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## **Vegetation Coverage change and its influencing factors in the Mu Us Sandy Land from 2000 to 2015**

**Yan Gao**

Key Laboratory of Land Consolidation and Rehabilitation Ministry of Natural Resources, China

Introducing and establishing sand-binding vegetation, as one of important approaches for combating desertification, has already applied in the ecological restoration and recovery in Mu Us sandy land for more than 60 years. Study on the dynamics of vegetation coverage in Mu Us Sandy Land and its influencing factors is thus a crucial requirement for guiding and establishing sand-binding vegetation. Based on MOD13A2 NDVI time-series data from 2000 to 2015, annual average temperature, annual precipitation, annual growth season precipitation, the land-use/land-cover (LULC) data, and topographic data, explored its dynamics during 2000–2015 and detected their influencing factors by the geo-detector method. The results showed that: (1) the vegetation coverage decrease from east to west in the Mu Us sandy land; (2) from 2000 to 2015, the vegetation coverage in the Mu Us sandy land has been increasing generally, the growth rate was 0.006 /a; (3) the number of pixels with significant increase in vegetation coverage accounted for 33.24% of the study area, meanwhile there was obvious spatial difference, the areas with significant or extremely significant increase of vegetation coverage were mainly distribute in eastern parts; (4) the main influencing factors of vegetation coverage change were annual precipitation, annual growth season precipitation, annual average temperature and LULC. Results indicate that, the influence of climate factors on Mu Us sandy land vegetation coverage was higher than LULC. It is necessary to put forward a suitable vegetation restoration plan under the projected climate change.