Applications of GIS for Global Environmental Studies: A Platform for Integrating Models and Database

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Abstract

A number of global data sets and global/regional models have been developed for global environmental studies. Although many research issues remain to be addressed, these data sets and models form a basis for forecasting and evaluating the impacts of global changes in individual fields. Individual models and data sets, however, are not sufficiently integrated due to the lack of appropriate platforms, although comprehensive evaluation is required not only for policy formulation but also for modeling interactions between human activities and environmental systems. GIS can serve as a platform for linking data sets and models based on locations and spatial relationships. Advances in international standardization will enhance the capability of GIS as a platform for information integration in the near future. This article will highlight the research achievements on integration methods and their applications, with emphasis placed on the development of integrated models related to land use/cover change studies.

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