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## Land Degradation in the Heihe River Basin in Relation to Plant Growth Conditions\*

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### Abstract

Land degradation is a crucial issue in semi-arid and arid areas. The Heihe River basin is the second largest inland river basin in the arid regions of Northwest China. Land degradation is a serious passive problem for the socioeconomic development in this region. In this paper, we develop a land degradation model, Land Degradation Index (LDI), which integrates the main factors influencing land degradation. The factors are mainly those related to plant growth conditions: precipitation, potential evapo-transpiration (PE), vegetation fraction cover, slope and aspect, soil type, and land cover. We find that our model can be used to effectively monitor land degradation over this region.

### Keywords

land degradation, vegetation, LDI, arid region

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