

农学—研究进展

土壤侵蚀及其评价、校验方法研究进展

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摘要:

土壤侵蚀是导致土地退化、农业减产和生态功能退化的全球性环境问题,受到国内外众多学者的普遍关注。目前,土壤侵蚀研究方法主要有径流小区、同位素示踪、稀土元素(REE)示踪、侵蚀模型模拟以及遥感和测量学的定性评价等,各方法均有其自身的特点、优势和适宜的研究尺度。其中,同位素、REE等示踪方法适合在坡面和小流域尺度应用,有助于土壤侵蚀过程的深入理解和土壤侵蚀模型的建立及验证。而GIS和RS在土壤侵蚀物理过程模型中的应用为区域尺度土壤侵蚀的评价、预测和调控奠定了基础。今后的研究应当加强土壤侵蚀过程和侵蚀机理研究,综合运用各种研究方法和手段,实现大尺度土壤侵蚀评价、预测和验证的动态、快速实现。

关键词: 土壤侵蚀模型

Progress on the Study of Soil Erosion, Evaluation and Validation

Abstract:

As one of global scale environmental problem, soil erosion has led land degradation, agricultural reduction, ecosystem function digression, and has been the theme of much research all the times. At present, lots of study methods of soil erosion have been developed, e.g. the application of runoff plots systems, isotopes tracer technique, rare earth elements (REE) tracer technique, soil erosion modeling, and the evaluation methods based on remote sensing (RS) and surveying techniques. Each method has the unique advantage and suit specific spatial scale. The technique of isotopes and REE tracer suit hillslope and watershed scales, have the advantage of comprehending soil erosion process, and serve as the basis for soil erosion model building and validating. Whereas, with the help of GIS and RS, soil erosion model can be used to evaluate and predict the spatial pattern of soil loss and sediment yield on regional scale. At last, suggestions for future researches on soil erosion were made, stating that it is essential to integrate different research technique to intensify the study of soil erosion process and mechanism, model building for fast forecasting soil erosion on large spatial scale.

Keywords: soil erosion model

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