عنوان مقاله:

A Fuzzy Model for Water and Waste Load Allocation in Rivers: Case Study, Dez River System

محل انتشار:

اولین کنفرانس بین المللی و سومین کنفرانس ملی سد و نیروگاههای برق آبی (سال: 1390)

تعداد صفحات اصل مقاله: 11

نویسندگان:

Mohammad Reza Nikoo - *PhD Candidate, School of Civil Engineering, College of Engineering, University of Tehran*

Reza Kerachian - *Associate Professor, School of Civil Engineering, College of Engineering, University of Tehran*

Roohollah Ahmady Jazany - *PhD Graduate, International Institute of Earthquake Engineering and Seismology, Tehran*

Peyman Shademan Heidari - *Head of Engineering department, East Tehran Branch, Islamic Azad University, Tehran*

خلاصه مقاله:

In this paper, a new fuzzy methodology is proposed for simultaneous allocation of water and waste load in river basins based on a Fuzzy Transformation Method (FTM). The fuzzy transformationmethod is used to incorporate the existing uncertainties in model inputs and parameters. In the proposed methodology, the FTM, as a simulation model, is utilized in an optimization framework for constructing a fuzzy water and waste load allocation model. In addition, the economic andenvironmental impacts of water allocation to different water users are taken into account. To avean equitable water and waste load allocation, some possible coalition of water users are formed and total benefit of each coalition, which is a fuzzy number, is reallocated to water users who areparticipating in the coalition. The fuzzy cost savings are reallocated using a fuzzy Nucleolus cooperative game and the FTM. Results of applying the methodology to the Dez river system insouth-western part of Iran show its effectiveness and applicability for water and waste loadallocations in an uncertain environment.

کلمات کلیدی:

Fuzzy Transformation, Game Theory, Water Load Allocation, Waste Load Allocation, Water Quality

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/138526