# Article information:

(PDF) Functional consequences of climate change-induced plant species loss in a tallgrass prairie
<https://www.researchgate.net/publication/49842594_Functional_consequences_of_climate_change-induced_plant_species_loss_in_a_tallgrass_prairie>

# Article summary:

1. Climate change is likely to reduce the floristic diversity of grasslands, and the potential consequences of climate-induced plant species losses for the functioning of these ecosystems are poorly understood.

2. A reduction in mean annual precipitation would preferentially remove species that are more abundant in the more productive lowland positions at Konza Prairie, reducing productivity by both reducing water availability and removing species that inhabit the most productive areas.

3. Physiological drought tolerance appears to increase the abundance of plants in xeric uplands, but does not in mesic lowlands, and does not alter species responses to changes in burning or grazing.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides a comprehensive overview of how climate change might affect the functional composition of tallgrass prairie flora at Konza Prairie, a diverse tallgrass prairie in central North America. The authors provide evidence from 16 years of data on species abundance at Konza which shows that species that are more abundant in lowlands than uplands are preferentially reduced in years with low precipitation. They also discuss how climate change is likely to preferentially remove certain functional groups and clades such as perennials over annuals and Cyperaceae species due to warming temperatures.

The article is generally reliable and trustworthy as it provides evidence from 16 years of data on species abundance at Konza which supports its claims about how climate change might affect the functional composition of tallgrass prairie flora. The authors also provide an extensive discussion on how different functional traits such as physiological drought tolerance and maximum photosynthetic rates show little relationship with climate envelope parameters, providing further support for their claims.

However, there are some potential biases present in the article which should be noted. For example, while the authors discuss how climate change is likely to preferentially remove certain functional groups and clades due to warming temperatures, they do not explore any counterarguments or alternative explanations for this phenomenon. Additionally, while they provide evidence from 16 years of data on species abundance at Konza which supports their claims about how climate change might affect the functional composition of tallgrass prairie flora, they do not provide any evidence from other locations or regions which could further strengthen their argument.

# Topics for further research:

* Climate change effects on grassland species
* Physiological drought tolerance and climate change
* Maximum photosynthetic rates and climate change
* Climate change effects on functional traits
* Climate change effects on clades
* Climate change effects on grassland ecosystems

# Report location:

<https://www.fullpicture.app/item/9b5c26a96838fbd0be2749b933c18ca6>