

近10年石羊河流域水资源与生态环境遥感监测

韩兰英, 韩涛, 张正德, 梁芸, 李民轩

摘要:

在气候变暖的大背景下, 石羊河生态环境发生了很大变化。针对流域生态环境的定量监测策略及关键技术, 提出石羊河流域尺度的植被覆盖、水库面积、积雪面积等要素因子的快速监测方法, 并具体通过实际监测水库蓄水前后面积、植被覆盖时空变化、积雪分布特征, 分析石羊河流域生态环境。研究发现: 1997-2006年, 整个祁连山区域冰川积雪面积呈多波形变化, 有线性增加趋势。其中, 祁连山东段(石羊河流域上游)和中段积雪面积呈减少趋势, 西段呈增加趋势。石羊河流域植被总面积整体上呈持续减少趋势, 其中稀疏植被和茂密植被退化最严重, 适中植被面积变化不大。红崖山水库面积基本呈增加趋势, 最大值出现在2005年, 是19.35 km²; 最小值出现在2001年, 为7.4 km²。

关键词: 水资源; 积雪面积; 植被覆盖度; 水库面积

Monitoring on water resource and ecological environment in Shiyanghe River basin through remote sensing in 10 years

HAN Lan ying, HAN Tao, ZHANG Zheng cai, LIANG Yun, LI Ming xuan

Abstract:

Under the background of the climate warming, the ecological environment in the Shiyang River basin has been greatly changed. Based on the quantitative monitoring strategy and key technologies, the factors including vegetation cover, reservoir area and snow cover area were used as the indicators to monitor the ecological environment. The remote sensing images were used to calculate the snow coverage, vegetation cover and water resource. The result indicated that the entire area of the glacier snow fluctuated in the Qilian Mountains region with linear increasing trend from 1997 to 2006. In the eastern and middle of Qilian Mountains, the snow coverage showed a decreasing trend, but in the western, its trend was increasing. In general, the vegetation coverage was decreasing in Shiyang River basin. The degradation degrees of the sparse vegetation and density vegetation were the highest. Water resource in the downriver of Shiyang River (Hongyashan Reservoir) decreased, and the maximum reservoir area value was 19.35 km² in 2005, the minimum value was 7.4 km² in 2001.

Keywords: Water resource; snow cover; vegetation coverage; reservoir area

收稿日期 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者:

作者简介:

作者Email:

参考文献:

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(1324KB)
- ▶ [HTML全文]
- ▶ 参考文献PDF
- ▶ 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
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 水资源; 积雪面积; 植被覆盖度; 水库面积

本文作者相关文章

PubMed

