

Higher National School of Hydraulic

The Library

Digital Repository of ENSH



المدرسة الوطنية العليا للري

المكتبة

المستودع الرقمي للمدرسة العليا للري



The title (العنوان):

Contribution of GIS and Hydraulic Modeling to the Management of Water Distribution Network

The paper document Shelf mark P19-02 :(paper version not available)

APA Citation (توثيق APA):

Abdelbaki Chérifa, Touaibia Bénina, Ammari Abdelhadi, et all (2020). Contribution of GIS and Hydraulic Modeling to the Management of Water Distribution Network.

Geospatial Challenges in the 21st Century, p. 125-150. DOI ou URL :

https://link.springer.com/chapter/10.1007/978-3-030-04750-4_7

The digital repository of the Higher National School for Hydraulics "Digital Repository of ENSH" is a platform for valuing the scientific production of the school's teachers and researchers.

Digital Repository of ENSH aims to limit scientific production, whether published or unpublished (theses, pedagogical publications, periodical articles, books...) and broadcasting it online.

Digital Repository of ENSH is built on the open DSpace software platform and is managed by the Library of the National Higher School for Hydraulics. <http://dspace.ensh.dz/jspui/>

المستودع الرقمي للمدرسة الوطنية العليا للري هو منصة خاصة بتقييم لإنتاج لأساتذة باحثي المدرسة.

يهدف المستودع الرقمي للمدرسة إلى حصر الإنتاج العلمي سواء كان منشورا أو غير منشور (طروحات، مطبوعات، مبداعات، مقالات، دوريات، كتب...) بثه على الخط.

المستودع الرقمي للمدرسة مبني على المنصة المفتوحة DSpace و يتم إدارته من طرف مديرية المكتبة للمدرسة العليا .

كل الحقوق محفوظة للمدرسة الوطنية العليا للري.

Abstract: Increases in the growth of urban regions along with climate change have contributed to a scarcity in water resources. For arid regions, this problem may be aggravated by inadequate management plans and a lack of proper data collection related to the geographical location of water distribution networks. A possible solution is the utilization of a geographical information system (GIS) as a tool in decision-making process in the field of water distribution management. Coupling external hydraulic calculation models with GIS can further enhance this management tool. The current study utilized these tools in assessing the performance of a drinking water distribution network of an urban cluster in Tlemcen, Algeria. A methodology was developed by coupling GIS to a hydraulic calculation model (EPANET). The results showed that it is possible to obtain an alphanumeric description of the pipes, tanks, and all the accessories constituting the network. Design irregularities in the Tlemcen urban cluster's network were identified. The approach adopted in this chapter contributes effectively to the management of water distribution networks using GIS. This offers operators a management tool that allows for analysis of malfunctions with an instantaneous response, to study various solutions and to plan for future situations.

Key words: Modeling ; GIS ; Water ; distribution network ; Management

Available from : https://link.springer.com/chapter/10.1007/978-3-030-04750-4_7