

## John T. Abatzoglou

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	<b>University of California, Davis</b> , Davis, CA B.S. Atmospheric Science	<b>June 2000</b>
PROFESSIONAL EXPERIENCE	<b>Professor, Management of Complex Systems</b> <i>University of California, Merced</i>	<b>Jul. 2022 - present</b>
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	<b>Associate Professor, Department of Geography</b> <i>University of Idaho</i>	<b>Aug. 2014 - Jun 2020</b>
	<b>Assistant Professor, Department of Geography</b> <i>University of Idaho</i>	<b>Aug. 2009 - Jul. 2014</b>
	<b>Assistant Professor, Department of Meteorology</b> <i>San Jose State University</i>	<b>Aug. 2008 - Aug. 2009</b>
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AWARDS	<b>American Geophysical Union Fellow:</b>	<b>2024</b>
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	<b>Mid Career Faculty Award, University of Idaho:</b>	<b>2016</b>
	<b>International Journal of Climatology Prize:</b>	<b>2015</b>
	<b>Outstanding Early Career Faculty Award, College of Science:</b>	<b>2012</b>
REFEREED PUBLICATIONS	260. Williams, E.L.*, <b>J.T. Abatzoglou</b> , Hegewisch, K.C. *, A.P. Williams, 2024, Anthropogenic climate change has reduced drought recovery probabilities across the western US. <i>Commun Earth Environ</i> 5, 546	
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66. Barbero R.\*, **J.T. Abatzoglou**, N.K. Larkin, C. Kolden and B. Stocks, 2015, Climate change presents increased potential for very large fires in the contiguous United States, *International Journal of Wildland Fire*, 24, 892-899
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63. Barbero R.\*, **J.T. Abatzoglou**, T.J. Brown, 2015, Seasonal reversal of the influence of El Niño-Southern Oscillation on very large wildfire occurrence in the interior western United States, *Geophysical Research Letters*, 42, 3538-3545
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58. Barbero R.\*, **J.T. Abatzoglou**, C. Kolden, K. Hegewisch\*, N.K. Larkin, H. Podschwit, 2015, Multi-scalar influence of weather and climate on very large-fires in the Eastern United States, *International Journal of Climatology*, 35: 2180-2186
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56. **Abatzoglou, J.T.**, D.E. Rupp and P.W. Mote, 2014, Questionable evidence of natural warming of the northwestern United States, *Proceedings of the National Academy of Sciences*, 111(52), E5605-E5606

55. Barbero R.\*, **J.T. Abatzoglou**, E. A. Steel, N.K. Larkin, 2014, Modeling very large-fire occurrences over the continental United-States from weather and climate forcing, *Environmental Research Letters*, 9(12), p.124009
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53. Stavros, E.N, **J.T. Abatzoglou**, N.K. Larkin, and D. McKenzie, 2014, Regional projections of the likelihood of very large wildland fires under a changing climate in the contiguous Western United States, *Climatic Change*, 126(3-4), 455-468
52. **Abatzoglou J.T.**, R. Barbero\*, J.W. Wolf\*, Z. Holden, 2014, Tracking interannual streamflow variability with drought indices in the Pacific Northwest, US, *Journal of Hydrometeorology*, 15, 1900-1912
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49. Klos, P.Z., T.E. Link and **J.T. Abatzoglou**, 2014, Extent of the rain-snow transition zone in the western U.S. under historic and projected climate, *Geophysical Research Letters*, 41, 4560-4568.
48. Lute, A.C.\* and **J.T. Abatzoglou**, 2014, Role of extreme snowfall events in interannual variability of snowfall accumulation in the western United States, *Water Resources Research*, 50, 2874-2888
47. **Abatzoglou, J.T.** and R. Barbero\*, 2014. Observed and projected changes in absolute temperature records across the contiguous United States. *Geophysical Research Letters*, 41, 6501-6508.
46. **Abatzoglou, J.T.**, J.F.C. DiMento, P. Doughman and S. Nespor, 2014, A Primer on Global Climate-Change Science, (Chapter 2, pp. 15-52) 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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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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26. **Abatzoglou, J.T.**, 2013, Development of gridded surface meteorological data for ecological applications and modeling, *International Journal of Climatology*, 33: 121-131
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
24. McEvoy, D.J, J.L. Huntington, **J.T. Abatzoglou** and L.E. Edwards, 2012, An Evaluation of Multi-scalar Drought Indices in Nevada and Eastern California, *Earth Interactions*, 16, 1-18
23. Kolden, C.A., and **J.T. Abatzoglou**, 2012, Climate and Vegetation Influences on Fire Impacts in Alaskan Boreal Forest: Implications for Carbon and Fire Management, *Fire Ecology*, 8, 98-113
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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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
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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
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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
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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. 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
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  
2017-PRESENT

15. Abatzoglou, J.T., The Expanding Risks of Extreme Wildfires, Geological Society of America, Anaheim, CA, Sep 2024
14. Abatzoglou, J.T., Climate-fire links in a changing world, EPRI Climate Readiness workshop, Seattle, WA, Sep 2023
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
- 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 (4): Kenneth Prewitt\*, Ashwin Thomas\*, Adam Jorge\*, Madhulika Gurazada\*, Precious Ebindele,\* 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 Rooms
- Research Scientists (1): Katherine Hegewisch\*
- Postdoctoral Researchers (4): Emily Williams\*, Dmitri Kalashnikov\*, Cong Yin\*, 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 65 students since 2009

\* indicates current advisees

SELECTED  
UNIVERSITY AND  
PROFESSIONAL  
SERVICE

- Graduate Chair Management of Complex Systems (Jan 2021-)
- Chair of Graduate Council UC Merced (Aug 2024-)
- 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)
- 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*, *Captial 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](#)  
[Westwide Drought Tracker](#)  
[North American Freezing Level Tracker](#)  
[ENSO Climate Risks](#)  
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