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First name: Anne

Last name: Millbrooke

Organization:

Title:

Comments: In addition to my comments already submitted, I wish to add: PLEASE consider the effect of prescribe fire on the ongoing aridification of the West and on the release of mercury, not only naturally occurring mercury but also the mercury pollution from the abandoned mining sites within the Helena - Lewis and Clark National Forest. Certainly, please review

Aryeh Feinberg, Martin Jiskra, Pasquale Borrelli, Jagannath Biswakarma, Noelle E. Selin. Deforestation as an Anthropogenic Driver of Mercury Pollution. *Environmental Science & Technology*, 2024; DOI: 10.1021/acs.est.3c07851

The current trend is "progressively lower river flows, drier landscapes, higher forest mortality, and more severe and widespread wildfires-not year on year, but instead a clear longer-term trend toward greater aridification," according to Jonathan T. Overpeck and Bradley Udall, "Climate Change and the Aridification of North America," *Proceedings of the National Academy of Science*, 117/22 ( 2020), 11856-11858, <https://www.pnas.org/content/117/22/11856/>.

Aridification is a phenomenon throughout western North America. In January 2024 the journal *Science Advances* published an article on the "increasing prevalence of hot drought across western North America since the 16th century." The eight authors referred to the increasing "frequency and intensity of concurrent heat and drought events" and "winter precipitation deficits." The source is: Karen E. King, Edward R. Cook, Kevin J. Anchukaitis, Benjamin I. Cook, Jason E. Smerdon, Richard Seager, Grant L. Harley, and Benjamin Spei, "Increasing Prevalence of Hot Drought Across Western North America Since the 16th Century." *Science Advances*, 10 (January 2024), ead4389, <https://www.science.org/doi/10.1126/sciadv.adj4289>

The National Academy of Sciences focused the issue of aridification in a meeting of the Water Science and Technology Board in 2021. The National Academy explained, "Frequent and severe drought is the new normal for the western U.S. The long-term climate outlook for the western U.S. is one of aridification, and the subsequent impact on water availability will necessitate innovative solutions to manage constrained water supply and demand. These solutions will be a portfolio of new technologies, bold social adaption, policy and legal frameworks, and economic incentives." The recording of those five hours of meeting is online: National Academy of Sciences, "Management and Adaptation to Aridification in the Western United States," video, 5 hours (2021) <https://www.nationalacademies.org/event/11-15-2021/management-and-adaptation-to-aridification-in-the-western-us-water-science-and-technology-board-fall-2021/>

A full environment assessment should precede any forestwide prescribe fire project.