

EGU22-4745

<https://doi.org/10.5194/egusphere-egu22-4745>

EGU General Assembly 2022

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Functional transformation of Ecological-production-living land use and Eco-environmental effects in Ningxia

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[Objective] to clarify the spatial distribution pattern of land use and the change of eco-environmental quality effect caused by its transformation in Ningxia. [Method] Based on the four high-precision remote sensing interpretation images of land use status from 1990 to 2018, the regional land use classification system of Ningxia was constructed according to the leading function of "Sansheng" land, and the geographic information Atlas method, eco-environmental quality index, center of gravity transfer model and the ecological contribution rate of land use transformation were adopted. [Results] from 1990 to 2018, the production land increased by 14.3%, the living land increased by 29.1%, and the grassland ecological land decreased by 138.1km² per year; The overall eco-environmental quality index of Ningxia has deteriorated, from 0.455 in 1990 to 0.438 in 2018. The area of medium quality area accounts for about 65% of the whole region, forming the main body of eco-environmental quality; According to the center of gravity model, the eco-environmental quality in northern Ningxia has been improved; From 1990 to 2018, the improvement and deterioration of regional ecological environment in Ningxia coexisted, and the trend of ecological environment deterioration was greater than that of improvement. [Conclusion] the quality of ecological environment in Ningxia has decreased, and the run of agricultural production land on forage ecological land is the main reason.