Application of SWAT for impact assessment of land use/cover change and best management practices : a review.

ABSTRACT

Globally, the quantification and evaluation of land use and cover changes on the hydrological status of river basins is a main concern. There is an urgent need for technologies and models that can quantify the impact of land use change and management practices in an organized manner. Approach: Soil and Water Assessment Tool (SWAT) integrated with Geographic Information System (GIS) has great potential in current estimation, future prediction and proper decision making in terrestrial ecosystems. This review discusses the current utilization of SWAT in impact assessment of land use/cover change and best management practices. Results: Deployment of SWAT and land use/cover simulation models for impact assessment improves accuracy, reduces costs, and allows the simulation of a wide variety of conservation practices at watershed scale. Conclusion: This review demonstrates the synergistic role of SWAT and GIS technologies in improving watershed management.

Keyword: Soil and Water Assessment Tool (SWAT); Impact assessment; Land use change; Best management practice.