

Site Description

- Wetland (Sub-basin analysis –Dos Montes; homogeneous and heterogeneous system) Study zone area: 2,756km²
 - Core validation: 9km and 3km
 - Each cell is divided into 9 specific points covering the diversity in the zone
 - Single point: 1km
 - Each cell includes measurements of soil, vegetation and meteorological variables
 - Sparse network: random

function of the accessibility

Site Description

- Measurements:
 - Soil: SM and other variables (soil characteristics)
 - Gravimetric: 3 times (do not disturb the system) very 10 cm depth form the surface to 1 or 1.5 m (before the water table)
 - FDR: Environsan-Diviner 2000, reporting measurements every 10 cm three times a day (every 8 hours, deeper 1 -1.5 m)
 - TDR: SM (CS616) and ST (109L) probes, every 2, 5, 10, and 35 cm, report measurements every 20 minutes in a data logger.
 - Vegetation:
 - Vegetation Water Content (VWC), Geometric characteristics, density
 - Meteorological variables:
 - One automatic weather station in the site, some traditional stations (P and T), 1 Observatorio (P, T, PB, Insolation, RH, wind speed and direction), 1 AWS (P, T, PB, Rs, RH, wind speed and direction), every 10 min (datalloger)

Description of the Project Supporting the Site and Research Focus A. Site

Temperate clime

Complex hydrological system (perennial and intermittent runoffs)

Complex landscape (lakes, jungle, grassland, swamps)

hydrology +topography + climatic conditions = zone subject to constant extreme meteorological phenomena (hurricanes 1999, 2007, and 2010).

Microwave satellite information has been useful (Envisat) to monitor soil moisture and also to analyse floods.

Historical records at the site



- The total region 500×500 m grid
- A statistical method reduce to 18 sites.
- At the field 8 points were accessible at the low, middle and high parts of the subbasin (proper acknowledge of the system)

Two measurement campaigns were carried out (2009, 2010):

- Soil: SM (gravimetric, TDR and FDR), texture and roughness
- Vegetation: VWC, geometric characteristics, density
- Meteorological: soil and air T and RH and databases (CLICOM, Observatorio and EMA)

Location

• Scaled map showing points



Location

• Representative photo



Issues?

- Existing or proposed?
- ✓ Existing: accessibility to the site but the previous campaigns were successful
- Data latency issues?
- \checkmark Protection against animals and floods
- Plan for GSM 0-5 cm validation for SM.
- ✓ Gravimetric (disturbance and sampler size) and TDR measurements (horizontal installation) but there is a FDR
- Plan for scaling points to footprints.
- ✓ Vector w=[w1 w2 w3] weights the volumetric soil moisture measured by the different techniques according to the temporal frequency .
- Ideas for improvements
- \checkmark A temporal database for a long period and different surface conditions
- What do you want from SMAP? (no money!)
- ✓ Satellite observations to validate regional methods for in situ SM measurements
- ✓ Support through the lessons learned in the SMAP previous projects