

研究报告

## 西双版纳地区土地利用的空间分析

宋国宝<sup>1,2</sup>, 李政海<sup>1,3</sup>, 高吉喜<sup>3</sup>, 王海梅<sup>4</sup>

<sup>1</sup>大连民族学院生命科学学院生物资源研究所, 大连116600; <sup>2</sup>内蒙古大学生命科学学院, 呼和浩特010021; <sup>3</sup>中国环境科学研究院区域生态创新基地, 北京 100012; <sup>4</sup>内蒙古自治区气象台, 呼和浩特 010051

收稿日期 2005-7-8 修回日期 2006-4-10 网络版发布日期 接受日期

**摘要** 利用西双版纳地区2003年TM数据, 对土地利用结构及土地利用与海拔、坡度、水系等自然地理要素相互关系的空间进行分析. 结果表明, 耕地、林地和草地是该地区土地利用的主体, 其中林地面积 13 420 km<sup>2</sup>, 占研究区总面积的74%; 草地面积3 251 km<sup>2</sup>, 耕地面积2 332 km<sup>2</sup>, 分别占13%和18%. 林地、耕地和草地面积随海拔高度具有单峰变化的曲线特征, 在海拔1 000~1 200 m处林地分布最多, 耕地和草地面积达到峰值时的海拔约为900 m. 受人为活动影响强的用地类型坡度指数较低, 城乡建筑用地和耕地的坡度指数为5°和14°, 人为活动影响较弱的林地草地坡度指数较高, 分别为22°和20°. 河谷内随缓冲距离增加, 土地利用呈现规律性变化, 耕地、城镇居民点、未利用地3种土地利用方式主要集中在河谷底部近水域处, 远离河谷林地草地组分增加明显. 西双版纳地区自然生态系统相对原生, 具有林地为基础, 河流为廊道, 坝区、沟谷农业景观镶嵌分布的特点.

**关键词** [西双版纳](#) [土地利用](#) [自然要素](#) [空间分析](#)

分类号

## Spatial analysis on land use in Xishuangbanna

SONG Guobao<sup>1,2</sup>, LI Zhenghai<sup>1,3</sup>, GAO Jixi<sup>3</sup>, WANG Haimei<sup>4</sup>

<sup>1</sup>College of Life Science, Dalian Nationalities University, Dalian 116600, China;

<sup>2</sup>College of Life Science, Inner Mongolia University, Huhhot 010021, China;

<sup>3</sup>Innovation Base of Regional Ecology, Chinese Research Academy of Environmental Sciences, Beijing 100012, China; <sup>4</sup>Inner Mongolia Meteorological Observatory, Huhhot 010051, China

### Abstract

Based on remote image and GIS technology, this paper analyzed the relationships between land use system and natural topographic factors such as elevation, slope, and river system in Xishuangbanna. The results showed that the land use system in the study region was dominated by forestland, cropland and grassland. The area of forestland was 13 420 km<sup>2</sup>, accounting for 74% of the total, and that of cropland and grassland was 3 251 km<sup>2</sup> and 2 332 km<sup>2</sup>, accounting for 13% and 18% of the total, respectively. The areas of these three land use types varied with elevation in single peaked curve. Forestland mainly distributed around the elevation of 1 000~1 200 m, while cropland and grassland centralized at the elevation of 900 m. Urban land and cropland, which were greatly influenced by human activity, had lower slope index than forestland and grassland. Besides elevation and slope, river system in valley had effects on land use condition. With increasing buffer distance in valley, a strong spatial pattern of land use type was presented, *i.e.*, cropland, urban land and unused land concentrated greatly adjacent to water, while forestland and grassland were far away from valley. A landscape with relatively primary status, which was comprised of forestland as matrix, river as corridor, and cropland as patch, would come into being.

**Key words** [Xishuangbanna](#) [Land use](#) [Natural essentials](#) [Spatial analysis](#)

### 扩展功能

#### 本文信息

▶ [Supporting info](#)

▶ [PDF\(22114KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

#### 服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

#### 相关信息

▶ [本刊中 包含“西双版纳”的相关文章](#)

▶ 本文作者相关文章

· [宋国宝](#)

·

· [李政海](#)

·

· [高吉喜](#)

·

· [王海梅](#)

DOI:

---

通讯作者