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SOUTHWEST RESEARCH PUBLICATIONS

Sharing the latest wildfire research relevant to the Southwest.

WINTER 2024/2025 EDITION

Covering publications produced between November 2024 and February 2025.

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Contact: Molly McCormick, SWFSC Program Manager at molly.mccormick@nau.edu

Adaptive Management

[Changing climate and disturbance effects on southwestern US forests](#), Hurteau, MD; Baker, R; (...); Marsh, C. Jan 2025 | FOREST ECOLOGY AND MANAGEMENT

Climate Change & Carbon

[Carbon sequestration through sustainable land management practices in arid and semiarid regions: Insights from New Mexico](#), Ghimire, R; Aryal, DR; (...); Prihodko, L. Dec 2024 | AGROSYSTEMS GEOSCIENCES & ENVIRONMENT

[Natural resource management confronts the growing scale and severity of ecosystem responses to drought and wildfire](#), Munson, SM; Vaughn, AL; (...); Duniway, MC. Nov 2024 | ECOLOGY AND SOCIETY

Fire Behavior

No articles on this topic for this period.

Fire Ecology

[Trees have similar growth responses to first-entry fires and reburns following long-term fire exclusion](#), Willson, KG; Margolis, EQ; Hurteau, MD. Nov 2024 | FOREST ECOLOGY AND MANAGEMENT

Fire Models & Tools

[Advanced deep learning approaches for forecasting high-resolution fire weather index \(FWI\) over CONUS: Integration of GNN-LSTM, GNN-TCNN, and GNN-DeepAR](#), Shahriar, SA; Choi, Y and Islam, R. Feb 2025 | REMOTE SENSING - Open access

[Predicting cloud-to-ground lightning in the western United States from the large-scale environment using explainable neural networks](#), Kalashnikov, DA; Davenport, FV; (...); Singh, D. Nov 2024 | JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES - Open access

Fire Regimes & Fire History

No articles on this topic for this period.

Fuels Reduction & Restoration

No articles on this topic for this period.

GIS & Remote Sensing

No articles on this topic for this period.

Human Dimensions of Fire

[Guided transformations for communities facing social and ecological change](#), Morgan, M; Webster, AJ; (...); Stone, MB. Nov 2024 | ECOLOGY AND SOCIETY - Open access

[Identifying optimal locations for biochar production facilities to reduce wildfire risk and bolster rural economies: A New Mexico case study](#), Adhikari, RK; Falkowski, TB and Sloan, JL. Dec 2024 | FOREST POLICY AND ECONOMICS

[Understanding rural adaptation to smoke from wildfires and forest management: Insights for aligning approaches with community contexts](#), Edgeley, CM and Burnett, JT. Jan 2025 | INTERNATIONAL JOURNAL OF WILDLAND FIRE - Open access

Indigenous & Cultural Fire

No articles on this topic for this period.

Invasive Species

No articles on this topic for this period.

Prescribed Fire & Managed Fire

No articles on this topic for this period.

Post-Fire

[Coupling between evapotranspiration, water use efficiency, and evaporative stress index strengthens after wildfires in New Mexico, USA](#), Joshi, RC; Jensen, A; (...); Fisher, JB. Dec 2024 | INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION - Open access

[Empirical models for postfire debris-flow volume in the Southwest United States](#), Gorr, A; Mcquire, L and Youberg, A. Nov 2024 | JOURNAL OF GEOPHYSICAL RESEARCH-EARTH SURFACE

[Insights into temporal changes in debris flow susceptibility following fire in the Southwest USA from monitoring and repeat estimates of soil hydraulic and physical properties](#), Martinez, JR; Mcquire, LA and Youberg, AM. Feb 2025 | EARTH SURFACE PROCESSES AND LANDFORMS

[Post-wildfire sediment source and transport modeling, empirical observations, and applied mitigation: An Arizona, USA, case study](#), Schenk, ER; Wood, A; (...); Loverich, J. Feb 2025 | NATURAL HAZARDS AND EARTH SYSTEM SCIENCES - Open access

Safety, Health, & Well-being

[Gestational exposure to wildfire PM 2.5 and its specific components and the risk of gestational hypertension and eclampsia in the southwestern United States](#), Zhang, T; Ren, AX; (...); Wang, M. Nov 2024 | SCIENCE OF THE TOTAL ENVIRONMENT

Smoke & Air Quality

[Maximum ozone concentrations in the southwestern US and Texas: implications of the growing predominance of the background contribution](#), Parrish, DD; Faloon, IC and Derwent, RG. Jan 2025 | ATMOSPHERIC CHEMISTRY AND PHYSICS - Open access

Suppression, Operations & Management

[Demand for information for wildland fire management](#), Frisvold, GB; Zhang, N; (...); Maxwell, C. Nov 2024 | ATMOSPHERE - Open access

Vegetation Change, Regeneration & Recovery

[A field mesocosm method for manipulation of soil mesofauna communities and repeated measurement of their ecological functions over months to years](#), Gibson, KS; Johnson, NC; (...); Antoninka, AJ. Feb 2025 | PEDOBIOLOGIA

[Coupling between evapotranspiration, water use efficiency, and evaporative stress index strengthens after wildfires in New Mexico, USA](#), Joshi, RC; Jensen, A; (...); Fisher, JB. Dec 2024 | INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION - Open access

[Indicators of ecological resilience and invasion resistance - accounting for precipitation seasonality and climate change in southwestern US drylands](#), Chambers, JC; Brown, JL; (...); Thacker, V. Nov 2024 | ECOLOGICAL INDICATORS - Open access

[Integrating habitat suitability, disturbance, and biotic interactions into the ecological restoration of the saguaro \(Carnegiea gigantea\) in drylands of the southwest of the United States and northern Mexico](#), de Albuquerque, FS; Rowe, H; (...); Benayas, JMR. Dec 2024 | RESTORATION ECOLOGY

[Most piñon-juniper woodland species distributions are projected to shrink rather than shift under climate change](#), Noel, A; Schlaepfer, DR; (...); Bradford, JB. Jan 2025 | RANGELAND ECOLOGY & MANAGEMENT - Open access

[Multi-decadal aspen dynamics show recruitment bottleneck across complex mountain community](#), Stoddard, MT; Rodman, KC; (...); Moore, MM. Nov 2024 | FOREST ECOLOGY AND MANAGEMENT - Open access

[Restoration treatments enhance tree growth and alter climatic constraints during extreme drought](#), Rodman, KC; Bradford, JB; (...); Waltz, AEM. Jan 2025 | ECOLOGICAL APPLICATIONS - Open access

Watershed & Hydrology

[Legacies of a large flood and biological control on riparian vegetation successional trajectories along a dryland braided river](#), González-Sargas, E; Lee, SR; (...); Shafroth, PB. Feb 2025 | RIVER RESEARCH AND APPLICATIONS

Wildlife

[Multiscale habitat selection of an imperiled subspecies of Least Chipmunk \(Neotamias minimus\): When a generalist is really a specialist](#), Mckibben, FE and Frey, JK. Dec 2024 | JOURNAL OF MAMMALOGY - Open access

[High-severity wildfires Alter Ant \(Hymenoptera: Formicidae\) foraging assemblage structure in montane coniferous forests and grasslands in the Jemez Mountains, New Mexico, USA](#), Knudsen, J; Parmenter, R; (...); Verble, R. Dec 2024 | CONSERVATION - Open access

[Impact of forest management on the communication distance of an endangered tree squirrel](#), Brzozowski, R; Mahoney, SM; (...); Pasch, B. Nov 2024 | JOURNAL OF WILDLIFE MANAGEMENT - Open access

Wildland-Urban Interface (WUI)

No articles on this topic for this period.

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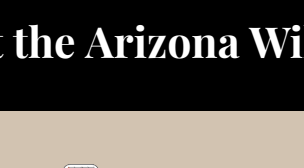


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