

**Abstract: Evaluating of JPSS GCOM-W
Soil Moisture product in the Caribbean region:
A Case Study for Puerto Rico**

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Microwave remote sensing offers great potential for accurate soil moisture estimation from field scale to global scale. Ground-based systems are also of particular interest to improve and validate soil moisture products obtained from satellite remote sensing. The field experiment/campaign presented here; is to improve forward and inverse modeling approaches for soil moisture retrieval using ground-based L-band radiometers, specifically over Puerto Rico soils that are representative of soils in the tropics. Therefore, this work may provide information generally applicable to the highly weathered clayey soils common among tropical islands.

This work also presents the calibration and validation accomplishments for JPSS GCOM-W soil Moisture product in Puerto Rico. As well, this research investigate the spatiotemporal variability of soil moisture in a field-scale area, with particular focus on the effect of land surface heterogeneity (important over tropical domains) on the retrieval of soil moisture from passive microwave observations. Important focus is given to the characterization of crop canopies and water stress related phenomena using microwave remote sensing methods.