

以長時間河川低流統計資料特徵化臺灣南部流域消退特性之研究

高于婷^[1] 葉信富^{[2]*} 李振浩^[3]

摘要 由於台灣地形變化大與降雨量分布不均勻，造成水資源分佈不均，近年來受氣候變遷影響，區域內乾濕季更加明顯，冬季易缺水的台灣南部面臨嚴重缺水問題，在枯水期，地下水為補注河川的重要來源，因此瞭解地下水與河川之間的儲存-排出關係日益重要。一般水資源管理所需要資料取得不易且資料受限於空間分布，在本研究中採用低流分析中消退曲線建立河川與地下水之間儲存-排出關係，且僅需要易取得的流量資料，在低流分析中排除降雨與蒸發散的影響，僅與集水區內所儲存的水有關，因此消退曲線參數化後可以對集水區表現其消退特性。本研究以台灣南部流域為例，以長時間連續河川資料統計集水區特徵，比較 Vogel and Kroll(1992)與 Brutsaert(2008)兩種模式對台灣南部消退特性表現差異。

關鍵詞：Brutsaert、Vogel and Kroll、消退曲線。

Using Low Flow of Statistical Streamflow Data to Characterize Southern Taiwan Recession Behavior in Long-Time Period

Yu-Ting Kao^[1] Hsin-Fu Yeh^{[2]*} Cheng-Haw Lee^[3]

ABSTRACT The uneven distribution of water resources in Taiwan is due to topography change severely and unevenly distributed rainfall. Recently, climate change result in wet and dry season become more apparent in the region. Owing to water deficit problem is more severe in the dry season which in the low flow period, groundwater is the main source of recharging stream. Thus, knowing relationship between groundwater and stream drainage-storage is becoming increasingly important. Generally, it is difficult to obtain data which is limited by spatial distribution on water resources management. In this study, recession curve is established for stream and groundwater storage-drainage relation. Furthermore, only need streamflow data which is easy obtained. We exclude precipitation and evapotranspiration in low flow analysis that is only related with water of river basin. Thus, recession curve are characterized to display basin drainage behavior. In this study, we use continues long-term period of south of Taiwan streamflow data to analyze basin characteristic. Comparison of Vogel & Kroll(1992) and Brutsaert(2008) method difference between drainage behavior in south of Taiwan.

Key Words : Brutsaert, Vogel and Kroll, recession curve.

[1] 國立成功大學資源工程學系碩士生

Master, Dept. of Resources engineering, National Cheng Kung University, Tainan 701, Taiwan

[2] 國立成功大學資源工程學系博士後研究員 (*通訊作者 E-mail: hfye@mail.ncku.edu.tw)

Post-Doctoral Researcher, Dept. of Resources engineering, National Cheng Kung University, Tainan 701, Taiwan

[3] 國立成功大學資源工程學系教授

Professor, Dept. of Resources engineering, National Cheng Kung University, Tainan 701, Taiwan