Woodland mortality in a long-term drought experiment

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We conducted an eight-year drought manipulation in a pinon-pine-juniper woodland in central New Mexico. By the end of the study nearly 80% of the pinon pine and 40% of the juniper trees had died. We observed evidence in support of carbon starvation as a major driver of mortality in both species. Hydraulic failure was also a primary driver though the final causes of mortality were insect-attack. Substantial acclimation of the hydraulic system was observed, resulting in shifts in the ability of species to conduct gas exchange under drought conditions. If drought's continue as predicted, we can expect widespread mortality of both pine and junipers in southwestern USA.