

Abstract

Assessment of Water Sector Exposure to Flash Flood in Sinai Peninsula.”

Flash floods are frequently encountered in the mountainous region of Sinai. Located in an arid region in Egypt, the basins of Sinai Peninsula could receive a huge amount of rainfall during specific storm events and lead to flash floods, threatening lives, properties and other assets. Infrastructure are also exposed to such hazards, when not properly protected, roads, water treatment plants and electricity stations are repeatedly damaged producing large losses due to services interruption (Youssef, 2010). The water sector is the most important service sector in this region. Local populations are exceptionally vulnerable to any damage reaching in this sector due to the desert nature of the region. This work studies the vulnerability of the water sector in Sinai region. Based on numerical modeling of floods, GIS techniques is used to produce flood hazard map and identify the Water Plants and Networks at risk in different watershed of this region. Stations at very high flood risk are identified and classified. The outcome of the study succeeded to identify 6 water plants and over 67km of pipelines located in basins at high risk of flooding, they require detailed studies and action plans to protect them against flood hazard.