

بسم الله الرحمن الرحيم



HOSSAM MAGHRABY



شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

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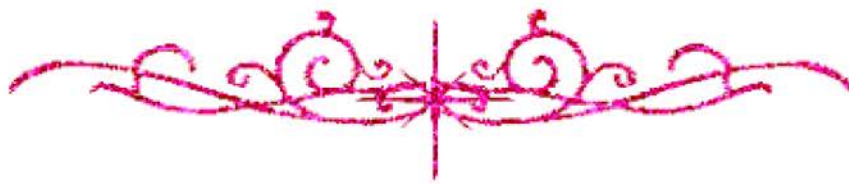
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بالرسالة صفحات

لم ترد بالأصل



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**APPLICATION OF THE GIUH APPROACH FOR THE COASTAL
PLAIN OF SYRIAN ARAB REPUBLIC**

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BY

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B.Sc. in Civil Engineering. Albaath University, 1993

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
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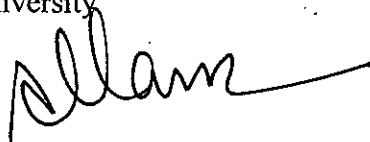
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GIZA, EGYPT
January 2001

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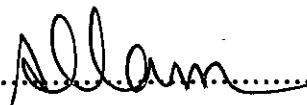
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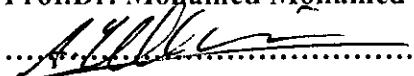
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ABSTRACT

The main objective of this study is to predict the discharge hydrographs for the wadis of Al Kebir Al Shemali River Basin at the western part of the Syrian Arab Republic. The Geomorphologic Instantaneous Unit Hydrographic (GIUH) approach has been utilized for this purpose. Two different presentations of the infiltration losses in watershed channels were tried. The first presentation is the $\emptyset$ – index method, and the second infiltration presentation is Philip's expression. The input parameters of Philip's infiltration expression are estimated from the available soil and geologic data. The $\emptyset$ – index was estimated from the available rainfall – runoff data of the basin. Based on the two infiltration expressions and the GIUH, two discharge hydrograph simulation models were derived via the convolution transformation. The models were applied for two gauged watersheds in Al Kebir Al Shemali basin; namely wadi Kferyeh (64.6 km^2), and wadi Al Heffeh (94.223 km^2). The Geomorphologic parameters were obtained from topographic maps with a scale of 1:50,000. A comparison between the simulated and the available observed hydrographs was made. The models result were found in a good agreement with the observed hydrographs. However the $\emptyset$ -index, because of its simplicity, was found preferable to the Philip's infiltration expression.

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