Estate Thomas Experimental Forest Hurricane Monitoring Wildland Site
St. Croix, US Virgin Islands 17.7416N 64.525W

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History: This site has been under some kind of human influence for centuries. At one time it was completely deforested and used for a variety of crops, including sugar cane. The ownership is traced back to the colonial times when the Danes controlled the Virgin Islands, which were acquired by the United States over 100 years ago. The US Forest Service purchased the Estate Thomas property and has used it as an experimental forest since the 1950s. The forest is located in a subtropical dry forest climate, and the Forest Service experimented with the establishment of timber plantations of mahogany and teak, among others. Plantations were abandoned in the 1980s and since then the vegetation has progressed through succession into a variety of secondary forests.

Key Contribution to Domain and Continental issues: The site is proposed for study of the effects of hurricane passage and global climate change on Neotropical dry forests. The site is located between Puerto Rico and the eastern Atlantic Ocean at the point of entry of hurricanes moving from the Atlantic into Caribbean Sea towards the eastern and southern costal zones of the United States. This is a sentinel site along a main trajectory of hurricanes in this region. The site is also relevant to invasive species issues, because the vegetation is a mixture of native and alien species growing together under natural conditions. Within the domain, this site is a contrast to moist, wet, and dry forests of Puerto Rico in terms of hurricane and climate change response.

Key Characteristics: The vegetation is evergreen/deciduous, and secondary. The vegetation is also a mixture of alien species, native species, and naturalized species. Our studies suggest that these new mixtures of tree species constitute new forest types that emerge and persist on disturbed landscapes and which may be adapted to climatic change. Soils are volcanic soils with a relatively high degree of fertility and structure. The vegetation reaches heights of up to 20 meters depending on soil depth, topography, and age.

Existing Infrastructure: Sites are easily accessible by vehicle. The whole property is easily accessible through roads and trails. Environmental education programs with local K-12 students have begun.

Facilities: The site has no facilities, although the Forest Service is developing a plan to establish climatic station and minimal protection from rain. The vegetation and plantations have been studied over a period of decades. The University of the Virgin Islands has laboratory facilities nearby.