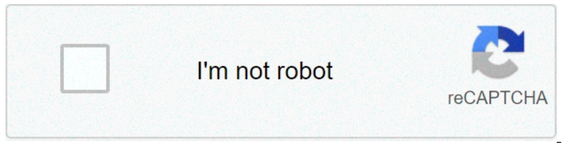

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YUSUF SM, (2010), thesis: Study of the response of soil use changes on the hydrological characteristics of the spartiacque cisarea using the MWWAT model. The post-graduate school of the Bogor Agricultural Institute. The soil and water assessment tool (Swat) has been used to simulate monthly monthly Yarmouk River Basin (YRB). The objectives were to evaluate the performance of this model in the simulation of the hydrological responses in arid basins then used to study the impact of YRB agricultural development project for the transport of sediments in the YRB. Nine and three years of input data, ie 2005-2013, were used to calibrate the model, while data from 2014 to 2015 were used for model validation. Lands time series nonchÃ © statistical measures, including the coefficient of determination (R 2) and the coefficient nasha efficiency Sutcliffe (NSE) that range between 0 to 1 and Ã ¢ Ã ¢ to 1, respectively, between the observed and the values of simulated monthly outflow were used to verify the simulation capability for the SWAT YRB. The satisfactory SWAT model predicted average monthly runoff values in the calibration and validation periods, as indicated by R 2 = 0.95 and NSE = 0.96 and R 2 = 0.91 and NSE = 0.63, respectively. The study confirmed the positive effect of soil conservation measures implemented in the draft YRB development and confirmed that contouring can reduce the loss of land 15-44% during the study period. This study showed that the SWAT model was able to simulate hydrological components in the arid lands of the Jordan. Mathematical models play an important role in supporting spatial planning with the aim of enhancing the sustainable amount of water and management of quality [1]. They are based on the equation water balance of the main components of the water cycle and the physical characteristics and geomorphological Incorporate watershed. hydrological models are useful tools for managers, water resource planners, and academics to help to understand the quality of hydrological processes and complex water at the basin scale and support tools for decision making. Currently, hydrological models are used to floods and drought forecasting and irrigation management, and simulated monthly discharges help to anticipate the effects of various land uses and land management practices on water, sediment yield and the quality of [2.3] waters. To achieve these functions, the model has to prove that it can correctly simulate the hydrological processes and predict the hydrological response of the studied watersheds such as flood, drought, soil erosion, and the quality of [4] waters. Among the various mathematical models currently used, soil and water assessment tool (SWAT) was still receiving considerable attention [4,5]. Researchers at the US Department of Agriculture have developed, tested and validated the SWAT model with adequate results in many basins in America [6,7]. The early work of American researchers have shown that the performance of SWAT is satisfactory for the various river basins and sizes with R 2 values, 55-, 96, such as in the Seco Creek Basin in Texas (size of the 114th km2) [6], the Lower Colorado River basin (8,927Ã ¢ km2) [8], Goodwin Creek watershed in Mississippi (21.31Ã ¢ km2) [9], Greenhill watersheds in Indiana (113A km2) [10], Rio Bravo basin (598,538Ã ¢ km2) [11], and Ariel Creek watershed in Pennsylvania (39.5Ã ¢ km2) [12]. Since then, the model has undergone improvements and modifications [13,14,15] progressive to accommodate its application in various climate conditions, the availability of data and topographical conditions. demand model in arid and semi-arid regions is challenging due to changes related implications of the various hydrological processes in and outflow of water quality parameters than those of the wetlands and due to limited access to accurate data and reliable control systems [16 17]. To simulate a watershed, the basic hydrology of the region must first Included and then presented in mathematical relationships that reflect the real hydrological conditions of the area. Currently, the SWAT is used to evaluate the various objectives in â €