J. MICHAEL JOHNSON

Curriculum Vitae · January 13, 2020

University of California, Santa Barbara, California · Department of Geography

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EDUCATION:

2020 (Expected) **University of California, Santa Barbara, California (UCSB)**

> **Degree:** PhD Candidate in Geography

> **Advisor:** Dr. Keith C. Clarke

> **Committee:** Dr(s) Hugo Loaiciga, Kelly Caylor, Jeroen Aerts

> **Dissertation:** Physical, human, and methodological aspects of modeling California's Water Resources: Implications for 2100

2015 **California Polytechnic State University, San Luis Obispo, CA**

> **Degree:** B.S. Anthropology & Geography

> **Honors:** Cum Laude

> **Minors:** Geographic Information Systems (GIS) for Agriculture
Statistics
Water Science (Watershed Management Emphasis)
Environmental Studies
Economics

AWARDS AND FELLOWSHIPS:

Awards And Fellowships

Year	Purpose	Funding Source	Amount
2019	Jack & Laura Dangermond Fellowship	Jack and Laura Dangermond	$5,000
2019	Visiting Scholar Research Grant	Vrije Universiteit Amsterdam	$2,500
2019	Excellence in Teaching Award (Nominated)	UCSB Geography	
2018	Summer Support Research Grant	UCSB Geography	$2,400
2015	Disciplines Fellowship	University of California Regents	$30,000
2015	Top Undergraduate Paper	California Geographical Society	$500
2015	Outstanding Senior	Cal Poly Department of Geography	

Travel Grants

Year	Purpose	Funding Source	Amount
2019	American Geophysical Union	Dangermond Fund	$500
2018	American Geophysical Union	Graduate Student Association	$200
2017	American Geophysical Union	Dangermond Fund	$800
2017	WRF-Hydro Training	CUAHSI	$500
2016	HAZUS Conference	Dangermond Fund	$700

FUNDED RESEARCH PROJECTS:

[5] **Team Member**: *Urban Flooding Open Knowledge Network Convergance Project: Phase 1*, NSF (PI at the Universtiy of Cinncinati) (2019-2020) Not Disclosed

[4] **Principal Investigator**: *Programmatic and GUI-driven retrieval and visualization of streamflow for all CONUS rivers*, CUASHI (In Review) $5,000

[3] **Co-Principal Investigator**: *A National Water Model R Package: Improving access and application of model output*, UCAR COMET (2018-2019) $15,000

[2] **Contributor**: *FOSSFlood: The LivingFlood Application Build on Free Open Source Software*, UCAR COMET (2017-2018) $5,000

[1] **Co-Principal Investigator**: *Integrating farmers' adaptive behaviors in California's Central Valley to assess water and food security risks under climate change*, UCGHI Planetary Health Seed Grant (2017-2018) $10,000

RESEARCH:

Peer-Reviewed Journal Articles

[6] **J.M. Johnson**, Dinuke Munasinghe, Damilola Eyelade, Sagy Cohen. (2019). "An Integrated Evaluation of the National Water Model (NWM) Height Above Nearest Drainage (HAND) Flood Mapping Methodology". *Natural Hazards and Earth System Sciences*. https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2019-82/.

[5] **J.M. Johnson***, Marthe Wens*, Cecilia Zagaria, T.I.E Veldkamp. (2019). "Integrating human behavior dynamics into drought risk assessment - A socio-hydrologic, agent-based approach". *WIRES Water * co-first author.* https://onlinelibrary.wiley.com/doi/full/10.1002/wat2.1345.

[4] Keith C. Clarke, **J.M. Johnson**, Tim Trainor. (2019). "Contemporary American Cartographic Research: A Review and Prospective". *Cartography and Geographic Information Science.* https://www.tandfonline.com/doi/full/10.1080/15230406.2019.1571441.

[3] **J.M. Johnson**, Jim M. Coll, Paul J. Ruess, and Jordan T. Hastings. (2018). "Challenges and Opportunities for Creating Intelligent Hazard Alerts: The 'FloodHippo' Prototype". *Journal of the American Water Resources Association (JAWRA).* https://doi.org/10.1111/1752-1688.12645.

[2] H.A. Loaiciga, **J.M. Johnson**. (2018). "Infiltration on sloping terrain and its role on runoff generation and slope stability". *Journal of Hydrology*. https://www.sciencedirect.com/science/article/pii/S0022169418302762.

[1] **J.M. Johnson**, H.A. Loaiciga. (2017). "Coupled Infiltration and Kinematic-Wave Runoff Simulation in Slopes: Implications for Slope Stability". *Water*. http://www.mdpi.com/2073-4441/9/5/327.

Technical Reports

[3] **J.M. Johnson**, Coll J.M, et al. (2017). "National Water Centers Innovators Program Summer Institute Report". *Consortium of Universities for the Advancement of Hydrologic Science, Inc. Technical Report 14*. https://www.cuahsi.org/uploads/library/CUAHSI_2017SI_TR14V102_DOI.pdf.

[2] **J.M. Johnson**, Coll J.M, Ruess P.J.. (2016). "OPERA-Operational Platform for Emergency Response and Awareness: Reimagining Disaster Alerts". *National Water Center Innovators Program Summer Institute Report. Consortium of Universities for the Advancement of Hydrologic Science, Inc. Technical Report 13, Ch 11.* https://www.cuahsi.org/uploads/library/cuahsi_tr13_8.20.16.pdf.

[1] Coll J.M, **J.M. Johnson**, Ruess P.J.. (2016). "Radar Measurement and Flow Modeling: Methods". *National Water Center Innovators Program Summer Institute Report. Consortium of Universities for the Advancement of Hydrologic Science, Inc. Technical Report 13, Ch 1.* https://www.cuahsi.org/uploads/library/cuahsi_tr13_8.20.16.pdf.

Cartography

[3] **J.M. Johnson**. (2017). "Peoples and Regions of Africa [map]. Scale not given". *Cole, Herbert M. Maternity: Mothers and Children in the Arts of Africa, CT: Yale University Press.*

[2] **J.M. Johnson**. (2017). "Rising Sea Levels: Hawaii [map]. Scale not given". *Water: An Atlas. Oakland, CA: Guerrilla Cartography.*

[1] **J.M. Johnson**. (2017). "Map of Staats-Brabant indicating territories and boundaries c. 1648 [map]. Scale not given". *van de Meerendonk et al. Striving for Unity: The Significance and Original Context of Political Allegories by Theodoor van Thulden for 's-Hertogenbosch Town Hall. Early Modern Low Countries. Figure 6.* https://www.emlc-journal.org/articles/10.18352/emlc.26/.

In Review Articles

[5] Keith C. Clarke, **J.M. Johnson**. (2020). "Calibrating SLEUTH with Big Data: Projecting California's Land Use to 2100". *Modeling Earth Systems and Environment.*

[4] **J.M. Johnson**, Keith C. Clarke. (2019). "AOI: An R package for fast and flexible geocoding, boundary query, and AOI generation". *Journal of Open Source Software*[1]. https://github.com/mikejohnson51/AOI/blob/master/paper/output/2019-09-06_paper.pdf.

[3] David Blodgett, **J.M. Johnson**, Mark Sondheim, Michael Wieczorek, Nels Frazier. (2020). "Mainstems and drainage basins: the organizing principles of surface water". *Journal of Hydrology X*[1].

[2] Keith C. Clarke, **J.M. Johnson**. (2020). "Land Use Change in California, 2001-2100.". *Nature: Data Science.*

[1] Damiola Eyelade, **J.M. Johnson**. (2020). "Parametrizing Roughness Coefficients for CONUS Scale Synthetic Rating Curves". *Geophysical Research Letters*.

[1]Preprint available upon request.

Working Papers

[5] **J.M. Johnson**, Keith C. Clarke. (2019). "What is Water Security?" In preparation[1].

[4] Coll J.M, **J.M. Johnson**. (2019). "Free and Open Source Software for Mapping Flood Inundation Impacts using HAND and National Water Model Outputs". In preparation[1].

[3] **J.M. Johnson**, Shraddhanand Shukla, Keith C. Clarke. (2020). "The impact of the last two decades of California fires on evapotranspiration as seen from space". In preparation[1].

[2] **J.M. Johnson**, Keith C. Clarke. (2020). "A New Method for Categorical Raster Resampling". In preparation.

[1] **J.M. Johnson**, Patrick W. Johnson, Keith C. Clarke. (2020). "A National Scale System for Local Streamflow Visualization". In preparation[1]. https://mikejohnson51.github.io/mikejohns51.github.io/FlowFinder/.

[1]Preprint available upon request.

SCIENTIFIC SOFTWARE:

Creator

[7] **AOI** — **An R package for fast & flexible geocoding, boundary query, and AOI generation**
https://mikejohnson51.github.io/AOI/

[6] **HydroData** — **An R package for finding geospatial and observation data**
https://mikejohnson51.github.io/HydroData/

[5] **FlowFinder** — **Geovisualization portal for exploring and accessing operational streamflow forecasts**
https://mikejohnson51.github.io/FlowFinder/

[4] **NWM** — **An R client for the National Water Model**
https://mikejohnson51.github.io/NWM/

[3] **climateR** — **An R client for compiling gridded and observation climate data**
https://github.com/mikejohnson51/climateR

[2] **FloodMapping** — **An R Package for flood mapping using HAND and the National Water Model**
https://mikejohnson51.github.io/FloodMapping/

[1] **nwmRetro** — **An R package for supplimenting NHD volume estimates using the NWM.**
https://github.com/mikejohnson51/nwmRetro

Contributor

[1] **USGS-R nhdplusTools** **An R API for manipulating hydrographic data using the NHDPlus data model**
https://github.com/USGS-R/nhdplusTools

PRESENTATIONS:

[18]	**Dec 2020**	**American Geophysical Union Fall Meeting** *Representing Landover in the National Water Model*	poster
[17]	**Dec 2020**	**American Geophysical Union Fall Meeting** *Identifyinh distrubed watersheds using 20 years of MODIS and Google Earth Engine*	poster
[16]	**Dec 2021**	**American Geophysical Union Fall Meeting** *Using Google Earth Engine and MODIS T to detect watershed disturbance*	presentation (Google Booth)
[15]	**Dec 2018**	**American Geophysical Union Fall Meeting** *The National Water Model and R: Providing fast discovery, access, and usability of NWM output and earth systems data*	presentation
[14]	**Dec 2018**	**American Geophysical Union Fall Meeting** *Drought adaptation behavior of agricultural stakeholders: An Agent Based Model for Kenya*	presentation
[13]	**June 2018**	**International Congress on Environmental Modelling and Software** *An agent-based approach to evaluating sustainable drought adaptation policy*	presentation
[12]	**June 2018**	**International Congress on Environmental Modelling and Software** *Simulating dynamic drought adaptation behavior of agricultural stakeholders using Agent-Based Models*	presentation
[11]	**April 2018**	**European Geophysical Union** *Integrating Adaption behavior in drought risk analysis*	poster
[10]	**Dec 2017**	**American Geophysical Union Fall Meeting** *HydroData: Discover Earth Systems Data with R*	eLightning talk
[9]	**July 2017**	**CUAHSI Hydroinformatics Conference** *Real-time Discharge-to-Damage Flood Mapping 'Anywhere, USA'*	presentation
[8]	**May 2017**	**@Spatial Tech Talk UCSB Spatial Center** *Accessing National Water Model Output*	presentation
[7]	**Nov 2016**	**UCGIS Webinar** *2017 CUAHSI SI: Collaborative Problem Solving at the National Water Center*	presentation
[6]	**Nov 2016**	**HAZUS Users Conference** *Reimagining Disaster Alert Systems: OPERA*	presentation
[5]	**Oct 2016**	**UCSB-SDSU Retreat** *The Five Meanings of Water Security*	presentation
[4]	**July 2016**	**CUAHSI Biennial Conference** *Densified Radar Measurement and Flow Modeling*	poster

[3]	**May 2016**	**California Geography Society 2016 Annual Conference** *Rising Temperatures and Water Supply: Tools for Water Security*	presentation
[2]	**April 2016**	**UC Student Lobby Conference** *Water Research: Problems with Scale*	presentation
[1]	**May 2015**	**California Geography Society 2015 Annual Conference** *Developing a Decision Support System for California Surface Water*	presentation

TEACHING ASSISTANT, DEPARTMENT OF GEOGRAPHY, UCSB:

[9]	**Winter 2020**	**Introduction to Remote Sensing and Digital Image Processing** Lower-Division - *Alana Ayasse*
[8]	**Summer 2019, 2018, 2016**	**Living with Global Warming** Lower-Division - *Dr. Catherine Gautier*
[7]	**Spring 2019**	**Remote Sensing of the Environment 3** Upper-Division - *Dr. Vena Chu*
[6]	**Winter 2019, 2017**	**Conceptual Modeling and Programming for the Geo-Sciences** Upper-Division and Graduate - *Dr. Krzysztof Janowicz*
[5]	**Fall 2019**	**Maps and Spatial Reasoning** Lower-Division - *Dr. Werner Kuhn*
[4]	**Spring 2018**	**Cartographic Design and Geovisualization** Upper-Division - *Dr. Keith Clarke*
[3]	**Fall 2018, 2017**	**Maps and Spatial Reasoning** Lower-Division - *Dr. Keith Clarke*
[2]	**Spring 2017**	**Environmental Water Quality** Upper-Division - *Dr. Hugo Loaiciga*
[1]	**Fall 2016**	**Oceans and Atmosphere** Lower-Division - *Dr. Tim DeVeries*

SERVICE:

[4] Chair's Graduate Advisory Committee: *2019-2020 Academic Year*

[3] Spatial Data Science Faculty Search Committee: *2018*

[2] Reviewer for: European Journal of Environmental and Civil Engineering

[1] Department Outreach Committee: *2015-2017*

EXPERIENCE:

2019	National Science Foundation AEIO	San Fransisco

2019	Urban Flooding Open Knowledge Network	Raligh, North Carolina
2019	Visiting Researcher	Vrije Universiteit Amsterdam
2019	Spatial Discovery Experts Meeting	Santa Barbara
2018	Visiting Researcher	NCAR Research Applications Laboratory
2018	Visiting Researcher	Vrije Universiteit Amsterdam
2017	Summer Institute Course Coordinator	NOAA National Water Center
2016	Summer Institute Research Fellow	NOAA National Water Center
2016	Head Poster Judge - CGS Annual Conference	California Geographical Society
2015	County GIS Technician	El Paso County, Colorado
2014 - 2015	GIS Peer Assistant	Cal Poly Data Studio
2014 - 2019	Certified Agricultural Irrigation Specialist	Irrigation Association
2014	County GIS Intern	San Luis Obispo County, California
2013	Piedras Blancas Mapping and Restoration	Bureau of Land Management

UNDERGRADUATE RESEARCH MENTORSHIP, UCSB:

2018	Dino Korac
2017	Benjamin Sterne, Eric Gunter
2016	Jeremy Neil

REFERENCES:

Keith Clarke, PhD
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Department of Geography University of California, Santa Barbara, USA
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