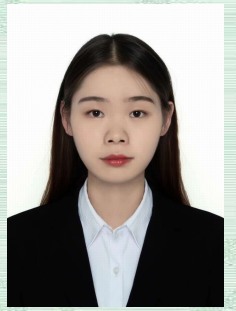
全国大学英语六级考试
成绩报告单

CET®



姓　　名：刘运

学　　校：西南林业大学

院　　系：大数据与智能工程学院

身份证号：

笔　试

准考证号：530060232201310

考试时间：2023年12月

总分	听力 (35%)	阅读 (35%)	写作和翻译 (30%)
435	135	182	118

口　试

准考证号：--

考试时间：--

成绩	--

成绩报告单编号：232253006000553

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校验码：314K GD9V PIQC LW4F

说　明

1. 全国大学英语四、六级考试（CET）是由教育部主办的全国统一考试，考试对象为在校大学生。考试内容包括听、说、读、写、译等语言技能。

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优秀	能用英语就一般性话题清晰地阐述自己的观点，明确地表达自己的态度；能开展深入的讨论，发表具有一定深度的见解。语言表达适切，自然流畅。
良好	能用英语就一般性话题阐述自己的观点，表明自己的态度；能开展较深入的讨论。语言表达准确连贯。
合格	能用英语就一般性话题进行交流；能参与讨论。语言表达基本准确。

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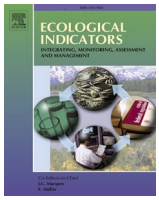

Original Articles

Integrating three-dimensional greenness into RSEI improved the scientificity of ecological environment quality assessment for forest

Yun Liu [a], Weiheng Xu [a,*], Zehu Hong [a], Leiguang Wang [b], Guanglong Ou [c], Ning Lu [a], Qinling Dai [d]

[a] College of Big Data and Intelligent Engineering, Southwest Forestry University, Kunming 650233, China
[b] Institute of Big Data and Artificial Intelligence, Southwest Forestry University, Kunming, Yunnan 650233, China
[c] College of Forestry, Southwest Forestry University, Kunming, Yunnan 650233, China
[d] Art and Design College, Southwest Forestry University, Kunming, Yunnan 650024, China

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ABSTRACT

Normalized Difference Vegetation Index (NDVI) is widely used to represent the greenness indicator for the Ecological Environment Quality (EEQ) assessment based on the traditional Remote Sensing Ecological Index (RSEI). However, NDVI saturation issues are reported in agriculture and forest ecosystems at high greenness and biomass, creating a challenge when using NDVI to reflect the greenness components for forest EEQ assessment. In this paper, three-dimensional greenness (TDG) was obtained by the Forest Canopy Height (FCH) and Fractional Vegetation Cover (FVC) to quantify the forest greenness. The NDVI of RSEI was replaced with TDG to establish an improved remote sensing ecological index (TDRSEI) for the forest EEQ evaluation in the Central Yunnan, China. Moreover, we analyzed the difference between RSEI and TDRESI by qualitative and quantitative means and discussed deeply the optical saturation of NDVI by the quadratic function. The results shown that there were similar spatial distribution patterns and a strong correlation between TDG and FCH, Leaf Area Index (LAI), FVC, and NDVI, the TDG can be used to replace NDVI for reflecting forest greenness. The standard deviation of TDRSEI from the same FCH pixels was all less than that of RSEI, the absolute correlation coefficient between TDRSEI and ecological components were all greater than 0.63, and the mean values of TDRSEI (0.73, 0.84, and 0.90) from the relatively high FCH (20 m, 25 m, and 30 m) were greater than RSEI (0.71, 0.78, and 0.85), showing that the TDRSEI were more stable than RSEI for forest EEQ assessment and it can improve the EEQ in the high FCH. In Central Yunnan, China, the forest EEQ from TDRSEI and RSEI maps both increased with the growth of FCH, the distribution of RSEI had no significant difference between the low FCH and the high FCH, while the mean values of TDRSEI increased linearly with FCH growth. Besides, the ecological saturation points of TDRSEI and RSEI corresponding to the FCH were 19.50 m and 34.02 m, respectively. Therefore, TDRSEI method integrates the three-dimensional greenness to evaluate the forest EEQ objectively.

1. Introduction

Forest, the largest ecosystem of terrestrial, provides a rich material basis for the survival and development of human beings and different organisms (Baowen, 2020). However, large areas of forest degradation and fragmentation due to human subsistence activities and natural environmental change, which has caused a sequence of ecological problems such as soil erosion, land degradation vegetation fragmentation, biodiversity loss (Liu et al., 2022d; Zhu et al., 2019), etc. These problems have hindered the sustainable development of the environment and have attracted widespread attention (He et al., 2000; Su et al., 2010). In addition, previous studies have shown that the EEQ of forest land is generally higher than other land, and spatial–temporal changes of EEQ are strongly related to forest greenness (Giri et al., 2011; Guangyi, 1995; Wang et al., 2022). Consequently, it becomes crucial to conduct a scientific and objective evaluation of the EEQ across various levels of forest greenness.

The region EEQ was primarily evaluated early in ecosystem

* Corresponding author.
E-mail addresses: atly9708@swfu.edu.cn (Y. Liu), xwh@swfu.edu.cn (W. Xu), hzh@swfu.edu.cn (Z. Hong), wlgbain@126.com (L. Wang), olg2007621@126.com (G. Ou).

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sustainability

MDPI

Article

Assessment of Spatial-Temporal Changes of Landscape Ecological Risk in Xishuangbanna, China from 1990 to 2019

Yun Liu [1], Weiheng Xu [1,*], Zehu Hong [1], Leiguang Wang [2], Guanglong Ou [3] and Ning Lu [1]

[1] College of Big Data and Intelligent Engineering, Southwest Forestry University, Kunming 650233, China
[2] Institute of Big Data and Artificial Intelligence, Southwest Forestry University, Kunming 650233, China
[3] College of Forestry, Southwest Forestry University, Kunming 650233, China
* Correspondence: xwh@swfu.edu.cn; Tel.: +86-388-883-2080

Abstract: Xishuangbanna is a major natural rubber and tea production base in China and a national nature reserve with the best-preserved tropical ecosystem. However, the extensive exploitation and use of land resources impact the land use/land cover (LULC) and the processes of regional landscape ecology, further causing a battery of ecological and environmental problems. It is necessary to evaluate landscape ecological risk objectively and quantitatively for improving the ecological environment and maintaining ecological balance. First, this study selected China Land Cover Dataset (CLCD) to analyze the changes in LULC. Second, we constructed the landscape ecological risk index (ERI) using LULC changes based on Google Earth Engine (GEE) platform. Third, the spatial-temporal pattern and spatial autocorrelation of landscape ecological risk were assessed in our study area. The results showed that the significant change in LULC was that the areas of cropland increased, and the areas of forests decreased during 1990–2019; the forests of a total area of 859.93 km^2 were transferred to croplands. The landscape ecological risk kept a low and stable level from 1990 to 2019, more than 75% of the study area remained at the lower or lowest risk level, and in about 70% of the total study area, the ERI level maintained stability. In addition, the landscape ecological risk of the Xishuangbanna increased during 1990–2010 and decreased during 2010–2019. The ecological risk was a significant spatial autocorrelation and has been an aggregation trend in space from 1990 to 2019. Our research can identify key risk areas and provide a reference for the management and sustainable use of land resources, which promotes the understanding of landscape ecological risk and sustainable development of the ecological environment.

Keywords: landscape ecological risk; Xishuangbanna; land use/land cover; spatial-temporal pattern; spatial auto-correlation analysis

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1. Introduction

With the acceleration of the world's industrialization process, global ecological problems have become increasingly prominent [1]. The realization of ecologically sustainable development has become a common target for all human beings. Due to the growth of the population and the development of economics in the past decades, the change rate of land use/land cover (LULC) accelerated, and the land use intensity was an increasing trend in Xishuangbanna [2]. Li et al. investigated dynamic change characteristics of LULC in Xishuangbanna from 1996 to 2016 [3], while the forest area decreased by 297.21 km^2, but the rubber area increased by 537.93 km^2. After, Cao et al. [4] found that the rubber area in Xishuangbanna increased by about 3500 km^2 during 1976–2015, yet forests decreased by about 2500 km^2. The building area increased 12 times and reached more than 190 km^2, with most of the increase shifting from shrub and paddy fields. In addition, the fact that the rubber plantation area increased by 33.53% in Menglun County, Xishuangbanna, from 1988 to 2006, while forest and cropland decreased by 21.16% and 12.68%, was discovered by Hu et al. [5]. However, the LULC shifted from tropical forests of ecological importance and