Influence of soil structure and topography on terrestrial flooding in Coconut Creek Broward County, Florida.

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Physical factors such as local geology, topography and soil characteristics are important components that influence whether surface run-off or infiltration will occur in an area. This study investigates variations in local precipitation, soil characteristics and geomorphology of two contrasting settings in Broward County. A clearer understanding of these local factors give insight into the occurrence of terrestrial flooding and are important for urban development and planning.

To assess the nature of the soil and geomorphology of the area, investigations focused on identifying surface elevation and the thickness and characteristics of soils in a developed urbanized location and a contrasting undeveloped location.

Representative soil core samples from both sites were collected and described providing insight on the variation in soil thickness and characteristics spatially. Surface elevation mapping was also undertaken to identify and understand existing and potential surface water flow paths at each location.

This study provides valuable insight on local surface drainage and identified variations in soil characteristics across both sites. The influence of environmental and anthropogenic factors is recognized as a key component of variation in both soil characteristics and elevation as well as the role this has on drainage in the area. This data will provide invaluable information to assist in developing a sustainable approach for locating essential infrastructure and utilities.