

Majadas Workshop 2025

(Monitoring activities, databases, collaborations)

A. Carrara (CEAM)

SensOFOREST Project

(EU- Grant)

Additional sensors in Majadas
(February 2025)

- 6 Point dendrometers
- 6 Sapflows
- 2 Soil Water Potential profiles
(Teros 21: 10, 20, 40, 50 cm)
- 2 SWC (Teros 12: 10cm, 50 cm)

*Data logging/transfer by LORAWAN for
sapflows and point dendrometers*



SensOFOREST Project

(EU- Grant)

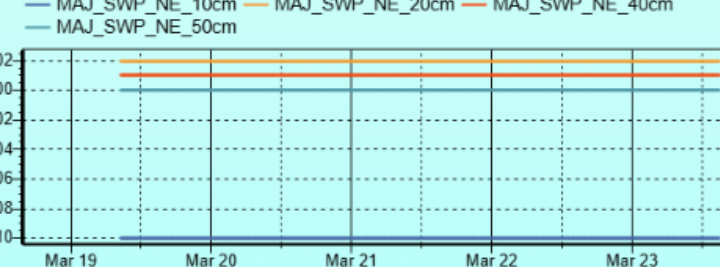
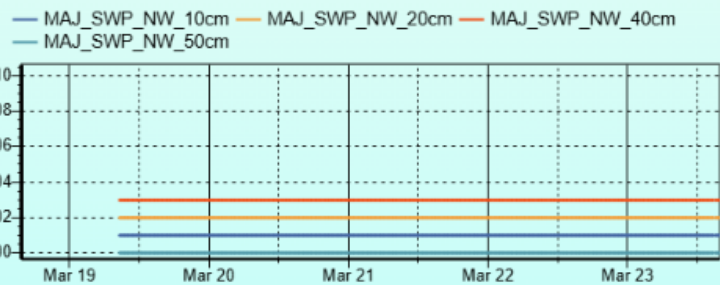
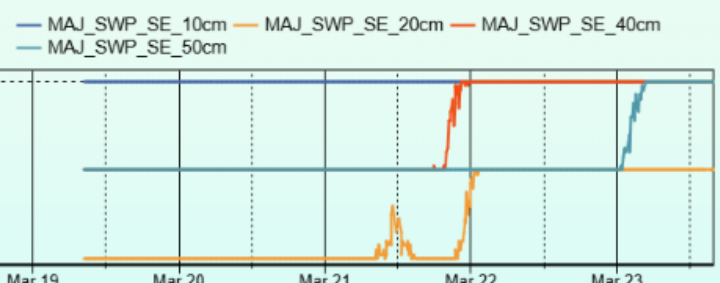
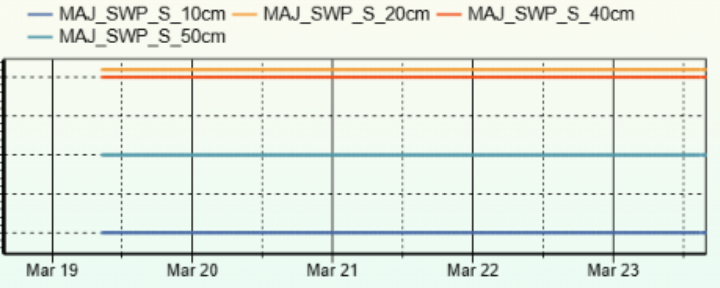
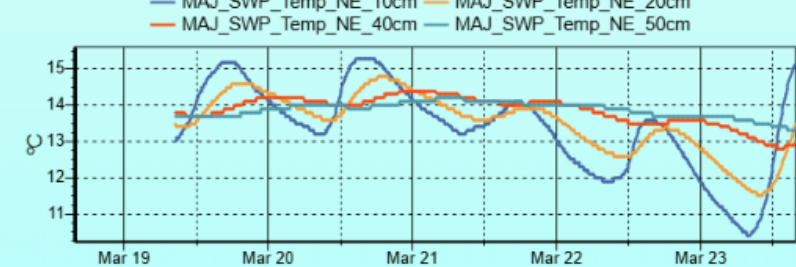
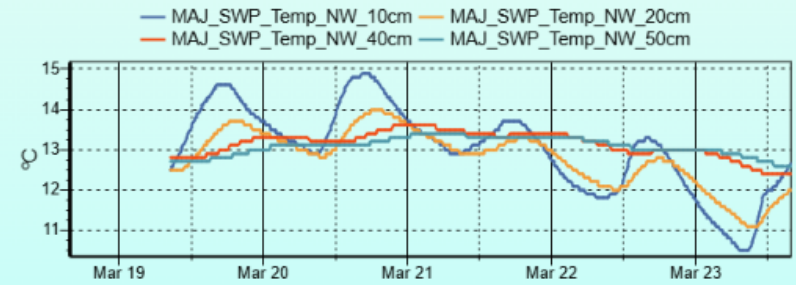
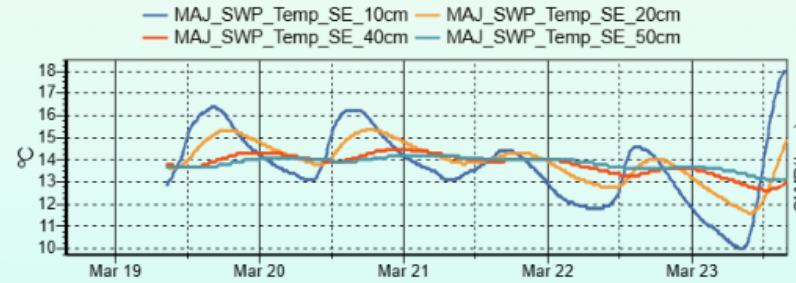
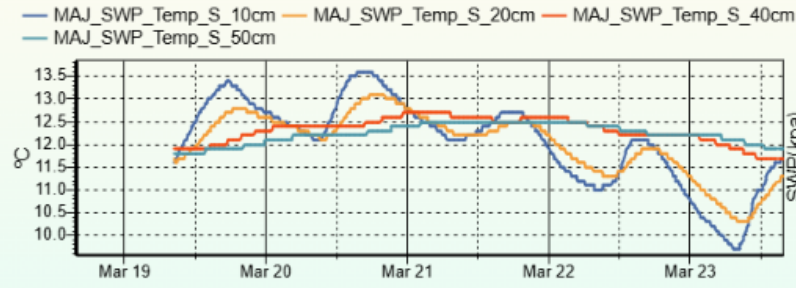
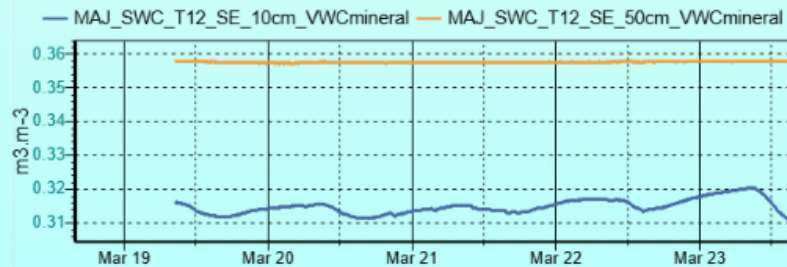
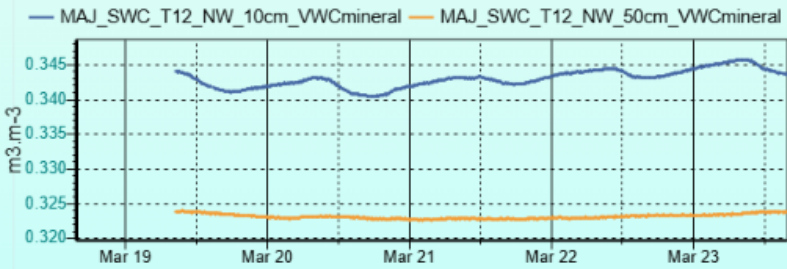
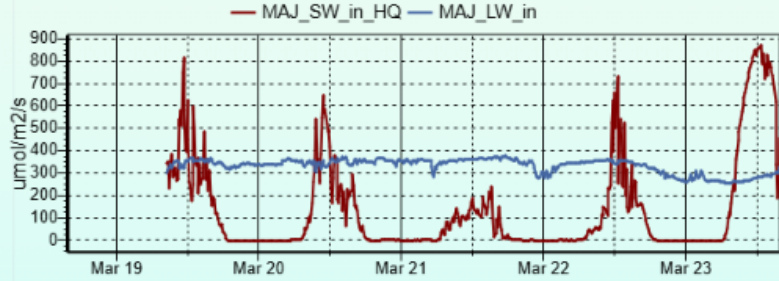
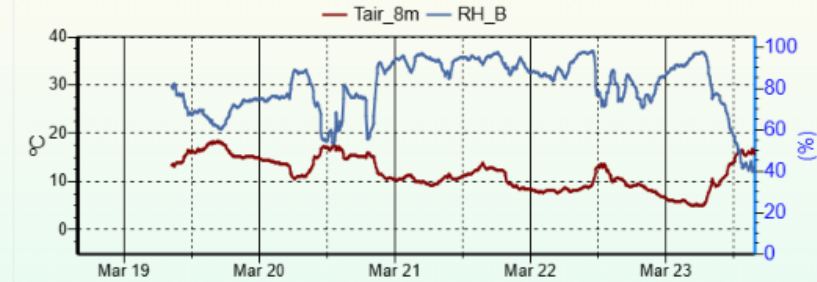
Additional sensors in Albuera
(February 2025)

- 6 Point dendrometers
- 2 Soil Water Potential profiles (Teros 21: 10, 20, 40, 50 cm)
- 1 SWC (Teros 12: 10cm, 50 cm)

Data logging/transfer by LORAWAN



Weather



SensOFOREST

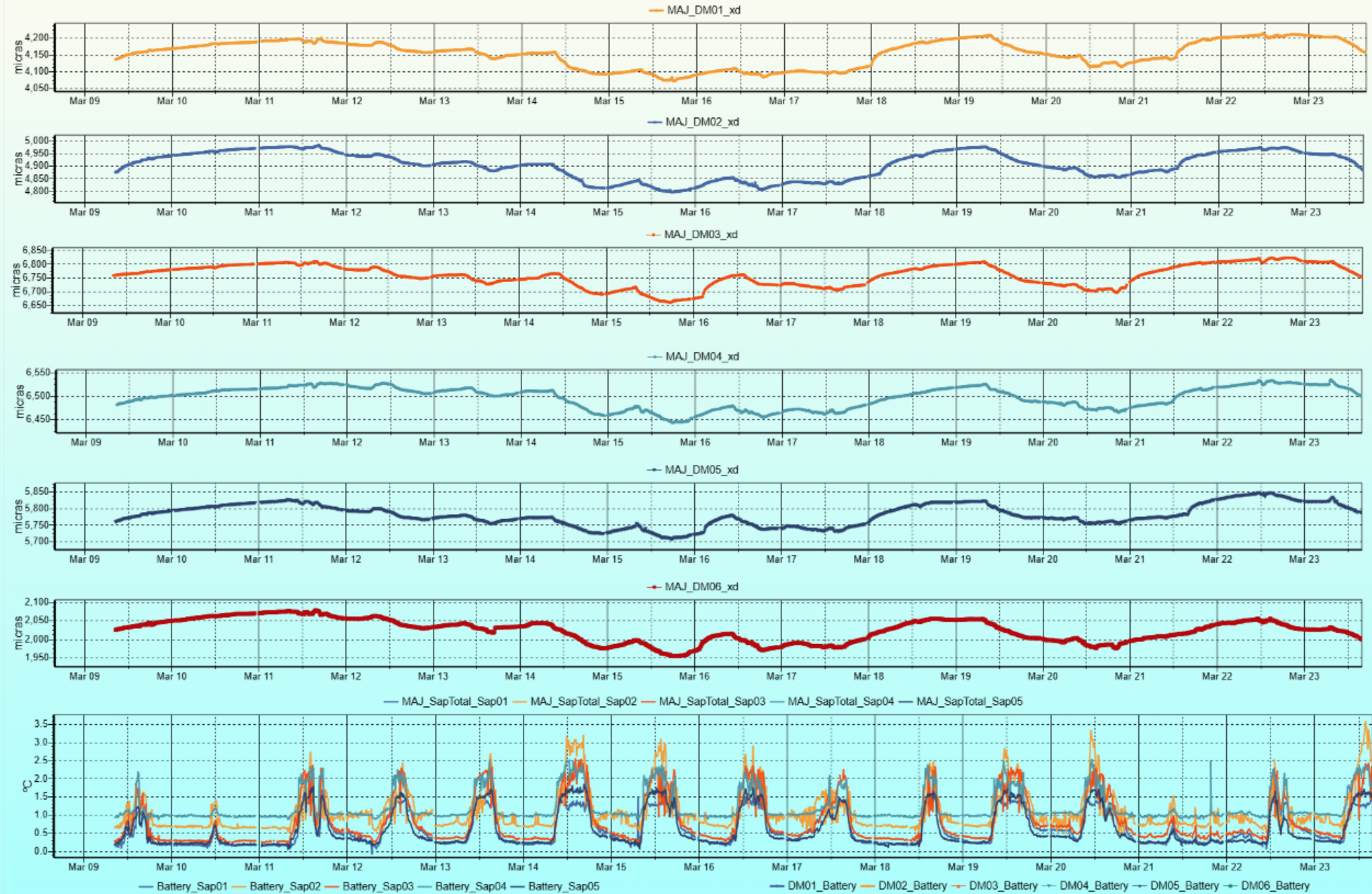
MAJADAS

Quickview

Point dendrometers
Sapflows

Data logging/transfer by
LORAWAN

Weather



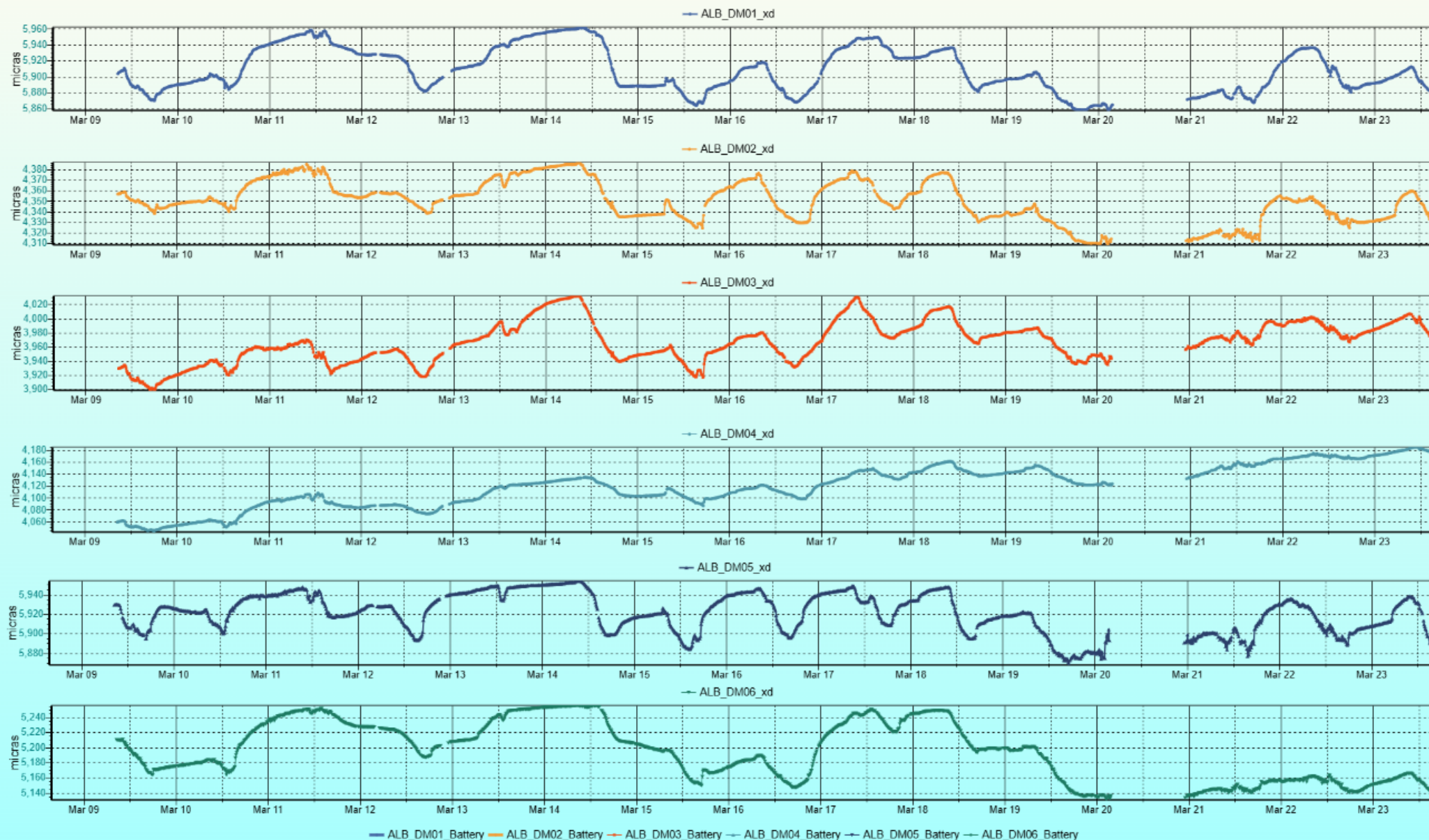
Weather

SensOFOREST

Albuera
Quickview

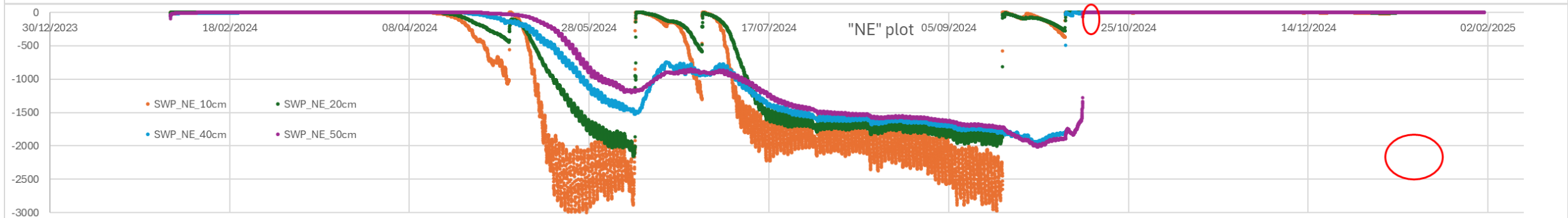
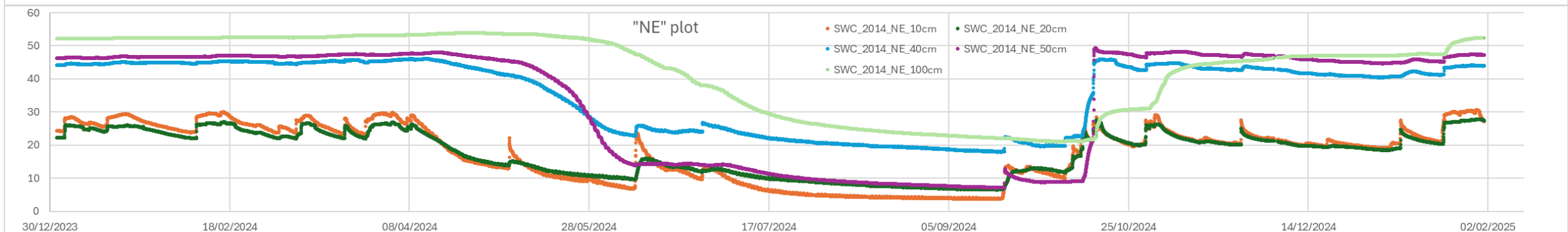
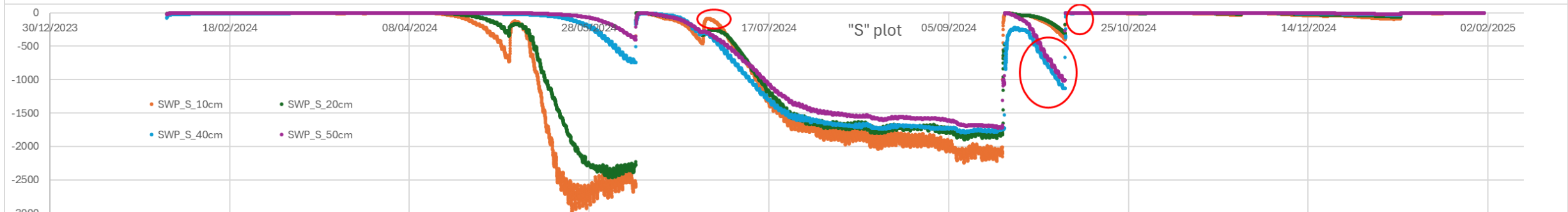
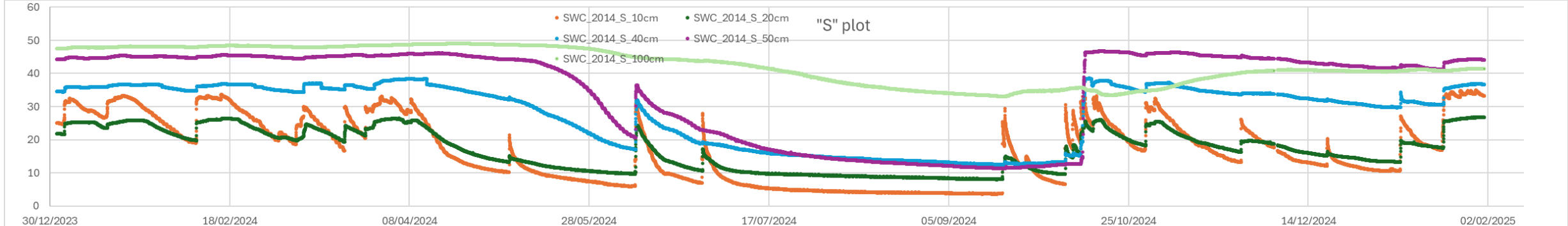
Point dendrometers

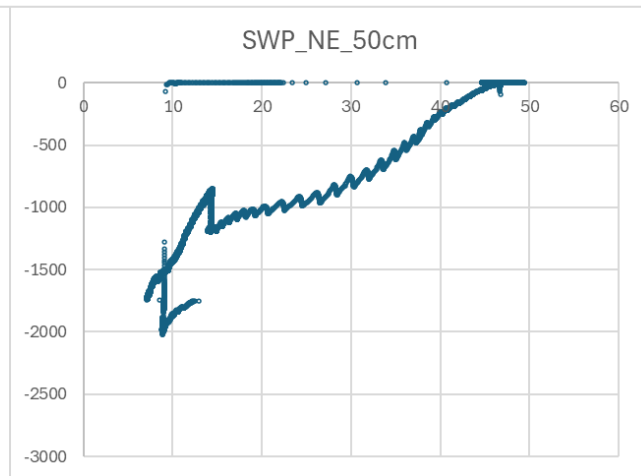
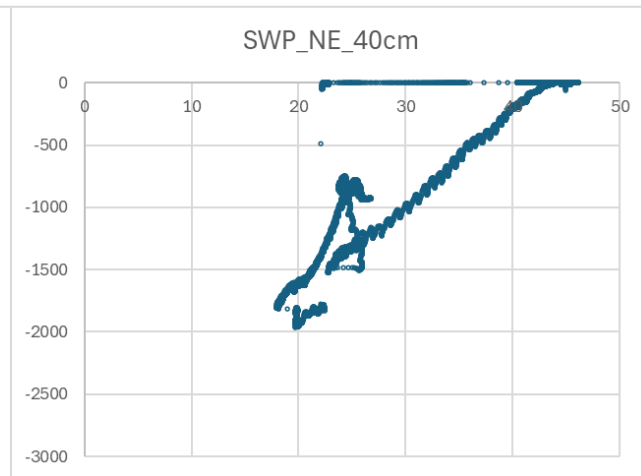
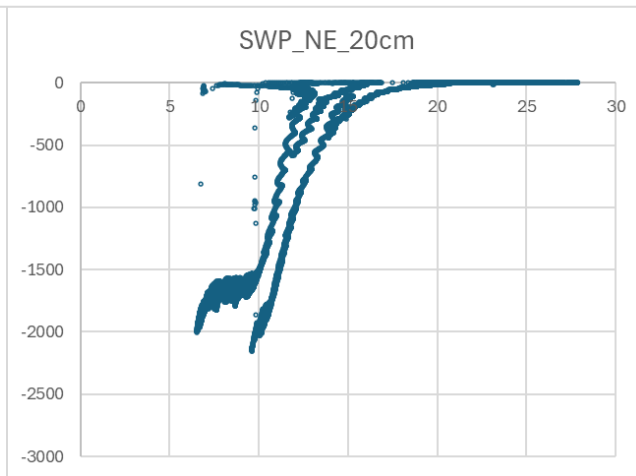
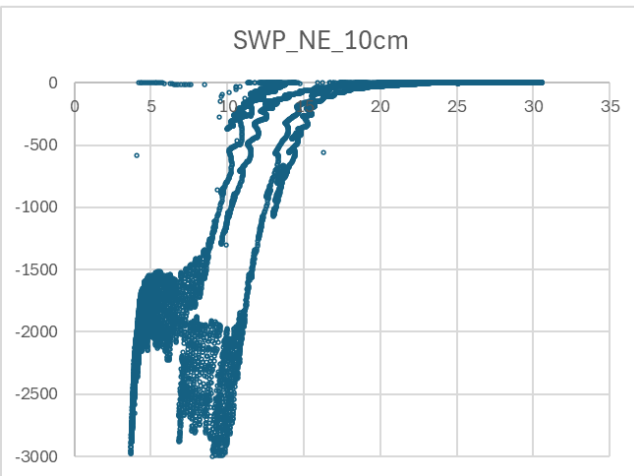
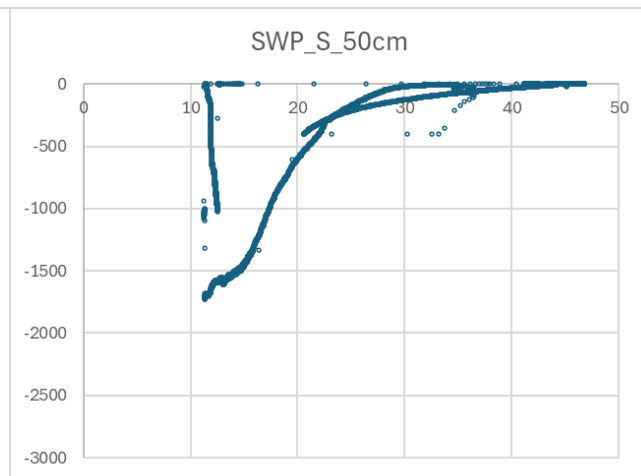
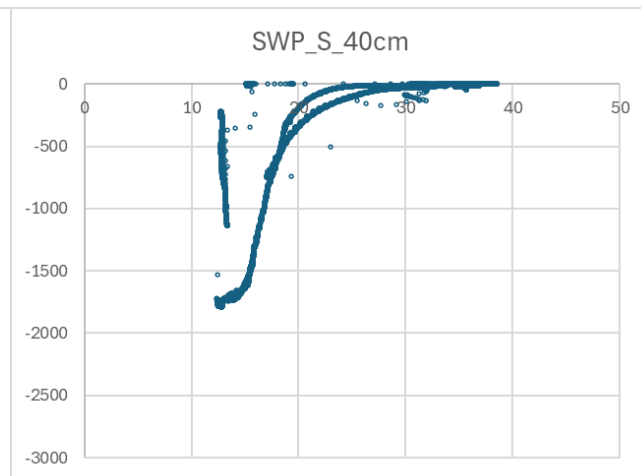
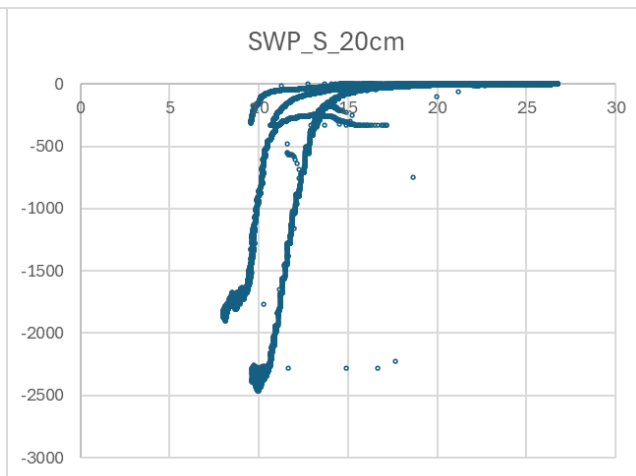
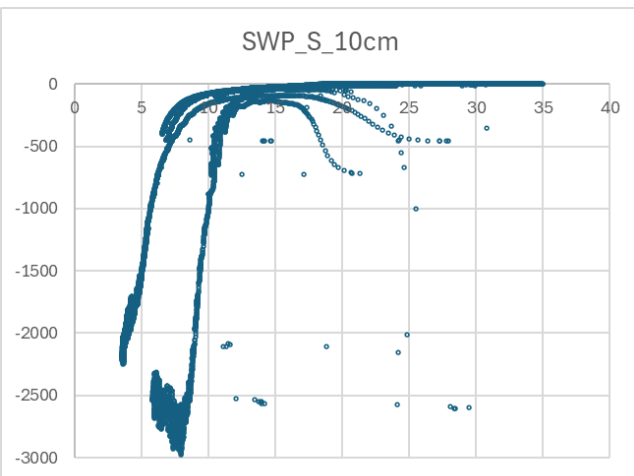
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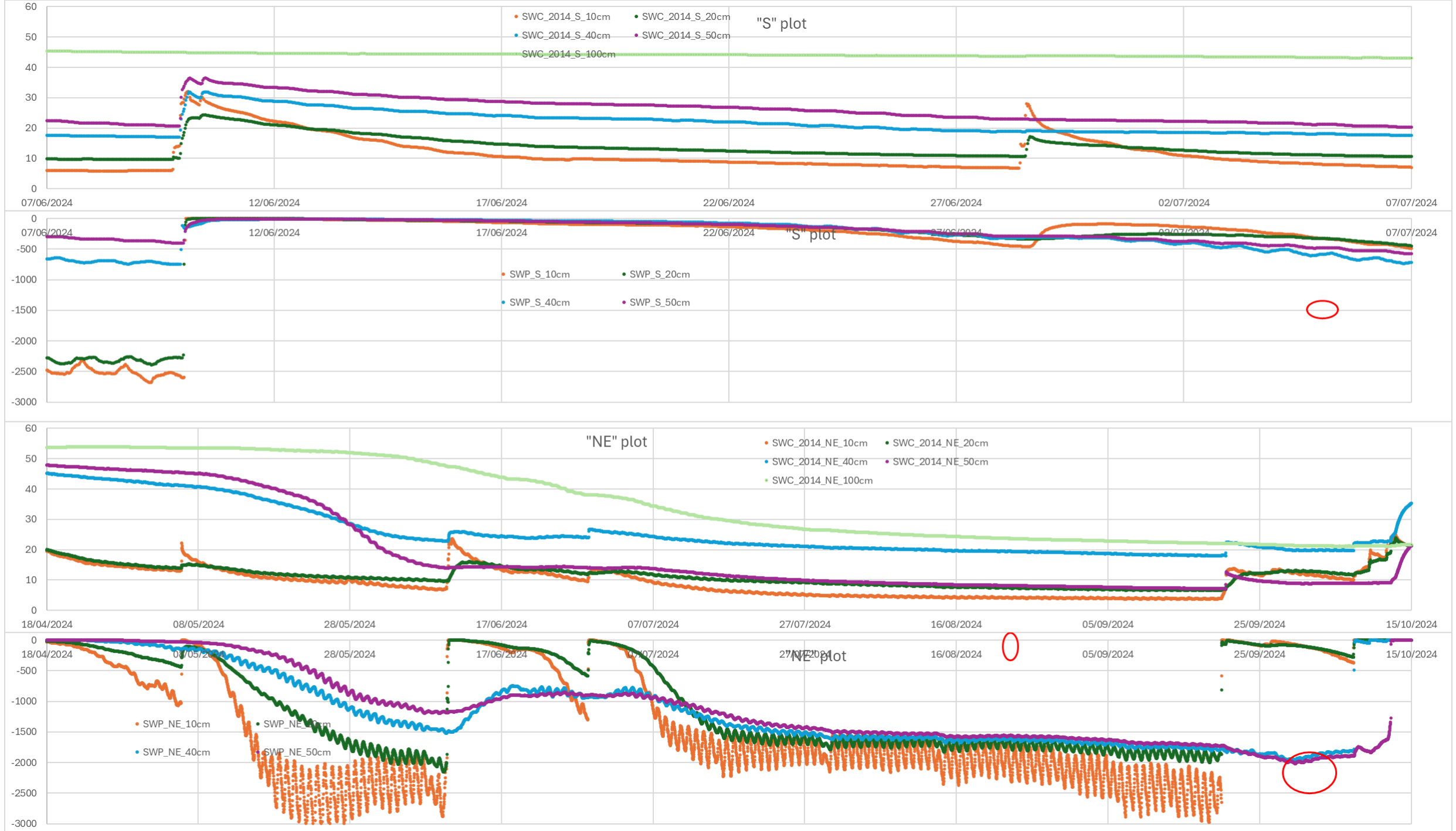


2024 Soil Water potential measurement in Majadas

- 2 Profiles (10, 20, 40, 50 cm) nearby SWC current profiles
 - SWC_2014_S (below tree location)
 - SWC_2014_NE (open grassland location)







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First conclusions / perspectives

- Requires more than a straightforward simple data análisis (Sinikka?)
- Maybe some SWC vs SWP issues are related to set up
- The 2 additional profiles installed in Jan-Feb 2025 include TDR for SWC at 10 and 50 cm
- We should have soil texture análisis for most (5 of 6) of SWP profiles installed (UNEX)

ICOS data submission

2024 dataset sent to ICOS database in February 2025:

- Fluxes (H, LE, Tau, CO₂)
- Basic Meteo (SW_IN, SW_OUT, LW_IN, LW_OUT, SW_IN_HQ, Tair 8m, RH_8m, Precipitation, Patm, SWC_NE profile (5, 10, 20, 40, 50, 100cm), Tsoil_NE profile (2, 5, 10, 20 cm), Tsoil_SE profile (2, 5, 10, 20, 50 cm))
- Metadata (instrumentation information update)
- LAI (Grass from Pilar/CSICSpecLab, 3 sampling dates)
- LAI tree (Gerardo/Uex). Pending

Same variables sent to ICOS database (2020-2024)

ICOS related

Installed additional EC system
(4 december 2024 – 26 February 2025)

LI7200 + Sonic HS-50
(fully digital Smartflux)
Fluxes (H, LE, Tau, CO₂)



ICOS- MSA meeting outcomes

Isabel Diaz (Vicepresidenta adjunta de internacionalización del CSIC) opened the meeting.

Recent contact with ICOS Director, Spanish ICOS national focal point.

Seems there is a motivation to increment CSIC role in ICOS.

Pilar plan to coordinate a proposal for CSIC call for 2 years projects (100 k€) for integration of CSIC into ESFRIs.

>>> maybe we have a “momentum” / window opportunity to consolidate Majadas as ICOS station

Very successful meeting in term of dissemination of Majadas experimental station (ICOS and non-ICOS activities)

- Fieldtrip
- Vicente presentation (quick view of experimental set up + historical data, ET – 3SEB modelling activities)

>>> Repeated pressure from ETC to have Majadas upgrade to Class 2 ICOS site in 2026

- Strong standards to be reached for both continuous measurements and ancillary data
- NRT (daily) data publicly available
- Very important increase in costs and workload (32 PM +). Sustainability?

ICOS community potential collaborations

--- LIDAR (TLS + UAV) – Flux (multi site analysis)

2 different initiatives at ICOS level (Bert Gielen / Enrico Tomelleri)

Can be only 2024 campaign TLS + UAV-LIDAR (UNEx, Georg UoC)

Maybe relevant to have also 2015 and/or 2019 (MPI)

--- CO₂ and H₂O flux partitionning (GPP/Reco, E/T) with wavelet method (Pedro, INRA)

use ICOS EC raw flux data / meteo data (CEAM, Arnaud)

use Vicente Burchard ET spatial 3-SEB products (Vicente CSIC)

use Lysimeters / Sapflow processed data for validation of ET partitionning (MPI, Sinikka + ?)

(2015-2020 R-S based products from Vicente ready, look for overall datasets best convenient period)

--- OP/CP comparison (Marta Galvano)

Long term (10 years) Main tower data, 1-2 years? subcanopy North (CEAM, MPI)

--- Thermal imagery at flux site (Energy fluxes H / LE spatial and temporal dynamic) (CEAM Luis, CSIC Vicent?)