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Geotechnical implications of Karsts hazard on urban planning development in Kuwait: Case study

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The desert arid terrain in Kuwait with harsh environment has suffered from the existence of several geophysical hazards. Such documented hazards include karsts, soft plastic clay, seismic, naturally cemented sand, sand encroachment, erosion of costal shoreline, flood basins and Sabkah soil layers. Even though their physical, geological and environmental existence did not cause any concern, however, their geotechnical engineering implications have caused major strategic and economical concerns on infrastructures development plans in Kuwait. Such development projects in which their initiation and sustainability depends heavily on the existence and evaluation of the impact of such geophysical hazards. This paper discusses the existence and extent of a major geophysical Karsts hazard. Mapping of the karsts by GIS as well as discussion on their geotechnical implications on the developments and development of sinkholes in the Al-Dhahar Suburb Area in the south of Kuwait city will be presented.

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