



EU-ARD CLOSING WORKSHOP

SOIL & WATER WORK

4 February 2016, LAE, PNG

EU Funded Action in Support of
Smallholder Agriculture





Introduction



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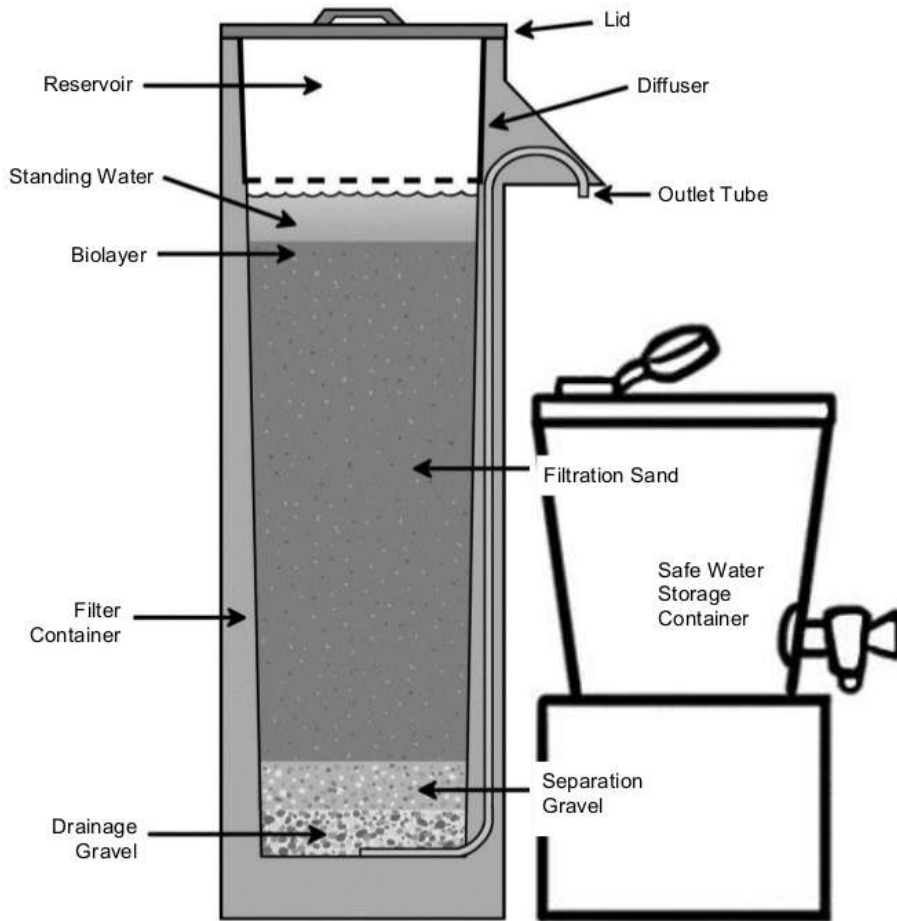
1. Biosandfilter
2. Sweet Potato Soil Moisture Monitoring Station
3. Irrigation Evaluation
4. Weather Stations
5. Climate Change Scenarios development and Evaluation of Tools for Modelling
6. Determination of AWC (available soil water content)
7. Calculation of Crop Water Requirement
8. Modelling of Soil Water Dynamics



Biosandfilter



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Soil Moisture Monitoring



4



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Irrigation Evaluation



5



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Weather Stations



6



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Climate Change Scenarios



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MarkSim[®] DSSAT weather file generator

This is the MarkSim web version for IPCC AR5 data (CMIP5), for the previous (AR4, CMIP3) version please click [here](#)

Lat : 6.8953 dd

Lng : 7.5638 dd

Model:
Select All Models | None

BCC-CSM1-1

BCC-CSM1-1-M

CSIRO-Mk3-6-0

FIO-ESM

GFDL-CM3

GFDL-ESM2G

Scenario:
 RCP 2.6 RCP 4.5
 RCP 6.0 RCP 8.5

Year : 2020

Replications : 10

Seed : 1234

Place : Obollo Etitii

Output CLX file

Climate Diagram

Run Model

Clear Parameters | Reset

Go to location

Show/Hide Results How to use it About

Enugu-ezike

Obolo

Obollo Etitii

Obollo Eke

Orba Nsukka

Image Landsat
© 2015 Google
Image © 2015 DigitalGlobe
Image © 2015 CNES / Astrium

Google earth

Imagery Date: 4/10/2013 2006 6°49'25.44" N 7°29'31.05" E elev 1375ft 47324 ft

Borders Roads Buildings Clouds Grid Status Bar Overview Map Scale

Legend

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BOKU Master Students/Capacity Building



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Determination of Soil Moisture Retention Curve for Available Water Capacity and Crop Water Requirement under different Climatic Scenarios

Tai Kui

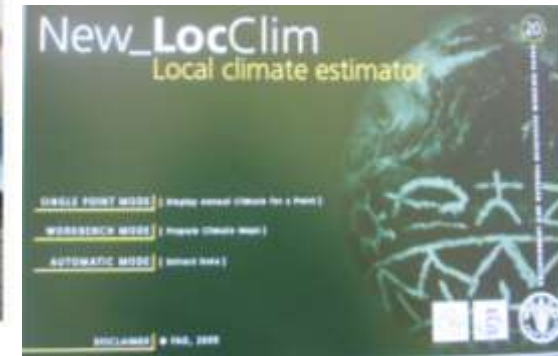
1. Soil moisture characteristic curve (SMC)

A. Hyprop System



B. RETC Software (model of Van Genuchten, $m = 1-1/n$)

- Settling Method
- Kilakila Laboratory method



2. Weather scenario generation

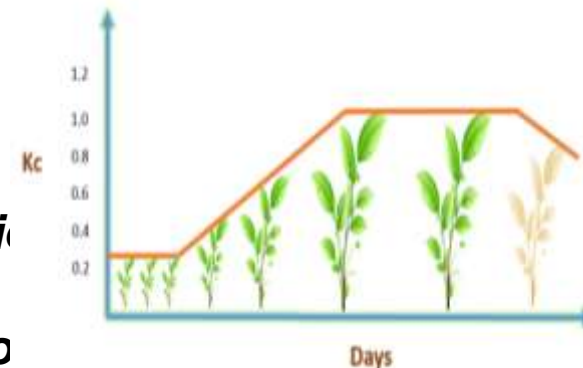
National Weather Service(NWS)
Newlocclim software
MarkSim Tool

3. Crop Water Requirement

Crop water requirement = crop evapotranspiration

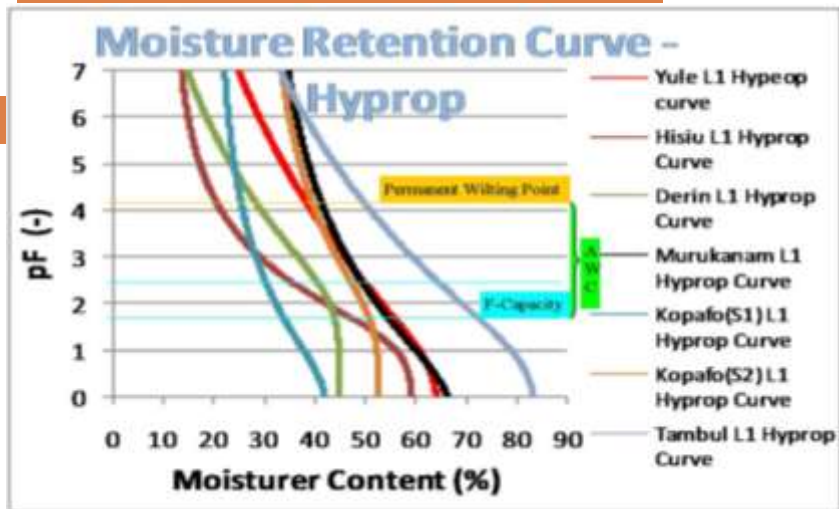
Equation: ***crop evapotranspiration(ETc) = crop coefficient (Kc)***

x reference evapotranspiration

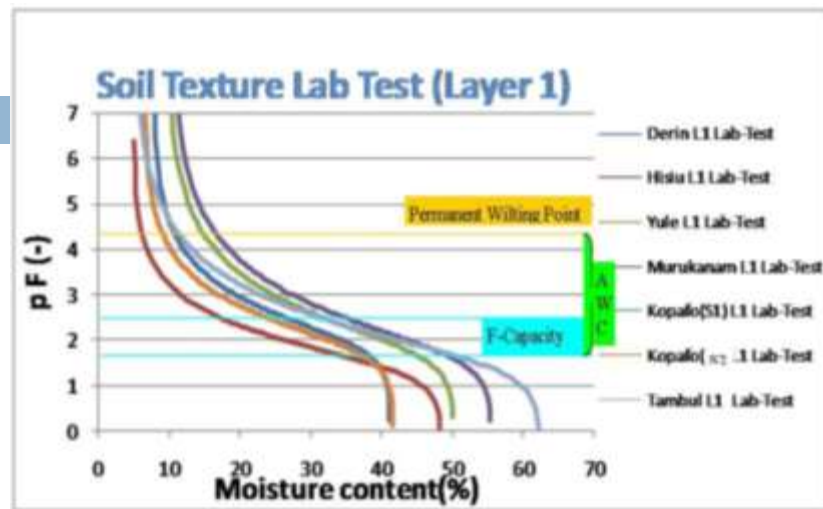


Results

Hyprop curves

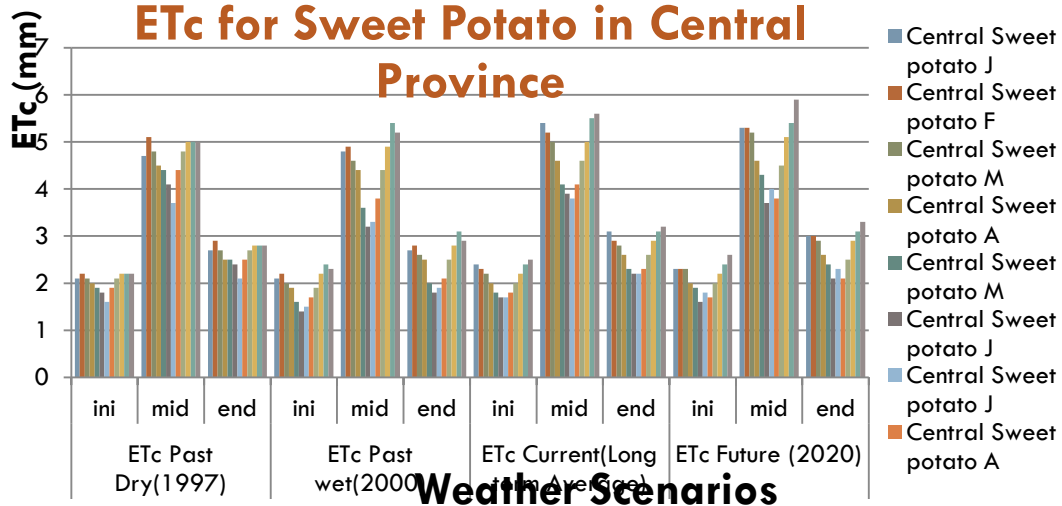


RETC curves

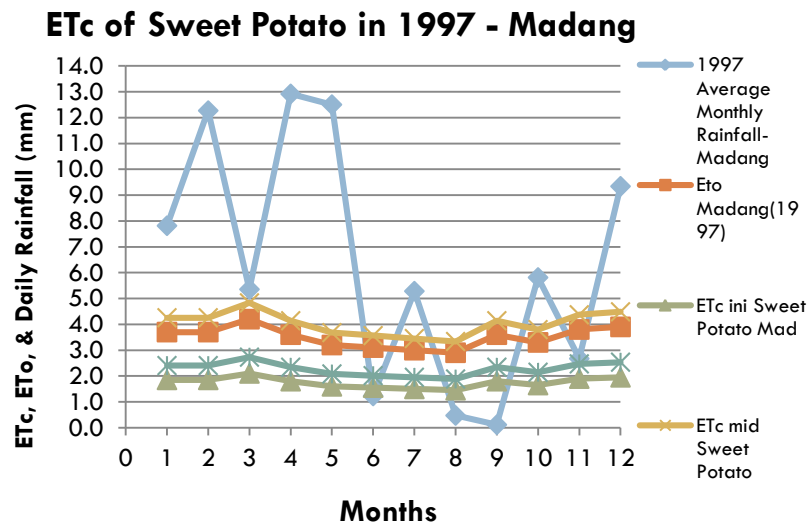


ETc Per Scenario

ETc for Sweet Potato in Central Province



ETc Per Scenario against Rainfall





Tenk Yu Tru
Long Taim Blong Yu

Thank you
for your attention