Dynamic analysis and evaluation of Xinjiang forest resources: based on RS and GIS

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The forest resources in Xinjiang were surveyed and analyzed based on RS and GIS. Satellite data interpretation was adopted to obtain the general situation of Xinjiang forest resources in assistance with the sampling method and on-the-spot investigations. Based on GIS, related data obtained from satellite remote sensing in 1996 and 2001 were studied through contrastive analysis. Moreover, the dynamic variation of Xinjiang forest resources was studied in an all-around way. In the past five years, the areas of the forestland, woodland, sparse woodland, nursery garden and the land usable for forestry in Xinjiang kept growing, moreover, the forest cover rate and the total standing stock volume increased correspondingly, showing that the wooded area and the amount of growing stock in Xinjiang were increasing. The forestland area in Xinjiang went up to 17,837 km2 from 17,331 km2, with an annual average increase of 101 km2. Accordingly, the forest vegetation came to 1.08% from 1.05%, up 0.03 percentage point; the total standing stock volume went up to 289,985,200 m3 from 262,416,000 m3, a total increase of 27,569,200 m3, an annual average increase of 5,514,000 m3 and an annual average net growth rate of 2.00%. The analysis results showed that the forest resources in Xinjiang were increasing on the whole, however, there remained some problems, such as the sparse natural forests, low forest cover rate, imbalanced wood age structure, and mono tree species composition, etc.

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