@article{Schreck2024,
abstract = {As climate attribution studies have become more common, routine processes are now being established for attribution analysis following extreme events. This study describes the prototype process being developed through a collaboration across NOAA, including monitoring tools as well as observational and model-based analysis of causal factors. The prolonged period of extreme heat in summer 2023 over Texas, Louisiana and adjacent areas provided a proving ground for this emerging capability. This event posed unique challenges to the initial process. The extreme heat lasted for most of the summer while most heat wave metrics have been designed for 3–7 day events. The eastern portion of the affected area also occurred within the so-called summer-time daytime warming hole where the warming trend in maximum temperatures has been mitigated wholly or in part by increased precipitation. The extreme temperature coincided with a strong—but not record—precipitation deficit over the region. Both observations and climate model simulations illustrate that the temperatures for a given precipitation deficit have warmed in recent decades. In other words, meteorological droughts today are hotter than their historical analogs providing a stronger attribution to anthropogenic forcing than for temperature alone. These findings were summarized in a prototype plain language report that was distributed to key stakeholders. Based on their feedback, the monitoring and assessment tools will continue to be refined, and the project is exploring other climate model large ensembles to increase the robustness of attribution for future events.},
author = {Carl James Schreck and David R Easterling and Joseph Barsugli and David A Coates and Andrew Hoell and Nathaniel C Johnson and Kenneth E Kunkel and Zachary M Labe and John Uehling and Russell S Vose and Xiangdong Zhang},
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