

台灣地區年等降雨沖蝕指數圖之修訂

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摘要 本土性土壤流失推估模式之研發，對於台灣水土資源之永續利用極為重要。通用土壤流失公式(USLE)為目前世界各地應用最廣泛之土壤流失推估模式，近十幾年該公式於美國經修正，並更名為“修正之通用土壤流失公式”(RUSLE)。目前，美國農業部水土保持署已開始正式測試。然而，欲將 USLE 或 RUSLE 引用至台灣地區，必須考慮其地域上之差異。本研究主要針對通用土壤流失公式中之降雨沖蝕指數 (R) 做探討，歷經六年先後於中部台中、南投地區及北部陽明山、台北市區、東半部基隆、宜蘭、花蓮、台東等地區及西半部新竹、嘉義地區實測天然雨滴粒徑分佈，修正 USLE 降雨動能公式，並依據歷年有效降雨記錄，計算其年降雨沖蝕指數及月分佈。同時，參考吳嘉俊、王阿碧推導之屏東老埤地區降雨動能公式，配合高雄氣象站之歷年有效降雨記錄，計算其 R 值。此外，將全台劃分十個降雨分區，推求年 R 值與年降雨量關係式，修訂台灣地區之年等降雨沖蝕指數圖。

關鍵詞： 雨滴中徑、降雨動能、土壤沖蝕。

Revision of the Isoerodent Map for the Taiwan Area

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ABSTRACT The development of a soil erosion prediction model applicable to Taiwan is a very important issue for the sustainable development of soil and water resources. At present, the Universal Soil Loss Equation (USLE) and the Revised USLE (RUSLE) are the most widely used soil erosion prediction models in the world. However, the regional variability of the parameters (including the rainfall erosivity factor) need to be considered in the application of these models. The main objective of this study is to investigate the variations in rainfall erosivity (R -factor) and the rainfall characteristics of different areas of Taiwan. Based on the natural rainfall data collected in the central areas of Taichung and Nantou, the northern areas of Yangming mountain and Taipei city, the eastern areas of Keelung, Ilan, Hualien and Taitung, and the western areas of Hsinchu and Chiayi, the respective rainfall kinetic energy equations were revised. The average annual values of the rainfall erosivity factor, R and the distributions of the monthly rainfall erosivity were also estimated. Finally, the isoerodent map for Taiwan area was revised based on the relationships of the R -value and the annual rainfall for different areas.

Key Words: median raindrop diameter, rainfall kinetic energy, soil erosion.

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