Instrumental fire-climate relationships with summer precipitation:

(Crimmins and Comrie, 2004)

Summer (JAS) precipitation one year prior to the fire year is positively associated with total area burned in upper elevations (> 1500 m) in southeastern Arizona (Crimmins and Comrie, 2004).

“Positive correlations between lagged precipitation and total area burned highlight the importance of climate in regulating fine fuel production for both high and low elevation fires.

Larger low elevation fires were actually associated with wet antecedent conditions until just before the fire season. Larger high elevation fires were associated with wet conditions during seasons up to 3 years before the fire season.”

(Littell et al., 2009)

“Grass- and shrub-dominated ecoprovinces had positive relationships with antecedent precipitation or PDSI.”

“The importance of antecedent climate (summer drought in forested ecosystems and antecedent winter precipitation in shrub and grassland ecosystems) indicates that the mechanism behind the observed fire–climate relationships is climatic preconditioning of large areas of low fuel moisture via drying of existing fuels or fuel production and drying.”

References

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