

Cédric H. David

Born in Marseille, France – French National, US Permanent Resident (Green Card holder).

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PROFESSIONAL EXPERIENCE

- 2014-current **NASA's Jet Propulsion Laboratory (Pasadena, California)**
Champion – NASA Transform to Open Science (TOPS) (2023-current)
Scientist – Water & Ecosystems Group (2018-current)
Hydrology Advisor – Physical Oceanography Distributed Active Archive Centers (PO.DAAC) (2017-2023).
Group Supervisor – Water & Ecosystems Group (2018-2022, formerly known as Terrestrial Hydrology)
Deputy Project Scientist – Western States Water Mission (WSWM) (2016-2018).
Scientist – Surface Hydrology Group (2015-2018).
Scientist – Water & Carbon Cycles Group (2014-2015).
- 2012-2014 **University of California Center for Hydrologic Modeling (Irvine, California)**
Project Scientist – Development of an integrated state-of-the-art model of California water resources; mentorship of Ph.D. students and Junior Specialists; under Dr. James S. Famiglietti.
- 2009-2012 **University of Texas at Austin (Austin, Texas)**
Post-doctoral Researcher – Climate System Science group of the Department of Geological Sciences. Study of climate change impacts on water resources and river flow in the Texas Gulf Coast Hydrologic Region, and influence on ecosystems of Texas Bays; mentorship of Ph.D. students; under Dr. Zong-Liang Yang.
- 2007-2008 **Ecole des Mines de Paris (Fontainebleau, France)**
Graduate Student Visitor – Center for Geosciences (six months). Macroscale River Flow Modeling in collaboration with the French Weather Service (MétéoFrance); under Dr. Florence Habets.
- 2006-2009 **University of Texas at Austin (Austin, Texas)**
Graduate Research Assistant – Center for Research in Water Resources. Development of a river network routing model called RAPID; under the supervision of Dr. David R. Maidment and Dr. Zong-Liang Yang.
- 2006 **National Center for Atmospheric Research (Boulder, Colorado)**
Graduate Student Visitor – Research Advanced Laboratory. Modeling of the flow of water across the land surface; under Dr. David Gochis (3 months).
- 2004-2006 **University of Texas at Austin (Austin, Texas)**
Graduate Research Assistant – Center for Research in Water Resources. Study of salinity in Texas bays; under Dr. Ben R. Hodges.
- 2004 **AmecSpie (Toulouse, France)**
Intern Engineer – On-site management of sensor installation and testing for the Airbus 380 gas station (3 months).
- 2003 **SOGREAH (Echirolles, France)**
Intern Engineer – Hydraulic Research Department. Development of empirical relationships between incident waves and overtopping of breakwaters in ports (8 months).
- 2003 **SOGREAH (Echirolles, France)**
Intern Assistant Engineer – Hydraulic Research Department. Research concerning breakwater overtopping in wave flumes and wave tanks (3 months).
- 2003-2004 **Redbull GmbH (Monaco, Principauté de Monaco)**
Student Brand Manager – marketing (14 months).

EDUCATIONAL QUALIFICATIONS

- 2006-2009 **University of Texas at Austin (Austin, Texas):** Ph.D. in Civil Engineering (graduated in August 2009). Ph.D. Dissertation entitled “Towards river flow computation at the continental scale”. GPA: 3.879 (cumulative Master’s and Ph.D.).
- 2004-2006 **University of Texas at Austin (Austin, Texas):** Master of Science in Environmental and Water Resources Engineering (graduated in May 2006). Master’s Thesis entitled “Deploying a Microstructure Profiler in Corpus Christi Bay”. GPA: 3.860.
- 2001-2004 **Ecole Centrale de Lille (Lille, France):** Master of Science in General Engineering (graduated in September 2004). Specialization in Systems & Control, and Physical planning, Construction and Environment. Ecole Centrale de Lille is of France’s top ten *Grandes Ecoles* of engineering.
- 1999-2001 **Lycée Jacques Decour (Paris, France):** Advanced undergraduate education in the so-called *Classes Préparatoires* for admission into the French *Grandes Ecoles*.

TEACHING EXPERIENCE

- 2023(invited) **Arizona State University (Tempe, Arizona):** The Surface Water and Ocean Topography Mission, The fresh water story, with a side of ocean and coastal science (invited virtual lecture), Course number SOS 598: Pathways to Global Groundwater Sustainability, 27 February.
- 2022(invited) **Orange County Children’s Book Festival (Costa Mesa, California):** Earth’s Water as Seen from Space: Why and How? (invited lecture), 02 October.
- 2019 **International Center for Integrated Mountain Development (Kathmandu, Nepal):** Training of Trainers: Estimation of Groundwater Storage Changes Using GRACE Satellites, 22-24 April 24
- 2018 **University of California, Irvine (Irvine, California):** Department of Computer Science, CS 199 Research Class: Continuous Integration (Winter 2018), Docker (Spring 2018), Research Challenge (Fall 2018), Container Orchestration (Winter 2019).
- 2018(invited) **Bangladesh Agricultural Research Council (Dhaka, Bangladesh):** Remote Sensing of Groundwater (lecture), 26 April.
- 2018(invited) **Flood Forecasting and Warning Center (Dhaka, Bangladesh):** Continental-scale Modeling of Discharge (lecture), 25 April.
- 2017 ICIMOD (Kathmandu, Nepal): SERVIR Training, RAPID and RRR (lecture), 24-27 April.
- 2017(invited) **CUAHSI (Boston, Massachusetts):** CUAHSI/NASA Remote Sensing Hydrology Workshop, The Surface Water and Ocean Topography (SWOT) Mission (invited workshop instructor). 04-06 April.
- 2016(invited) **Biosphere 2 (Oracle, Arizona):** CUAHSI/NASA Remote Sensing Hydrology Workshop, The Surface Water and Ocean Topography (SWOT) Mission (invited workshop instructor). 28-31 March.
- 2015 **Jet Propulsion Laboratory (Pasadena, California):** Geoscience Paper of the Future Training Session: Learn Best Practices for Scholarly Publication, 28 Oct.
- 2015(invited) **National Center for Atmospheric Research (Boulder, Colorado):** Training Workshop: The Community WRF-Hydro Modeling System, RAPID Training (invited lecture). 05-07 May.
- 2014 **University of California, Irvine (Irvine, California):** Department of Earth System Science, upper-division undergraduate and graduate course ESS 132 / ESS 232 Terrestrial Hydrology, substitute lecturer for Evapotranspiration. 25 and 27 February.
- 2013 **University of California, Irvine (Irvine, California):** Department of Earth System Science, upper-division undergraduate and graduate course ESS 132 / ESS 232 Terrestrial Hydrology, substitute lecturer for Evapotranspiration. 19, 21 and 26 February.
- 2012 **University of Texas at Austin (Austin, Texas):** Department of Geological Sciences, upper-division undergraduate and graduate course GEO 377P / GEO 387P Physical Climatology, substitute lecturer for River Modeling and Influence of Climate Change on Terrestrial Water. 01 March.
- 2011(invited) **Chinese Academy of Sciences (Beijing, China):** Institute of Atmospheric Physics, RAPID Training Course (invited lecture). 24-26 May.
- 2011 **University of Texas at Austin (Austin, Texas):** Department of Geological Sciences, upper-division undergraduate and graduate course GEO 377P / GEO 387P Physical Climatology, substitute lecturer for Earth Energy Balance and Oceanic Circulation. 01 and 03 February, 24 March.
- 2010 **University of Texas at Austin (Austin, Texas):** Department of Geological Sciences, graduate course GEO 391 Land Atmosphere Interaction Dynamics, substitute lecturer for Surface Water Balance and Watershed Hydrology. 06 November.
- 2009(invited) **University of North Texas, (Denton, Texas):** Department of Geography, Overview of plate tectonics (invited lecture). 03 April.

2006-2007	University of Texas at Austin (Austin, Texas): Lyndon B. Johnson School of Public Affairs, coach for the GIS team of graduate course PA682A Assessing Community Needs, Fall 2006 and Spring 2007 semesters.
2005	University of Texas at Austin, (Austin, Texas): Civil, Architectural and Environmental Engineering Department, Teaching assistant for laboratories and grader for undergraduate course CE356 Elements of Hydraulic Engineering, Spring 2005 semester.
2002	Prépamath (Sceaux, France): Mathematics, Physics and Chemistry tutor during Spring Break (1 month).

HONORS AND AWARDS

2023	Ecole Normale Supérieure de Paris Invited Fellow, Geoscience Department.
2023	Jet Propulsion Laboratory Voyager Award for excellence in scientific communication and outreach in support of the SWOT mission.
2021	Jet Propulsion Laboratory Team Award for exemplary leadership during the pandemic.
2020	American Geophysical Union Water Resources Research Editor's Choice Award for Lin et al. (2019).
2018	National Aeronautics and Space Administration Early Career Public Achievement Medal.
2017	American Water Resources Association , Finalist of the William R. Boggess Award, w/r/t Snow et al. (2016).
2016	Jet Propulsion Laboratory Voyager Award for developing the RAPID model.
2014	Microsoft Research, Azure Research Grant for a proposal entitled RAPID on Azure. \$45,000 (including \$5,000 extension).
2008-2009	American Geophysical Union Horton (Hydrology) Research Grant for proposal entitled A Prototype Study of Continental Water Dynamics Using the Guadalupe River Basin. \$10,000
2006	University Corporation for Atmospheric Research: Advanced Study Program grant for Graduate Student Visitors. \$4,500
2006	University of Texas at Austin: LBJ School of public affairs, RGK Center for Philanthropy and Community Service, George Foundation Fellow. \$1,000.

MOST CITED AND MOST DOWNLOADED PAPER AWARDS

2023	American Water Resources Association Journal of the American Water Resources Association, Top Cited Article in 2021-2022 & Top Downloaded Paper of 2021 in its first 12 months: McStraw et al. (2021).
2020	American Geophysical Union Water Resources Research, Reviewer of a Top Downloaded and/or Cited Article in 2019.
2020	American Geophysical Union Water Resources Research, Top 10 Most Downloaded Papers in 2018-2019: Lin et al. (2019).
2020	American Geophysical Union Geophysical Research Letters, Top 10 Most Downloaded Papers in 2018-2019: Zhou et al. (2019).
2020	Frontiers in Environmental Science Top number of views and downloads in 2019: Purdy et al. (2019).
2019	American Water Resources Association Journal of the American Water Resources Association Top 20 Most Downloaded Papers in 2017-2018: Salas et al. (2017).
2018	American Water Resources Association Journal of the American Water Resources Association Top 20 Most Downloaded Papers in 2017: Tavakoly et al. (2016)
2018	American Geophysical Union Earth and Space Science Top 10 Most Downloaded Papers in 2017: David et al. (2016).

PEER REVIEWED PUBLICATIONS

h-index=19 Web of Science (2023-05-07), Search / Researchers / Author Identifiers / 0000-0002-0924-5907

Summary of peer-reviewed publications																	Total
Paper type										Paper number							57
First-authored by me										1	2	3	4	6	11	15	10
First-authored by a postdoc funded & advised by me, supporting one of my PI-led projects										25	39	40	44	52			5
First-authored by student/postdoc/researcher, supporting one of my PI-led projects										28	29	37	43	50	54		6
First-authored by a postdoc/researcher funded & advised by me, supporting their previous projects										42	51						2
First-authored by student, under my partial supervision										7	12	14					3
Community efforts										9	18	24	36	45	46	47	8
Leveraged software that I developed										10	13	16	19	22	26	34	11
Other collaborations										5	8	17	20	23	27	30	12

- 57** Durand, M., C. J. Gleason, T. M. Pavelsky, R. P. d. M. Frasson, M. Turmon, **C. H. David**, et al. (2023), A framework for estimating global river discharge from the Surface Water and Ocean Topography satellite mission, Water Resources Research, 59, e2021WR031614, DOI: [10.1029/2021WR031614](https://doi.org/10.1029/2021WR031614)
- 56** **David, C. H.** and Renato P. d. M. Frasson (2023), Blame the river not the rain, Nature Geoscience, 16, 282–283, DOI: [10.1038/s41561-023-01163-w](https://doi.org/10.1038/s41561-023-01163-w)
- 55** Tavakoly, A. A., **C. H. David**, J. L. Gutenson, and M. Wahl, M. Follum (2023), Development of non-data driven reservoir routing in the routing application for parallel computation of discharge (RAPID) model, Environmental Modelling & Software, 161, 105631, DOI: [10.1016/j.envsoft.2023.105631](https://doi.org/10.1016/j.envsoft.2023.105631)
- 54** Frasson, R. P. M., M. J. Turmon, M. T. Durand, and **C. H. David** (2023), Estimating the relative impact of measurement, parameter, and flow law errors on discharge from the Surface Water and Ocean Topography mission, Journal of Hydrometeorology, 24, 425–443, DOI: [10.1175/JHM-D-22-0078.1](https://doi.org/10.1175/JHM-D-22-0078.1)
- 53** Liu, P. -W., J. S. Famiglietti, A. J. Purdy, K. H. Adams, A. L. McEvoy, J. T. Reager, R. Bindlish, D. N. Wiese, **C. H. David**, and M. Rodell (2022), Groundwater Depletion in California’s Central Valley Accelerates During Megadrought, Nature Communications, 13:7825, DOI: [10.1038/s41467-022-35582-x](https://doi.org/10.1038/s41467-022-35582-x)
- 52** Bonnema, M., **C. H. David**, R. P. M. Frasson, C. Oaida, and Sang-Ho Yun, (2022), The Global Surface Area Variations of Lakes and Reservoirs as Seen from Satellite Remote Sensing, Geophysical Research Letters, 1-13, DOI: [10.1029/2022GL098987](https://doi.org/10.1029/2022GL098987)
- 51** Emery, C. M., A. Paris, S. Biancamaria, A. Boone, S. Calmant, P. -A. Garambois, J. Santos da Silva, and **C. H. David** (2022), Discharge Estimation Via Assimilation of Multi-satellite-based Discharge Products: Case Study Over the Amazon Basin, IEEE Geoscience and Remote Sensing Letters, 19, 1-5, DOI: [10.1109/LGRS.2020.3020285](https://doi.org/10.1109/LGRS.2020.3020285)
- 50** Riggs, R. M., G. H. Allen, **C. H. David**, P. Lin, M. Pan, X. Yang, and C. Gleason (2021), RODEO: An algorithm and Google Earth Engine application for river discharge retrieval from Landsat, Environmental Modelling & Software, 148, 105254, DOI: [10.1016/j.envsoft.2021.105254](https://doi.org/10.1016/j.envsoft.2021.105254)
- 49** McStraw T. C., S T. Pulla, N. L. Jones, G. P. Williams, **C. H. David**, J. E. Nelson, D. P. Ames (2021), An Open-Source Web Application for Regional Analysis of GRACE Groundwater Data and Engaging Stakeholders in Groundwater Management, Journal of the American Water Resources Association, 58(6): 1002-1016, DOI: [10.1111/1752-1688.12968](https://doi.org/10.1111/1752-1688.12968)
- 48** Yang, Y., M. Pan, P. Lin, H. E. Beck, Z. Zeng, D. Yamazaki, **C. H. David**, H. Lu, K. Yang, Y. Hong, and E. F. Wood (2021), Global Reach-level 3-hourly River Flood Reanalysis (1980-2019), Bulletin of the American Meteorological Society, 102(11), E2086–E2105, DOI: [10.1175/BAMS-D-20-0057.1](https://doi.org/10.1175/BAMS-D-20-0057.1)
- 47** International Altimetry Team (including **C. H. David**) (2021), Altimetry for the future: Building on 25 years of progress, Advances in Space Research, 68 (2021) 319–363, DOI: [10.1016/j.asr.2021.01.022](https://doi.org/10.1016/j.asr.2021.01.022)
- 46** Frasson, R. P. M., M. T. Duran, K. Larnier, C. Gleason, K. M. Andreadis, M. Hagemann, R. Dudley, D. Bjerklie, H. Oubanas, P.-A. Garambois, P.-O. Malaterre, P. Lin, T. M. Pavelsky, J. Monnier, C. B. Brinkerhoff, **C. H. David** (2021), Exploring the factors controlling the error characteristics of the Surface Water and Ocean Topography mission discharge estimates, Water Resources Research, 57(6), 1-29, DOI: [10.1029/2020WR028519](https://doi.org/10.1029/2020WR028519)
- 45** Clark, M. P, C. H. Luce, A. AghaKouchak, W. Berghuijs, **C. H. David**, Q. Duan, S. Ge, I. van Meerveld, C. Zheng, M. B. Parlange, and S. W. Tyler (2021), Open science: Open data, open models, ...and open publications?, Water Resources Research, 57, 1-8, DOI: [10.1029/2020WR029480](https://doi.org/10.1029/2020WR029480)

Sikder, M. S., M. Bonnema, C. M. Emery, **C. H. David**, P. Lin, M. Pan, S. Biancamaria, and M. M. Gierach (2021), A Synthetic Dataset Inspired by Satellite Altimetry and Impacts of Sampling on Global Spaceborne Discharge Characterization, *Water Resources Research*, 57(2), 1-12, DOI: [10.1029/2020WR029035](https://doi.org/10.1029/2020WR029035).

Allen, G. H., X. Yang, J. Gardener, J. Holliman, C. H. David, and M. Ross (2020), Timing of Landsat Overpasses Effectively Capture Flow Conditions of Large Rivers, *Remote Sensing*, 12(9), 1510, DOI: [10.3390/rs12091510](https://doi.org/10.3390/rs12091510).

Emery, C. M., S. Biancamaria, A. Boone, S. Ricci, M. C. Rochoux, V. Pedinotti, and **C. H. David** (2020), Assimilation of wide-swath altimetry water elevation anomalies to correct large-scale river routing model parameters, *Hydrology and Earth System Sciences*, 24, 2207–2233, DOI: [10.5194/hess-24-2207-2020](https://doi.org/10.5194/hess-24-2207-2020).

Massoud, E., M. Turmon, J. Reager, J. Hobbs, Z. Liu, and **C. H. David** (2020), Cascading Dynamics of the Hydrologic Cycle in California Explored through Observations and Model Simulations, *Geosciences*, 10 (71), 1-13, DOI: [10.3390/geosciences10020071](https://doi.org/10.3390/geosciences10020071).

Emery, C. M., **C. H. David**, K. M. Andreadis, M. J. Turmon, J. T. Reager, and J. M. Hobbs (2020), Underlying Fundamentals of Kalman Filtering for River Network Modeling, *Journal of Hydrometeorology*, 21, 453-474, DOI: [10.1175/JHM-D-19-0084.1](https://doi.org/10.1175/JHM-D-19-0084.1).

Sikder, M. S., **C. H. David**, G. H. Allen, X. Qiao, E. J. Nelson, and M. A. Matin (2019), Evaluation of Available Global Runoff Datasets through a River Model in Support of Transboundary Water Management in South and Southeast Asia, *Frontiers in Environmental Science*, 7:171, DOI: [10.3389/fenvs.2019.00171](https://doi.org/10.3389/fenvs.2019.00171).

Yang, Y., P. Lin, C. K. Fisher, M. Turmon, J. Hobbs, C. M. Emery, J. T. Reager, **C. H. David**, H. Lud, K. Yang, Y. Hong, E. F. Wood, and M. Pan (2019), Enhancing SWOT Discharge Assimilation through Spatiotemporal Correlations, *Remote Sensing of Environment*, 234, 111450, DOI: [10.1016/j.rse.2019.111450](https://doi.org/10.1016/j.rse.2019.111450).

Purdy, A. J., **C. H. David**, M. S. Sikder, J. T. Reager, H. A. Chandanpurkar, N. L. Jones, M. A. Matin (2019), An open-source tool to facilitate the processing of GRACE Observations and GLDAS outputs: An evaluation in Bangladesh, *Frontiers in Environmental Science*, 7:155, DOI: [10.3389/fenvs.2019.00155](https://doi.org/10.3389/fenvs.2019.00155).

Nelson, E. J., S. T. Pulla, M. A. Matin, K. Shakya, N. L. Jones, D. P. Ames, W. L. Ellenburg, K. N. Markert, **C. H. David**, B. F. Zaitchik, P. Gatlin, and R. Hales (2019), Enabling Stakeholder Decision-Making with Earth Observation and Modeling Data Using Tethys Platform, *Frontiers Environmental Science*, 7:148, DOI: [10.3389/fenvs.2019.00148](https://doi.org/10.3389/fenvs.2019.00148).

Qiao, X., E. J. Nelson, D. Ames, Z. Li, **C. H. David**, G. Williams, W. Roberts, J. L. Sanchez-Lozano, C. Edwards, M. Souffront, and M. Matin (2019), A Systems Approach to Routing Global Gridded Runoff through Local High-Resolution Stream Networks for Flood Early Warning Systems, *Environmental Modelling & Software*, 120, 104501, DOI: [10.1016/j.envsoft.2019.104501](https://doi.org/10.1016/j.envsoft.2019.104501).

Lin, P., M. Pan, H. E. Beck, Y. Yang, D. Yamazaki, R. Frasson, **C. H. David**, M. Durand, T. M. Pavelsky, G. H. Allen, C. J. Gleason, and E. F. Wood (2019), Global Reconstruction of Naturalized River Flows at 2.94 Million Reaches, *Water Resources Research*, 55, 6499-6516, DOI: [10.1029/2019WR025287](https://doi.org/10.1029/2019WR025287).

Nickles, C., R. E. Beighley, Y. Zhao, M. T. Durand, **C. H. David**, and H. Lee (2019), How does the unique space-time sampling of the Surface Water and Ocean Topography (SWOT) Mission influence river discharge series characteristics? *Geophysical Research Letters*, 46, 8154–8161, DOI: [10.1029/2019GL083886](https://doi.org/10.1029/2019GL083886).

Ehalt Macedo, H., R. E. Beighley, **C. H. David**, and J. T. Reager (2019), Using GRACE in a streamflow recession to determine drainable water storage in the Mississippi River Basin. *Hydrology and Earth System Sciences*, 23, 3269–3277, DOI: [10.5194/hess-23-3269-2019](https://doi.org/10.5194/hess-23-3269-2019).

David, C. H., J. M. Hobbs, M. J. Turmon, C. M. Emery, J. T. Reager, and J. S. Famiglietti (2019), Analytical Propagation of Runoff Uncertainty into Discharge Uncertainty through a Large River Network, *Geophysical Research Letters*, 46, 8102–8113, DOI: [10.1029/2019GL083342](https://doi.org/10.1029/2019GL083342).

Zhou, Y.Q., A. H. Sawyer, **C. H. David**, and J. S. Famiglietti (2019), Fresh submarine groundwater discharge to the near-global coast, *Geophysical Research Letters*, 46, 5855–5863, DOI: [10.1029/2019GL082749](https://doi.org/10.1029/2019GL082749).

Stampoulis, D., J. T. Reager, **C. H. David**, K. M. Andreadis, J. S. Famiglietti, T. G. Farr, A. R. Trangsud, R. R. Basilio, J. L. Sabo, G. B. Osterman, P. R. Lundgren, and Z. Liu (2019) 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, DOI: [10.1016/j.advwatres.2019.04.004](https://doi.org/10.1016/j.advwatres.2019.04.004).

Oaida, C. M., J. T. Reager, K. M. Andreadis, **C. H. David**, S. R. Levee, T. H. Painter, K. J. Bormann, A. R. Trangsud, M. Giroto, J. S. Famiglietti (2018) A high-resolution data assimilation framework for snow water equivalent estimation across the Western United States and validation with the Airborne Snow Observatory, *Journal of Hydrometeorology*, 20, 357-378, DOI: [10.1175/JHM-D-18-0009.1](https://doi.org/10.1175/JHM-D-18-0009.1).

Zhou, Y., K. M. Befus, A. H. Sawyer, and **C. H. David** (2018), Opportunities and challenges in computing fresh groundwater discharge to continental coastlines: A multimodel comparison for the United States Gulf and Atlantic Coasts, *Water Resources Research*, DOI: [10.1029/2018WR023126](https://doi.org/10.1029/2018WR023126).

- Lin, P., Z. -L. Yang, D. J. Gochis, W. Yu, D. R. Maidment, M. A. Somos-Valenzuela, and **C. H. David** (2018), Implementation of a vector-based river network routing scheme in the community WRF-Hydro modeling framework for flood discharge simulation, *Environmental Modelling & Software*, 107, 1-11, DOI: [10.1016/j.envsoft.2018.05.018](https://doi.org/10.1016/j.envsoft.2018.05.018).
- Allen, G. H., **C. H. David**, K. M. Andreadis, F. Hossain, and J. S. Famiglietti (2018), Global estimates of river flow wave travel times and implications for low-latency satellite data, *Geophysical Research Letters*, DOI: [10.1029/2018GL077914](https://doi.org/10.1029/2018GL077914).
- Hossain, F., M. Srinivasan, C. Peterson, A. Andral, et al. (2017), Engaging the User Community for Advancing Societal Applications of the Surface Water Ocean Topography (SWOT) mission, *Bulletin of the American Meteorological Society*, DOI: [10.1175/BAMS-D-17-0161.1](https://doi.org/10.1175/BAMS-D-17-0161.1).
- Knights, D., K. C. Parks, A. H. Sawyer, **C. H. David**, T. N. Browning, K. M. Danner, and C. D. Wallace (2017), Direct groundwater discharge and vulnerability to hidden nutrient loads along the Great Lakes coast of the United States, *Journal of Hydrology*, 554, 331-341, DOI: [10.1016/j.jhydrol.2017.09.001](https://doi.org/10.1016/j.jhydrol.2017.09.001).
- Salas, F. R., M. A. Somos-Valenzuela, A. Dugger, D. R. Maidment, D. J. Gochis, **C. H. David**, W. Yu, D. Ding, E. P. Clark, and N. Noman (2017), Towards Real-Time Continental Scale Streamflow Simulation in Continuous and Discrete Space, *Journal of the American Water Resources Association*, 54(1), 7-27, DOI: [10.1111/1752-1688.12586](https://doi.org/10.1111/1752-1688.12586).
- David, C. H.**, Y. Gil, C. H. Duffy, S. D. Peckham, and S. K. Venayagamoorthy (2016), An Introduction to the special Issue on Geoscience Papers of the Future, *Earth and Space Science*, 3, 441-444, DOI: [10.1002/2016EA000201](https://doi.org/10.1002/2016EA000201).
- Fournier, S., J. T. Reager, T. Lee, J. Vasquez-Cuervo, **C. H. David**, and M. M. Gierach, (2016), SMAP observes flooding from land to sea: the Texas event of 2015, *Geophysical Research Letters*, 43, 10,338-10,346, DOI: [10.1002/2016GL070821](https://doi.org/10.1002/2016GL070821).
- Tavakoly, A. A., A. D. Snow, **C. H. David**, M. L. Follum, D. R. Maidment, Z. -L. Yang (2016), Continental Scale River Flow Modeling of the Mississippi River Basin Using High Resolution NHDPlus Dataset, *Journal of the American Water Resources Association*, 53(2), 258-279, DOI: [10.1111/1752-1688.12456](https://doi.org/10.1111/1752-1688.12456).
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2010	David, C. H. (2010), RAPID v1.0.0,	Zenodo, DOI: 10.5281/zenodo.27239
Ongoing	https://github.com/c-h-david/rapid	Routing Application for Parallel computation of Discharge DOI: 10.5281/zenodo.593867 (to cite all versions)
	https://github.com/c-h-david/rrr	Reproducible Routing Rituals DOI: 10.5281/zenodo.3236649 (to cite all versions)
	https://github.com/c-h-david/shbaam	Satellite Hydrology Bits Analysis And Mapping
	https://github.com/c-h-david/moshpyt	Multiple Operating Systems Herded for Python Testing

DATA PUBLICATIONS

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CONFERENCE PROCEEDINGS

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- 2021 Benveniste, J., A. Andral, A. Gutierrez, P. Bates, P. Bauer-Gottwein, C. Brachet, J. -F. Crétau, C. I. Garay Bohórquez, R. C. D. d. Paiva, P. Maisongrande, T. Ouattara, S. Unninayar, P. Berry, C. H. David., A. Fleischmann, H. Gao, A. Güntner, G. Huffman, H. Lee, K. Nielsen, F. Papa, C. Prigent, C. Schwatke, A. Tarpanelli, M. Tourian, A. Z. Zaidi (2021), Summary and Recommendations from the HydroSpace GEOGloWS 2021 Workshop, HydroSpace GEOGloWS 2021 Workshop, Frascati, Italy, June 07 – 11 2021, <https://doi.org/10.5270/esa.hydrospace-geoglows-2021-report>
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COMMUNITY WHITE PAPERS

- 2021 Biancamaria, S, D. Blumstein, F. Birol, S. Calmant, J.-F. Crétau, C. H. David, P.-A. Garambois, F. Frappart, T. Gascon, M. Gosset, A. Kouraev, S. Legrand, P.-O. Malaterre, D. Medeiros Moreira, S. Munier, F. Papa, A. Paris, K. Soungalo, J. Verron, H. Yesou1 (2021), SMASH Mission Requirements, CNES Internal Document.
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- of the National Academies of Sciences, Engineering and Medicine, 2nd Request for Information, submitted on 2016-05-17, [available online](#).
- 2015 Pavelsky, T. M., C. H. David, J. D. Bales, M. M. Gierach, L. Giosan, M. P. Lamb, C. J. Legleiter, J. M. Melack, F. E. Muller-Karger, J. E. Richey, E. Rodriguez, M. Simard, and L. C. Smith (2015), From the Mountains to the Sea: Interdisciplinary Science and Applications Driven by the Flow of Water, Sediment, and Carbon, 2017-2017 Decadal Survey for Earth Science and Applications from Space of the National Academies of Sciences, Engineering and Medicine, Request for Information, submitted on 2015-11-02, [available online](#).

SELECTED MEDIA SCIENCE ADVISING AND HIGHLIGHTS

- 2023 Touchette, A. and C. H. David, L'instabilité climatique de la Californie, [Radio Interview](#), Les Années Lumière, Radio Canada, 26 March 2023.
- 2023 Mincheff, B. and C. H. David, California Drought: Updated water levels, drought improvement close out historic January, [TV Interview](#), ABC10 Sacramento, 29 January 2023.
- 2023 Adams, B., B. C. H. David, California Drought: NASA SWOT mission to improve water management in California, [Article](#), ABC10 Sacramento, 29 January 2023.
- 2022 James, I., 'Full-on crisis': Groundwater in California's Central Valley disappearing at alarming rate, [Article](#), Los Angeles Times, 22 December 2022.
- 2022 Sciutto, J., and C. H. David, NASA Satellite Will Survey Most of the Water on Earth, [Live On-Air TV Interview](#), Cable News Network (CNN), 16 December 2022.
- 2022 Waldman, H., and C. H. David, New 'SWOT' satellite will track the movement of all of Earth's surface water, [TV Interview](#), KCRA Sacramento, 15 December 2022.
- 2022 David, C. H., E. Peral, C. Gebara, and M. Archer, What questions do you have about #TrackingWorldWater? NASA/JPL [Twitter Questions & Answers](#), 13 December 2022.
- 2022 M. Jurica-Preston, and C. H. David, Meet the SWOT Mission Makers: Cedric David, NASA/JPL [Instagram Live Video](#), 07 December 2022.
- 2022 Round, J., M. Jurica-Preston, Mission Makers: Cedric David, Scientist on the SWOT Water-Tracking Mission, [YouTube Video](#), 22 November 2022.
- 2022 Round, J., M. Jurica-Preston, Mission Makers: The People Behind the SWOT Water-Tracking Mission (Teaser Trailer), [YouTube Video](#), 22 November 2022.
- 2022 Lemieux, D., and C. Campestre, Histoire d'Eaux, Découverte, Ici Radio Canada TV, [TV Documentary](#), 20 November 2022.
- 2022 Peral, E., M. Srinivasan, C. H. David, B. Hamlington, Reddit AskScience AMA Series: We're NASA experts working on SWOT - an upcoming mission that will observe nearly all water on Earth's surface. Ask us anything! [Reddit Ask Me Anything](#), 08 November 2022.
- 2022 Smith, J. M., PO.DAAC Coding Club Helps Scientists Transition to the Cloud, [NASA EarthData Story](#), published online on 12 August 2022.
- 2022 Jurica-Preston, M. C. H. David, and M. R. Archer, World Water Day, [Twitter Video](#) and [Facebook Video](#) from NASA Earth, aired online on 22 March 2022.
- 2022 Jurica-Preston, M. C. H. David, and M. R. Archer, Happy World Water Day, [Instagram Story](#) (now expired) from NASA JPL, published online on 22 March 2022.
- 2022 Jurica-Preston, M. and C. H. David, SWOT: Castaic Lake with Dr. Cedric David, [Twitter Video](#) and [Facebook Video](#) from NASA Earth, aired online on 14 March 2022.
- 2022 David, C. H., Surface Fresh Water Bodies and SWOT, [Instagram Story](#) (now expired) from NASA Earth, published online on 11 March 2022.
- 2022 White, B, J. Argueta, and C. H. David, SWOT: Looking at the Earth's Water, [YouTube Live Stream](#), aired online on 20 January 2022.
- 2021 Gallucci, M., How to measure all the world's fresh water, MIT Technology Review, January/February 2022 issue, [Article](#) published online on 22 December 2021.
- 2021 Kopp, S., Modeling Global Streamflow, A Worldwide Service for Forecasting Water Volume, in GIS for Science Vol 3, Maps for Saving the Planet, D. Wright and C. Harder (eds), ESRI Press, Redlands CA, [Article](#) published online on 28 July 2021.
- 2021 NASA Earth Science Technology Office, Advanced Information Systems Technology (AIST) New Observing Strategies Presentation, [YouTube Video](#) published on 16 July 2021.
- 2020 Mullen, L., On A Mission Season 3 Episode 4: A World Shaped by Water, [NASA/JPL Podcast](#) published online on 10 November 2020.
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- 2019 Bierkens, M. F. P., Reconstructing Natural Streamflow at Unprecedented Resolution (2019), Eos, Editors' Highlights, published online on 03 September 2019.
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- 2017 David, C. H., Unleashing RAPID (2017), NASA Tech Briefs, 41(5), 51-52, published in May issue.
- 2017 Bouthillette, J. –F., Barrages Sous Surveillance: La Leçon d'Oroville (2017), Les Années Lumière, Ici Radio Canada, radio broadcast on 19 February 2017.
- 2016 Witze, A., Geoscience data project struggles (2016), Nature, published online and in print on 20 October 2016.
- 2016 Rice, D., U.S. coast at risk of hidden contamination (2016), USA Today, published online on 05 August 2016.
- 2016 Stone, M., The Sneaky Reason US Coastlines Are Becoming More Polluted (2016), Gizmodo, published online on 04 August 2016.
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- 2015 Microsoft Research, Centralizing national flood data in the cloud can help reduce loss of life and property (2015), Microsoft. Published online on 23 March 2015.
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- 2012 Agresta, M., The "D" Word: Drought (2012), The Alcade, published online on 30 April 2012 and in paper in the May/June issue.
- 2012 Mashhood, F., Water experts assess aftermath of drought during University of Texas forum (2012), The Austin American Statesman. Published online on 13 February 2012 and in paper in the 14 February 2012 issue.

PRESENTATIONS (PRESENTING AUTHOR)

- 2023 (invited) David, C. H. (invited virtual seminar), Observing and Simulating Earth's Surface Waters, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea, 11 May.
- 2023 (invited) David, C. H. (invited seminar), Observing and Simulating Earth's Surface Waters, Ecole Normale Supérieure de Paris, Paris, France, 10 May.
- 2023 (invited) David, C. H. (invited virtual presentation), Observing River Dynamics from Space... Why?, Panel Discussion on Satellite Constellation for Daily Water Level Measurements, Paris, France, 24 April.
- 2023 David, C. H. (presentation), Surface Water and Ocean Topography, NASA Associate Administrator Visit to the Jet Propulsion Laboratory, Pasadena, CA, 30 March.
- 2023 David, C. H. (presentation), SWOT Capabilities for Hydrology and Relevancy to NOAA's National Water Model, NOAA Administrator Visit to the Jet Propulsion Laboratory, Pasadena, CA, 26 January.
- 2023 David, C. H. (presentation), The Surface Water and Ocean Topography Mission, The fresh water story, with a side of ocean and coastal science, California Natural Resources Agency Visit to the Jet Propulsion Laboratory, Pasadena, CA, 20 January.
- 2022 (invited) David, C. H., D. Blumstein, and S. Biancamaria (invited presentation), Current and Future Perspectives in Monitoring Continental Surface Waters from Space, Mini-Symposium on SWOT Science and Applications, Buellton, CA, 14 December.
- 2022 (invited) David, C. H., (invited presentation), Open Science: Yes You Can, NASA Earth Surface and Interior Solid Earth Team Meeting, La Jolla, CA, 09 November.
- 2022 (invited) David, C. H., M. Bonnema, R. P. d. M. Frasson, D. Blumstein, and S. Biancamaria (invited presentation), Current and Future Perspectives in Monitoring Continental Surface Waters from Space, Pan-GEWEX Meeting, Monterey, CA, 28 July.

- 2022 David, C. H., D. Blumstein, and S. Biancamaria (presentation), Capturing River Dynamics with Observations from SMASH, American Geophysical Union Frontiers in Hydrology Meeting, San Juan, PR, 24 June.
- 2022 (invited) Srinivasan, M. and C. H. David, The Applications Program of the Surface Water and Ocean Topography (SWOT) Mission (invited remote seminar), Chevron's Environmental and Sustainability Group and Ocean Engineering group seminar, 21 Jun.
- 2022 (invited) David, C. H., Water Flowing Down the Blue Lines on the Map: Past, Present, and Future (invited presentation), AWRA/CUAHSI Symposium in Honor of David Maidment, GIS in Water Resources and More, Austin, TX, 12 May.
- 2022 (invited) David, C. H., SWOT: Looking at the Earth's Water (invited presentation), Theodore von Kármán Lecture Series, Jet Propulsion Laboratory, Pasadena, CA, 20 January.
- 2021 David, C. H., D. Blumstein, and S. Biancamaria (remote presentation), Capturing River Dynamics with Observations from SMASH, American Geophysical Union Fall Meeting, New Orleans, LA, 16 December.
- 2021 (invited) David, C. H., C. M. Emery, M. J. Turmon, J. M. Hobbs, J. T. Reager, J. S. Famiglietti, M. S. Sikder, M. Bonnema, R. Frasson, and M. Durand, River Discharge Modeling and Uncertainty in the Context of Satellite (invited remote presentation), Uncertainty Quantification in Climate Science Virtual Workshop, Pasadena, CA, 23 Mar.
- 2020 (invited) Bonnema, M. G., and C. H. David, Remotely Monitoring Lake and Reservoir Area Changes Globally using Cloud Computing (invited remote presentation), Virtual Workshop on Towards a Global Surface Water Extent product from SAR, Pasadena, CA, 15 Jul.
- 2020 (invited) David, C. H., Session I Discussion: New Directions in Water Resources Engineering and Hydrology (invited panelist), USC Workshop on Aquatic Ecosystem Sustainability, Los Angeles, CA, 22 May.
- 2019 David, C. H., M. S. Sikder, A. J. Purdy, J. T. Reager, E. J. Nelson, N. L. Jones, T. H. Painter, J. S. Famiglietti, M. A. Matin, S. M. Skiles, and G. H. Allen, Managing the Changing Water Resources South of the Himalayas (presentation), SERVIR Applied Sciences Team Meeting, Washington, DC, 27 June.
- 2019 David, C. H., C. M. Emery, M. J. Turmon, J. M. Hobbs, J. T. Reager, J. S. Famiglietti, K. M. Andreadis, M. Pan, R. E. Beighley, and M. Rodell, Underlying Fundamentals of Uncertainty Quantification and Kalman Filtering for River Network Modeling (presentation), SWOT Science Team Meeting, Bordeaux, France, 19 June.
- 2018 David, C. H., Sikder, M. S., G. H. Allen, C. M. Emery, M. A. Matin, W. Roberts, E. J. Nelson, N. L. Jones, B. M. Zaitchik, P. N. Gatlin, W. L. Ellenburg, Historical reconstruction and near-term forecasts of surface water in South Asia (presentation), American Geophysical Union Fall Meeting, San Francisco, CA, 11 December.
- 2018 (invited) David, C. H., Terrestrial Hydrology at NASA's Jet Propulsion Laboratory (invited remote seminar), Tufts University, Boston, MA, 07 December.
- 2018 David, C. H., J. T. Reager, T. H. Painter, J. S. Famiglietti, M. A. Matin, S. M. Skiles, G. H. Allen, M. S. Sikder, Managing the Changing Water Resources South of the Himalayas (presentation), SERVIR Annual Global Exchange, Lisbon, Portugal, 12 November.
- 2018 (invited) David, C. H., Terrestrial Hydrology at NASA's Jet Propulsion Laboratory (invited seminar), University of Arizona, Tucson, AZ, 08 November.
- 2018 David, C. H., C. M. Emery, M. J. Turmon, J. M. Hobbs, J. T. Reager, J. S. Famiglietti, K. M. Andreadis, and R. E. Beighley, Uncertainty Quantification for River Discharge and implications for Data Assimilation (presentation), SWOT Science Team Meeting, Montreal, Canada, 28 June.
- 2018 David, C. H., M. Gierach, A. W. Bingham, Getting Ready for SWOT (presentation), PO.DAAC Users Working Group Meeting, Pasadena, CA, 15 May.
- 2018 David, C. H., J. T. Reager, S. M. Skiles, T. H. Painter, J. S. Famiglietti, M. A. Matin, S. M. Skiles, G. Allen, and C. M. Emery, Managing the Changing Water Resources South of the Himalayas (presentation), SERVIR SERVIR Hindu Kush Himalaya Stakeholder Workshop, Dhaka, Bangladesh, 24 April.
- 2017 David, C. H., K. M. Andreadis, J. S. Famiglietti, R. E. Beighley, A. A. Boone, D. Yamazaki, H. Kim, J. -M. Fiset, E. Rodriguez, S. Biancamaria, R. C. Paiva, C. F. Fisher, H. -J. Kim, S. Biancamaria, G. J. -P. Schumann, W. Collischonn, River Model Inter-comparison for SWOT (poster), American Geophysical Union Fall Meeting, San Francisco, CA, 13 December.
- 2017 David, C. H., J. T. Reager, T. H. Painter, J. S. Famiglietti, M. A. Matin, S. M. Skiles, G. Allen, Managing the Changing Water Resources South of the Himalayas (presentation), SERVIR Annual Global Exchange, Bilbao, Spain, 09-13 October.
- 2017 David, C. H., K. M. Andreadis, J. S. Famiglietti, R. E. Beighley, A. A. Boone, D. Yamazaki, H. Kim, J. -M. Fiset, E. Rodriguez, S. Biancamaria, R. Paiva, River Model Inter-comparison for SWOT (presentation), SWOT Science Team Meeting, Toulouse, France, 28 June.
- 2017 David, C. H., J. T. Reager, T. H. Painter, J. S. Famiglietti, M. A. Matin, S. M. Skiles, Managing the Changing Water Resources South of the Himalayas (presentation), SERVIR Hindu Kush Himalaya Stakeholder Workshop, International Center for Integrated Mountain Development (ICIMOD), Kathmandu, Nepal, 20-21 April.

2017 (invited) David, C. H., Preparing for the integration of SWOT measurements into global terrestrial hydrologic models (invited remote presentation), 2nd SWOT Applications User Workshop, U.S. Geological Survey Headquarters, Reston, VA, 05 April.

2017 (invited) David, C. H., Continental Scale Hydro Model Inter-comparison for SWOT (invited seminar presentation), Scripps Institution of Oceanography, La Jolla, CA, 23 March.

2017 (invited) David, C. H., Continental Scale Hydro Model Inter-comparison for SWOT (invited seminar presentation), GeoClub Seminar Series, California Institute of Technology, Pasadena, CA, 16 March.

2017 (invited) David, C. H., Continental Scale Hydro Model Inter-comparison for SWOT (invited seminar presentation), University of Arkansas, Fayetteville, AR, 09 March.

2017 (invited) David, C. H., A. H. Sawyer, and J. S. Famiglietti, Continental patterns of submarine groundwater discharge reveal coastal vulnerabilities (invited presentation), Association for the Sciences of Limnology and Oceanography, ASLO 2017 Aquatic Sciences Meeting, Honolulu, HI, 27 February.

2016 David, C. H., K. M. Andreadis, J. S. Famiglietti, R. E. Beighley, A. A. Boone, D. Yamazaki, H. –J. Kim, J. –M. Fiset, E. Rodriguez, S. Biancamaria, and R. C. Paiva, Preparing for the ingestion of SWOT data into continental-scale river models (poster), American Geophysical Union Fall Meeting, San Francisco, CA, 13 December.

2016 David, C. H., J. T. Reager, S. M. Skyles, T. H. Painter, J. S. Famiglietti, and M. Matin, Managing the Changing Water Resources South of the Himalayas (poster), SERVIR Annual Global Exchange, Pokhara, Nepal, 27 October.

2016 David, C. H., J. T. Reager, S. M. Skyles, T. H. Painter, J. S. Famiglietti, and M. Matin, Managing the Changing Water Resources South of the Himalayas (presentation), SERVIR Applied Sciences Team Kickoff Meeting, Huntsville, AL, 13-15 September.

2016 David, C. H., K. M. Andreadis, J. S. Famiglietti, R. E. Beighley, A. A. Boone, D. Yamazaki, H. –J. Kim, E. Gaborit, E. Rodriguez, and S. Biancamaria, Integration of SWOT measurements into global hydro models (poster), SWOT Science Team Meeting, Pasadena, CA, 13-16 June.

2016 (invited) David, C. H., Getting Ready for the Global Surface Water Observations of SWOT (invited presentation), CIESS Workshop on Global Water Cycles and World Water Resources: Past, Present and Future, University of Texas at Austin, Austin, Texas, 21-22 April.

2015 (invited) David, C. H. (invited participant), CUAHSI-NCAR First Synthesis Workshop On Improving Hydrologic Processes in Earth System Models, National Center for Atmospheric Research, Boulder, Colorado, 05-06 October.

2015 (invited) David, C. H., RAPID, Big Picture (invited remote presentation), National Flood Interoperability Experiment (NFIE) Spring 2015 Workshop, National Water Center, Tuscaloosa, Alabama, 17 March.

2015 (invited) David, C. H., Challenges in usage and sustainable development of RAPID (invited presentation), GeoSoft Advisory Committee, Information Sciences Institute, Marina del Rey, California, 11 March.

2015 David, C. H., Inclusion of Surface Water Diversions in Modeling Rivers and Streams (presentation), Open Water Data Initiative Drought Visualization Meeting, Bureau of Reclamation, Boulder City, Nevada, 25 February.

2015 David, C. H., Modeling Surface Water Bodies, Over Large Domains, on Big Computers (presentation), UCLA/JPL Workshop, Joint Institute for Regional Earth System Science and Engineering, Los Angeles, CA 02 February.

2014 (invited) David, C. H., J. S. Famiglietti, F. R. Salas, T. L. Whiteaker, D. R. Maidment, K. M. Tolle, River Modeling Beyond Discharge at Gauges (invited poster), American Geophysical Union Fall Meeting, San Francisco, CA, 15 December.

2014 (invited) David, C. H. (invited researcher), Microsoft Research, Redmond, WA, 07-11 July.

2014 David, C. H. How RAPID works (presentation), Environmental Systems Research Institute, Redlands, CA, 11 June.

2014 (invited) David, C. H. Modeling terrestrial hydrologic features across the scales of SWOT (invited presentation), NASA's Jet Propulsion Laboratory, Pasadena, CA, 13 May.

2014 (invited) David, C. H. (invited participant), National Science Foundation EarthCube Assembly Synthesis Workshop, Tucson, AZ, 16-18 April.

2014 (invited) David, C. H. (invited participant), National Science Foundation EarthCube End User/ Professional Societies Workshop, Washington, DC, 18-20 March.

2014 David, C. H., J. T. Reager, and J. S. Famiglietti, Hyper-resolution modeling of surface water – challenges and opportunities (presentation), Workshop on Hyper-resolution Global Hydrologic Modeling: The Next Steps, Utrecht, Netherlands, 13-14 February.

2013 David, C. H. and J. S. Famiglietti, Accounting for anthropogenic actions in modeling of stream flow at the regional scale (poster), American Geophysical Union Fall Meeting, San Francisco, CA, 09 December.

2013 David, C. H. and J. S. Famiglietti, Inclusion of a simple reservoir model in regional-scale surface water modeling (presentation), Texas Water Forum III, Austin, TX, 14-15 October.

2013 (invited) David, C. H., Using CUAHSI HIS for Regional-scale River Flow Modeling – How Hydroinformatics can Support Computational Hydrology (invited presentation), CUAHSI Conference on Hydroinformatics and Modeling, Logan, UT, 17-19 July.

2013(invited) David, C. H., On the Use of Technology to Enable the Flow of Digital Rivers at Continental-Scale (invited presentation), National Science Foundation EarthCube Modeling Workshop for the Geosciences, Boulder, CO, 23 April.

2013 (invited) David, C. H., Raising the Bar for Speedup in Parallel Computing of River Flow (invited seminar presentation), Center for Integrated Earth System Science, University of Texas at Austin, Austin, TX, 20 March.

2012 David, C. H. and Z. -L. Yang, Computing flow in mapped rivers of the United States using national datasets (poster), American Geophysical Union Fall Meeting, San Francisco, CA, 05 December.

2012 (invited) David, C. H. (invited participant) National Science Foundation EarthCube Early Career Strategic Visioning Workshop, Carnegie Institution of Science, Washington, DC, 16-17 October.

2012 (invited) David, C. H. (invited participant) National Science Foundation EarthCube Charrette, Rosslyn, VA on 12-14 June.

2012 (invited) David, C. H., Z. -L. Yang, Estimation of Current and Future Water Resources Available in Texas from Continental-Scale Datasets (invited presentation), American Water Works Association Annual Conference & Exposition, Dallas, TX, 10-14 June.

2012 (invited) David, C. H., About Our Current Knowledge of Water in River Systems at the Continental-Scale (invited seminar presentation), University of California at Irvine, Irvine, CA, 14 May.

2012 David, C. H., Z. -L. Yang, D. R. Maidment and F. Habets, Getting ready for SWOT: modeling of water flow and height in thousands of mapped rivers covering hundreds of thousands of square kilometers (poster), American Geophysical Union Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, HI, 21 February.

2012 David, C. H., D. R. Maidment, Z. -L. Yang, River Modeling as Big as Texas (presentation), Texas Water Forum, Austin, TX, 13 February.

2012 David, C. H., Z. -L. Yang and S. Hong, Regional-scale river modeling using thousands of mapped rivers, off-the-shelf runoff products and hundreds of stream flow gages (poster), 92nd American Meteorological Society Annual Meeting, 26th Conference on Hydrology, New Orleans, LA, 23 January.

2011 Yang, Z. -L., C. H. David, Z. Xu, A. A. Tavakoly, X. Cai, L. C. Helper, D. R. Maidment, J. W. McClelland, C. G. Griffin, P. A. Montagna, E. L. Turner, H. Xie and W. Hao, An Integrated Earth System Science Approach for Predicting Nutrient Transports from the Land to the Ocean modeling (poster), NASA Carbon Cycle and Ecosystems Joint Science Workshop, Alexandria, VA, 03 October.

2011 (invited) David, C. H., Fundamentals of next-generation river modeling (invited presentation), Regional Earth System Modeling and Analysis (RESMA) Symposium, Beijing, China, 20 May.

2011 (invited) David, C. H. David, invited workshop participant, Community Hydrologic Modeling Project (CHyMP) Implementation Workshop, Irvine, CA, 15-17 March.

2011 Tavakoly, A., X. Cai, C. H. David, D. R. Maidment, and Z. -L. Yang, Land surface hydrology and river modeling for the Mississippi River Basin using NLDAS2 data (poster), Community Hydrologic Modeling Project (CHyMP) Implementation Workshop, Irvine, CA, 16 March.

2010 (invited) David, C. H., Water, humans, energy and change (invited seminar presentation), Royal Institute of Technology (KTH), Stockholm, Sweden, 17 November.

2010 David, C. H., Fundamentals of next-generation continental-scale river modeling & future of Texas rivers (seminar presentation), Climate Brown Bag Seminar, Department of Geological Sciences, University of Texas at Austin, Austin, TX, 23 July.

2009 David, C. H., D. R. Maidment, S. Hong, G.-Y. Niu, Z. -L. Yang, River network routing in all rivers of the Texas Gulf (presentation), American Geophysical Union Fall meeting, San Francisco, CA, 17 December.

2009 (invited) David, C. H., Perspective on global climate change (invited panelist), Projection of movie “Home”, Cinéma Français Today film festival, Austin, TX, 12 October.

2009 David, C. H., Towards river flow computation at large scale (seminar presentation), National Center for Environmental Prediction, Environmental Modeling Center, Suitland, MD, 05 August.

2009 (invited) David, C. H., Towards the calculation of river flow at regional and continental scales (invited seminar presentation), University of North Texas, Denton, TX, 03 April.

2009 (invited) David, C. H., Towards the calculation of river flow at regional and continental scales (invited seminar presentation), Boise State University, Boise, ID, 17 March.

2009 David, C. H., A case-study of Continental Water dynamics in the Guadalupe and San Antonio River Basins (presentation), Renaissance Computing Institute, Chapel Hill, NC, 05 March.

2008 David, C. H., G.-Y. Niu, D. R. Maidment, Z. -L. Yang, Routing Application for Parallel computation of Discharge (poster), American Geophysical Union Fall meeting, San Francisco, CA, 19 December.

- 2008 David, C. H., G.-Y. Niu, D. R. Maidment and Z. -L. Yang, Simultaneous parallel computation of river flow in all river reaches of the Texas Gulf (poster), Severe Storm Prediction, Education and Evacuation from Disasters (SSPEED) conference, Houston, TX, 30 October.
- 2008 David, C. H., Continental Water Dynamics of the Guadalupe River Basin (presentation), GIS Hydro Pre-Conference Seminar, ESRI User Conference, San Diego, CA, 03 August
- 2008 David, C. H. and F. Habets, A macroscale river routing model used in MODCOU (seminar presentation), Météo France, Toulouse, France, 31 January.
- 2008 David, C. H., D. J. Gochis, D. R. Maidment, Z. -L. Yang and F. Habets, Continental water dynamics modeling (poster), Catchment-scale hydrologic Modeling and Data Assimilation (CAHMDA) workshop, Melbourne, Australia, 10 January
- 2007 David, C. H., Continental Water Dynamics Modeling (presentation), GIS Hydro Pre-Conference Seminar, ESRI User Conference, San Diego, CA, 17 June
- 2007 David, C. H., D. J. Gochis, D. R. Maidment and O. Wilhelmi, Linking hydrology and atmospheric science in continental water dynamics modeling (poster), Hydrological cycle in Mediterranean Experiment (HyMeX) workshop, Toulouse, France, 10 January.
- 2006 David, C. H., D. J. Gochis, D. R. Maidment and O. Wilhelmi, Linking hydrology and atmospheric science in continental water dynamics modeling (presentation), American Geophysical Union Fall meeting, San Francisco, CA, 11 December.

PRESENTATIONS (CONTRIBUTING AUTHOR)

I no longer keep track of my co-authored presentations.

FUNDED PROJECTS

- 2022-2024 Principal Investigator, Improving Global A Priori River Discharge for SWOT Hydrology, unsolicited effort funded under NASA's Terrestrial Hydrology Program.
- 2022-2023 Co-Investigator, 3D-CHESS: Decentralized, distributed, dynamic and context-aware heterogeneous sensor systems, funded under NASA ROSES NNH21ZDA001N-AIST: A.46 Advanced Information Systems Technology.
- 2022-2025 Co-Investigator, Harmonizing multiplatform spaceborne water surface observations to support the US Army Corps of Engineers-Engineer Research and Development Center water intelligence assessments, funded under NASA ROSES NNH21ZDA001N-WATER: A.34 Earth Science Applications: Water Resources
- 2022-2025 Co-Investigator, A Land to Sea Paradigm: Impact of Spatially and Temporally Varying Nutrient and Freshwater Fluxes on Coastal Carbon Dynamics in the northern Gulf of Mexico, funded under NASA ROSES NNH20ZDA001N-CARBON: A.5 Carbon Cycle Science.
- 2021-2024 Co-Investigator, Development of a Fused CYGNSS-Landsat Surface Water Dataset for Investigations of Mekong River Basin Dynamics, funded under NASA ROSES NNH20ZDA001N-CYGNSS: CYGNSS Completed Science Team.
- 2021-2026 Principal Investigator, Evaluating the Ability of a Small Sat Constellation to Capture the Dynamics of Earth's Rivers and Lakes, funder under NASA ROSES NNH20ZDA001N-EUSPI: Earth Science U.S. Participating Investigator for 5 years.
- 2019-2022 Principal Investigator, A Golden Era for Hydrology from Space, funded under JPL Strategic Initiative for the Research and Technology Development Fund for FY20.
- 2018-2020 Principal Investigator, Filling the Space/Time Gaps Between Surface Water Retrievals, funded under NASA ROSES NNH17ZDA001N-THP: Terrestrial Hydrology for 3 years.
- 2017-2019 Principal Investigator, Improving Terrestrial Hydrology Simulations through the Inclusion of Reservoirs in a Numerical Model of River Networks, funded by the U.S. Army Corps of Engineers for 2 years.
- 2016-2019 Principal Investigator, Managing the Changing Water Resources South of the Himalayas, funded under NASA ROSES NNH15ZDA001N-SERVIR: SERVIR Applied Sciences Team for 3 years.
- 2016-2019 Co-Investigator, SMAP observations to trace the lifecycle of hydrologic extreme events from land to ocean, funded under NASA ROSES NNH15ZDA001N-SUSMAP: Science Utilization of the Soil Moisture Active-Passive Mission for 3 years.
- 2016-2019 Co-Investigator, Advancing the science on hydrologic states using GRACE: The role of terrestrial water storage in extreme events, funded under NASA ROSES NNH15ZDA001N-GRACE: GRACE and GRACE-FO Science Team for 3 years.

- 2016-2020 Co-Investigator, Integrating lateral contributions and longitudinal controls along river reaches to improve SWOT discharge estimates, funded under NASA ROSES NNH15ZDA001N-SWOT: Surface Water and Ocean Topography Science Team for 4 years.
- 2016-2020 Principal Investigator, Integration of SWOT Measurements into global terrestrial hydrologic models, funded under NASA ROSES NNH15ZDA001N-SWOT: Surface Water and Ocean Topography Science Team for 4 years.
- 2016-2020 Collaborator, Developing a global assimilation and modeling framework to produce SWOT data products, funded under NASA ROSES NNH15ZDA001N-SWOT: Surface Water and Ocean Topography Science Team for 4 years.

SERVICE

Editorial roles

- Guest editor for AGU's Earth & Space Science call for [Geoscience Papers of the Future](#) (2015-2017).

Meeting convener

- Scientific Committee Member, Hydrospace-GEOGloWS 2021, Rome, Italy, Jun 2021.
- Session Convener, "High Rate Data Access & Post-Processing", SWOT Science Team Meeting, Bordeaux, France, Jun 2019.
- Session Convener, "IN33A: Big Data in the Geosciences: New Approaches to Storage, Sharing, and Analysis I & II", American Geophysical Union Fall Meeting, Washington, DC, Dec 2018.
- Session Convener, "Expected hydrologic observations and data sharing capabilities for the Surface Water and Ocean Topography (SWOT) Mission", CUAHSI Biennial Meeting, Shepherdstown, WV, Aug 2018.
- Session Convener, "Remote Sensing of the Terrestrial Hydrologic Cycle (I) and (II)", 42nd COSPAR Scientific Assembly, Pasadena, CA, Jul 2018.
- Deputy Organizer, "A3.1: Advances in Earth Observation and Technology for Global Terrestrial Cycles", 42nd COSPAR Scientific Assembly, Pasadena, CA, Jul 2018
- Session Convener, "Hydrological and Hydrodynamical Models, and Data Assimilation I", SWOT Science Team Meeting, Montreal, Canada, Jun 2018.
- Session Convener, "SWOT & Global Models", SWOT Science Team Meeting, Toulouse, France, Jun 2017.
- Session Convener, "W3: Hydrologic Forecast and Data Assimilation", 4th Hydrology delivers Earth System Science to Society, Tokyo, Japan, May 2017.
- Session Convener, "H53F: Regional to Global Surface water storage and Runoff: Remote Sensing, in situ Data and Modeling I & II", American Geophysical Union Fall Meeting, San Francisco, CA, Dec 2015.

Coordination

- Lead, Surface Water and Ocean Topography Science Team Working Group on Continental-scale Hydro Model Intercomparison (2015-2019).
- Lead Coordinator for the JPL Water Initiative Workshop: Terrestrial Water Cycle Frontiers: Challenges in Observation, Modeling and Applications (16 Sep 2015)
- Coordinator for monthly meetings of the JPL's Water Initiative (Jan 2015 – Jan 2016)
- Coordinator of the Water Forum "Texas Drought 2012, are we prepared?" (<http://www.jsg.utexas.edu/ciess/events>), a 1-day event with 130 registered attendees from universities and water agencies across Texas.
- Coordinator for the annual meeting of the U.S. National Aeronautics and Space Administration Interdisciplinary Science Project NNX11AE42G (28 September 2011 in Austin, TX).
- Coordinator for the annual meeting of the U.S. National Aeronautics and Space Administration Interdisciplinary Science Project NNX07AL79G (21 October 2010 in Austin, TX).
- Coordinator for the weekly research meetings of the Land Environment Atmosphere Dynamics research group, Jackson School of Geosciences, University of Texas at Austin (2009-2012).
- Coordinator for the monthly Happy Hour of the Climate System Science Graduate Program, Jackson School of Geosciences, University of Texas at Austin (2009-2010).

Advisory committees

- Board Member, JPL Observational Products for End-Users from Remote Sensing Analysis (OPERA), in support of NASA's Satellite Needs Working Group (2020-2022).
- Appointed member of the AGU Hydrology Section Task Force on Open Access Model Evaluation for Water Resources Research (2019-2021)
- Appointed member of the AGU Hydrology Section Remote Sensing Technical Committee (2017-current).
- Member of the advisory committee for the NSF EarthCube [OntoSoft](#) Project, and Ambassador for the [Geoscience Paper of the Future](#) (2015-2017).

Hiring committees

- Co-Chair for “Hydrologic Research and Applications aided by Earth-orbiting Satellites”, JPL Water & Ecosystems Group (2020-2021)
- Committee Member for Senior Scientist Position, Caltech/Carnegie (2020-2021)
- Chair for “Terrestrial Hydrologic Science from Satellite Observations”, JPL Terrestrial Hydrology Group (2019-2020)
- Committee Member (“Satellite Data Assimilation for Hydrology”), JPL Terrestrial Hydrology Group (2019-2020)

Peer reviews for funding agencies

- Reviewer for a Dutch Research Council Panel (Winter 2021-2022)
- Reviewer for a National Aeronautics and Space Administration Review Panel (Spring 2021).
- Reviewer for a National Science Foundation Review Panel (Fall 2020).
- Invited Panelist and Reviewer for a National Aeronautics and Space Administration Review Panel (Winter 2017-2018).
- Reviewer for a Natural Sciences and Engineering Research Council of Canada (Winter 2017-2018).
- Reviewer for a National Aeronautics and Space Administration Review Panel (Spring 2015).
- Reviewer for a National Science Foundation Review Panel (Fall 2014).
- Reviewer for a National Aeronautics and Space Administration Review Panel (Summer 2014).
- Reviewer for a National Science Foundation Review Panel (Spring 2014).
- Invited Panelist and Reviewer for a National Science Foundation Review Panel (Spring 2013).

Peer reviews for international scientific journals

- Reviewer for the Proceeding of the National Academy of Sciences of the United States of America (2 assignments).
- Reviewer for Nature Scientific Reports (1 assignment).
- Reviewer for Nature Geoscience (2 assignments).
- Reviewer for Nature Scientific Data (3 assignments).
- Reviewer for Communications Earth & Environment (1 assignment).
- Reviewer for Geophysical Research Letters (11 assignments).
- Reviewer for American Geophysical Union Books (2 assignments).
- Reviewer for Monthly Weather Review (1 assignment).
- Reviewer for Water Resources Research (9 assignments).
- Reviewer for Journal of Hydrology (2 assignments).
- Reviewer for Hydrology and Earth System Sciences (2 assignments).
- Reviewer for Nonlinear Processes in Geophysics (1 assignment).
- Reviewer for the Journal of Hydrometeorology (11 assignments).
- Reviewer for the Journal of Geophysical Research – Atmospheres (3 assignments).
- Reviewer for the Journal of Geophysical Research – Space Physics (2 assignments).
- Reviewer for the Journal of Geophysical Research – Earth Surface (1 assignment).
- Reviewer for Environmental Modelling and Software (2 assignments).
- Reviewer for Hydrological Processes (2 assignments).
- Reviewer for the Journal of the American Water Resources Association (1 assignment).

Student/Postdoctoral supervision

- Student mentor for JPL Summer Internship Program:
 - Elyssa Collins: 15 June 2022 – 11 November 2022
 - Miles Milosevich: 15 June 2022 – 19 August 2022
 - Alex Lim: 15 June 2022 – 19 August 2022
 - Racquel Fygenson: 15 June 2022 – 19 August 2022
 - Isabel Li: 15 June 2022 – 19 August 2022
- Leadership role (as Principal Investigator or Project Scientist) on projects that supported multiple Postdoctoral Researchers:
 - Elahe Tajfar: 30 January 2023 – current.
 - Dinuke N. Munasinghe: 02 August 2021 – 30 September 2022.
 - Matthew G. Bonnema: 14 October 2019 – 13 February 2021.
 - Adam J. Purdy: 14 January 2019 – 30 September 2019.
 - Dimitrios Stampoulis: 07 January 2016 – 28 February 2018.
 - Catalina M. Oaida: 01 October 2015 – 08 March 2018.
- Postdoctoral Supervisor, Matthew G. Bonnema, 14 October 2019 – 29 November 2020.
- Postdoctoral Supervisor, Md. Safat Sikder, 29 October 2018 – 28 October 2020.
- Postdoctoral Supervisor, Charlotte M. Emery, 15 June 2017 – 14 June 2019.

- Postdoctoral Supervisor, George H. Allen, 01 June 2017 – 31 May 2018.
- Science advisor for the NASA DEVELOP project “Monitoring Streamflow in Los Angeles County using NASA Sensor Data” (Jan 2015 – Mar 2015). Team members were Gwen Miller, Rosemarie Wrigley, Claudia Knudson and Montana Marshall.
- Contribution to the supervision of Ph.D. students at the University of California at Irvine: Collin Lawrence (Oct 2012 – Dec 2014), Huidong Liu (Oct 2012 – Aug 2013), Zhao Liu (Oct 2012 – Dec 2014), and Kurt Solander (Oct 2012 – Aug 2013).
- Contribution to the supervision of Junior Specialists at the University of California Center for Hydrologic Modeling: Rachel Druffel-Rodriguez (Mar 2013 – Jun 2013), Hyungtae Kim (May 2013 – Aug 2014).
- Contribution to the supervision of Ph.D. students at the University of Texas at Austin: Xitian Cai (Jan 2011 to Aug 2012) and Ahmad Tavakoly (Jan 2011 to Aug 2012).

EXTRA CURRICULAR ACTIVITIES

Sports: Racquetball; water sports: swimming, surfing, water skiing, wake boarding, snowboarding.

Travels: France, Spain, Italy, Belgium, Netherlands, Greece, England, USA, Canada, Mexico, Jamaica, West Indies, Australia, Turkey, Hungary, Poland, Brazil, Germany, China, Bolivia, Peru, Colombia, Nicaragua, Costa Rica, Nepal, Argentina, Bangladesh, Singapore, Portugal, Thailand, Switzerland, Belize, Guatemala.

Interests: Cooking, drums, percussions and bass guitar, collecting vinyl records.