

**James S. (Jay) Famiglietti**  
**Canada 150 Research Chair in Hydrology and Remote Sensing**  
**Professor and Executive Director, Global Institute for Water Security**  
**University of Saskatchewan**

**Education:**

1992	Ph.D.	Princeton University, Civil Engineering (Water Resources Program)
1988	M.A.	Princeton University, Civil Engineering (Water Resources Program)
1986	M.S.	University of Arizona, Hydrology
1982	B.S.	Tufts University, Geology

**Professional Appointments:**

*University of Saskatchewan, School of Environment and Sustainability and Department of Geography and Planning*

2018-2025 Canada 150 Research Chair in Hydrology and Remote Sensing

2018-present Professor

*University of California, Los Angeles*

2017-2018 Project Scientist, Joint Institute for Regional Earth System Science and Engineering (JIFRESSE)

2015-2016 Visiting Professor, Department of Civil and Environmental Engineering

*California Institute of Technology, Jet Propulsion Laboratory, Earth Science Section*

2014-2018 Senior Water Scientist

*California State Water Boards, Appointed by California Governor Jerry Brown*

2017-2018 Member, Region 4, Los Angeles

2013-2016 Member, Region 8, Santa Ana

*Stanford University, Department of Civil and Environmental Engineering*

2010 Shimizu Visiting Professorship, Winter Quarter

*University of California, Irvine, Department of Earth System Science and Department of Civil and Environmental Engineering*

2006-2016 Professor

2001-2006 Associate Professor

*University of Texas at Austin, Department of Geological Sciences*

2000-2001 Associate Professor

1994-2000 Assistant Professor

*National Center for Atmospheric Research, Climate and Global Dynamics Division*

1994-1995 Visiting Scientist (Summers)

1993 Postdoctoral Research Fellow, Climate System Modeling Program

*Princeton University, Department of Civil Engineering and Operations Research*

1992-1993 Visiting Postdoctoral Fellow

**Leadership Positions:**

*University of Saskatchewan, Global Institute for Water Security*

2018-present Executive Director

*California Institute of Technology, Jet Propulsion Laboratory, Earth Science Section*

2016-2018 Chief Scientist, Western Water Applications Office

2015-2018 Project Scientist, Western States Water Mission  
 2015-2018 Group Supervisor, Terrestrial Hydrology Group  
 2014-2018 JPL Senior Water Scientist  
*Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI)*  
 2008-2010 Chair, Board of Directors (Elected)  
*University of California, Irvine*  
 2009-2014 Founding Director, University of California Center for Hydrologic Modeling  
 2008-2009 Director, Institute of Geophysics and Planetary Physics, UC Irvine Branch  
 2003-2006 Vice Chair for Graduate Studies, Department of Earth System Science  
*University of Texas at Austin, Department of Geological Sciences*  
 2001 Founding Associate Director, Environmental Science Institute

**Awards, Honors and Recognition:**

2019 Distinguished Achievement Alumni Award, Tufts University  
 Japan Society for the Promotion of Science Invitational Fellowship for Research in Japan  
 2018 Centennial Keynote, American Geophysical Union Fall Meeting, 2018  
 Canada 150 Research Chair in Hydrology and Remote Sensing  
 2017 Principal Scientist, Earth Science Division, NASA Jet Propulsion Laboratory, California Institute of Technology  
 2016 Seven Experts to Watch on California Groundwater, News Deeply, July 21, 2016  
 2015 Global Environmental Change Lecture, Global Environmental Change Section, American Geophysical Union Fall Meeting 2015  
 2014 Orange County's 100 Most Influential People of 2014, Orange County Register  
 Invited cover, Science Magazine, September 26, 2014  
 Fellow, Geological Society of America  
 David Keith Todd Distinguished Lecturer, Groundwater Resources Association of California  
 Editor's Choice, Science Magazine, for Castle et al., 2014, August 14, 2014  
 2013 Editor's Choice Award, Water Resources Research, for Voss et al., 2013  
 2012 Fellow, American Geophysical Union  
 Birdsall-Dreiss Distinguished Lecturer, Geological Society of America  
 Action Figure, Circle of Blue  
 2011 Feature Story, New York Times Science Times, May 31, 2011  
 2010 Top 10 Earth Science stories of 2010, Science News, for Syed et al., 2010, PNAS

2005 Outstanding Contributions to Undergraduate Education  
University of California, Irvine

1998 Dean's Fellow, University of Texas at Austin

1996 NASA New Investigator Award

1996 Achievement Award for New Scholars, Conference of Southern  
Graduate Schools

NSF Presidential Faculty Fellow Finalist

1992-1993 UCAR Climate System Modeling Program Postdoctoral Fellowship

**Editorial:**

***American Geophysical Union***

2019-2022 Editor, Hydrology and Land Surface Processes, *AGU Advances*

2005-2009 Editor-in-Chief, *Geophysical Research Letters*

2001-2004 Editor, Hydrology and Land Surface Processes, *Geophysical  
Research Letters*

1997-2001 Associate Editor, *Water Resources Research*

***Proceedings of the National Academy of Sciences***

2014 Guest Editor

***Scientific Reports, Nature Publishing Group***

2017-2019 Editorial Board Member, Earth and Environmental Sciences

**Board Service:**

***Blue Legacy***

2012-present Advisory Board

***Consortium of Universities for the Advancement of Hydrologic Sciences, Inc.  
(CUAHSI)***

2011 Board of Directors (elected)

2005-2010 Executive Committee, Board of Directors (elected)

***National Academy of Engineering***

2017-2020 Board on Agriculture and Natural Resources

***University of Texas at Austin***

2018-present Planet Texas 2050, Technical Advisory Council

***Water Deeply***

2018-present Advisory Council

**Professional Affiliations and Selected Service:**

***American Geophysical Union***

2017 Hydrology, Task Force on Strategic Communications, Chair

2004 Hydrology Fall Meeting Program Chair

2001-2009 Hydrology Executive Committee

2000-2003 Hydrology Section, Remote Sensing Committee, Co-Chair

1996-present Hydrology Section, Remote Sensing Committee

1986-present Member

***American Meteorological Society***

1995-1998 Hydrology Committee

1992-2000 Member

***Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI)***

2007-2011 Community Hydrologic Modeling Platform (CHyMP), Lead Scientist

***Geological Society of America***

2012-2014 Birdsall-Dreiss Distinguished Lecturer Selection Committee

2011-present Member

***Other Society Memberships***

2000-2005 American Society of Civil Engineers, European Geophysical Union, IEEE

***United States Congressional Testimony***

2012 [Congressional Testimony](#), U. S. House of Representatives, Committee on Science, Space and Technology, Hearing on Drought Forecasting, Monitoring and Decision Making: A Review of the National Integrated Drought Monitoring System, July 25

2010 [Congressional Testimony](#), U. S. House of Representatives, Committee on Natural Resources, Sub-Committee on Water and Power, Groundwater Depletion in California's Central Valley, January 25

***International, Federal, Provincial and State Government Advising and Briefing***

2019 **Science Advisor to Canada, Dr. Mona Nemer**, Briefing on Water Diplomacy in the Middle East, Ottawa, ON, September 10

**Minister of Science and Sport, Dr. Kirsty Duncan**, Briefing on water research activities at the Global Institute for Water Security, University of Saskatchewan, July 23

**Science Advisor to Canada, Dr. Mona Nemer**, Briefing on Indigenous co-developed research partnerships. Global Institute for Water Security, University of Saskatchewan, July 8

**Minister of Infrastructure Ralph Goodale and Office of Western Economic Diversification and**, Presentation on climate change impacts on water availability, Regina, SK, June 24

2018 **Lieutenant Governor of Ontario, Elizabeth Dowdeswell**, briefing on sustainability and the Global Institute for Water Security, University of Saskatchewan,

**Minister of Fisheries, Oceans and the Coast Guard, Jonathan Wilkinson, and MP Francis Scarpaleggia**, Briefing on freshwater security research and training at the University of Saskatchewan, September 11.

**White House Round Table on Federal Challenges and Prizes, Secretary of Energy Rick Perry** convening. Invited participant, March 13.

- California State Water Resources Control Board**, Advising on technology for implementing California groundwater legislation, February 27.
- 2017 **U. S. Representative** John Culberson, briefing on NASA flooding and drought research, February 25, 2017
- U. S. Representative** Grace Napolitano, field trip on enhanced groundwater recharge facilities in Los Angeles basin, August 3, 2017
- 2016 **U. S. Sen. Diane Feinstein**, requested update on drought research
- California State Water Resources Control Board**, Advising on satellite capabilities for water management, June 20
- White House Water Innovation Summit**, invited participant and Fact Sheet Contributor, March 22
- 2015 **U. S. Sen. Diane Feinstein**, requested update on drought research
- U. S. Representative Ken Calvert**, requested update on drought research
- California Secretary of Food and Agriculture Karen Ross, Secretary of Business, Consumer Service and Housing Anna Caballero**, requested update on drought research
- California State Water Resources Control Board**, Advising on implementing California groundwater legislation, February 11
- 2014 **U. S. Congressional Briefing**, UC Research: Managing Water from Floods to Droughts, May 6, Washington, DC
- California State Assembly Committee on Water, Parks and Wildlife**, Groundwater management hearing, March 11, Sacramento
- U. S. Department of Defense, Office of Net Assessment**, briefing on global water security, February 20, Washington, DC
- California State Water Resources Control Board**, Groundwater concept paper workshop, January 22, Sacramento
- 2013 **U. S. Department of Defense, Office of Net Assessment**, briefing on global water security, November 14, Washington, DC
- U. S. Senate, Staff Briefing** on Groundwater in the United States and on Science paper “Water in the Balance,” July 29
- Consul General to Israel, Los Angeles**, Briefing on Middle East Water Security and Water Diplomacy
- U.S. Embassy, Tel Aviv**, Briefing on Middle East Water Security and Water Diplomacy
- U.S. Embassy, Amman**, Briefing on Middle East Water Security and Water Diplomacy
- 2011 **U. S. Secretary of Energy, Steven Chu**, Obama Administration, Briefing on global groundwater depletion including California’s Central Valley, September 19, Vienna
- 2011 **United Nations, Former Director General, Kofi Annan**, Briefing on global water issues, April 18, Berlin
- 2010-present Multiple personal and staff briefings:  
**U.S. Senators** Barbara Boxer (CA), Diane Feinstein (CA), Brian Schatz (HI), Sheldon Whitehouse (RI)

**U.S. Representatives** Ken Calvert (CA), Jim Costa (CA), John Garamendi (CA), Zoe Lofgren (CA), Kevin McCarthy (CA), George Miller (CA), Grace Napolitano (CA), Dana Rohrabacher (CA), Ed Royce (CA), Loretta Sanchez (CA), David Valadao (CA), Harry Waxman (CA),

**U. S. Senate Committee on Energy and Natural Resources**

**U. S. House Committee on Appropriations**

**U.S. House Committee on Space, Science and Technology**

**U. S. House Committee on Natural Resources, Subcommittee on Water and Power**

**U. S. Congressional Research Service**

**White House:** Office of Science and Technology Policy; Council on Environmental Quality

**U.S. Department of State:** Water Team

**U. S. Department of Interior:** Assistant Secretary for Water and Science

**California Office of the Governor;** Office of Planning and Research; Washington DC staff; Secretary of Natural Resources; State Water Resources Control Board; State Board on Food and Agriculture

**Orange County Water District, Municipal Water District of Orange County, Water Advisory Council of Orange County, Irvine Ranch Water District, Southern California Association of Governments**

2001 **U. S. Secretary of Commerce, Don Evans,** G. W. Bush Administration, Briefing on Global Change, February 14, Austin

***Working Groups and Committees***

2016 National Academy of Science, Board on Agriculture and Natural Resources, Presentation on Groundwater Depletion and Threats to Food Security, December 6, 2016

National Academy of Engineering, Earth Resources Engineering Symposium on Groundwater Depletion, October 11, 2016

2015 National Academy of Science, Board on Atmospheric Science and Climate, Testimony on water security as a driver of human migration, November 10, 2015

2011-2012 National Academy of Science, National Research Council, Board on Atmospheric Sciences and Climate, Committee on A National Strategy for Advancing Climate Modeling

2010-2012 Committee on Earth Observation Satellites (CEOS), Working Group and Calibration and Validation, Land Product Validation Subgroup, Soil Moisture Validation Focus

2009-2010 National Academy of Science, National Research Council, Committee on Climate, Energy and National Security, Panel on Hydrology and Water Resources

2008-2010 Community Surface Dynamics Modeling System (CSDMS)/CUAHSI Hydrology Focus Research Group, Chair

2007-2011	Global Climate Observing System (GCOS)/Global Terrestrial Observing System (GTOS), Terrestrial Observation Panel for Climate Integrated Global Observing Strategy (IGOS) Water Cycle Observations (IGWCO) Theme, Science Advisory Committee
2006-2010	International Soil Moisture Working Group
2005-2007	National Academy of Science, National Research Council, Committee on Integrated Observations for Hydrologic and Related Studies
2005	NASA, Earth Science and Applications from Space Strategic Roadmap Committee, Subcommittee on Discovery and Exploration
2003-2004	Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI) Hydrologic Observatory Prototype Design Committee
2002-present	NASA, Terrestrial Hydrology Program, Surface Water Working Group
1999-present	NASA, Terrestrial Hydrology Program, Soil Moisture Working Group
1998-2003	International Earth Rotation Service, Special Bureau for Hydrology
1997-2007	External Advisory Team, Center for Hydrology, Soil Climatology and Remote Sensing, Alabama A & M University
1996-present	NCAR Climate System Model Land Working Group
1997-1999	Southern Great Plains 1997 Hydrology Experiment Soil Moisture Working Group

### ***Symposia and Workshops Organized***

2015	Water Sustainability in Metropolitan Los Angeles, Resnick Institute for Sustainability and NASA Jet Propulsion Laboratory Joint Workshop, California Institute of Technology, co-organizer City of Sierra Madre, CA, World Water Day Water Fair, co-organizer; Drought Panel, co-organizer
2012	DOE Water Cycle Workshop, 25-28 September, Washington, DC. Co-organizer
2011	NASA Energy and Water Cycle (NEWS) Science Team Meeting, June 13-15, Irvine, CA, co-organizer 3 <sup>rd</sup> Workshop on the Community Hydrologic Modeling Platform (CHyMP): Strategic and Implementation Plan, March 15-17, Irvine, CA, co-organizer
2009	Second Workshop of the CSDMS Hydrology Focus Research Group, 16-17 November, Boulder, CO, co-organizer 2 <sup>nd</sup> Workshop on a Community Hydrological Modeling Platform (CHyMP), March 31-April 1, Memphis, TN, co-organizer First Workshop of the CSDMS Hydrology Focus Research Group, 20-21 January, Boulder, CO, organizer
2008	UNESCO-UCI International Conference on Water Scarcity, Global Changes and Groundwater Management Responses, 1-6 December, Irvine, CA, Organizing and Scientific Committees International Conference on Groundwater and Climate in Africa, 25-28 June, Kampala, Uganda, Scientific Steering Committee

- 2007 Scoping Workshop on a Community Hydrological Modeling Platform (CHyMP), March 26-27, Washington, DC, co-organizer  
 IGWCO/GARS/UNESCO Workshop on Global Monitoring of Groundwater Resources, October 18-19, Utrecht, The Netherlands, co-organizer  
 UCI-JPL Workshop on Satellite Observations of the Global Water Cycle, March 7-9, Beckman Center of the National Academies, Irvine, CA, co-organizer
- 2004 GRACE Hydrology Workshop, March 22, Beckman Center of the National Academies, Irvine, CA, organizer

**Publications:**

***Op-Eds***

- Famiglietti, J., Earth's dismal water future, mapped, Los Angeles Times, June 10, 2018  
 Famiglietti, J. and M. Miro, Los Angeles Times, California will always be thirsty, March 7, 2017  
 Famiglietti, J., Is the California drought America's wake-up call, Los Angeles Times, April 15, 2016  
 Famiglietti, J., Water crisis calls for immediate action, The Desert Sun, March 17, 2016  
 Famiglietti, J. and M. Lubber, Food industry needs to step up on responsible groundwater use, San Francisco Chronicle, August 24, 2015  
 Famiglietti, J., Up a Dry Creek, Los Angeles Times, March 12, 2015  
 Famiglietti, J., How much water does California have left, Los Angeles Times, July 9, 2014  
 Famiglietti, J., Just how bad is California's epic drought, Takepart.com, February 22, 2014  
 Famiglietti, J. and S. Richey, California's water house of cards, Los Angeles Times, September 23, 2013

***Selected Articles and Blog Posts***

- Famiglietti, J., A Map of the Future of Water, Trend Magazine, The Pew Charitable Trusts, March, 2019  
 Famiglietti, J., Your Move California, Years of Living Dangerously Blog, November 9, 2016.  
 Famiglietti, J., How the West was Lost, National Geographic Water Currents, July 24, 2014  
 Famiglietti, J., Coping with California's Water Future will Require a Sea Change in Perspective, Huffington Post, April 7, 2014  
 Famiglietti, J., Epic California Drought and Groundwater: Where Do We Go From Here, National Geographic Water Currents, February 4, 2014  
 Famiglietti, J., Water and the Roots of Violent Conflict in Syria, Huffington Post, September 7, 2013  
 Famiglietti, J., Weighty Water Matters in the Middle East, National Geographic Water Currents, February 22, 2013  
 Famiglietti, J., Wanted: Vision and Leadership to Ensure a Sustainable Water Future for America, National Geographic Water Currents, July 2, 2012  
 Famiglietti, J., Rallying Around Our Known Unknowns: What We Don't Know Will Hurt Us, Water 50/50, June 28, 2012  
 Famiglietti, J., Spin Cycle: Will Changing Global Hydrology Throw the Geopolitical Machine Off-Balance? Water 50/50, November 22, 2011



## **Book Chapters**

2018

Chen, J., C. R. Wilson, J. S. Famiglietti and B. R. Scanlon, Groundwater Storage Monitoring From Space. In S. Liang (Ed.), *Comprehensive Remote Sensing*, Vol. 4, pp. 295–314. Oxford: Elsevier.

2016

Lo, M.-H., J. Famiglietti, J. T. Reager, M. Rodell, S. Swenson, and W.-Y. Wu, GRACE-based Estimates of Global Groundwater Depletion, in *Terrestrial Water Cycle and Climate Change: Natural and Human-Induced Impacts*, Geophysical Monograph 221, AGU Geophysical Monograph Series, 252 pages

Rodell, M., V. Lakshmi, H. Kato-Beaudoin, C. D. Peters-Lidard, J. S. Famiglietti, and R. D. Koster, Large-Scale and Global Hydrology, Chapter 92 in *Handbook of Applied Hydrology*, V.P. Singh, ed., McGraw-Hill.

2013

Gleick, P. H., H. Cooley, J. S. Famiglietti, D. P. Lettenmaier, T. Oki, C. J. Vörösmarty and E. Wood, Improving Understanding of the Global Hydrologic Cycle, in *Climate Science for Serving Society: Research, Modeling and Prediction Priorities*, G. R. Asrar and J. W. Hurrell, eds., Springer Science + Business Media Dordrecht, pp151-184.

2012

Swenson, S. and J. Famiglietti, Sustainable Groundwater Management for Large Aquifer Systems: Tracking Depletion Rates from Space, in *Climate Change Effects on Water Resources: A Global Synthesis of Findings and Recommendations*, H. Treidel, J.L. Martin-Bordes, and J.J. Gurdak, eds., Taylor and Francis Group, CRC Press, pp367-374.

2011

Famiglietti, J., The global water challenge as seen from space, in *Focusing on Performance: Global Water Summit 2011*, Global Water Intelligence, pp. 12-21.

2010

Milly, P.C.D., A. Cazenave, J. S. Famiglietti, V. Gornitz, K. Laval, D. P. Lettenmaier, D. L. Sahagian, J. M. Wahr and C. R. Wilson, Terrestrial Water-Storage Contributions to Sea-Level Rise and Variability, in *Understanding Sea-Level Rise and Variability*, 1<sup>st</sup> Edition, J. A. Church, P. L. Woodworth, T. Aarup and W. S. Wilson, eds., Blackwell Publishing, Ltd., pp. 226-255.

2004

Famiglietti, J. S., Remote Sensing of Terrestrial Water Storage, Soil Moisture and Surface Waters, in *The State of the Planet: Frontiers and Challenges in Geophysics*, Geophysical Monograph Series, Volume 150, R. S. J. Sparks and C. J. Hawkesworth, eds., pp197-207.

2001

Mohr, K. I., J. S. Famiglietti and A. Boone, The Effect of Field-Scale Sub-Grid Variability of Soil Moisture on the Simulation of Soil Moisture and Heat Fluxes for a Mesoscale Watershed: A Case Study from the Southern Great Plains 1997 Hydrology Experiment, in *Observations and Modeling of the Land Surface Hydrological Processes*, American Geophysical Union, Water Science and Applications 3, V. Lakshmi, J. Albertson and J. Schaake, eds, pp161-176.

1995

Famiglietti, J. S., B. H. Braswell, and F. Giorgi, Process Controls and Similarity in the U. S. Continental-Scale Hydrological Cycle from EOF Analysis of Regional Climate Model Simulations, in *Scale Issues in Hydrological Modeling*, J. D. Kalma and M. Sivapalan, eds., Wiley, 504 pp.

1991

Famiglietti, J. S. and E. F. Wood, Evapotranspiration and Runoff from Large Land Areas: Land Surface Hydrology for Atmospheric General Circulation Models, in *Land Surface-Atmosphere Interactions for Climate Models: Observations, Models and Analyses*, E. F. Wood, ed., Springer, The Netherlands, pp. 179-204, doi:10.1007/978-94-009-2155-9\_9

#### **Peer-Reviewed Articles**

**Web of Science: Famiglietti J\***      **h-index 61 (9/19/19)**

**Web of Science ResearcherID**      <http://www.researcherid.com/rid/G-7383-2017>

**Google Scholar: Famiglietti JS**      **h-index 73 (9/19/19)**

#### *In preparation:*

Chandanpurkar, H. A., F. O. Bryan, J. T. Reager, S. Fournier and J. S. Famiglietti, Continental discharge from Aquarius sea surface salinity observations, in revision, *Geophys. Res. Lett.*

Famiglietti, J. S., J. T. Reager, D. N. Wiese, R. S. Nerem and D. P. Chambers, Seasonal Variations in the Land-Ocean Water Mass Exchange

Gleeson, T., T. Wagener, M. Cuthbert, S. Rahman, M. F.P. Bierkens, P. Doll, E. Bresciani, A. Ducharhne, R. Taylor, M. Hill, Y. Wada, M.-H. Lo, E. Luidendijk, R. Maxwell, A. Hartmann, I. de Graaf, N. Oshinlaja, C. West, J. S. Famiglietti, S. Kollet, G. Fogg and L. Condon, Groundwater representation in continental to global hydrologic models: a call for open and holistic evaluation, conceptualization and classification

Kim, H., S. Watanabe, E.-C. Chang, N. Utsumi, K. Yoshimura, Y. Hirabayashi, J. S. Famiglietti and T. Oki, Hybrid-design for development of a century-long global surface meteorology combining dynamical downscaling and statistical correction: Forcing data for Global Soil Wetness Project Phase 3

Liu, P.-W., A. McEvoy, J. S. Famiglietti, J. T. Reager, D. N. Wiese, F. W. Landerer and C. H. David, From Drought to Recovery in California's Sacramento and San Joaquin River Basins

Wu, W.-Y, M.-H. Lo, Y. Wada, J. S. Famiglietti, J. T. Reager, P. Yeh, A. Ducharne and Z.-L. Yang, Contrasting effects of climate change on groundwater in midlatitude aquifers

#### *In review, discussion or revision:*

Chandanpurkar, H., J. Fasullo, J. T. Reager, R. S. Nerem and J. S. Famiglietti, Asymmetric Response of Land Storage Response to ENSO Phase and Duration, in revision, *Water*.

Emery, C. M., C. H. David, K. M. Andreadis, M. J. Turmon, J. T. Reager, J. M. Hobbs, M. Pan, J. S. Famiglietti, R. E. Beighley, M. Rodell, Underlying Fundamentals of Kalman Filtering for River Network Modeling, in review, *J. Hydrometeorology*

Gleeson, T., L. W. Erlandsson, S. C. Zipper, M. Porkka, F. Jaramillo, D. Gerten, I. Fetzer, S. Cornell, L. Piemontese, L. Gordon, J. Rockström, T. Oki, M. Sivapalan, Y. Wada, K. A. Brauman, M. Flörke, M. F.P. Bierkens, B. Lehner, P. Keys, M. Kummu, T. Wagener, Simon Dadson, T. Troy, W. Steffen, M. Falkenmark, J. S. Famiglietti, The water planetary boundary: a roadmap to illuminate water cycle modifications in the Anthropocene, in review, *Water Resources Research*, Grand Challenges Special Edition

Wong, J. S., X. Zhang, S. Gharari, R. R. Shrestha, H. S. Wheeler and J. S. Famiglietti, Assessing Water Balance Closure Using Multiple Data Assimilation and Remote Sensing-Based Datasets for Canada, in revision, *J. Hydrometeor.*

*Published:*

2019

David, C. H., J. M. Hobbs, M. J. Turmon, C. M. Emery, J. T. Reager and J. S. Famiglietti, Analytical Propagation of Runoff Uncertainty into Discharge Uncertainty through a Large River Network, 46 (14), 8102-8113, *Geophys. Res. Lett.*, DOI: 10.1029/2019GL083342

Oaida C. M., J. T. Reager, K. Andreadis, C. H. David, S. Levee, T. H. Painter, K. J. Bormann and J. S. Famiglietti, A high-resolution data assimilation framework for snow water equivalent estimation across the Western United States and validation with the Airborne Snow Observatory, *J. Hydrometeor.*, 20, 357-378, <https://doi.org/10.1175/JHM-D-18-0009.1>

Stampoulis, D., J. T. Reager, C. H. David, K. M. Andreadis, J. S. Famiglietti, A. R. Trangsrud, T. G. Farr, R. R. Basilio, J. L. Sabo, G. B. Osterman, P. R. Lundgren and Z. Liu, Model-data fusion of hydrologic simulations and GRACE terrestrial water storage observations to estimate changes in water table depth, *Advances in Water Resources*, 128, 13-27, <https://doi.org/10.1016/j.advwatres.2019.04.004>

Tapley, B. D., M. M. Watkins, F. Flechtner, C. Reigber, S. Bettadpur, M. Rodell, I. Sasgen, J. S. Famiglietti, F. W. Landerer, D. P. Chambers, J. T. Reager, A. S. Gardner, H. Save, E. R. Ivins, S. C. Swenson, C. Boening, C. Dahle, D. N. Wiese, H. Dobslaw, M. E. Tamisiea, I. Velicogna, Contributions of GRACE to understanding climate change, *Nature Climate Change*, 9, 358-369, <https://doi.org/10.1038/s41558-019-0456-2>.

Thomas, B. F. and J. S. Famiglietti, Identifying climate-induced groundwater depletion in GRACE observations, *Scientific Reports* 9(1), 4124.

Zhou, Y., A. Sawyer, C. H. David and J. S. Famiglietti, Fresh submarine groundwater to the near-global coast, *Geophys. Res. Lett.*, 46 (11), 5855-5863.

2018

Allen, G. H., C. H. David, K. M. Andreadis, F. Houssain and J. S. Famiglietti, Global Estimates of River Flow Wave Travel Times with Implications for Low-Latency Satellite Data, *Geophys. Res. Lett.*, 45, <https://doi.org/10.1029/2018GL077914>

Cazenave, A., ; B. Meyssignac, M. Ablain, M. Balmaseda, J. Bamber, V. Barletta, B. Beckley, J. Benveniste, E. Berthier, A. Blazquez, T. Boyer, D. Caceres, D. Chambers, N. Champollion, B. Chao, J. Chen, L. Cheng, J. A. Church, S. Chuter, J. G. Cogley, S. Dangendorf, D. Desbruyeres, P. Doell, C. Domingues, U. Falk, J. Famiglietti, L. Fenoglio-Marc, Luciana, R.

- Forsberg, G. Galassi, A. Gardner, A. Groh, B. Hamlington, A. Hogg, M. Horwath, V. Humphrey, L. Husson, M. Masayoshi A. Jaeggi, S. Jevrejeva, G. Johnson, N. Kolodziejczyk, J. Kusche, Juergen, K. Lambeck, F. Landerer, P. Leclercq, B. Legresy, E. Leuliette, W. Llovel, L. Longuevergne, B. D. Loomis, S. B. Luthcke, M. Marcos, B. Marzeion, C. Merchant, M. Merrifield, G. Milne, G. Mitchum, Y. Mohajerani, Yara, M. Monier, D. Monselesan, S. Nerem, Palanisamy, B. Perez, C. G. Piecuch, R. M. Ponte, S. G. Purkey, J. T. Reager, R. Rietbroek, E. Rignot, R. Riva, D. H. Roemmich, L. S. Sorensen, I. Sasgen, E. J. O. Schrama, S. I. Seneviratne, C. K. Shum, G., Spada, D. Stammer, R. van de Wal, I. Velicogna, K. Schuckmann, Y. Wada, Y. G. Wang, ; C. Watson, D. Wiese, S. Wijffels, R. Westaway, G. Woppelman; B. Wouters, Global sea-level budget 1993-present, 10(3), 1551-1590, DOI: 10.5194/essd-10-1551-2018
- Massoud, E. C., A. J. Purdy, M. Miro, J. S. Famiglietti, Projecting groundwater storage changes in California's Central Valley, *Scientific Reports*, 8(1):12917, doi: 10.1038/s41598-018-31210-1.
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***Selected Non-Refereed Publications (Proceedings, Reports, Articles):***

2014

UCCHM Water Advisory, Water Storage Changes in California's Sacramento and San Joaquin River Basins From GRACE: Updated Results for 2003-2013

2012

Committee on a National Strategy for Advancing Climate Modeling. Board on Atmospheric Studies and Climate, Division on Earth and Life Studies, National Research Council of the National Academies. *A National Strategy for Advancing Climate Modeling*. The National Academies Press, Washington, DC, 294 pp.

2011

Famiglietti, J., L. Murdoch, V. Lakshmi and J. Arrigo, Establishing a Framework for Community Modeling in Hydrologic Science, Report from the 3<sup>rd</sup> Workshop on a Community Hydrologic Modeling Platform (CHyMP): A Strategic and Implementation Plan, Irvine, CA, March 15-17, 2011

2010

CUAHSI Board of Directors, Water in a Dynamic Planet. A Five-year *Strategic Plan* for Water Science, Consortium of Universities for the Advancement of Hydrologic Science, Inc., doi:10.4211/stratplan.201012

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2008

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2007

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Alsdorf, D., D. Lettenmaier, J. Famiglietti, and Charles Vörösmarty, Observing surface water from space: The Water Elevation Recovery (WatER) Mission, GEWEX News, 15(3), August  
Reckhow, K. and the Neuse Prototype Hydrologic Observatory Design Team, Designing Hydrologic Observatories: A Paper Prototype of the Neuse Watershed, A Report to the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc.

1993

Pitman, A. J., A. Henderson-Sellers, F. Abramopoulos, R. Avissar, G. Bonan, A. Boone, R. E. Dickinson, M. Elk, D. Entekhabi, J. Famiglietti, J. R. Garratt, M. Frech, A. Hahmann, R. Koster, E. Kowalczyk, K. Laval, J. Lean, T. J. Lee, D. Lettenmaier, X. Liang, J-F. Mahfouf, L. Mahrt, P. C. D. Milly, K. Mitchell, N. deNoblet, J. Noilhan, H. Pan, R. Pielke, A. Robock, C. Rosenzweig, C. A. Schlosser, R. Scott, M. Suarez, S., Project for Intercomparison of Landsurface Parameterization Schemes (PILPS): Results from Off-Line Control Simulation (Phase 1a), International GEWEX Project Office Publication Series, No. 7, 47pp.

### **Invited Lectures (Last 5 years):**

#### ***Keynotes and Named Lectures***

WATEC Israel 2019, Keynote, Tel Aviv, Israel, November 20, 2019

World Water Week, Focus on the Americas, Keynote, Stockholm, Sweden, August 28, 2019

NovCare 2019 International Conference, Keynote, Waterloo, ON, Canada, May 29, 2019

IAEA International Symposium on Isotope Hydrology: Advancing the Understanding of Water Cycle Processes, May 21, 2019, Vienna, Austria

Canadian Water Network, Blue Cities 2019, Keynote Toronto, ON, Canada, May 8, 2019

Tansley Lecture, Johnson Shoyama School of Public Policy, University of Regina, Regina, SK, April 11, 2019

2<sup>nd</sup> International Workshop, Impact of Groundwater in Earth System Models, March 18, 2019

AgBio Challenge, College of Agriculture and Bioresources, University of Saskatchewan, January 24, 2019

American Geophysical Union, Fall Meeting 2018, Centennial Keynote, December 14, 2018

Urban Water Institute, Annual Water Conference, San Diego, CA, Keynote Address, August 22, 2018

Northwestern University, Students for Ecological and Environmental Development, Evanston, IL, Public Lecture, May 14, 2018  
Resources for Future Generations, RFG 2018, Vancouver, BC, Keynote Address, June 20, 2018  
Frontiers of Geosciences Lecture, Los Alamos National Laboratory, Los Alamos, NM, June 12, 2017  
Case Western University, Think Forum, Cleveland, OH, April 2, 2017  
Salmonid Restoration Federation, Salmonid Conference Keynote Address, March 31, 2017  
Mississippi State University, Energy Institute, The Future of Water Conference, Keynote Address, March 28, 2017  
California Irrigation Institute, 55<sup>th</sup> Annual Conference, Sacramento, CA, January 30, 2017  
Henry C. Gardiner Global Food Systems Lecture, Kansas State University, Lawrence, KS, October 3, 2016  
2016 Distinguished Lecture, Water Institute, University of Waterloo, Ontario, April 28, 2016  
Aiken Lecture Series, University of Vermont, Burlington, VT, April 12, 2016  
Association of American Geographers, Annual Meeting, Climate Specialty Group, Keynote Address, San Francisco, CA, March 29-April 2, 2016  
Vital and Alice Pellissier Family Distinguished Speaker, University of California, Merced, March 9, 2016  
The 5<sup>th</sup> University of Florida Water Institute Symposium, Gainesville, FL, Keynote Address, February 16-17, 2016  
Distinguished Scientist Seminar Series, Woods Hole Oceanographic Institution, Woods Hole, MA, November 13, 2015  
The Groundwater Foundation, 2015 National Conference, Lincoln, NE, Keynote Address, October 20-22, 2015  
2nd iSEE Congress, Institute for Sustainability, Energy, and Environment, University of Illinois, Urbana, IL, Keynote Address, September 15, 2015  
50<sup>th</sup> Anniversary Symposium, State of the Art Measurements of Catchment-Scale Hydrological Processes, Wageningen University, Wageningen, Keynote Address, The Netherlands, September 10, 2015  
Antoinette and Vincent M. Dungan Lectureship on Energy and the Environment, Occidental College, Los Angeles, CA, September 4, 2015  
The Water Council, Water Summit 2015, Milwaukee, WI, Keynote Address, June 23-24, 2015  
National Institute for Animal Agriculture, Water and the Future of Animal Agriculture, Indianapolis, IN, Keynote Address, March 24, 2015,  
David Keith Todd Lecture, Groundwater Resources Association of California, 23rd Annual Conference, Sacramento, CA, October 16, 2014  
Moos Family Lecture Series, Freshwater Society, St. Paul, MN, September 18, 2014  
CUAHSI 4th Biennial Colloquium on Hydrologic Science and Engineering, Shepherdstown, WV, Keynote Address, July 28, 2014  
American Water Works Association, Spring Conference, Anaheim, CA, Keynote Address, March 25, 2014  
Harleman Lecture, Pennsylvania State University, University Park, PA, October 14, 2013

***Other Invited Lectures***

*2019*

Pacific Northwest Economic Region (PNWER), Saskatoon, SK; Rotary Club of Saskatoon, SK; University of Tokyo, Japan; Hokkaido University, Japan; JAXA, Tokyo, Japan; University of Virginia, Charlottesville, VA

*2018*

McMaster University, Hamilton, Ontario; World Bank, Washington, DC

*2017*

University of Rhode Island, Kingston, RI; AquaHack, Cleveland, OH

*2016*

San Gabriel Valley Water Association, Whittier, CA; League of Women Voters, Pasadena, CA; Irvine Unified Congregational Church, Irvine, CA; School of Earth and Space Exploration, Arizona State University; Pasadena Optimists Club, Pasadena, CA; UCLA, Los Angeles, CA (2)

*2015*

Princeton University, Princeton, NJ; Concerned Citizens of Laguna Woods, Laguna Woods, CA; Water Resilience and Sustainability in LA Workshop, California Institute of Technology, Pasadena, CA; 50th Anniversary Symposium, Hydrology and Quantitative Water Management Group, Wageningen University, The Netherlands; Global Institute of Sustainability, Arizona State University, NASA Goddard Space Flight Center; Harvard University, Joint Center for Housing Studies, Marina del Rey, CA; Transition Laguna Beach, Laguna Beach, CA; Committee on Foreign Relations, Tucson, AZ; University of Arizona, Tucson, AZ; Anza-Borrego Natural History Association, Borrego Springs, CA; Sustainability Lecture Series, University of California, Irvine; Hydrologic Sciences Symposium, University of Colorado, Boulder; American Water Resources Association Spring Conference, Los Angeles, CA; World Water Day for the San Gabriel Valley, Sierra Madre, CA; Tufts University, Medford, MA; UCLA (2), Los Angeles, CA; Pasadena Rotary Club, Pasadena, CA; Groundwater Resources Association of California, San Francisco Bay Area Branch; King Abdullah University of Science and Technology, Saudi Arabia

*2014*

Localizing California Waters, Tuolumne, CA; Max Planck Institute for Biogeochemistry, Jena, Germany; International Space Science Institute, Bern; Society of Environmental Journalists, New Orleans; League of Women Voters of Orange County; International GEWEX Science Conference, The Hague; American Geophysical Union Science Policy Conference, Washington, DC; Mesa Water District, Water Issues Study Group, Costa Mesa, CA; Urban Water Management Workshop, UC Riverside; University Club Forum, UC Irvine; Laguna Beach Rotary Club, Laguna, CA; Southern California Water Dialogue, Los Angeles; Cal State Long Beach; Metropolitan Water District of Southern California, Los Angeles; National Taiwan University; Northeastern University; Boston Museum of Science; Utah State University; Rice University; Groundwater Resources Association of California; Orange County Natural History Lecture Series; Desert Sun Water Forum; California State Water

Resources Control Board, Sacramento; Association for Corporate Growth, UC Irvine; Water Advisory Council of Orange County, Fountain Valley, CA

*2013*

UCLA; Brown University; Pennsylvania State University; Jet Propulsion Laboratory; University of Texas at Austin; University of Virginia; University of Saskatchewan; Tel Aviv University; Technion University; Georgia Institute of Technology (2), American Water Intelligence, Houston; Zocalo Public Square, Los Angeles

**Invited Presentations (Last 5 Years):**

*2019*

- Famiglietti, J. S., The Global Groundwater Crisis as Revealed from Space: Implications for Human Security, AGU Chapman Conference, Valencia, Spain
- Famiglietti, J. S., Global Change Impacts on Freshwater Availability from the Global to Regional Scales, Prairie Water Summit, Regina, SK, June 24, 2019
- Famiglietti, J. S., A Map of the Future of Water, National Academies of Science, Engineering and Medicine, Water Science and Technology Board, Washington, DC, USA, June 17, 2019
- Famiglietti, J. S., Challenges for Global Water Futures, Integrated Modeling for Prediction and Management of Change, Global Water Futures Program, University of Saskatchewan, Saskatoon, SK, Canada, June 12, 2019
- Famiglietti, J. S., A Map of the Future of Water, 10X Water Summit, Phoenix, AZ, March 27, 2019
- Famiglietti, J. S., A Map of the Future of Water, National Academies of Science, Engineering and Medicine, March 22, Washington, DC

*2018*

- Famiglietti, J. S. P.-W. Liu, A. McEvoy, D. N. Wiese, J. T. Reager, A. J. Purdy, M. Rodell and C. H. David, Food Grows where Groundwater Flows: California Grapples with Chronic Water Scarcity, AGU Fall Meeting, Washington, DC
- Famiglietti, J. S., M. Rodell, J. T. Reager, C. H. David, D. Stampoulis, M. H. Lo, Y. Wada, H. Beaudoin, D. N. Wiese and F. W. Landerer, How Can GRACE and GRACE-FO Global Hydrology Inform Land Surface Model Development and Evaluation? AGU Fall Meeting, Washington, DC

*2017*

- Famiglietti, J. S., M. Rodell, A. Richey and J. T. Reager, The Global Groundwater Crisis, AOGS, Singapore
- Famiglietti, J. S., M. Rodell, A. Richey and J. T. Reager, The Global Groundwater Crisis, AGU-JpGU Conference, Tokyo
- Famiglietti, J. S., GEWEX/GLASS, Tokyo

*2016*

- Famiglietti, J. S., Modern Rates of Groundwater Depletion Monitored from Space, National Academy of Science, Dec. 6.

- Famiglietti, J., GRACE and Groundwater Management: Experiences from California, IUSSTF Three-Day Bi-lateral Conference on Assessments of Regional Hydrology Using Spaceborne Gravity Observations, Hyderabad, India, November 14-16
- Famiglietti, J. S., Combining Isotope and Satellite Data in Hydrology, Technical Meeting on Coupled Use of Isotope Tracers and Satellite Data in Water Resources Management, IAEA, Vienna, Austria, November 7-9
- Famiglietti J. S., The Realities of 21<sup>st</sup> Century Water Security as Viewed from Space, National Geographic Society, Advisory Council, Santa Barbara, CA, October 24-25.
- Famiglietti, J. S., Modern Rates of Groundwater Depletion Monitored from Space, National Academy of Engineering, Washington, DC, October 11.
- Famiglietti, J. S., Observing Human Impacts of Water Management from Space, GEWEX GHP-GLASS, Gif-sur-Yvette, France, September 28-30.
- Famiglietti, J. S., Satellites Reveal Challenges to 21<sup>st</sup> Century Water Security, World Federation of Scientists, Erice, Sicily, August 23
- Famiglietti, J. S., Connecting Water Research with Stakeholder Needs during the California Drought, Texas Water Research Network, University of Texas at Austin, August 18
- Painter, T. H., J. S. Famiglietti and G. L. Stephens, Leveraging this Golden Age of Remote Sensing and Modeling of Terrestrial Hydrology to Understand Water Cycling in the Water Availability Grand Challenge for North America, American Geophysical Union Fall Meeting, San Francisco, Dec. 12-16
- Rodell, M., J. S. Famiglietti, J. T. Reager, D. N. Wiese, H. K. Beaudoin and B. Li, Remote Sensing of Groundwater with GRACE and GRACE Follow On, American Geophysical Union Fall Meeting, San Francisco, Dec. 12-16
- Rodell, M., J. A. Santonello, S. Kumar, H. K. Beaudoin and J. S. Famiglietti, Water Management Effects on the Water Cycle, American Geophysical Union Fall Meeting, San Francisco, Dec. 12-16

## 2015

- Famiglietti, J. S., The Future of Water Sustainability: 21<sup>st</sup> Century Realities, American Geophysical Union Fall Meeting, San Francisco, Dec. 14-18
- Famiglietti, J. S., C. David, J. T. Reager, K. M. Andreadis, A. Trangsrud and R. Basillio, High-Resolution Hydrologic Modeling and Data Integration for the Western United States, American Geophysical Union Fall Meeting, San Francisco, Dec. 14-18
- Famiglietti, J. S., Hydrogeodesy as an emerging research discipline, IRIS, Future of Seismic and Geodetic Facility Needs in the Geosciences, Leesburg, VA
- Famiglietti, J. S., Epic California Drought and Groundwater as Viewed from Space, AGU Chapman Conference, Irvine, CA, March 22, 2015
- Famiglietti, J. S., The role of remote sensing in groundwater and drought management, California State Water Resources Control Board, Sacramento, CA, February 11

## Outreach and Communication

### *Selected Film and Video*

#### 2018

**Water: The Molecule That Made Us**, Passion Pictures, 3-part PBS Water Documentary Mini-Series, Featured Expert, Filmed May, 2018

**Day Zero, KEO Films**, water documentary, filmed May, 2018

- 2017 **Parched: The Water Wars**, Jigsaw Productions, Series Advisor and Interview Subject, March, 2017  
**Water and Power: A California Heist**, Jigsaw Productions, Advisor and Interview Subject, January, 2017
- 2016 **Years of Living Dangerously**, November 9, 2016  
**The Nature of Things**, CBC, October 23, 2016  
**VICE on HBO**, End of Water, March 4, 2016
- 2015 **PBS NewsHour**, Is desalination the future of drought relief in California, *October 31, 2015*  
**The Rachel Maddow Show**, New research sounds alarm on global water supply, June 17, 2015  
**PBS NewsHour**, Is the World's Fresh Water Supply Running Out? June 17, 2015  
**Tavis Smiley**, Earth Day 2015 interview on the California Drought. April 22, 2015  
**Real Time with Bill Maher**, mid-show interview guest, March 27, 2015  
**CBS This Morning**, California governor defends sparing farmers from drought rules. April 6, 2015
- 2014 **Al Jazeera America**, TechKnow, California drought episode, October 18, 2014  
**Pivot TV**, update on 'Last Call at the Oasis'  
**60 Minutes**, Depleting the Water, featured expert, story consultant, November 16, 2014  
**PBS SoCal** Water expert video
- 2013 **Sip, Do Not Gulp**. Filmed interview for de Saisset Museum installation, Santa Clara University  
**TEDx**, "Can We End the Global Water Crisis," May 3
- 2012 **ESPN/Longhorn Network**, Interview and filming of public outreach lecture "Last Call at the Oasis: Is This Our Inconvenient Truth," for broadcast on ESPN/Longhorn Network, Oct. 26
- 2010-2012 **Participant Media**, featured expert, water documentary, 'Last Call at the Oasis'  
<http://www.takepart.com/lastcall>
- 2011 **Visualizing.org**, HeadsUp2011 Times Square Challenge: Visualize Global Groundwater Trends. Scientific visualization competition for Times Square electronic billboards on World Water Day, March 22, 2012. Data provider and judge  
**Water Brothers**, Canadian public television documentary television series, featured expert on California water issues.  
**Participant Media**, consultant on Social Action campaign for water documentary, 'Last Call at the Oasis'  
<http://www.takepart.com/lastcall>  
**Future of Water**, Virtual Conference, Water cycle change,  
<http://www.youtube.com/watch?v=MJnoGcfo7ys>
- 2009 **Nature Magazine**, Nature Videos, 'An Indian Hotspot,'  
<http://www.nature.com/nature/videoarchive/indianhotspot/>

2008 **American Museum of Natural History**, New York, Science Bulletin video series, 'GRACE: Tracking Water From Space'  
<http://www.youtube.com/watch?v=vfXXGYxEoM>

***Radio, Television, Newspaper, Magazines, Blogs***

2009-present Multiple interviews on hydrology, flooding, drought, groundwater depletion and water security, including New York Times, Los Angeles Times, San Francisco Chronicle, The Washington Post, The Guardian, Bloomberg, Financial Times, Sydney Morning Herald, Times of India, 60 Minutes, CNN, CNN International, MSNBC, CNBC, Al-Jazeera, Al Jazeera America, CBS, NBC, ABC, PBS News Hour, Pivot TV, The Economist, Smithsonian, Nature, Science, Pacific Standard, Time, Newsweek, Time, Vice, Mother Jones, ClimateWire, Mashable, ThinkProgress, BBC, NPR, German Public Radio, etc.

***Blog writing***

2012-present **National Geographic Water Currents, Contributor**  
<http://newswatch.nationalgeographic.com/author/jfamigli/>  
**Huffington Post, Contributor**  
<http://www.huffingtonpost.com/jay-famiglietti/>  
2011-2013 **Water 50/50, Author**  
<http://blog.ucchm.org>

**Current Support:**

2018-2025 Canada 150 Research Chair in Hydrology and Remote Sensing, \$7M (CAD)  
2017-2018 NASA WWA0: Supporting the Western States Water Mission with the Land Information System, Co-PI, with PI Christa Peters-Lidard (NASA/GSFC), \$550,000  
2016-2018 NASA PMM: Precipitation Measurement Mission for Improved Forcing in Hyper-Resolution Land Surface Models, PI, \$385,000  
2015-2019 NASA GRACE Science Team Recompensation: Terrestrial Hydrology from GRACE and GRACE-FO, Co-PI, with PI Matt Rodell (NASA/GSFC), \$900,000  
NASA GRACE Science Team Recompensation: Advancing the science on hydrologic states using GRACE: The role of terrestrial water storage in extreme events, Co-I, with PI JT Reager (NASA/JPL), \$500,000  
NASA SWOT Science Team: Integration of SWOT into global, terrestrial hydrological models, Co-I, with PI CH David (NASA/JPL), \$750,000  
2014-2017 NASA Sea Level, Land Contributions to Regional and Global Mean Sea Level Rise, PI, \$1,300,000

**Current Graduate Student and Postdoctoral Fellowships:**

2019-2022 David Ferris, Global Water Futures Graduate Fellowship, \$150,000 (CAD)

**Completed Support and Graduate Student and Postdoctoral Fellowships:**

2016-2019 NASA Earth and Space Science Fellowship, Adam Purdy, SMAP Soil Moisture & OCO-2 Solar Induced Fluorescence to Characterize ET Stress and Improve PTJPL-ET, \$90,000

2014-2017 NASA NEWS, Water Cycle Change from GRACE and NEWS Research, PI, \$500,000

2014-2017 JPL Water Initiative, \$3,000,000, Lead Scientist

2014-2017 NASA Earth and Space Science Fellowship, Kurt Solander, A SWOT-based reservoir model for climate models, \$90,000

2013-2016 NASA Earth and Space Science Fellowship, Jamiat Nanteza, A Remote-Sensing Based Decision Support for East Africa, \$90,000

2013-2016 NASA Earth and Space Science Fellowship, Aimee Gibbons, Remote Sensing Water Quality with GRACE, \$90,000

2014 University of California, Office of the President, MRPI Program, \$300,000

2013-2016 JPL, GRACE FO Core Science Team, PI, \$210,000

2012-2015 NASA Earth and Space Science Fellowship, Zhao Liu, An Explicit Representation of River Networks in a Catchment-based Land Surface Model Framework for SWOT Assimilation, \$90,000

2012-2015 NSF Science, Engineering and Education for Sustainability Postdoctoral Fellowship, Neeta Bijoor, A framework for sustainable irrigation practice: integrating social, hydrologic, and ecologic factors to meet the urban water challenge, \$249,973

2012-2013 NSF EarthCube, Linking hydrological models across scales, (Co-I, with PI David Gochis, NCAR), UCI Share, \$50,000

2011-2015 NASA GRACE Science Team Recompetition: Terrestrial Hydrology from GRACE, PI, with Co-PI Matt Rodell (NASA/GSFC), \$1,000,000

2011-2014 NASA Earth and Space Science Fellowship, Sasha Richey, An Index of Global Water Stress that Incorporates GRACE Observations, \$90,000

2010-2013 NASA Earth and Space Science Fellowship, Karli Anderson, Groundwater remote sensing using GRACE, GPS and InSAR, \$90,000

2010-2013 NASA Graduate Student Researchers Program, Alys Thomas, Characterizing Drought Using GRACE, \$90,000

2009-2014 University of California, Office of the President, A U.C. Center for Hydrologic Modeling, (PI), \$2,430,000

2009-2014 NSF, A Consortium of Universities for the Advancement of Hydrologic Sciences, Inc., Phase 2 Renewal, (Co-PI, with PI Richard Hooper) \$6,000,000, UCI share, \$0

2009-2013 NASA NEWS, Mass Changes in Earth's Global Water Reservoirs (PI, with Co-PIs Steven Nerem, Don Chambers, Isabella Velicogna), \$1,030,000, UCI share \$600,000

NASA THP, Scales of Variability of Groundwater Storage, \$480,000 (Co-PI with PI Matt Rodell), UCI share \$240,000

2009-2012 NASA Earth and Space Science Fellowship, J. T. Reager, Terrestrial water storage capacity and flood potential using GRACE, \$90,000

2008-2012 NASA IDS, The Contribution of Changes in Terrestrial Water Storage to Sea Level Variation, \$450,000 (PI, with Co-PI Matt Rodell, NASA GSFC), UCI share, \$330,000



- NASA GRACE Science Team, Terrestrial Hydroclimatology from GRACE, \$450,000 (PI, with Co-PI Matt Rodell, NASA GSFC), UCI share, \$350,000  
 NASA Decision, Integrating Enhanced GRACE Water Storage Data into the U.S. and North American Drought Monitors (Co-I, with PI Matt Rodell), UCI share \$60,000
- 2008-2011 NASA Earth and Space Science Fellowship, Minhui Lo, The Role of Progressively Deeper Soil Moisture and Groundwater in Land-Atmosphere Interaction, \$90,000
- 2008-2009 NSF Hydrological Science, A CUAHSI Scoping Workshop on a Community Hydrological Modeling Platform (CHyMP), \$40,000 to CUAHSI (PI)
- 2007-2010 NASA IDS, Black Carbon Impacts on Cryosphere Climate Sensitivity. \$607,000,(Co-I, with PI Charlie Zender, UCI), Famiglietti share, 1 month summer
- 2005-2008 NASA NEWS, A Study of the First Global Measurements of the Water Cycle (PI), with Co-PIs Steven Nerem, Don Chambers, Isabella Velicogna, \$600,000, UCI share \$150,000
- 2005-2008 NOAA CPPA, Basin-Scale Terrestrial Water Storage Variations Using GRACE and Implications for Land Memory Processes (PI), \$270,000
- 2003-2009 NASA REASoN CAN: GRACE Products for Oceanography and Hydrology, (Co-I, with PI Victor Zlotnicki (JPL), \$3,120,000, UCI share, \$421,000
- 2005-2008 NASA Earth System Science Fellowship, Gopi Goteti, Explicit Representation of Lakes, Wetlands and Rivers in a Land Surface Model: A Framework for Coupling Terrestrial Biogeochemistry and Hydrology, \$72,000
- 2005-2008 NASA Earth System Science Fellowship, Hassan Syed, Estimating Continental Water Storage Changes and Discharge using GRACE: Implications for Global Mean Sea Level Rise, \$72,000
- 2005-2007 UC Water Resources Center, 2005-2006, Monitoring California Water Resources from Space (PI), \$60,000
- 2004-2006 NASA Earth System Science Fellowship, Dongryeol Ryu, Footprint-Scale Soil Moisture Spatial Variability and Correlation Structure: Implications for Satellite Validation and Hydrologic Data Assimilation, \$72,000
- 2003-2007 NASA IDS: The Contribution of Changes in Terrestrial Water Storage to Sea Level Variation, \$400,000 (PI), UCI share, \$330,000  
 NASA SENH: Terrestrial Water Storage Variations Using GRACE: Estimation, Uncertainty and Validation, \$540,000, (PI, with Co-PI's Clark Wilson (UT) and Matt Rodell (NASA/GSFC)) UCI share \$240,000  
 NSF MRI: Acquisition of an Earth System Modeling Facility for Coupled Climate, Chemistry, and Biogeochemistry Studies, Co-PI with Charles Zender, PI, UCI, \$1,100,100, Famiglietti share \$0
- 2003-2005 NASA THP, 2003-2005 A Virtual Mission to Determine the Feasibility of a Future Surface Water Satellite Mission, NASA Terrestrial Hydrology, Co-PI with Doug Alsdorf, PI, UCLA. UCI share \$35,000
- 2003-2004 A CUAHSI Hydrologic Observatory: Example Using the Neuse River Basin,, Co-I with Ken Reckhow, Duke, PI. Famiglietti share one month summer salary.
- 2002-2005 NASA GWEC: Catchment-Based Global River Routing Scheme for Climate Models and Assimilation of Streamflow and Altimetry Data, \$330,000, (PI, with Co-PI Paul Houser, NASA/GSFC, UCI share \$165,000)

- 2002-2005 NASA Earth System Science Fellowship, Ki-Weon Seo (at UT), Estimating Water Content Variations, Error Analysis, and Validation of GRACE, \$72,000
- 2002-2005 NASA Earth System Science Fellowship, Aaron Berg, Uncertainty in Soil Moisture Initialization and Impacts on Seasonal-to-Interannual Prediction, \$72,000
- 2002-2003 NASA Oceans and Climate: Initialization of NSIPP Land Surface Model Soil Water States for Improved Seasonal-to-Interannual Prediction, \$80,000, PI
- 2000-2003 NASA: Floodplain Modeling Based on Fusion of Polarimetric SAR Interferometry and Laser Altimetry, \$300,000, (Co-PI, with Melba Crawford and Bob Schutz, UTCSR, and Jakob VanZyl and Yunjin Kim, NASA/JPL, UCI share \$105,000)
- 1999-2003 NASA: The Role of Soil Moisture Variability in Land-Atmosphere Interaction during SGP97, \$225,000, PI
- 1999-2003 NASA: Optimal Land Initialization for Seasonal Climate Predictions, \$600,000 (Co-PI, with Paul Houser, NASA/GSFC) UT/UCI share \$300,000
- 1999-2002 DOE Graduate Research Environmental Fellowship, Wendy Gordon, Role of the Hydrologic Cycle in Vegetation Response to Climate Change: An Analysis Using VEMAP Phase 2 Model Experiments, \$66,000
- 1999-2002 DOE Graduate Research Environmental Fellowship, Marcia Branstetter, An Investigation of the Effects of Continental Runoff on Climate Dynamics Using a Parallel Earth System Model, \$66,000
- 1999-2001 NASA Graduate Student Researchers Program, Karen Mohr, A Study of Land/Atmosphere Interactions in the Development of Mesoscale Convective Systems Using a Coupled Numerical Cloud and Land Surface Process Model, \$44,000
- 1998-2001 NASA Earth System Science Fellowship, Matthew Rodell, Estimating Variations in Continental Water Storage from Satellite Observations of the Time-Dependent Gravity Field, \$66,000
- 1997-2000 NSF: Closing the Global Water Cycle in Fully-Coupled Climate System Models: Terrestrial Hydrology and River Transport for the NCAR CSM, \$530,500 (PI, with CO-PI's David Maidment (UT), David Schimel (NCAR) and Charles Vorosmarty (UNH)), UT share \$315,000
- 1996-2000 NASA: New Investigator Award: Multiscale Soil Moisture Variability from Combined Remote Sensing, Modeling, and Observations, \$340,000 (PI)
- 1994-2000 NSF: Graduate Research Traineeships in Hydrology: Role of the Hydrological Cycle in the Coupled Earth System, \$562,500 (PI)
- 1996-1999 NASA Graduate Student Researchers Program, High Performance Computing and Communications Component, Marcia Branstetter, Development of a Parallel Algorithm for Land Surface Hydrology and River Transport in Coupled Climate System Models, \$66,000
- 1994-1998 NASA: Remote Sensing Soil Moisture Using Four-Dimensional Data Assimilation, \$222,000 (Co-PI, with Jim Shuttleworth, University of Arizona)
- 1996-1999 NASA Earth System Science Fellowship, Stephen Graham, A Continental River Routing Algorithm for Global Water Cycle Closure in Coupled Earth System Models, \$66,000

## **Current and Former Student and Staff Supervision**

### Current graduate student advisees

David Ferris, Ph.D. candidate, University of Saskatchewan

### Current postdoctoral advisees

Jefferson Wong (Ph.D., 2016, University of Bristol) July 2018-present. Research topic: Continental-scale land surface modeling in Canada

Li Xu (Ph. D., 2015, Curtin University) December 2018-present. Research topic: Socio-hydrology

### Graduated students

James Anderson, M.A., 1996, co-supervised with Prof. Phil Bennett. Thesis title, “Nonpoint Source Pollution by Organochlorine Pesticides in the Lavaca-Navidad Watershed, Texas,” University of Texas at Austin. Current employment, Program Manager, Department of Justice, Washington, DC.

Kwabena Asante, Ph. D., 2000, co-supervised with Prof. David Maidment. Dissertation title, “A Comparison of Grid-Based and Watershed-Based Continental-Scale River Routing Schemes,” University of Texas at Austin. Current employment, self-employed hydrologic scientist and GIS consultant.

Aaron A. Berg, M. S., 2001; Ph. D., 2003. M. S. thesis title, “The Sensitivity of Land Surface Model Simulations to Bias Correction of the European Centre for Medium-Range Weather Forecasts Reanalysis,” University of Texas at Austin. Ph. D. dissertation title, “Modeling and Analysis of Regional and Global Soil Moisture Variations,” University of California, Irvine. Current employment, Associate Professor, University of Guelph, Department of Geography.

Marcia L. Branstetter, Ph.D., 2001. Dissertation title, “Development of a Parallel River Transport Model and Applications to Climate Studies,” University of Texas at Austin. Current employment, research scientist, Oak Ridge National Laboratory, Computer Science and Mathematics Division, Climate Dynamics Group

Stephanie L. Castle, M.S.U.R.P/M. S. C. E., 2013, thesis title: Quantifying water storage changes in the Colorado River Basin using satellite observations, modeled results and in situ data, Current employment, Stormwater Specialist at Fuscoe Engineering, Inc., Irvine, CA

Hrishi A. Chandanpurkar, Ph. D., 2016, Global continental discharge and its effects on ocean and climate, Current employment, postdoctoral researcher, University of Colorado, Boulder

Johanna Devereaux, M.S., 1998. Thesis title, “A Study of Soil Moisture Variability Within Remote Sensing Footprints,” University of Texas at Austin. Current employment, Technical Writer, National Instruments

Aimee Gibbons, Ph. D., 2016, dissertation title, Assessing characterization of large-scale groundwater quality with remote sensing.

Wendy Gordon, Ph. D., 2003, co-supervised with Prof. Norma Fowler. Dissertation title, “Climate change, hydrology, and ecological models: intercomparison and validation,” University of Texas at Austin. Current employment, Ecologist, Texas Commission on Environmental Quality

Gopi Goteti, Ph. D., 2008, dissertation title, Methods for incorporating surface water routing in land surface models, University of California, Irvine. Current employment, Flood Modeler, Risk Management Solutions, San Francisco, CA

Stephen Graham, Ph.D., 2000. Dissertation title, “The Role of Continental Surface Waters in Land-Atmosphere and Land-Ocean Interaction,” University of Texas at Austin. Current employment, Research associate, Dept. of Geography, University of Minnesota, Duluth

Michael Harren, M.A., 1996, co-supervised with Prof. Phil Bennett. Thesis title, “Source and Distribution of Hydrocarbons in the Gaines Creek Watershed, Austin, TX,” University of Texas at Austin.

Sally Holl, M.S., 2004. Thesis title, “The Sensitivity of Land Surface Model Simulations to Bias Reduction of ERA-15 Radiation Forcing,” University of Texas at Austin. Current employment, USGS, Austin, TX

John Horn, M.A. , 2013

Collin B. Lawrence, Ph. D., 2014, Dissertation title, Glaciers and freshwater resources in a changing climate, Current employment, USGS, Reston, VA

Huidong Liu, Ph. D., 2013, Dissertation title, Lakes in land surface models: Simulation and validation using satellite measurements, current employment, FM Global Insurance, Boston, MA

Zhao Liu, Ph. D., 2014, Dissertation title, An Explicit Representation of River Networks in a Continental-Scale Catchment-based Land Surface Model Framework, Current employment, FM Global Insurance, Boston, MA

Min-Hui Lo, Ph.D., 2010, dissertation title, ‘The Role of Groundwater in Hydrological Processes and, Memory, University of California, Irvine. Current employment, Assistant Professor, Department of Atmospheric Science, National Taiwan University

Eric McWilliams (M. A., 2013)

Michelle E. Miro (Ph. D., 2017), Dissertation title, Science-based approaches to water resources management: Studies in remote sensing, groundwater and California's Central Valley, University of California, Los Angeles, Department of Civil and Environmental Engineering. Current Employment, Research Scientist, RAND Corporation, Santa Monica, CA

Karen I. Mohr, Ph.D., 2000. Dissertation title, “The Role of Surface-Atmosphere Interaction in the Development of Mesoscale Convective Systems,” University of Texas at Austin. Current employment, Research Scientist, Mesoscale Atmospheric Processes Branch, NASA Goddard Space Flight Center

Mary Lear, M. S., 2000, co-supervised with Prof. David Maidment. Thesis title, “Scaling River Network Extraction from High to Low Resolution Global Digital Elevation Models,” University of Texas at Austin. Current employment, Water Resources Engineer, Pentec Environmental, Seattle, WA

Jamiat Nanteza, Ph. D., 2016, Dissertation title, Earth observation and land surface model applications for improved groundwater resources monitoring over East Africa, Current employment, Lecturer, Dept.of Geography, Makerere University, Kampala, Uganda

Karli Ouellette (Ph. D., 2013), Dissertation title, Hydrologic applications of GPS site-position observations in the Western U.S.

Adam J. (AJ) Purdy (Ph.D. 2018), dissertation research, high resolution evapotranspiration modeling using SMAP satellite observations of soil moisture

Matthew Rodell, Ph.D., 2000. Dissertation title, “Estimating Continental Water Storage Using Satellite Observations of Time-Variable Gravity,” University of Texas at Austin. Current employment, Research Scientist and Branch Chief, Hydrological Sciences Branch, NASA Goddard Space Flight Center, Greenbelt, MD.

John T. (JT) Reager II, Ph. D., 2012, Dissertation title, Terrestrial water storage across scales: Applications of the GRACE satellite mission for global hydrology, Current employment, Research Scientist, NASA Jet Propulsion Laboratory

A. Sasha Richey, M. S., 2012 (Civil and Environmental Engineering), Thesis title, "Quantifying Groundwater Stress with Total Water Volumes and GRACE." (Ph. D., 2014), dissertation title, A GRACE-based characterization of global groundwater stress (Dept. of Civil and Environmental Engineering), Current employment, Postdoctoral Researcher, Washington State University

James Rudnicki, M.A., 1996. Thesis title, "Process Controls on Hillslope-Scale Soil Moisture Variability: Rattlesnake Hill, TX," University of Texas at Austin. Current employment, Bush and Motes, law firm, Arlington, Texas.

Dongryeol Ryu, Ph.D., 2006, Dissertation title, "Footprint-Scale Soil Moisture Spatial Temporal Variability and Implications for Satellite Validation." Current employment, Associate Professor, University of Melbourne, Australia

Kurt Solander, Ph. D., 2016, Dissertation title, Numerical modeling and remote sensing of global water management systems: Applications for land surface modeling, satellite missions, and sustainable water resources management, Current employment, Postdoctoral Researcher, Los Alamos National Laboratory

Tajdarul Hassan Syed, Ph. D., 2007, Dissertation title, "Remote Sensing of Terrestrial Water Storage: Implications for Continental Freshwater Discharge Estimation." Current employment, Assistant Professor, India School of Mines University, Dhanbad

Alys Thomas, Ph.D., 2014, Dissertation title, Utilizing G.R.A.C.E. Satellite Data for Hydrologic Drought Research, Current employment, Dept. of Homeland Security

Former undergraduate advisees

Ilham Ali, B. S., University of Alabaman, September 2018-May 2019.

Karen An, January 2012-June 2013, urban domestic water use; GRACE and groundwater stress

David Blum, UCSB, June 2011-Dec. 2011, Continental hydrogeology

Rachel Druffel-Rodriguez, Loyola-Marymount University, Summer, 2011, Estimating global groundwater storage

Aimee Gibbons, Chemistry major, Winter-Spring 2011, Terrestrial water storage changes in China

Avery McEvoy (B.S., USC, 2017), JPL Summer Intern, research topic, a satellite-based analysis of recovery from the 2011-2015 California drought

Royce Rivera, Earth and Environmental Science major, Summer-Fall, 2010, Terrestrial water storage changes in Australia

Robin Sehler (CSULA, expected degree, 2018), JPL Year-Round Intern, research topic, SMAP investigation of rainfall-runoff relationships

Katalyn A. Voss, Georgetown University, Research Specialist, Summer, 2010 and B. S. Thesis, Fall 2010-Spring, 2011, Groundwater depletion in Turkey and the Middle East

Stephanie Ho (B.S. Hon., 2009), Thesis title, "Total Water Storage Change Over the San Joaquin and Sacramento River Basins: Comparing GRACE and Observational Data "

Former NSF REU advisees

Amabella Lambinico, REU, summer 2012, contribution of groundwater depletion to global mean sea level rise

James Bethune, Summer, 2009, Carleton College, Groundwater depletion in California's Central Valley

Katalyn A. Voss, Summer, 2009, Georgetown University, A global index of groundwater scarcity

Karli Anderson, Summer, 2007, University of Minnesota, Terrestrial water storage changes in California and the western United States

Brain Kiel, Summer, 2006, Ohio State University, Basin-scale trends in terrestrial water storage

Lindsay McKenna, Summer, 2006, Brown University, Mass changes in Earth's global water reservoirs

*Former Postdoctoral and Research Scientist advisees*

Ray Anderson (Ph. D., University of California, Irvine, 2010) Research topic: Remote sensing of evapotranspiration, Current Employment, Research Scientist, USDA Agricultural Research Service, U.S. Salinity Laboratory, Riverside, CA

Neeta Bijoor, (Ph. D., University of California, Irvine, 2011) Research topic: Residential irrigation and landscape water balance. Current employment, Santa Clara Valley Water District, Water Conservation Specialist

Caroline de Linage (Ph. D., Universite de Strassbourg, 2008) Research topic: Gravity variations and hydrology

Frédéric Frappart (Ph.D., University Paul Sabatier, 2006) Research topic: remote sensing of terrestrial and global hydrology, surface water remote sensing using altimetry

Wenje Hwu (Ph. D., Arizona, 1998): January, 1998-September, 1999. Research topic: Role of soil moisture variability in land-atmosphere interaction using SGP97 remotely-sensed observations and the MM5 Mesoscale Meteorological Model.

Byunghyun Kim (Ph. D., Seoul National University, 2010) September, 2011-August, 2014, Research topic: High-resolution hydrodynamic modeling of floodplain inundation

Hyungjun Kim (Ph. D., University of Tokyo, 2010) September, 2010– April 2012, Research topic: Land surface modeling Current employment, Assistant Professor, Institute of Industrial Science, University of Tokyo

Pang-Wei Liu (Ph.D., University of Florida, 2014) July 2017-June 2018, Research topic: Hyper-resolution land surface modeling and data integration. Current employment, Research Scientist, NASA Goddard Space Flight Center

Min-Hui Lo, (Ph. D., University of California, Irvine, 2010), June 2010-March 2012, Research topic: Land Subsurface-Atmosphere Interactions. Current employment, Assistant Professor, Department of Atmospheric Science, National Taiwan University

Catalina Oaida (Ph. D., UCLA, 2014) March 2016-February 2018. Research topic: Data assimilation of Snow Water Equivalent in a land surface model.

Corinna Prietzsch (Ph. D., Potsdam, 1998): July, 1998 – July, 1999. Research topic: Characterization of spatial-temporal variability in remotely-sensed soil moisture images from SGP97.

John T. (JT) Reager II (Ph.D., University of California, Irvine, 2012) Research topic: Land surface modeling and global water cycle dynamics, Current employment, Research Scientist, NASA Jet Propulsion Laboratory, California Institute of Technology

Dimitrios Stampoulis (Ph.D., University of Connecticut, 2014) March 2016-February 2018.  
Research topic: Data assimilation of GRACE and groundwater in a land surface model.  
Modeling soil moisture dynamics in large-scale hydrological models. Current employment,  
Research Scientist, Arizona State University.

Tajdarul Hassan Syed (Ph. D., U.C. Irvine, 2007) Research topic: GRACE-based estimates of  
continental freshwater discharge and the contribution of terrestrial water storage variations to  
sea level rise. Current employment, Assistant Professor, Indian School of Mines, Dhanbad

Brian F. Thomas. (Ph. D., Tufts University, 2012) Research topic: Surface water-groundwater  
interactions, Storage-discharge-baseflow relationships. Current employment, Assistant  
Professor, University of Pittsburgh

Pat J-F. Yeh (Ph.D., MIT, 2002) Research topic: terrestrial water storage variations,  
groundwater remote sensing. Current employment, Associate Professor, University of Tokyo

#### Former staff supervision

Callie M. Brazil, UCCHM Communications and Outreach Coordinator, April 2013-June 30,  
2014

Stephanie L. Castle, UCCHM Data Specialist, July 2009-September 2011, UCCHM Junior  
Specialist, July 2013-August 2014

Cedric H. David, UCCHM Project Scientist and JPL Research Scientist, July 1, 2012 –June 30,  
2018

Rachel Druffel-Rodriguez, UCCHM Junior Specialist, July 2012-June 2013

Jake Edman, UCCHM, Junior Specialist, July 2011-June 2012

Stephanie Ho, UCCHM, Junior Specialist, April 2011-August 2011

Karan Kaushik, UCCHM, Technical Assistant, April 2011-December 2011

Hyungtae Kim, UCCHM Junior Specialist, July 2012-August 2014

Roxanne Murillo, UCCHM Outreach and Communications Intern, July 2012-November 2012

John T. (JT) Reager II, JPL Research Scientist, July 2014-June 2018

Katalyn A. Voss, UCCHM Water Policy Fellow, July 2010-June 2014

Jennifer Wilkens, UCCHM Office Manager, July 2010-June 2014

#### Former Sabbatical and other Visitors

Prof. Kang-Kun Lee, 2009-2010, UCCHM Sabbatical Visitor, Seoul National University

Dr. Annette Eicker (March-September, 2015), JPL Water Initiative Visitor, University of  
Bonn, Institute of Geodesy and Geoinformation

Prof. Hyungjun Kim, 2015-2018, JPL Water Initiative periodic visitor, University of Tokyo,  
Institute of Industrial Science