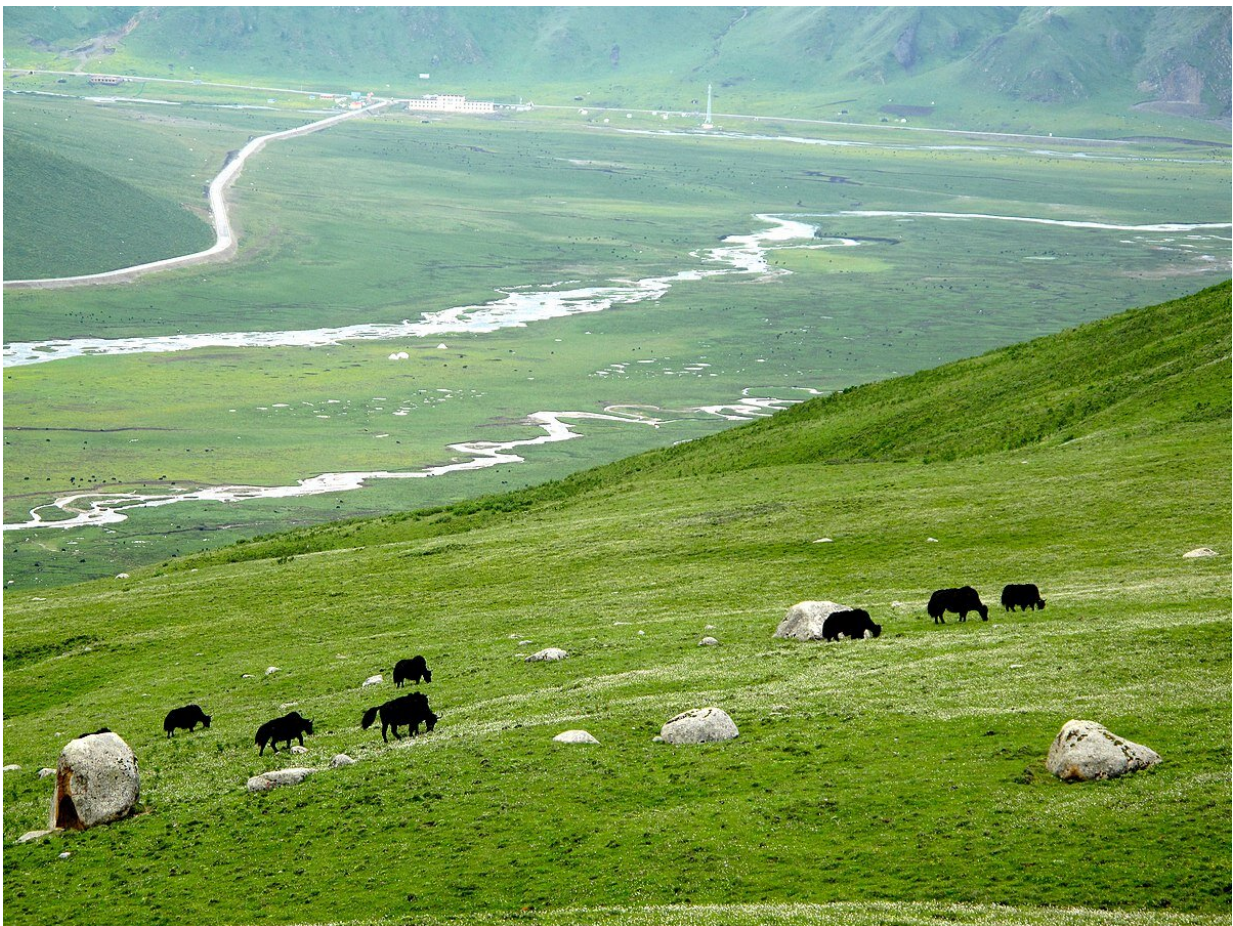


# New climate model weighting method projects larger increase in precipitation change across Tibetan plateau

May 9 2022, by Li Yuan

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Yak grazing on the Tibetan Plateau. Credit: [Tenace10](#)/Wikimedia Commons, [CC BY-SA 4.0](#)

Precipitation change in the Tibetan Plateau (TP) will likely have profound effects on the regional ecosystem and on downstream monsoon weather systems.

Researchers from the Institute of Atmospheric Physics (IAP) of the Chinese Academy of Sciences (CAS) and Chinese Academy of Meteorological Sciences (CAMS) used a weighting method in [climate models](#) and projected a larger increase in [precipitation](#) change across the TP.

Their study was published in *Advances in Atmospheric Sciences*.

A weighting method in [climate modeling](#) refers to statistical adjustments to data that are applied to improve output accuracy. Considering independent model simulating skill between CMIP models, they projected a stronger increase in TP precipitation by the end of the century.

Climate projections are mostly based on an ensemble mean, or collective average of CMIP multi-models, in which each member of the ensemble is given equal consideration, or weight toward the mean. However, different levels of model skill and independence may reduce projection reliability simply based on the equal model weighting method.

To improve future TP climate projection and to reduce model uncertainty, the researchers have recently used a weighting method that gives models different weights according to their skill and level of independence. They applied this method to 27 CMIP6 model ensemble members to see how their weighting method will affect TP precipitation projection.

"Compared to the traditional equally weighted projection, we found a stronger increase in precipitation over the TP in our model weighting

projection, especially for the spring season and the northwestern TP region," said Dr. Zhao Yin, first author of the study.

**More information:** Yin Zhao et al, Change in Precipitation over the Tibetan Plateau Projected by Weighted CMIP6 Models, *Advances in Atmospheric Sciences* (2022). [DOI: 10.1007/s00376-022-1401-2](https://doi.org/10.1007/s00376-022-1401-2)

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