sup> Place, Physics & Math, SFSU Student Research Comp., 2011.
42. Amber Kuss (M.S., SFSU): SFSU, College of Science and Engineering (COSE), Graduate Distinguished Achievement Award, 2011.

## **SERVICE TO CAMPUS AND COMMUNITY**

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### **DEPARTMENT COMMITTEES and ASSIGNMENTS** (Department of Earth & Climate Sciences)

- 2018-present Chair, Retention, Tenure, and Promotion (RTP) Committee
- 2017-present Chair, Development and Alumni Relations Committee
- 2018-2019 Chair, Faculty Hiring Committee (Tenure track position in Environ. Hydrology)
- 2015-2016 Faculty Hiring Committee (Tenure track position in Sedimentology)
- 2015-2016 Faculty Hiring Committee (Tenure track position in Coastal & Estuarine Physical Processes)

- 2015-2018 Retention, Tenure, and Promotion (RTP) Committee
- 2014 Faculty Hiring Committee (Tenure track position in Sedimentology)
- 2013-present B.S. Degree Transformation Committee
- 2013 Faculty Hiring Committee (Tenure track position in Physical Oceanography)
- 2012-present Curriculum Committee
- 2012-present Student Research Award Committee
- 2013-present Indirect cost recovery (IDC) Committee
- 2012-2013 Advisor, student study group, Professional Geologist licensure exam
- 2012-2013 M.S. Geosciences Degree Self-Study Committee
- 2011 Co-author, 2011 Program Assessment Report (BS degree).

**COLLEGE COMMITTEES and ASSIGNMENTS** (College of Science and Engineering (COSE))

- 2018 College of Science and Engineering (COSE), Scholarship Committee, Spring and Fall semesters, 2018.
- 2018 Faculty Judge, CSU Student Research Competition, division of Mathematical & Physical Sciences (MATH, EARTH, CHEM, and PHYS), spring semester, February 21.
- 2014 Review Committee for Development of Research and Creativity (DRC), SFSU College of Science and Engineering
- 2011 Faculty Judge of COSE Student Project Showcase, May 13
- 2010 Conducted tour of my Lab, SCI 560 Science Writing class, March 9

**UNIVERSITY COMMITTEES and ASSIGNMENTS**

- 2014 Faculty Marshall, 2014 Undergraduate Commencement, SFSU, May 24, 2014.
- 2014 Faculty Judge: 2014 Student Research Competition, SFSU/CSU Research Competition.
- 2012-present Concentration Advisor, Earth System Science (ESS) concentration, Environmental Studies Program.
- 2009-present Associated Faculty, Environmental Studies Program, Earth Systems Science (ESS) Emphasis Advisor.
- 2010 Invited Panelist, ECO student-run environmental group. Topic Water Wars. Feb 25.

**LEADERSHIP of INTERNATIONAL RESEARCH, EDUCATION, and OUTREACH PROGRAMS**

- 2014 to present – Coordinator, United Nations Educational, Scientific, and Cultural Organization (UNESCO)-International Hydrologic Programme (IHP) sponsored program: Groundwater resource assessment under the pressure of humanity and climate change (GRAPHIC).  
Program website: [www.graphicnetwork.net](http://www.graphicnetwork.net)
- 2004 to 2014 – Expert Member, United Nations Educational, Scientific, and Cultural Organization (UNESCO)-International Hydrologic Programme (IHP) sponsored study: Groundwater resource assessment under the pressure of humanity and climate change (GRAPHIC). Program website: [www.graphicnetwork.net](http://www.graphicnetwork.net)
- 2011 to present – Co-Coordinator, Groundwater@Global Paleoclimate Signals (G@GPS) Initiative, which is an inclusive group of scientists coordinating paleogroundwater research, and to interpret links between paleoclimate archives and paleogroundwater observations at

continental and intercontinental scales. G@GPS is supported by INQUA and UNESCO IGCP.  
Program website: [www.gw-gps.com](http://www.gw-gps.com)

2007 – International Workshop Organizer, Expert Steering Committee meeting, UNESCO-IHP GRAPHIC program, Sept. 18-20, Estes Park, Colorado, Included participants from 9 countries.

#### **EDITORSHIPS**

2017-2018 Co-Guest Editor (with Re, V., Maldaner, C., Leblanc, M., Carvalho Resende, T., and Stigter, T.Y.) Topical Collection: Climate change research by early-career hydrogeologists. Hydrogeology Journal, available here:

[https://link.springer.com/journal/10040/topicalCollection/AC\\_a0f8eb684f19e6660ddd682825b4209b](https://link.springer.com/journal/10040/topicalCollection/AC_a0f8eb684f19e6660ddd682825b4209b)

2015-2016 Co-Guest Editor (with Peter Swarzenski (USGS Santa Cruz) and Makoto Taniguchi), *Journal of Hydrology: Regional Studies*, special issue on the Water-Energy-Food Nexus of the Asia-Pacific Region.

2012 Co-Editor, Climate change effects on groundwater resources: A global synthesis of findings and recommendations, International Association of Hydrogeologists - International Contributions to Hydrogeology, Taylor & Francis, 414 p.

2009-2010 Guest Editor, *Water Resources Research* special section: climate change and groundwater.

#### **INVITED PEER REVIEWER of RESEARCH PROPOSALS (41 total)**

2018 National Science Foundation (NSF) – Hydrologic Sciences, April 8, 2018 (1 proposal)

2017 National Science Foundation (NSF) – Hydrologic Sciences, Oct 20, 2017 (1 proposal)

2016 Austrian Science Fund (FWF) (NSF equivalent) (1 proposal)

2015, '14, '11, '10 USGS – National Institute for Water Research (2010-1; '11-1; '14-1; '15-1)

2014 National Science Foundation (NSF) – Hydrologic Sciences, Oct 6, 2014 (2 proposals)

2013 NSF – Hydrologic Sciences Review Panel, Oct 16-18, Alexandria, VA (25 proposals)

2010, 2011 NSF – Geobiology and Low-Temperature Geochemistry Program

2009, 2010 University of Wisconsin Water Resources Institute (WRI)/State of Wisconsin's Groundwater Research and Monitoring Program (2009-1; 2010-1)

2008 NSF – Div. Earth Sciences, Instrumentation and Facilities Program (1, prior to SFSU)

2007 University of Wisconsin, Water Resources Institute Solicitation (1, prior to SFSU)

2006 University of Wisconsin, Sea Grant College Program (1, prior to SFSU)

#### **INVITED PEER REVIEWER of JOURNAL ARTICLES and BOOK CHAPTERS (>79 total)**

Science (2015 - 1; 2017 - 1)

Scientific Reports (Nature) (2015; 1)

Nature Climate Change (2016; 1)

Nature Geoscience (2016; 1)

Journal of Hydrology (9) (2016-1; 2015-1; 2013-1; 2011-2; 2009-1; 3 prior to SFSU)

Journal of Hydrology: Regional Studies (7) (2014-1; 2015-5; 2016-1; 2017-1)

Ground Water (8) (2011-1; 2010-1; 6 prior to SFSU)

Hydrogeology Journal (6) (2011-2; 2010-1; 3 prior to SFSU)  
 Water Resources Research (5) (2014-1; 2013-1; 2011-1; 2 prior to SFSU)  
 Vadose Zone Journal (3) (2016-1; 2011-2; 2010-1)  
 Environmental Science & Technology (2) (2016-1; 2018-1)  
 Geophysical Research Letters (3) (2011-1; 2016-1; 2018-1)  
 Environmental Earth Sciences (2) (2014-1; 2013-1)  
 Environmental Monitoring and Assessment (2012-1; 2017-1)  
 Science of the Total Environment (3) (2014-2; 2018-1)  
 Climatic Change (1) (2018-1)  
 Journal of Applied Geography (2) (2012-1; 2010-1)  
 Water (2015- 1; 2018-1)  
 Hydrological Sciences (2016-1)  
 Natural Resources Forum (2017-1)  
 Advances in Water Resources (1) (2014-1)  
 Quaternary International (2) (2018-2)  
 Journal of Hydrometeorology (1) (2015-1)  
 Journal of Environmental Quality (1) (1 prior to SFSU)  
 Journal of Environmental Informatics (2015-1)  
 Journal of Climatology (1) (2013-1)  
 Computers & Geosciences (1) (2011-1)  
 Weather, Climate and Society (1) (2012-1)  
 Journal of Arid Environments (1) (1 prior to SFSU)  
 Water-Energy-Food (WEF) Nexus book, published by AGU-Wiley, 2016, chapter on the WEF  
 Nexus in California with implications of climate change  
 Emerging Issues in Groundwater book, Springer publishing series called Advances in Water  
 Security, chapter titled: Assessing groundwater pollution risk in response to climate change  
 and variability (2015-1).  
 International Association of Hydrogeologists (IAH) special publication, Groundwater Response  
 to Changing Climate, edited by Taniguchi and Holman (2010-1 chapter)  
 International Association of Hydrologic Sciences (IAHS) "Red Book" Publication Series for  
 IAHS/International Union of Geodesy and Geophysics (IUGG) XXIV<sup>th</sup> General Assembly,  
 Perugia, Italy (3 chapters prior to SFSU)  
 USGS Reports (Water Resource Investigations Report, Scientific Investigations Reports, and  
 Techniques and Methods Reports) (6) (2012-1; 5 prior to SFSU)

#### **CHAIR or CO-CHAIR of NATIONAL or INTERNATIONAL CONFERENCE SESSIONS**

Resources for Future Generations (RFG 2018), Premiere conference on Energy-Minerals-Water-  
 The Earth, Session Title: Groundwater and the Water-Energy-Food-Climate Nexus,  
 Vancouver, British Columbia, Canada, June 16-21, 2018.  
 PAGES, Past Global Changes, Open Science Meeting 2017, Global Challenges for our Common  
 Future - A paleoscience perspective, Session Title: Climate variability in groundwater (and  
 unsaturated zone) archives, Vancouver, Zaragoza, Spain, May 9-13, 2017.  
 American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, USA (5 sessions):

- 2016 – Session Title: (H020) Climate variability and change and subsurface hydrology: Impacts, mitigating measures, and predictions.
- 2014 – Session Title: (H009) Advancing understanding of freshwater sustainability and the water-energy-food Nexus toward optimal management and policy under climate change and urbanization. Our sessions (2 oral and 1 poster) have 36 abstracts.
- 2010 – Session Title: (H08) Water-resource science and strategies for adaptation to climate variability and change. Our session has 50 abstracts, which is 5 highest of the 72 Hydrology sessions at AGU this year.
- 2008 – Session Title: (H12D/H13G) Advanced methods of groundwater resources assessment under the pressures of aridity, humanity, and climate change.
- 2007 – Session Title: (H14/H11) Climate influences on groundwater recharge.
- 2016 – European Geosciences Union (EGU), General Assembly, Vienna, Austria, April 17-22, 2016 (1 session): Session Title: Global palaeoclimate signals in groundwater and climate change effects on groundwater, Convenors: Martine van der Ploeg, Dioni Cendón, Sylvi Haldorsen, Jianyao Chen, Rein Vaikmäe, Roland Purtschert and Jason Gurdak
- 2015 – 42<sup>nd</sup> International Association of Hydrogeologists (IAH) Congress “Hydrogeology: Back to the Future!”, Rome, Italy. Workshop titled “Groundwater and climate change”, September 13-18, 2015. <http://www.iah2015.org/workshops/>
- 2014 – Nexus Conference, session title: Human-Environmental Security in the Asia-Pacific Ring of Fire: Water-Energy-Food Nexus, University of North Carolina, Chapel Hill, NC, March 5-8.
- 2012 – 39<sup>th</sup> International Association of Hydrogeologists (IAH) Congress “Confronting Global Change”, Niagara Falls, Canada. Session title “Groundwater and climate change: Linkages and adaptation”, September 16-21, 2012.
- 2010 – National Center for Atmospheric Research (NCAR), Junior Faculty Forum “Climate and Water: Advancing adaptation science and strategies for water-resource vulnerability from climate variability and change”, Boulder, CO, July 13-15, 2010. <https://www.asp.ucar.edu/ecsa/jff/jff10.php>
- 2006 – International Symposium on Groundwater Resources Assessment under the Pressure of Humanity and Climate Change (GRAPHIC), Session Title: Changes in groundwater quality due to climate change and human activities. Research Institute for Humanity and Nature, Kyoto, Japan. April 4-6, 2006.
- 2006 – International Symposium on “Water and better human life in the future” Session Title: Water rights, law, and governance, Research Institute of Humanity and Nature, Kyoto, Japan, Nov. 6-8, 2006.

**INVITED PANELIST: NATIONAL or INTERNATIONAL CONFERENCES or COMMISSIONS**

- 2012 to 2013 – U.S. Bureau of Reclamation (USBR) Seepage Management Plan (SMP), Seepage Management Support processes for the San Joaquin River Restoration Program (SJRRP), implement by CDM Smith and Bureau of Reclamation, Mid-Pacific Regional Office. Authored 65 pg peer-review report of the USBR SMP.
- 2013 – Advisory Planning Group, U.S. EPA Region 9, Reactive Nitrogen in the San Joaquin Valley workshop, Feb-May, 2013.

- 2012 – Groundwater recharge benefits of stormwater infiltration practices – Infiltration Volume Estimation, U.S. Environmental Protection Agency (EPA), Office of Water, Invited technical comments on EPA’s new stormwater rulemaking, March, 2012.
- 2012 – 6<sup>th</sup> World Water Forum, Side Event: Groundwater and climate change with a focus on Mediterranean coastal aquifers, Coordinators: UNESCO International Hydrological Programme (IHP), Marseilles, France, March 13, 2012.
- 2006 – International Symposium on “Water and better human life in the future,” Research Institute of Humanity and Nature, Kyoto, Japan, November 6-8, 2006.
- 2006 – International Symposium “Groundwater resource assessment under the pressure of humanity & climate change”, Research Institute of Humanity & Nature, Kyoto, Japan, April 4-6.
- 2006 to 2007 – Citizen’s advisory group for the Source Water Protection Project of Colorado Department of Public Health and Environment, discuss and respond to the State’s approaches to protecting source-water areas from potential contamination.

#### **INVITED EXPERT REVIEWER or JUDGE**

- 2016 – Invited Peer Reviewer: Russian River Independent Science Review Panel, Conceptual Model of Watershed Hydrology, Surface Water and Groundwater Interactions and Stream Ecology for the Russian River, final report, 566 pages (Jan 31, 2016), <http://www.russianriverisrp.org/>
- 2014 – Judge, Outstanding Student Paper Awards, AGU Fall Meeting
- 2014 – AY 2013-14 Council on Ocean Affairs, Science & Technology (COAST) Graduate Student Research Awards Competition (2 proposals)
- 2011 – Tenure application (for Assistant Professor), Department of Forestry and Wildland Resources, Humboldt State University, September.
- 2007 – Judge, outstanding student presentation, AGU Hydrology Division, Fall Meeting, December.
- 2007 – Technical Review Committee, Eagle County, Colorado groundwater susceptibility project, Denver, Colorado, 2007.

#### **INVITED TECHNICAL EXPERT**

- 2013 to present – Pajaro Valley Community Water Dialogue, Managed Aquifer Recharge (MAR) Action Group, 2013-present, Watsonville, California.
- 2013 – Organizing Committee, G@GPS Workshop and Training Course, Bobole, Mozambique, October 14-19, 2013.
- 2012 to 2013 – Invited member on the California Department of Food & Agriculture (CDFA) Climate Change Consortium for Specialty Crops. Sacramento, CA. Input from our Consortium meetings was used by CDFA to release the following 2013 report: Climate Change Consortium for Specialty Crops: Impacts and Strategies for Resilience, California Department of Food and Agriculture, 76 pages, Sacramento, CA, [www.cdfa.ca.gov/environmentalstewardship/pdfs/ccr-report.pdf](http://www.cdfa.ca.gov/environmentalstewardship/pdfs/ccr-report.pdf)
- 2012 – Invited Speaker, 6<sup>th</sup> World Water Forum, thematic session 3.3.2: Coping with uncertainties related to climate and global change in water planning and management, Marseilles, France, March 12, 2012



- 2010 – International symposium “Groundwater as a key for adaptation to changing climate and society”, United Nations Educational, Scientific, and Cultural Organization (UNESCO)-International Hydrologic Programme (IHP) sponsored study: Groundwater resource assessment under the pressure of humanity and climate change (GRAPHIC), Research Institute for Humanity and Nature (RIHN), Kyoto, Japan, November 14-16, 2010.
- 2010 – San Francisco Bay Regional Water-Quality Control Board, Groundwater Committee meeting: topic – Groundwater Vulnerability to Contamination of the Santa Clara Valley, Oakland, CA, June 2, 2010.
- 2009 – San Francisco Public Utility Commission Urban Watershed Planning Charrette (brainstorming event to advance planning for urban stormwater in San Francisco watersheds), San Francisco State University, November, 13, 2009.
- 2007 – Briefing, Washington, D.C., U.S. National Committee for UNESCO-IHP about GRAPHIC.

#### **FIELD TRIP ORGANIZER and VOLUNTEER**

- 2006 – Leader, USGS unsaturated-zone research efforts in High Plains aquifer to group of USDA and Colorado State University scientists for their annual water tour of Colorado.
- 2006 – Geophysical Field Experiment Coordinator, Experimental GeoMRI activity at USGS High Plains vadose- zone research sites in cooperation NSF funded Vista Clara company. Published Results: Experimental GeoMRI results from Nebraska. David O. Walsh, Vista Clara, Everett, WA, 2006.
- 2003, 2004 – Snow Survey Field Volunteer, USGS Rocky Mts. Colorado, snow-pack monitoring survey.

#### **PRESS: NEWSPAPER, BOOK, RADIO, and BLOG INTERVIEWS and QUOTES**

Underlined author denotes MS or BS student supervised by Gurdak.

- 2017 – reSource Quarterly for RFG-2018 (Resources for Future Generations) Conference, Vancouver, Canada (published 12/15/2017) “RFG2018 GEM”, **Gurdak** interviewed and quoted: <http://rfg2018.org/en/RFG/2018/Rfg-Highlights/RFG-Bulletins>
- 2017 – SF State News (7/13/2017) "*Research explores preservation of vital natural resources*", by Jamie Oppenheim, **Gurdak** interviewed and quoted: <http://news.sfsu.edu/news-story/research-explores-preservation-vital-natural-resources>
- 2016 – Circle of Blue (2/09/2016) "*The Most Important Water Stories of 2015*", by Brett Walton, GRAPHIC is mentioned under ‘Water was a top risk on the 2015 global agenda: <http://www.circleofblue.org/waternews/2016/world/the-most-important-water-stories-of-2015/>

- 2015 – CityLab (12/09/2015) "*Why Storing Water for the Future Means Looking Underground*", by Laura Bliss, **Gurdak** interviewed and quoted:  
<http://www.citylab.com/weather/2015/12/why-storing-water-for-the-future-means-looking-underground/419244/>
- 2015 – Circle of Blue (12/01/2015) "*Scientists Urge Greater Attention to Groundwater in Climate Adaptation*", by Brett Walton, **Gurdak** interviewed and quoted:  
<http://www.circleofblue.org/waternews/2015/world/scientists-urge-greater-attention-to-groundwater-in-climate-adaptation/>
- 2015 – BC Water news (12/01/2015) "*Hydrologist calls for action on groundwater policy*":  
<http://www.bcwaternews.com/m/California/120115.html>
- 2015 – SF State News (11/30/2015) "*Hydrologist leads global call for action on groundwater management*", by Jonathan Morales, **Gurdak** interviewed and quoted:  
<http://news.sfsu.edu/news-story/hydrologist-leads-global-call-action-groundwater-management>
- 2015 – Environmental Biophysics article (8/28/2015) "*Sensors validate California groundwater resource management techniques*", research findings from **Gurdak's** MS student, Michelle Newcomer, are highlighted: <http://www.environmentalbiophysics.org/sensors-validate-california-groundwater-resource-management-techniques/>
- 2015 – **Gurdak** interviewed by Dutch national broadcaster NOS for a special radio report on the Californian drought and the human impacts on water usage: <https://soundcloud.com/arjen-van-der-horst-1/kurkdroog-californie-snakt-naar-regen>
- 2014 – **Newcomer**, **Gurdak** et al. (2014) highlighted in *Eos* Transactions America Geophysical Union, Research Spotlight, Low impact development boosts groundwater recharge, vol. 95, no. 23, page 20, June 10, DOI: 10.1002/2014EO230010:  
[http://userwww.sfsu.edu/jgurdak/Publications/Newcomer\\_et\\_al\\_EOS\\_ResearchSpotlight\\_2014.pdf](http://userwww.sfsu.edu/jgurdak/Publications/Newcomer_et_al_EOS_ResearchSpotlight_2014.pdf)
- 2014 – Environmental Monitor article (5/21/2014) "*Under low-impact development, groundwater recharge rates much higher*", **Gurdak** quoted:  
<http://www.fondriest.com/news/low-impact-development.htm>
- 2014 – The Examiner article (4/24/2014) "*Blending contaminated SF groundwater with Hetch Hetchy supply makes it safe to drink, experts say*", **Gurdak** quoted.  
<http://www.sfexaminer.com/sanfrancisco/blending-contaminated-sf-groundwater-with-hetch-hetchy-supply-makes-it-safe-to-drink-experts-say/Content?oid=2779183>
- 2014 – **Newcomer**, **Gurdak** et al. (2014) paper selected for Water Resource Research Editor's Highlights, Low impact development boosts groundwater recharge, February 24, 2014:  
[http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291944-7973/homepage/low\\_impact\\_development\\_boosts\\_groundwater\\_recharge.htm](http://onlinelibrary.wiley.com/journal/10.1002/%28ISSN%291944-7973/homepage/low_impact_development_boosts_groundwater_recharge.htm)

- 2012 – **Gurdak** quoted in BBC Latin America article “Cambio climático: el agua subterránea será cada vez más vital” by Alejandra Martins  
([http://www.bbc.co.uk/mundo/noticias/2012/03/120314\\_acuiferos\\_cambio\\_climatico\\_am.shtml](http://www.bbc.co.uk/mundo/noticias/2012/03/120314_acuiferos_cambio_climatico_am.shtml))
- 2012 – ClimateWire: The Politics and Business of Climate Change “Climate change may reduce future use of groundwater”, Lacey Johnson, March 12.  
(<http://www.climateneeds.umd.edu/climatewire-03-23-12/article-28.php>)
- 2012 – Disaster News Network, “Climate change threatens water resources”, March 7.  
(<http://www.disasternews.net/news/article.php?articleid=4502>)
- 2012 – Green Garden Group (G3), “Conservation starts with LID education”, March 14.  
(<http://www.greengardensgroup.com/2012/03/14/conservation-starts-with-lid-education/>)
- 2012 – TerraDaily: News about planet Earth, “UN scientists warn of increased groundwater demand due to climate change”, staff writers  
([http://www.terradaily.com/reports/UN\\_scientists\\_warn\\_of\\_increased\\_groundwater\\_demands\\_due\\_to\\_climate\\_change\\_999.html](http://www.terradaily.com/reports/UN_scientists_warn_of_increased_groundwater_demands_due_to_climate_change_999.html))
- 2012 – Nigerian Tribune, “Climate change threatens resources”, March 12  
(<http://tribune.com.ng/index.php/property-a-environment/37391-climate-change-threatens-resources-scientists>)
- 2012 – Pambazuka News: Pan-African voices for freedom and justice, “Water belongs to everyone”, March 29 (<http://www.pambazuka.org/en/category/comment/81165>).
- 2012 – Groundwater Canada, “Professor’s research gains international attention”, March 30  
(<http://www.groundwatercanada.com/content/view/1697/57/>)
- 2011 – National Geographic News article “Will tar sands pipeline threaten groundwater?”, by Masin Inman (<http://news.nationalgeographic.com/news/2011/09/110919-keystone-xl-tar-sands-pipeline-groundwater/>) (September 19, 2011)
- 2011 – National Public Radio (NPR), Richard Harris, Keystone XL and High Plains aquifer, Sept. 2010
- 2010 – SFSU student Brad Casanave: 2011 Intersci, Spring semester, 2010.
- 2009 – Associated Press, “High Plains aquifer water ok for now”, July 20.
- 2009 – USGS News Release, “High Plains aquifer water quality currently acceptable but human activities could limit future use” (<http://www.usgs.gov/newsroom/article.asp?ID=2257>).
- 2008 – National Public Radio (NPR), “Recharge to the Ogallala aquifer beneath Playas”, Playa Lake Joint Venture Radio program aired on NPR affiliates across the Great Plains region, August 2008.
- 2008 – The Hokkaido Shimbun Press (7<sup>th</sup> largest in Japan) “Japan’s Food Security” by Tokuji Hisada.
- 2007 – Science Daily, “Climate change goes underground”, August 23.
- 2006 – *Nature*, 30 November; 444 (7119): 519-652, p. 17 of recruitment section, “RIHN 1<sup>st</sup> International Symposium: Water and Better Human Life in the Future”, 2006.

### **HONORS and AWARDS**

- 2018 – San Francisco State University Retirement Association Travel Grant, **\$500**.
- 2018 – Nominated for the 2018 Distinguished Faculty Award for Excellence in Professional Achievement, San Francisco State University. Not selected for the award.

2018 – San Francisco State University sole nominee for the 2018 Wang Family Excellence Award, in the category of **Outstanding Faculty Scholarship**. Not selected for the award. Nominees listed here: <https://www2.calstate.edu/csu-system/faculty-staff/wang-award/Pages/2018-nominees.aspx>

2012 San Francisco State University Retirement Association Travel Grant, **\$500**.

2012 California State University (CSU), Water Resources Policy Institute (WRPI) Faculty Research Incentive Award Program, **\$4,968** for Spring 2012 (release time: 3 WTUs), Project: *Effects of climate variability on groundwater resources of the United States*

2009 Awarded **Research Hydrologist Position**, U.S. Geological Survey, Colorado Water Science Center, September (declined – had already accepted position at SFSU).

2008 1<sup>st</sup> Place Award, Best Analytical Presentation, 2008 U.S. Geological Survey National GIS Workshop - “GIS for Tomorrow’s Challenges”, Denver, CO, May 15.

2007 “Leading From Any Chair” Award, U.S. Geological Survey.

2007 3<sup>rd</sup> Place Award: Best Analytical Presentation Map, ESRI User Conference, San Diego.

2006, 2007 U.S. Department of the Interior, U.S. Geological Survey Performance Award.

2006 Colorado School of Mines, Graduate Student Association, Travel Grant.

2005 U.S. Department of the Interior, USGS, Sustained Superior Performance Award.

2005 Geological Society of America, Rocky Mountain Section, Student Travel Grant.

2001, 2003, 2004 U.S. Department of the Interior, U.S. Geological Survey STAR Award.

1998 Highest Honors, B.S. thesis, Department of Geology, Bates College, Lewiston, ME.

1998 Sigma Xi, The Scientific Research Society, elected.

## PROFESSIONAL DEVELOPMENT and TRAINING

2017 – Training Workshop: “Environmental Systems Analysis, Integrated Assessment and Modeling”, organized by Eawag Summer School, Dubendorf, Switzerland, June 11 - 16.

2017 – Training Workshop: “Groundwater modeling with FREEWAT (Free and Open Source Software Tools for Water Resources Management)”, organized by Eawag and Scuola Universitaria Professionale Della Svizzera Italiana (SUPSI), Dubendorf, Switzerland, April 10-11.

2017 – Training Workshop: “Integrating Hazards and Societal Impact into Your Course”, organized by InTeGrate (Interdisciplinary Teaching about Earth for a Sustainable Future) Program, SERC (Science Education Resource Center), April 7.

2017 – Training Workshop: “Fostering Systems Thinking in Your Students”, organized by InTeGrate (Interdisciplinary Teaching about Earth for a Sustainable Future) Program, SERC (Science Education Resource Center), March 22.

2017 – Training Workshop: “Distributed Temperature Sensing (DTS) in Hydrogeology”, organized by ETH Zurich and CTEMPs, Zurich, Switzerland March 17.

2016 – Field safety leadership: planning, conducting, and evaluating safe and effective activities, one-day workshop, San Francisco State University, September 9.

2015 – Water Education Foundation, Groundwater Tour, Sacramento Valley and Napa Valley (<http://www.watereducation.org/tour/groundwater-tour-2015>), two-day tour (9/24-9/25).

- 2015 – Participated in Groundwater Resources Association (GRA) of California conference titled *Sustainable Groundwater Management – Time for a Change? – The new groundwater sustainability plans: Raising the bar on groundwater management*, Modesto, CA, Sept. 2.
- 2012 – William R. Gianelli Water Leaders Class, Water Education Foundation, Sacramento, CA.
- The **Water Leaders Class** (<http://www.watereducation.org/water-leaders>) is a one-year program that identifies community leaders from diverse backgrounds, including members of minority and ethnic communities, and educates them about water issues across California. The program enhances individual leadership skills and prepares participants to take an active, cooperative approach to decision-making about water resource issues. Leading stakeholders and top policymakers serve as mentors to class members. As a Water Leader, I participated on two multi-day WEF Tours:
    - Flood Management Tour, Lower San Joaquin River and South Delta, 5/24-5/25.
    - Bay-Delta Tour, Sacramento-San Joaquin Delta and San Francisco Bay, 6/13-6/15, <http://www.watereducation.org/tour/bay-delta-tour-2015>.
- 2011 Groundwater modeling using Visual MODFLOW, training course
- 2011, 2012 Workshops on Critical Thinking Assessment Test (CAT), SFSU
- 2010 National Science Foundation (NSF) teaching workshop “Effective Course Design for Introductory Geoscience Courses”, funded by NSF Course, Curriculum, and Lab Improvement Project – Creating an Academic Community to Foster Curiosity and Discovery in Introductory Geoscience Classes. Department of Earth & Climate Sciences, SFSU
- 2009 “Peer Response in Writing”, SFSU Center for Teaching and Faculty Development.
- 2005 to 2009 AED & Basic CPR and Standard First Aid Training and Certification.
- 2002 to 2009 Radiation Safety and Neutron Probe Operator Training and Certification.
- 2001 Water Safety Training and Certification.
- 2001 Avalanche Safety and Awareness Training.
- U.S. Geological Survey, National Training Courses (40 hour courses):
- 2007 Advanced PYTHON scripting.
  - 2006 Time-series analysis for Hydrology.
  - 2003 Data Mining and Artificial Neural Networks for Hydrologic Data.
  - 2003 Microbiological Sampling and Analysis.
  - 2002 Water Quality Field Methods (80 hr course).
  - 2002 Statistical Methods for Hydrologists.
  - 2002 Geographic Information Systems and ArcGIS.
- 1998 OSHA Hazardous Waste Operations and Emergency Response Certification.

#### **PROFESSIONAL SOCIETY MEMBERSHIP**

- American Geophysical Union (AGU)
- National Ground Water Association (NGWA)
- Groundwater Resources Association of California (GRA)
- International Association of Hydrogeologists (IAH)
- Geological Society of America (GSA)
- International Water Resources Association (IWRA)
- International Association of Hydrologic Sciences (IAHS)

