

Distribution pattern and environmental factors of belowground bud banks in large-scale environment transects

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Dr. Ma Qun from the Institute of Applied Ecology of the Chinese Academy of Sciences and his collaborators have investigated the spatial

pattern of belowground bud banks along grasslands of northern China. The study was published in *Land Degradation & Development*.

The researchers constructed the zonal and meridional transects at the regional scale to examine the effects of temperature and moisture-related factors on belowground bud banks. There are 15 sampling sites in the zonal transect and 21 sites in the meridional transect.

They found that the total bud density increased from arid-warm to moist-cold habitats. Temperature-related factors along the zonal transect were better determinants of bud density variation, while moisture-related factors along the meridional transect were better predictors of bud diversity.

"When resources are limited, [communities](#) need more buds to support aboveground vegetation, conduct plasticity responses, and escape from unfavorable sites with few but monodominant bud banks. While in habitats with sufficient moisture or nutrient, communities persist with large and diverse belowground bud banks," said Dr. Ma Qun, principal investigator of the study.

More information: Qun Ma et al, Temperature related factors are the better determinants of belowground bud density, while moisture related factors are the better determinants of belowground bud diversity at the regional scale, *Land Degradation & Development* (2022). [DOI: 10.1002/ldr.4522](https://doi.org/10.1002/ldr.4522)

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