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Extended Abstracts

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title: **Coastal aquifers management in the Caribbean case studies — Jamaica**

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Freshwater resources are finite and vulnerable in the Caribbean Islands. The location of major developments close to the coast and the fact that these islands are heavily dependent on tourism, services, industry and agriculture makes the management of water resources critical to future economic growth and sustainable development of Caribbean economies. Under the WAP-II programme, two Caribbean coastal aquifers studies (located in Jamaica and Trinidad) are being conducted to assess existing problems dimension, management actions and recommendations for sustainable management. This presentation only focuses in the Yallahs aquifer (Fig. 1), located in the Yallahs Watershed Management Unit-WMU of the Blue Mountains South Hydrologic Basin (south-eastern of Jamaica).

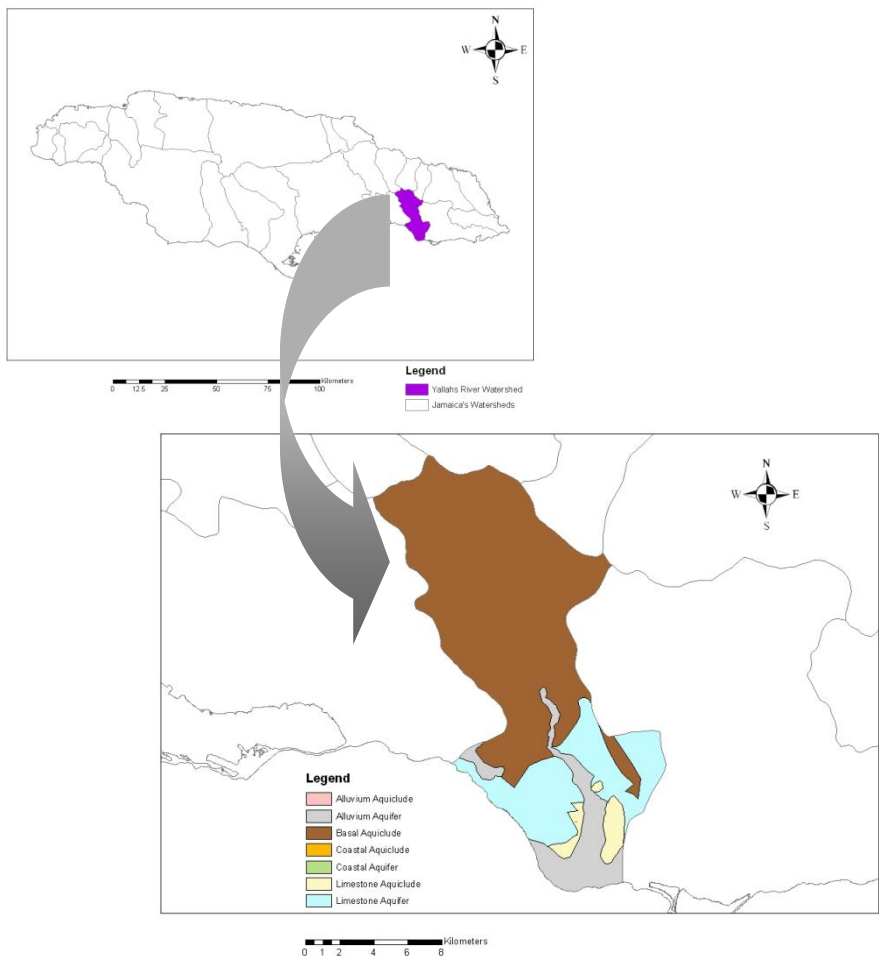


Figure 1. The Yallahs Watershed Management Unit (Jamaica). Geographic location of the Yallah alluvial aquifer and delta (medium grey).

The Yallah alluvial aquifer is composed by successive formations of river terraces of sands and boulders with thin layers of clay and silt, and extending over 10.9 km² (Baptiste, 1996). Thickness ranges from few tens of meters to an undetermined thickness in the main area of the aquifer. The mean annual rainfall is 2085 mm, 80–95% is produced during the wet season, being

regularly influenced by tropical storms. This fact makes water resources greatly dependent on the existing coastal aquifer. Its main recharge is from precipitation and river infiltration. Aquifer discharge is to the sea and through existing pumping wells.

Main water demand is for water supply, and diversion of water from the Yallahs river has resulted in significant reduction in downstream flow, increasing reliance on groundwater in the lower part of the WMU. Groundwater over pumping has led to saline upconing in the western part of the aquifer. This situation maybe aggravated as a consequence of expected impacts from climate change.

Responses to the water resources threats in the study area mainly focusses on the application of legislative management tools (policies, standards and guidelines), establishment of action plans for water resources assessment, monitoring and management, water management strategies to increase water availability and protect water quality, participation in regional and international treaties and conventions, water resources act and adaptative measures to climate change impacts.

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