

John T. Abatzoglou

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| EDUCATION | University of California, Irvine , Irvine, CA Ph.D., Earth System Science | August 2006 |
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| 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 |
| | Graduate Research Assistant <i>University of California, Irvine: advisor Dr. Gudrun Magnusdottir</i> | Sep. 2001 - Aug. 2006 |
| AWARDS | American Geophysical Union Fellow: | 2024 |
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| | 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 | 303. Williams, AP, WD Hansen, CS Juang, J.T., Abatzoglou , VC Radeloff, B Wang, J Hall, J Butch, GD Madakumbura, 2026, The Western United States Large Forest-Fire Stochastic Simulator (WULFFSS) 1.0: a monthly gridded forest-fire model using interpretable statistics, <i>Geoscientific Model Development</i> , 19,3, 1157-1191 | |
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| | 301. Marshall, AM, Abatzoglou, J. T. , A Koshkin, A Rhoades, 2026, High-resolution mountain topography can inform global snow vulnerability estimates, <i>Environmental Research Letters</i> , 21 (1), 014017 | |

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21. Crimmins, S.M, S.Z. Dobrowski, J.A. Greenberg, **J.T. Abatzoglou**, and A.R. Mynsberge, 2011. Response to Comments on Changes in climatic water balance drive downhill shifts in plant species optimum elevations. *Science* 334

20. **Abatzoglou, J.T.** and C.A. Kolden. 2011, Climate change in western US deserts: potential for increased wildfire and invasive annual grasses, *Rangeland Ecology and Management*, 64, 471-478
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).
18. **Abatzoglou, J.T.** and C.A. Kolden. 2011, Relative Importance of Weather and Climate on Wildfire Growth in Interior Alaska, *International Journal of Wildland Fire*, 20, 479-486
17. Cordero, E.C., W. Kessomkiat, **J.T. Abatzoglou** and S.A. Mauget. 2011, Identification of Distinct Patterns in California Temperature Trends, *Climatic Change*, 108, 357-382
16. Holden, Z.A, **J.T. Abatzoglou**, L.S. Baggett and C. Luce. 2011, Empirical downscaling of daily minimum air temperature at very fine resolutions in complex terrain, *Agricultural And Forest Meteorology*, 151, 1066-1073
15. Miller, C., **J.T. Abatzoglou**, T.J. Brown, T., and A. Syphard. 2011, Wilderness Fire Management in a Changing Environment, In: *Landscape Ecology of Fire*, McKenzie, D., C. Miller and D. Falk [eds.], doi:10.1007/978-94-007-0301-8
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
13. Crimmins, S.M, S.Z. Dobrowski, J.A. Greenberg, **J.T. Abatzoglou**, and A.R. Mynsberge, 2011. Changes in climatic water balance drive downhill shifts in plant species optimum elevations. *Science* 331: 324-327
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
8. Jones, B.M., C.A. Kolden, R. Jandt, **J.T. Abatzoglou**, F. Urban and C.D. Arp, 2009, Fire behavior, weather and burn severity of the 2007 Anaktuvuk River tundra fire, North Slope, Alaska, *Arctic, Antarctic, and Alpine Research*, 41(3): 309-316
7. Morrisette, J.T., A.D. Richardson, A.K. Knapp, J.I. Fisher, E.A. Graham, **J. Abatzoglou**, B.E. Wilson, D.D. Breshears, G.M. Henebry, J.M. Hanes and L. Liang, 2009, Learning the Rhythm of the Seasons in the Face of Global Change: Phenological Research in the 21st Century, *Frontiers in Ecology and the Environment*, 7(5): 253-260
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. Magnúsdóttir, 2006, Planetary Wave Breaking and Nonlinear Reflection: Seasonal Cycle and Interannual Variability, *Journal of Climate*, 19, 6139-6152
1. **Abatzoglou, J.T.**, G. Magnúsdóttir, 2004. Nonlinear planetary wave reflection in the troposphere. *Geophysical Research Letters*, 31, L091015

* indicates advisee

- EXTERNAL FUNDING
51. Preferable burn windows in California: climatology of favorable conditions for managed fire, PI (2025-, \$100,000)
 50. Research, Development, and Application of Cloud-based Processing and Visualization of Climate and Drought Information - Phase II, Co-PI (2024-, \$200,000)
 49. California Fifth Climate Change Assessment San Joaquin Valley Regional Synthesis Report, State of California, PI (2024-, \$330,000)
 48. Unlocking Health Benefits for Californians through Active Land Management Strategies, California Air Resources Board, PI (2024-, \$550,000)
 47. A Multi-Sector Assessment of Climate Change Adaptations in California Agriculture and Communities, State of California, Co-PI (2024-, \$10,000)
 46. Assessment and application of climate model data to inform planning and design of resilient infrastructure systems, UCOP, Co-PI (2024-, \$0)
 45. Research, Development, and Application of Cloud-based Processing and Visualization of Climate and Drought Information, NOAA, Co-PI (2024-, \$30,000)
 44. San Joaquin Valley Climate Resilience Center: Informing Equitable Climate Outcomes through Collaborative and Interdisciplinary Science, DOE, Co-PI (2023-, \$200,000)
 43. Seasonal forecasting for rangeland applications, USDA, PI (2023-, \$50,000)
 42. Continuing to scale and apply hybrid approaches for compound flood risk assessments, NOAA, Co-PI, (2023-, \$25,000)
 41. 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)
 40. Future Fire Weather Scenarios, AON, PI (2022- \$215,000)
 39. Climate Adaptation Pathways-building capacity for near- and long-term resiliency in California and Nevada, NOAA, Co-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
2020-PRESENT

10. Abatzoglou, J.T., The escalating control of weather and climate extremes on western US wildfire, American Geophysical Union, New Orleans, LA, December 2025
9. Abatzoglou, J.T., Climate change has increased the odds of extreme regional forest fire years globally European Geophysical Union, Vienna, Austria, April 2025
8. Abatzoglou, J.T., The Expanding Risks of Extreme Wildfires, Geological Society of America, Anaheim, CA, Sep 2024
7. Abatzoglou, J.T., Climate-fire links in a changing world, EPRI Climate Readiness workshop, Seattle, WA, Sep 2023
6. Abatzoglou, J.T., Our Never-ending Drought?, California Water Commission, July 2022
5. Abatzoglou, J.T., Climate change and the rise of Western fire activity, Insurance Institute for Business + Home Safety Disaster Dynamics Academy, March 2022
4. Abatzoglou, J.T., Climate driven fire hazards, knowledge and limitations, Australia Bureau of Meteorology, November 2021
3. Abatzoglou, J.T., The rise of fire in the Western US, drivers, impacts, and solutions, National Academies of Engineers, October 2021
2. Abatzoglou, J.T., Running Dry? Quantifying California's ongoing drought, UCANR Water Series, September 2021
1. Abatzoglou, J.T., How and where climate change enables changing fire activity, Kavli Frontiers of Science, National Academies of Sciences, July 2020

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
- Engineering 91: Professional Development for Engineers
- 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: Ashwin Thomas*, Adam Jorge*, Madhulika Gurazada*, Precious Ebindele*, Abigail Lute, Lauren Parker, Kenneth Prewitt
- M.S. students: Joshua Clark, James Favors, Holly Diehl, Jeremy Jenkins, Andrew Joros, Jacob Wolf, Donovan VanSant, Stephen Gillis, Abigail Lute, Paige Farrell, Wenlong Feng, Casey Rooms
- Research Scientists: Katherine Hegewisch*

- Postdoctoral Researchers: Emily Williams*, Dmitri Kalashnikov*, Cong Yin*, Mukesh Kumar*, Katherine Hegewisch, Lauren Parker, Renaud Barbero
- Undergraduate Researchers: Alexander Peterson, Stephen Gillis, Jet Johnstone, Blaise DeFranco, Valerie Laquindanum, Jerry Addison, Renee Young, Mahika Shah
- Graduate Committee member of 70 students since 2009

* indicates current advisees

SELECTED
UNIVERSITY AND
PROFESSIONAL
SERVICE

- Graduate Chair Management of Complex Systems (Jan 2021-Jul 2025)
- Chair of Graduate Council UC Merced (Aug 2024-Jul 2025)
- 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-July 2024)
- Editor: Earth's Future (Jan 2025-)
- Associate Editor: International Journal of Climatology (Jan 2020-Dec 2025)
- 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)

OUTREACH

- Media Interviews: 50-60 per year including *Los Angeles Times*, *New York Times*, *National Public Radio*, *Washington Post*
- California Fifth Climate Assessment, San Joaquin Valley Regional Report, Coordinating Lead Author (2024-2026)
- Idaho Climate-Economic Assessment: lead author (2022)
- Science Education contributor: McCall Outdoor Science School, Tribal Climate Bootcamp, Master Foresters, REU programs, MetEd COMET, Weather and Water Mini-Camp for Community College Professors

PRODUCTS

[Climate Engine](#)
[Climate Toolbox](#)
[Gridded Surface Meteorological Data](#)
[CMIP5 Downscaled Climate Scenarios](#)
[California Climate Tracker](#)
[Westwide Drought Tracker](#)
[North American Freezing Level Tracker](#)
 Last Updated: February 11, 2026