

Study on Changes of Ecosystem Services Value and Driving Factors in Yellow River Delta

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Abstract

Wetlands are precious natural resources with huge ecosystem services value behind them. Understanding the temporal and spatial variation of wetland ecosystem services value and its driving forces is essential for sustainable development and human well-being. Taking the Yellow River Delta as an example, this article calculated ecosystem services values based on equivalent factor method from 2000 to 2020 and analyzed the spatiotemporal characteristics of ecosystem services value by spatial statistics analysis; used Geodetector to detect and interact with the driving factors. The results show the following: (1) The reduction of wetland area directly caused the reduction of ecosystem services value, and the distribution of ecosystem services value in the wetland area shows agglomeration phenomenon. (2) NDVI, GDP and humidity were the main driving factors affecting the change of ecosystem services value, while elevation, slope and aspect had little effect. (3) The main factors affecting the ecosystem services value are all related to vegetation. (4) When temperature, NDVI, precipitation, humidity, GDP and population density interacted, they had a greater effect on ESV than when they acted alone. Our research results can provide reference information for the world's delta regions and provide scientific advice for ecological environment governance to promote the healthy development of the ecological environment.

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