

Establishment of Geographic Information System Supported with Global Positioning System Data for Environmental Studies at Majmaah Region

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Abstract

GIS/GPS mapping technology provides a very cost effective method of meeting the guidelines and calculating the total information required for decision maker. This research project aims to establish a Geographic Information System (GIS) for environmental studies at Majmaah region. Three environmental maps: water pollution, soil contamination, and hazards zones of flooding will be constructed using Geographic information data such as the longitudes, the latitudes and the heights geographic and orthometric, in addition to the environmental data about the three aimed topics. This system will be very useful and helpful for supporting the decision making to identify, monitor and plan several environmental studies at the region. For instant, defining the contaminated soils will help in selecting the most suitable agriculture plants that could be cultivated in that area, or provides the zones where soil need to be replaced or treated. The same for flooding areas, GIS will help in selecting the most appropriate locations to construct dams or product the city from the impact of flooding. Regarding the surface and groundwater pollution areas, the expected environmental maps will be helpful to put in hand figures and quantities of needed areas for preservation. The system can be extended with other environmental or socio-economic maps for the area of study.

