

# Application of ANFIS to Stream-Way Transition

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## Abstract

The main purpose of this paper is to predict streamway transition with Adaptive-Network-Based Fuzzy Inference System (ANFIS). Therefore, the downstream stream-way transition according to the upstream conditions is forecasted by ANFIS. Five main factors may affect the stream-way transition include inflow position, inflow angle, slope, flow discharge, and sand content of suspended sediment. We selected some cross sections of Ta-Chia River in Taiwan as a case study. The results show that ANFIS has better performance than the traditional linear regression method (LR).

Keyword : stream-way transition; adaptive-networkbased fuzzy inference system; linear regression method