

John T. Abatzoglou

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EDUCATION	University of California, Irvine , Irvine, CA Ph.D., Earth System Science	August 2006
	University of California, Davis , Davis, CA B.S. Atmospheric Science	June 2000
PROFESSIONAL EXPERIENCE	Professor, Management of Complex Systems <i>University of California, Merced</i>	Jul. 2022 - present
	Associate Professor, Management of Complex Systems <i>University of California, Merced</i>	Feb. 2020 - Jun. 2022
	Associate Professor, Department of Geography <i>University of Idaho</i>	Aug. 2014 - Jun 2020
	Assistant Professor, Department of Geography <i>University of Idaho</i>	Aug. 2009 - Jul. 2014
	Assistant Professor, Department of Meteorology <i>San Jose State University</i>	Aug. 2008 - Aug. 2009
	Postdoctoral Fellow <i>Desert Research Institute: advisor Dr. Kelly Redmond</i>	Aug. 2006 - Jun 2008
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AWARDS	Highly Cited Researchers:	2019-2022
	Mid Career Faculty Award, University of Idaho:	2016
	International Journal of Climatology Prize:	2015
	Outstanding Early Career Faculty Award, College of Science:	2012
REFEREED PUBLICATIONS	236. Modaresi Rad, A., Abatzoglou, J.T. , Kreitler, J., Alizadeh, M.R., AghaKouchak, A., Hudyma, N., Nauslar, N.J. and Sadegh, M., 2023. Human and infrastructure exposure to large wildfires in the United States. <i>Nature Sustainability</i> , pp.1-9.	
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45. **Abatzoglou, J.T.**, C.A. Kolden, J.F.C. DiMento, P. Doughman and S. Nespor, 2014, Climate-Change Effects, Adaptation, and Mitigation, (Chapter 3, pp. 53-104) In *Climate Change: What It Means for Us, Our Children, and Our Grandchildren* 2nd edition DiMento, J.F.C and P. Doughman [eds.], MIT Press
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41. **Abatzoglou, J.T.**, D.E. Rupp and P.W. Mote, 2014, Understanding seasonal climate variability and change in the Pacific Northwest of the United States, *Journal of Climate*, 27, 2125-2142
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36. Poole G.J., R.W Smiley, C. Walker, D. Huggins, R. Rupp, **J. Abatzoglou**, K. Garland-Campbell, T.C. Paulitz, 2013: Effect of Climate on the Distribution of *Fusarium* spp. Causing Crown Rot of Wheat in the Pacific Northwest of the United States, *Phytopathology* 11/2013; 103(11):1130-1140

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34. **Abatzoglou, J.T.**, C.A. Kolden, 2013, Relationships between climate and macroscale area burned in the western United States, *International Journal of Wildland Fire*, 22, 1003-1020
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25. Sohrabi, M.M., J.H. Ryu, **J.T. Abatzoglou** and J. Tracy, 2012, Climate extremes and their linkage to regional drought over Idaho, USA, *Natural Hazards*, 65, 653-681
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22. **Abatzoglou, J.T.**, and T.J. Brown. 2012, A Comparison of Statistical Downscaling Methods Suited for Wildfire Applications, *International Journal of Climatology*, 32: 772-780
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19. Stahle, D.W., R.D. Griffin, M.K. Cleaveland, J.R. Edmondson, F.K. Fye, D.J. Burnette, **J.T. Abatzoglou**, K.T. Redmond, D.M. Meko, M.D. Dettinger, D.R. Cayan and M.D. Therrell, 2011. [A Tree-Ring Reconstruction of the Salinity Gradient in the Northern Estuary of San Francisco Bay](#). *San Francisco Estuary and Watershed Science*, 9(1).
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14. **Abatzoglou, J.T.**, 2011, Influence of the PNA on Declining Mountain Snowpack in the Western United States, *International Journal of Climatology*, 31: 1135-1142
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12. **Abatzoglou, J.T.** and T.J. Brown, 2009, Influence of the Madden Julian Oscillation on Summertime Cloud-to-Ground Lightning Activity over the Continental US, *Monthly Weather Review*, 137, 3596-3601
11. **Abatzoglou, J.T.**, K.T. Redmond, L.M. Edwards, 2009, Classification of Regional Climate Variability in the State of California, *Journal of Applied Meteorology and Climatology*, 48(8): 1527-1541
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9. Dobrowski, S.Z., **J.T. Abatzoglou**, J.A. Greenberg, S.G. Schladow, 2009, How much influence does landscape-scale physiography have on air temperature in a mountain environment? *Agricultural and Forest Meteorology*, 149: 1751-1758
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6. **Abatzoglou, J.T.**, K.T. Redmond, 2007, The Asymmetry of Trends in Spring and Autumn Temperature and Circulation Regimes over Western North America, *Geophys. Res. Lett.*, 34, L18808
5. **Abatzoglou, J.T.**; Book Chapter 2-3, 2007, *Climate Change: What It Means for Us, Our Children, and Our Grandchildren*, MIT Press
4. **Abatzoglou, J.T.**, G. Magnusdottir, 2007, Wave breaking along the stratospheric polar vortex as seen in ERA-40 data, *Geophysical Research Letters*, 34, L08812
3. **Abatzoglou, J.T.**, G. Magnusdottir, 2006, Opposing Effects of Reflective and Non-reflective Planetary Wave Breaking on the NAO, *Journal of Atmospheric Sciences*, 63, 3448-3457
2. **Abatzoglou, J.T.**, G. Magnusdottir, 2006, Planetary Wave Breaking and Nonlinear Reflection: Seasonal Cycle and Interannual Variability, *Journal of Climate*, 19, 6139-6152
1. **Abatzoglou, J.T.**, G. Magnusdottir, 2004. Nonlinear planetary wave reflection in the troposphere. *Geophysical Research Letters*, 31, L091015

* indicates advisee

- EXTERNAL FUNDING
40. Adaptation pathways for agricultural land repurposing in the San Joaquin Valley and their impacts on heat and air quality extremes on vulnerable communities, Co-PI (2023-, \$30,000)
 39. Future Fire Weather Scenarios, AON, PI (2022- \$215,000)
 38. A Drought Impact Assessment Web-Based Platform for California's Agricultural Systems and Communities, California Department of Food and Agriculture, Co-PI (2021-, \$150,000)
 37. Securing a Climate Resilient Water Future for Agriculture and Ecosystems through Innovations in Measurement, Management and Markets, USDA, Co-PI (2021-, \$230,000)
 36. Institute for Agricultural AI for Transforming Workforce and Decision Support, NSF, Co-PI (2021-, \$230,000)
 35. Machine Learning approach to forecast human-caused wildfires at actionable scales across the western US, JFSP, Co-PI (2021-, \$200,000)
 34. Drivers of density, size, and efficacy of strategies for preventing human-ignited wildfires, JFSP, Co-PI (2021-, \$165,000)
 33. Managing Future Risk of Increasing Simultaneous Megafires, NSF-GCR, Co-PI (2020-, \$300,000)
 32. Improving drought indicators to support drought impact mitigation for natural resource management, NOAA, PI, (2020-, \$150,000)
 31. Advancing Drought Early Warning Systems, NOAA, Co-PI (2020-, \$350,000)
 30. Technology for trade: new tools and new rules for water use efficiency in agriculture and beyond, USDA, Co-PI (2018-, \$140,000)
 29. Climate Toolbox Extension, NOAA, PI (2022-2023, \$50,000)
 28. Analogs of Environmental Change for National Park Service Units, National Park Service, PI (2018-2023, \$120,000)
 27. Climate Impacts Research Consortium 2, NOAA, Co-PI (2015-2020,\$270,000)
 26. Advancing Resilience to Compounding Disasters: An Integrated Natural-Human Systems Assessment of Wildfire Vulnerability, NSF Hazard SEES, Co-PI (2015-2020, \$75,000)
 25. Social-ecological-technological solutions to waste reuse in food, energy, and water systems (ReFEWS), Co-PI (2016-2020, \$50,000)
 24. Mapping the current and future suitability of specialty crop cultivation in the Northwest, USDA NW Climate Hub, PI (2017-2019, \$40,000)
 23. Development of a Drought Early Warning System for California-Nevada and the Pacific Northwest, NOAA, Co-PI (2016-2019, \$150,000)
 22. Collaborative Visualization of Projected Climatic Conditions and Related Risks for the Northwest US, USDA NW Climate Hub, PI (2015-2018, \$87,000)
 21. Cloud Computing Support for Drought Monitoring and Fallow Field Tracking, USGS, Co-PI (2015-2017, \$80,000)
 20. Understanding Climate and Land Use Drivers of Invasive-Grass Fueled Fires Across the Western U.S., NASA Terrestrial Ecology, Co-PI (2014-2018, \$50,000)
 19. Regional Approaches to Climate Change in Pacific Northwest Agriculture, USDA NIFA, Co-PI (2011- 2017, \$350,000)
 18. Disappearing refugia: identifying trends and resilience in unburned islands under climate change, USGS, (2014 - 2017, \$15,000)
 17. Evaluation and Downscaling of CMIP5 Climate Simulations for the Southeast U.S., PI (2014-2015 , \$30,000)
 16. Google Drought, Google Earth Engine Research Faculty Award, Co-PI (2014, \$70,000)
 15. Weather Data and Forecasting Applications for management of Ecological Site Transitions, USDA-NIFA, Co-PI (2013-2016, \$120,000)
 14. Climate Impacts Research Consortium, NOAA, Co-PI (2010-2015,\$100,000)
 13. Future mega-fires and smoke impacts, Joint Fire Science Program, Co-PI (2011-2015, \$135,000)

12. Seattle Public Utility (SPU) Piloting Utility Modeling Applications (PUMA) project, Seattle Public Utilities, Co-PI, (2013-2014 , \$43,000)
11. Integrated Climate Scenarios of the Pacific Northwest, USGS, Co-PI (2012-2014 , \$45,000)
10. Extratropical Control of Gulf Surges: The Role of Rossby Wave Breaking and Associated Mesoscale Processes, NSF Climate and Large Scale Dynamics, PI (2008-2013, \$202,938)
9. NSF EPSCoR Innovative Working Group, PI (2012, \$8,000)
8. Climate Scenarios for Oregon and Washington, Bureau of Land Management, Co-PI (2012-2014, \$20,000)
7. WestWide Drought Tracker: Monitoring Drought at Fine Spatial Scales Across the Western US, NOAA TRACS, PI (2008-2012, \$125,000)
6. Downscaled datasets and evaluation for PUMA, Portland Water Bureau, PI, (2013-2014, \$25,000)
5. Toward next generation downscaling for hydrologic prediction in the Pacific Northwest, USGS, Co-PI (2011-2014 \$25,000)
4. Impacts of a Changing Climate on Water Resources in the Eastern Great Basin, Bureau of Reclamation, Co-PI (2011-2013, \$86,000)
3. Understanding climate impacts on fuels management, Joint Fire Science Program, Co-PI, (2008-2012, \$50,000)
2. USDA-Forest Service JVA, Fine Scale Climate Modeling, Agreement with Rocky Mountain Research Station, PI (2009-2012, \$15,000)
1. Downscaling for Climate Change Assessment, USFS WWETAC, PI (2009-2011, \$50,000)

* Dollar amount indicates Abatzoglou portion

SELECTED INVITED
PRESENTATIONS
2017-PRESENT

13. Abatzoglou, J.T., Our Never-ending Drought?, California Water Commission, July 2022
12. Abatzoglou, J.T., Climate change and the rise of Western fire activity, Insurance Institute for Business + Home Safety Disaster Dynamics Academy, March 2022
11. Abatzoglou, J.T., Climate driven fire hazards, knowledge and limitations, Australia Bureau of Meteorology, November 2021
10. Abatzoglou, J.T., The rise of fire in the Western US, drivers, impacts, and solutions, National Academies of Engineers, October 2021
9. Abatzoglou, J.T., Running Dry? Quantifying California's ongoing drought, UCANR Water Series, September 2021
8. Abatzoglou, J.T., How and where climate change enables changing fire activity, Kavli Frontiers of Science, National Academies of Sciences, July 2020
7. Abatzoglou, J.T., Climate driven fire hazards, Knowledge and Limitations, NOAA CLIVAR Predictability, Predictions, and Applications Interface, July 2020
6. Abatzoglou, J.T., State of NW Climate: The 2019 Edition, Northwest Climate Conference, Portland, OR, Oct 2019
5. Abatzoglou, J.T., A Future of Hotter, Longer, and More Synchronous Fire Seasons, Corvallis, OR, April 2019
4. Abatzoglou, J.T., Fire across scales, Hobart, Australia, Dec 2018
3. Abatzoglou, J.T., State of NW Climate: The 2018 Edition, Northwest Climate Conference, Boise, ID, Oct 2018
2. Abatzoglou, J.T., How much has human-caused climate change influenced wildfire extent across western US forests?, GFDL Science Seminar Series, Princeton, NJ, Oct 2017
1. Abatzoglou, J.T., Idaho's Changing Climate, Idaho Climate Hearing at State Capitol, Boise, ID, Mar 2017

TEACHING
EXPERIENCE

Instructor

- Environmental Systems Science 110: Climate and Hydrology, UC Merced
- Environmental Engineering 116/Environmental Systems Science 116/Environmental Systems 232: Applied Climatology, UC Merced
- Management of Complex Systems 252: Foundations, UC Merced
- Geography 100: Physical Geography, University of Idaho
- [Geography 301: Meteorology](#), University of Idaho
- [Geography 313/513: Global Climate Change](#), University of Idaho
- [Geography 401: Climatology](#), University of Idaho
- Geography 404: Weather Analysis and Forecasting, University of Idaho
- [Geography 501: Climate Seminar](#), University of Idaho
- Meteorology 112: Global Climate Change, San Jose State University
- Meteorology 171A: Synoptic Weather Analysis and Forecasting, San Jose State
- Meteorology 171B: Advanced Synoptic Weather Analysis and Forecasting, San Jose State
- Atmospheric Science 414/614: Physical Climatology, University of Nevada, Reno

Mentorship

- Ph.D. students (4): Kenneth Prewitt*, Ashwin Thomas*, Adam Jorge*, Abigail Lute, Lauren Parker
- M.S. students (12): Joshua Clark, James Favors, Holly Diehl, Jeremy Jenkins, Andrew Joros, Jacob Wolf, Donovan VanSant, Stephen Gillis, Abigail Lute, Paige Farrell, Wenlong Feng, Casey Roomsa
- Research Scientists (1): Katherine Hegewisch*
- Postdoctoral Researchers (4): Emily Williams*, Katherine Hegewisch, Lauren Parker, Renaud Barbero
- Undergraduate Researchers (7): Alexander Peterson, Stephen Gillis, Jet Johnstone, Blaise DeFranco, Valerie Laquindanum, Jerry Addison, Renee Young
- Graduate Committee member of 50 students since 2009

* indicates current advisees

SELECTED
UNIVERSITY AND
PROFESSIONAL
SERVICE

- Graduate Chair Management of Complex Systems (Jan 2021-)
- Department and University service: Department web developer (UI 2011-2016), Climate Change certificate (UI 2013-2020), Environmental Science Professional Science Masters Committee (UI 2012-2016), Northwest Knowledge Network Advisory Committee (UI 2017-2018), Data Science and Analytics proposal (UCM, 2020-2021), School of Engineering Executive Committee (UCM, 2021-2023), Vice Chair Graduate Council UC Merced (Aug 2022-)
- Associate Editor: *International Journal of Climatology* (Jan 2020-)
- Workshop and Conference Committees: Association of Pacific Coast Geographers committee 2010, AMS Fuels Treatment Planning in a Changing Climate Workshop 2011, AFE Fuels Treatment Planning in a Changing Climate Workshop 2011, NSF-EPSCoR Tristate session organizer 2012, NSF EPSCoR Innovative Working Group organizer 2012, Idaho Climate Forum organizer 2012, Northwest Climate Conference (chair 2015; committee 2016-2017)
- Journal Reviewer: *Geophysical Research Letters*, *Journal of Climate*, *Journal of Atmospheric Science*, *International Journal of Wildland Fire*, *The Quarterly Journal of the Royal Meteorological Society*, *International Journal of Climatology*, *Climatic Change*, *Journal of Geophysical Research-Atmospheres*, *Conservation Biology*, *Northwest Science*, *Fire Ecology*, *Rangeland Ecology and Management*, *Journal of American Water Resources Association*, *Bulletin of American Meteorological Society*, *Earth Interactions*, *Journal of Hydrometeorology*, *Journal*

of Applied Meteorology and Climatology, Biogeosciences, Journal of Applied and Theoretical Climatology, Computers and Geosciences, Proceedings of the National Academy of Sciences, Risk Analysis, Nature Geosciences, Current Climate Change Reports, International Journal of Biometeorology, Water Resources Research, Weather and Forecasting, PlosOne, Forest Ecology and Management, Journal of Water and Climate, Science Advances, Environment International, GeoHealth, New Phytologist, Global Change Biology, Climate Dynamics, Earth Interactions, IPCC, Nature Communications

OUTREACH

- Media Interviews: 50-60 per year including *Los Angeles Times, New York Times, National Public Radio, Seattle Times, Capital Press, Scientific American, FiveThirtyEight, Huntington Post, Washington Post, The Atlantic, Vox, Washington Times, Climate Central*
- Idaho Climate-Economic Assessment: lead author (2022)
- Science communication: CIRCulator, NIDIS drought early warning system webinar series
- Science Education contributor: McCall Outdoor Science School, Tribal Climate Bootcamp, Master Foresters, REU programs, MetEd COMET
- Science advisor: Coeur d'Alene, Nez Perce, and Shoshone-Bannock tribes

PRODUCTS

[Climate Engine](#)
[Climate Toolbox](#)
[Gridded Surface Meteorological Data](#)
[CMIP5 Downscaled Climate Scenarios](#)
[California Climate Tracker](#)
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