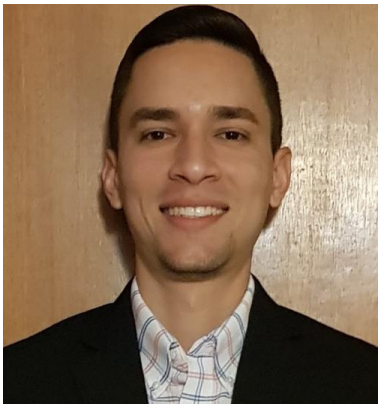
NOAA PSD and NOAA-CESSRST Brown Bag Seminar Series



Jean Pierre Valle

Civil Engineering, University of Puerto Rico at Mayagüez
NOAA EPP- Earth System Sciences and Remote Sensing Scholar

Thursday, May 23, 2019

10am – 11am (MT)

Evaluation of the National Water Model for Puerto Rico

In Puerto Rico, a territory of the United States in the Caribbean, the past decades in particular have been plagued with frequent floods, some of which (e.g. Hurricanes Irma and Maria in 2017) have been catastrophic. Some of Puerto Rico's enhanced hydrologic risk can be attributed to the topographic features and weather patterns of a tropical climate, including frequent high intensity convective rainfall and the seasonal risk of hurricanes and tropical storms. The NOAA National Water Model (NWM) became operational in August 2016, and serves as the first real-time distributed continuous hydrologic forecast system over the United States. It provides high-resolution, significantly-expanded forecast guidance coverage and type in underserved locations, but to date is only available over the CONUS. This study incorporates multiple forcing datasets (the Global Forecast System, the High Resolution Rapid Refresh Model, a 1-km WRF-CARICOOS forecast model, and a high-resolution retrospective analysis forcing dataset) using a developmental Puerto Rico domain of the National Water Model to examine the impact of different forcing data resolution. This will be a first step towards having a more complete distribution of hydrologic analysis and forecast guidance data throughout the island to better analyze and anticipate flooding events.

Speaker Bio:
Jean Pierre Valle is a NOAA EPP/MSI CSC funded graduate student from the University of Puerto Rico, Mayaguez Campus. He has a degree in Civil Engineering and is currently a Master's student in the Water Resources and Environmental Engineering department. At the graduate level, his research has focused on hydrologic analysis of watersheds for Western Puerto Rico. During the internship in the Physical Science Division, he has analyzed multiple atmo-spheric forcing datasets as input for the Puerto Rico domain of the National Water Model.

NOAA-CREST

NOAA ESRL Physical Sciences Division (PSD) and NOAA Cooperative Science Center for Earth System Sciences and Remote Sensing Technologies