

## 1982-2010年呼伦贝尔植被净初级生产力时空格局

陈艳梅,高吉喜,冯朝阳,贾新艳

河北师范大学资源与环境科学学院

## Temporal and Spatial Distribution of Vegetation Net primary Productivity (NPP) in the Years From 1982 to 2010 in Hulunbeier

CHEN Yan-Mei, GAO Ji-Xi, FENG Chao-Yang, JIA Xin-Yan

College of Resource and Environmental Sciences, Hebei Normal University

摘要

参考文献

相关文章

Download: [PDF \(1937KB\)](#) [HTML 1KB](#) Export: [BibTeX](#) or [EndNote \(RIS\)](#) [Supporting Info](#)

摘要 利用遥感和气象资料,基于Arcmap软件平台和改进的光能利用率模型,研究1982-2010年呼伦贝尔市植被净初级生产力(NPP)格局和动态,分析气候因素对其时空格局的影响。29 a的单位面积NPP均值分析表明,大兴安岭林区NPP明显较高,单位面积NPP多大于 $450 \text{ g} \cdot \text{m}^{-2}$ (以C计,下同);呼伦贝尔草原较低,单位面积NPP多年均值为 $0 \sim 350 \text{ g} \cdot \text{m}^{-2}$ ;岭西林草交错区和岭东农牧交错区介于林区和草原区之间,单位面积NPP多年均值为 $>350 \sim 450 \text{ g} \cdot \text{m}^{-2}$ 。在气候暖干化背景下,呼伦贝尔境内像元尺度的NPP格局动态变化区域差异明显。随降水量下降和气温升高,呼伦贝尔草原区单位面积NPP呈下降趋势,且越向西部下降趋势越明显;随气温升高,大兴安岭林区北部单位面积NPP呈弱增长趋势,而南部林区为弱下降趋势;大兴安岭东部农林交错区单位面积NPP也呈弱下降趋势。

关键词: 呼伦贝尔 净初级生产力 空间格局 动态变化

Abstract: The Hulunbeier region is an area very sensitive to global climate change. It is, therefore, of great scientific significance to study spatial and temporal distribution of vegetation NPP of that region. Based on the satellite remote sensing data and meteorological data available and with the aid of a modified light utilization rate model, analysis was made of effects of meteorological factors on the distribution in Hulunbeier. Results show that the average NPP per unit area of the past 29 years was the highest in the Daxinganling forest region, being mostly over  $450 \text{ g} \cdot \text{m}^{-2}$  and the lowest in the Hulunbeier Steppe, varying for years in the range of  $0 \sim 350 \text{ g} \cdot \text{m}^{-2}$  and moderate in other areas of Hulunbeier between the forest and the steppe, varying for years in the range of  $>350 \sim 450 \text{ g} \cdot \text{m}^{-2}$ . As affected by the warming and drying climate, the distribution of NPP at the pixel scale varied sharply from area to area in the region. With declining precipitation and rising temperature, the NPP per unit area of the Hulunbeier Steppe displayed a descending trend, which was getting more and more significant towards the west. With rising temperature, the NPP per unit area of the northern portion of the forest area tended to increase slightly, while that of the southern portion went the other way around, and that of the farming-pastoral ecotone to the east of the Daxinganling Mountains also showed a declining trend.

Keywords: Hulunbeier net primary productivity(NPP) spatial pattern dynamic variation

Received 2012-05-31; published 2012-11-25

Fund:

环保公益性行业科研专项(201209027, 200909021)

Corresponding Authors: 高吉喜 环境保护部南京环境科学研究所 Email: [gjx@nies.org](mailto:gjx@nies.org)About author: 陈艳梅(1970-),女,河北邢台人,副教授,博士,主要研究方向为环境生态学。E-mail: [330896729@qq.com](mailto:330896729@qq.com)

引用本文:

陈艳梅,高吉喜,冯朝阳,贾新艳.1982-2010年呼伦贝尔植被净初级生产力时空格局[J] 生态与农村环境学报,2012,V28(6): 647-653

CHEN Yan-Mei, GAO Ji-Xi, FENG Chao-Yang, JIA Xin-Yan. Temporal and Spatial Distribution of Vegetation Net primary Productivity (NPP) in the Years From 1982 to 2010 in Hulunbeier[J] Journal of Ecology and Rural Environment, 2012,V28(6): 647-653

## Service

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ Email Alert
- ▶ RSS

## 作者相关文章

- ▶ 陈艳梅
- ▶ 高吉喜
- ▶ 冯朝阳
- ▶ 贾新艳