ADVERSE EFFECTS OF SALT WATER AND WATERLOGGING IN NEW DAMIETTA CITY AREA, EGYPT

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Abstract:

The present paper discusses the hydro-environmental degradation of New Damietta City due to salinity and waterlogging. Forty one water samples were collected and analyzed for various hydrochemical parameters. The majority of samples are enriched in chloride, sulfate, sodium and magnesium (also, a chloride-sodium category dominates the majority of the analyzed samples). These data reflect that the marine origin plays a major role in controlling the groundwater composition. The shallow saline groundwater with high concentrations of both chloride and sulfate salts significantly affect the characters and accelerate the rate of concrete deterioration, particularly the reinforced concrete and underground utilities.

Keywords:
Waterlogging, Saline Groundwater, Reinforced Concrete, Physical Salt Attack, New Damietta City.

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