

Analysis of Spatio-temporal Variation of Fractional Vegetation Coverage and Influence Factors in Qinghai, China

ABSTRACT

The fractional vegetation coverage (FVC) can visually represent ecological changes in a region. Based on MDO12A1 data to calculate FVC, we investigated the spatial and temporal variations of FVC in Qinghai Province from 2001 to 2015 and performed correlation analysis with the annual mean temperature and annual rainfall. The results indicate that the spatial changes in FVC in Qinghai Province increase gradually from northwest to southeast and are discontinuous due to topographic variations. In Qinghai Province, the area of higher FVC decreased by 0.69% over the past 15 years, while the area of medium FVC increased by 5.75%, and the area of lower FVC decreased by 5.06%. Changes in FVC in Qinghai Province are influenced by changes in rainfall and temperature. The average partial correlation coefficients of FVC with rainfall and temperature are 0.031 and 0.117, respectively, indicating that rainfall has a more significant influence on vegetation growth when the temperature remains constant.