Jobos National Estuary Research Sanctuary Coastal Site
Puerto Rico 17.9433N 66.24972W

Contact: Ariel Lugo; alugo@fs.fed.us 787-766-5335 http://nerrs.noaa.gov/JobosBay/

History: This site has been under some kind of human influence for centuries, including pre-Colombian use. The mangrove and estuarine waters experience periodic catastrophic drought and hurricane impacts that cause massive tree mortalities. Periods of intense rains cause dramatic regeneration and expansion of mangrove forests. The site was protected early in the 20th century, and is now a NOAA National Estuarine Research Sanctuary and Commonwealth State Forest. The site is surrounded by agricultural and urban uses to the north and the Caribbean Sea on the south.

Key Contribution to Domain and Continental issues: The site is proposed for study of the effects of sea level change, hurricane passage, and global climate change on coastal systems. The site is located at sea level at the point of entry of hurricanes moving from the Caribbean Sea towards the Atlantic and the eastern and southern costal zones of the United States. Mangrove vegetation is expected to respond to sea level change by depositing peat and moving inland. The mangroves provide protection from storm surges to inland agricultural and urban areas. Within the domain, this site is a contrast to Los Machos mangroves on the northeast coast of Puerto Rico and also a contrast to inland sites in terms of hurricane and climate change response.

Key Characteristics: Jobos sits on the edge between dry and moist life zones, and thus exhibits characteristics of each. The vegetation is an evergreen, coastal mangrove, a tropical forest adapted to salinity. These mangroves (four species of trees) grow on peat, rich organic soils, and over marl and other calcareous coastal soils. Soils are saline soils with salinities ranging from seawater strength (35 ‰) to hypersaline (90 ‰). They are also subjected to a 30 cm tidal range. The vegetation reaches heights of up to 20 meters depending on the salinity of the soil. In some locations, trees are stunted due to hypersalinity. Its estuarine waters and mangrove stands are in superb ecological condition.

Existing Infrastructure: Sites are easily accessible by vehicle or boat. Two boardwalks facilitate study of swampy areas. Climatic stations are available inside and outside the reserve. The USGS is monitoring ground water within and without the reserve. NOAA operates a tidal gage with over 50 years of record just east of the reserve. Some mangrove stands have been monitored over a period of 20 years.

Facilities: The site has laboratory facilities, dorms, cooking facilities, telephone, FAX, Internet access, and collections of biological materials. There is opportunity for improving dormitory and laboratory facilities. Electrical lines reach the western boundary of the reserve near the sites proposed for biogeochemical studies.