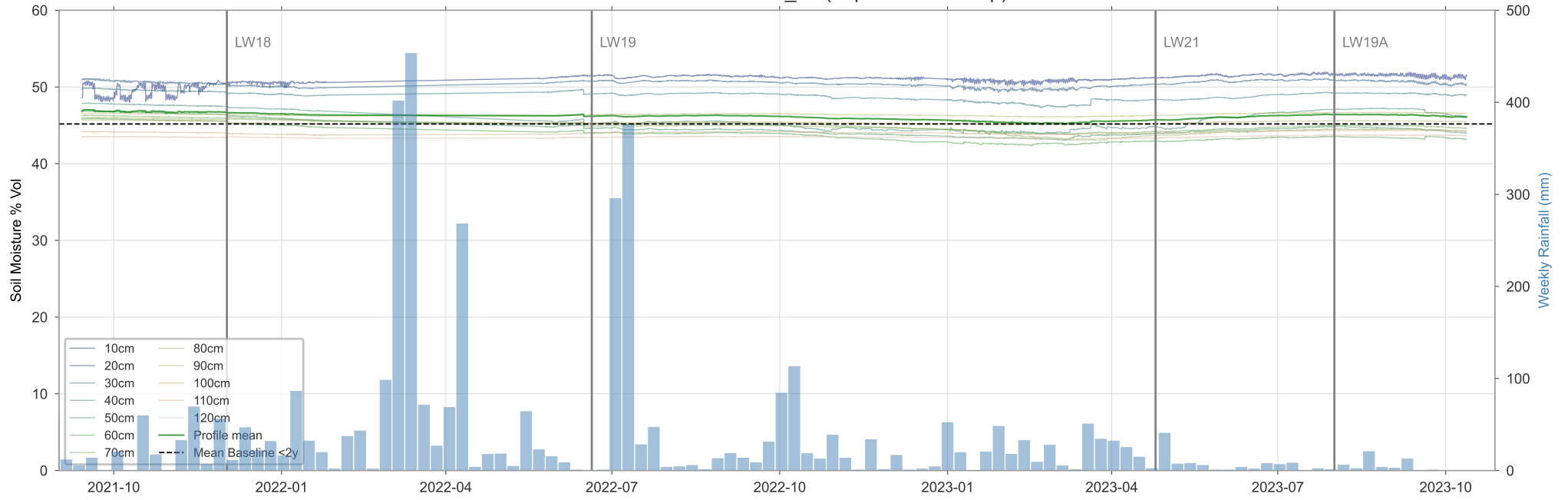
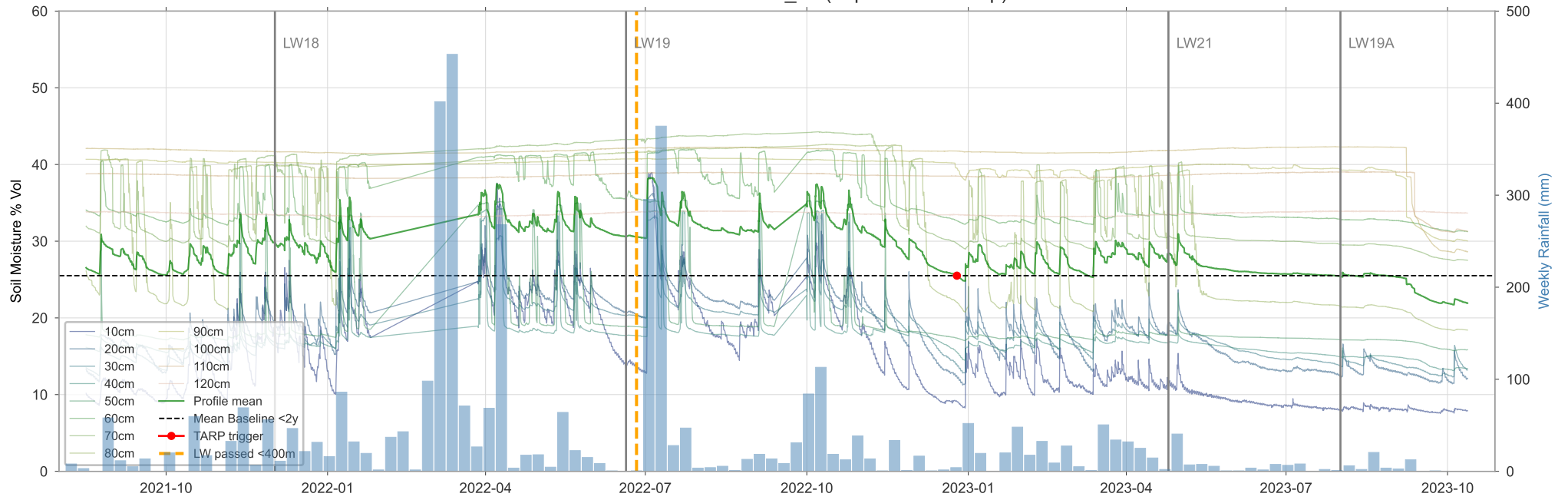


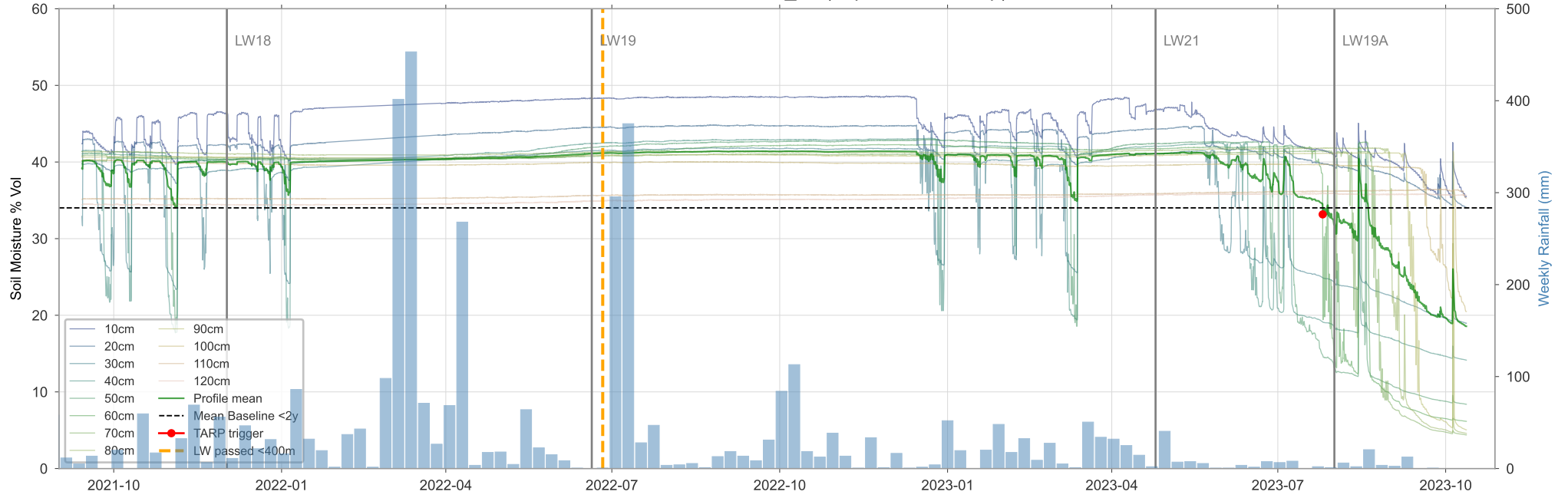
Soil moisture sensor S15a\_04 (Impact site swamp)



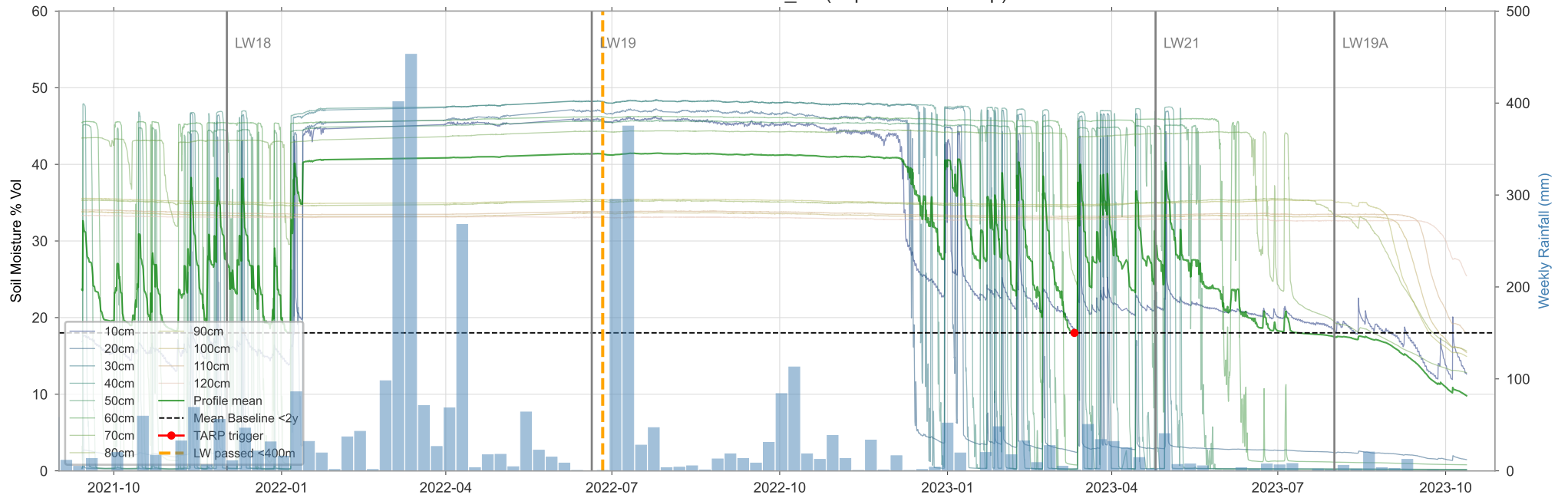
Soil moisture sensor S15a\_07 (Impact site swamp)



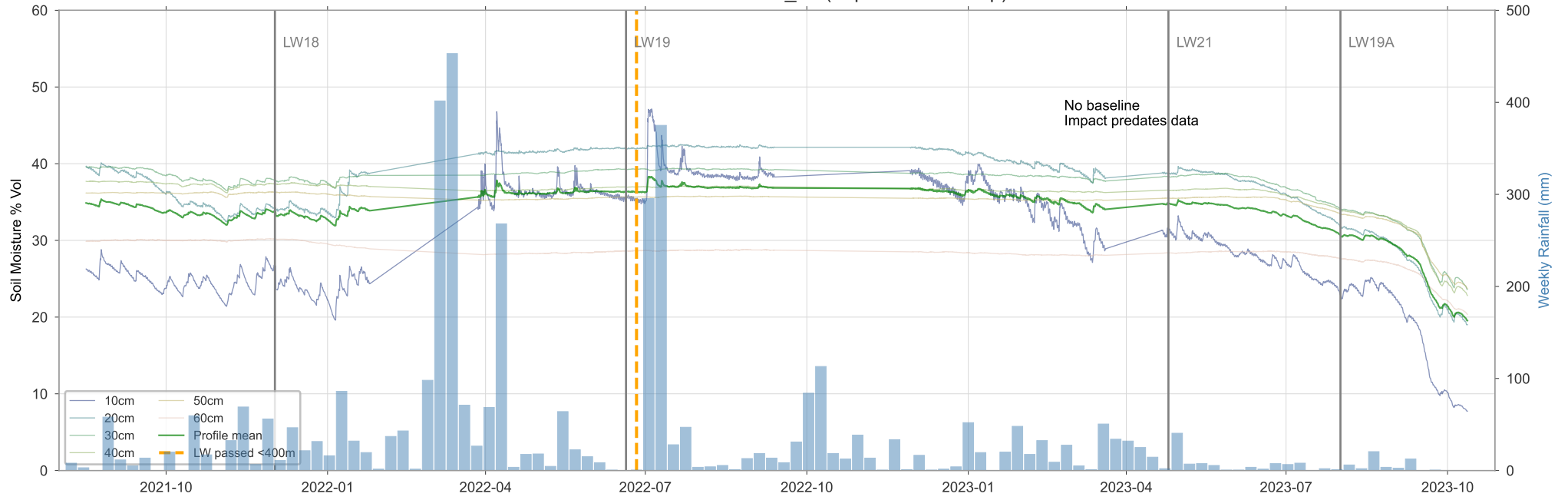
Soil moisture sensor S15a\_12 (Impact site swamp)



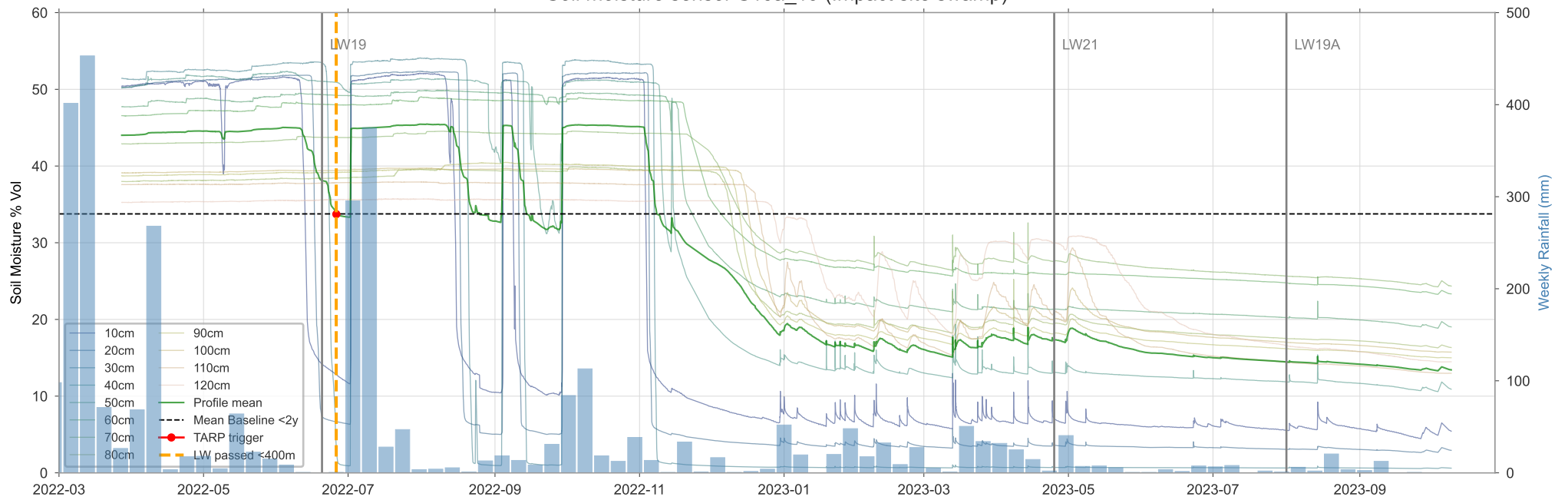
Soil moisture sensor S15a\_15 (Impact site swamp)



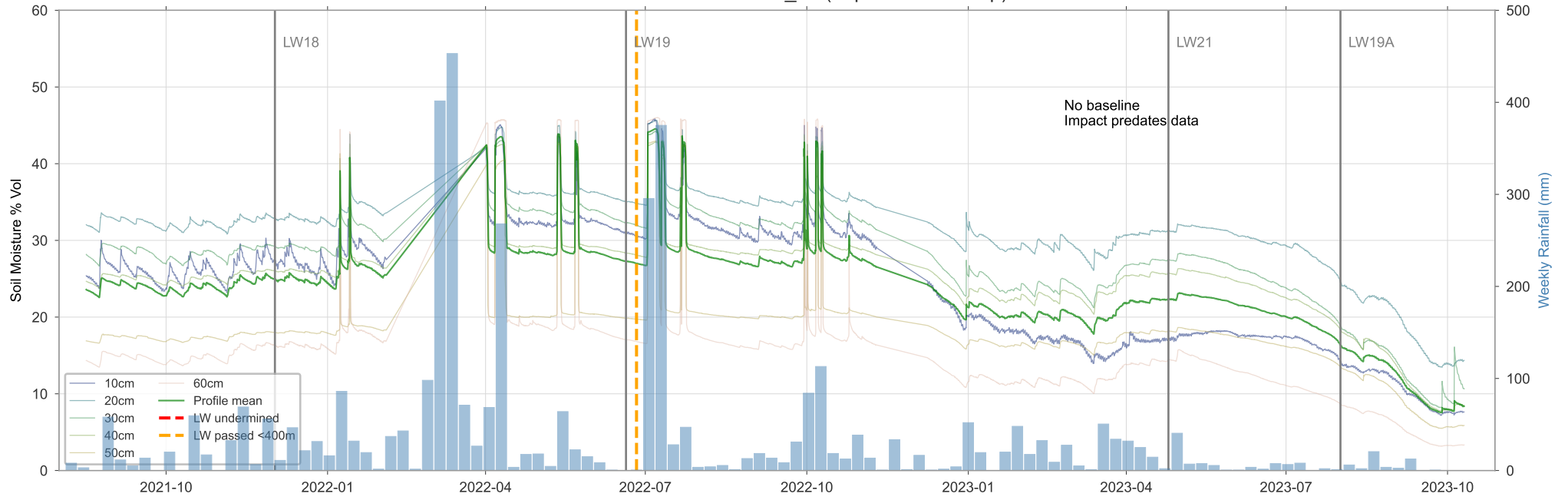
Soil moisture sensor S15a\_18 (Impact site swamp)



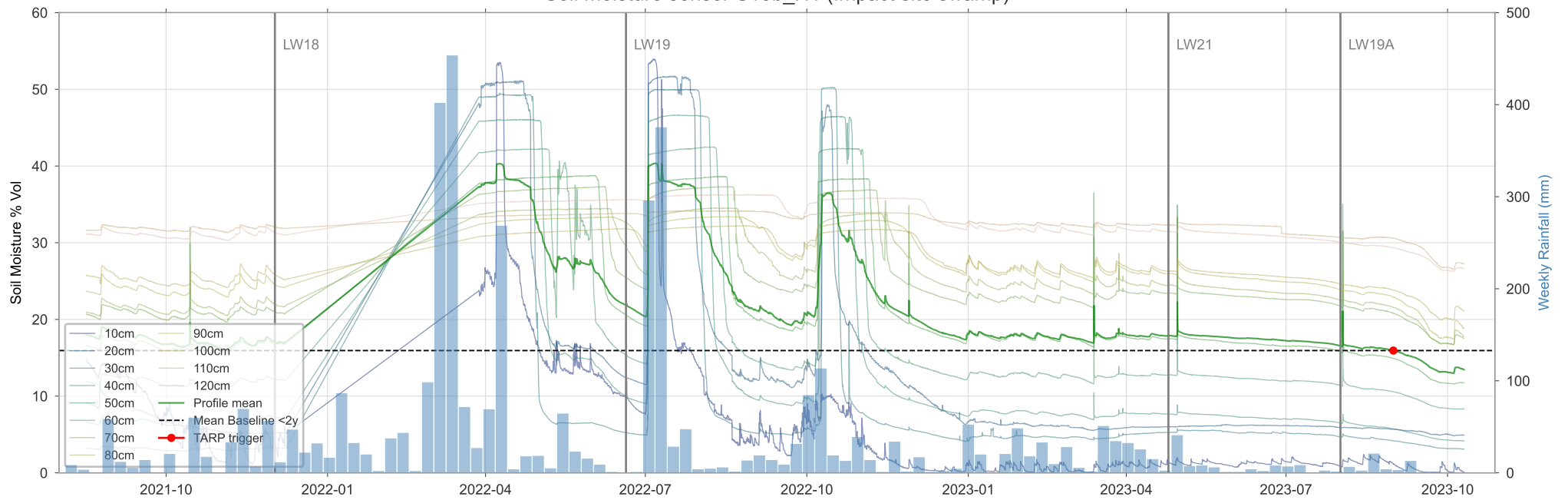
Soil moisture sensor S15a\_19 (Impact site swamp)



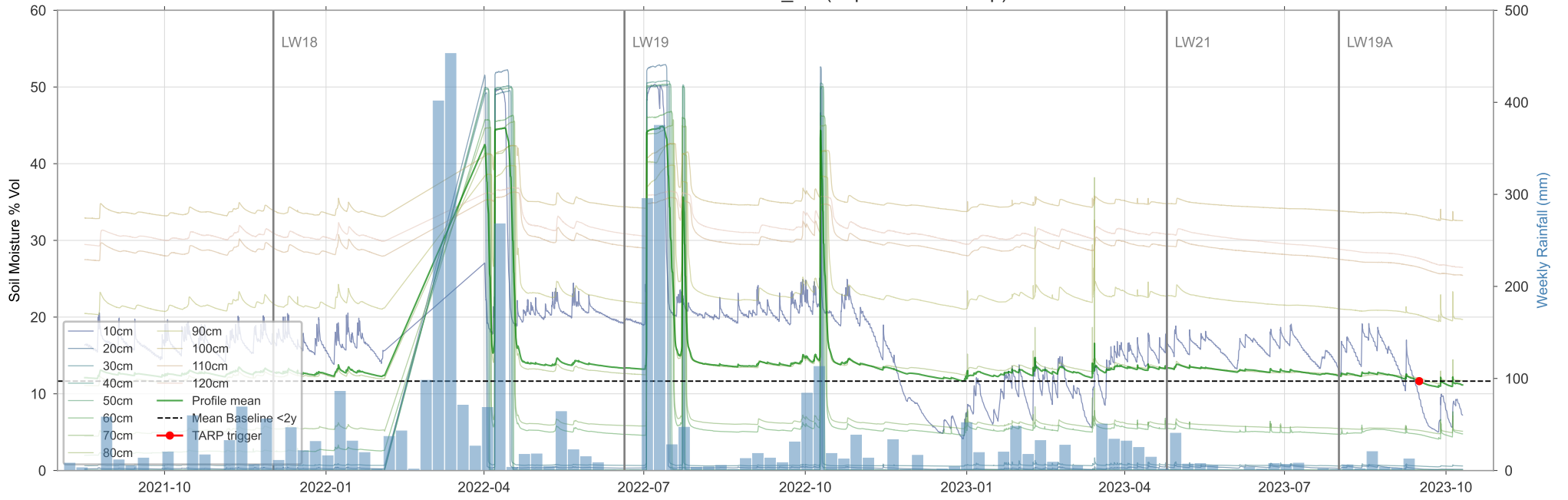
Soil moisture sensor S15b\_39 (Impact site swamp)



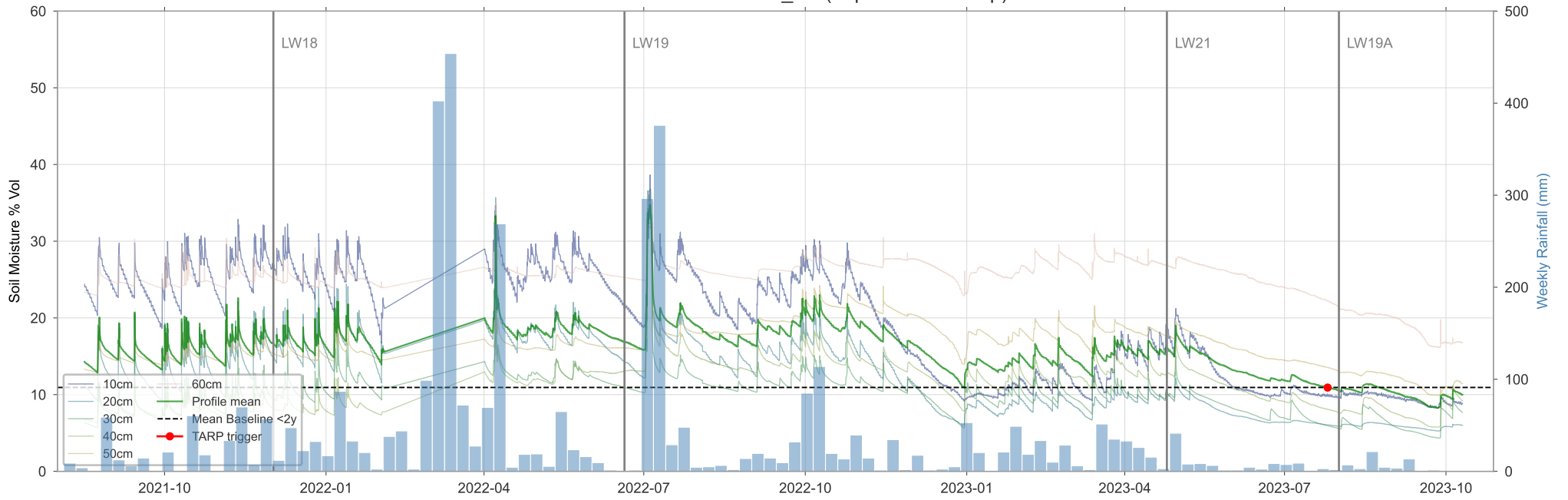
Soil moisture sensor S15b\_H1 (Impact site swamp)



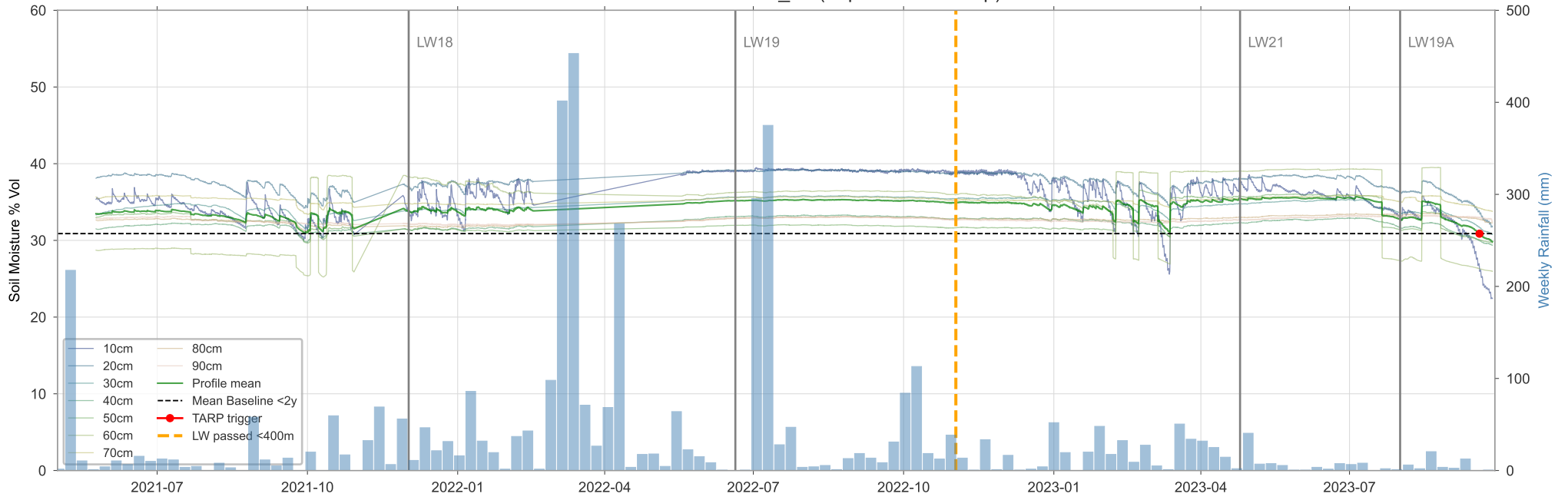
Soil moisture sensor S15b\_H2 (Impact site swamp)



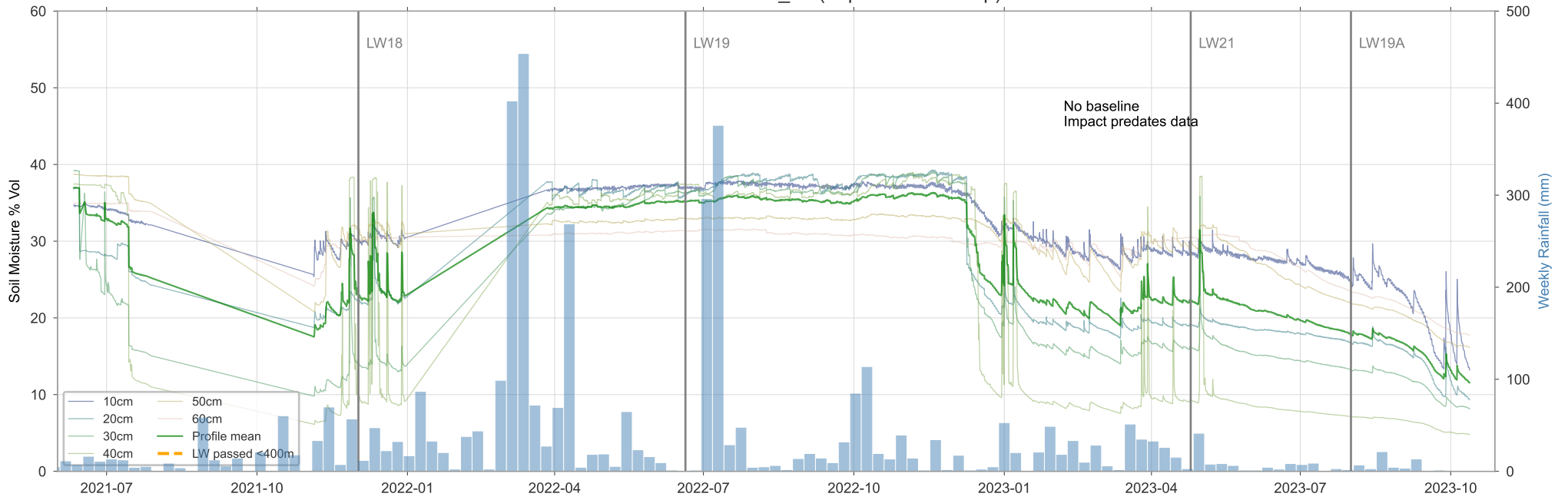
Soil moisture sensor S15b\_H3 (Impact site swamp)



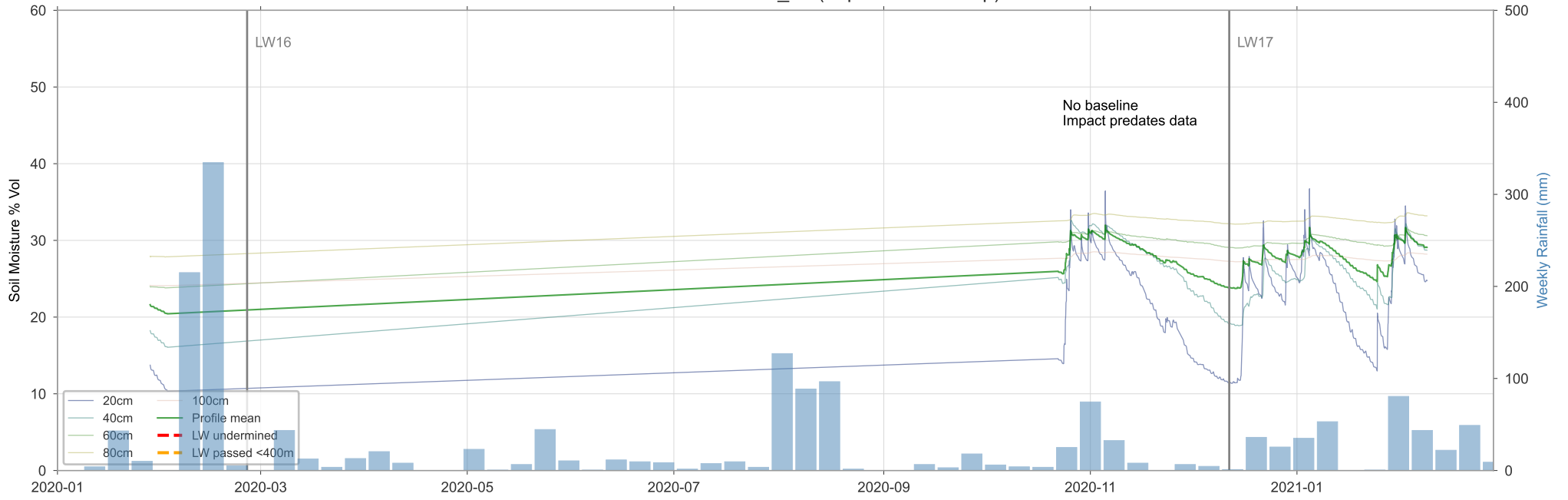
Soil moisture sensor S34\_01 (Impact site swamp)



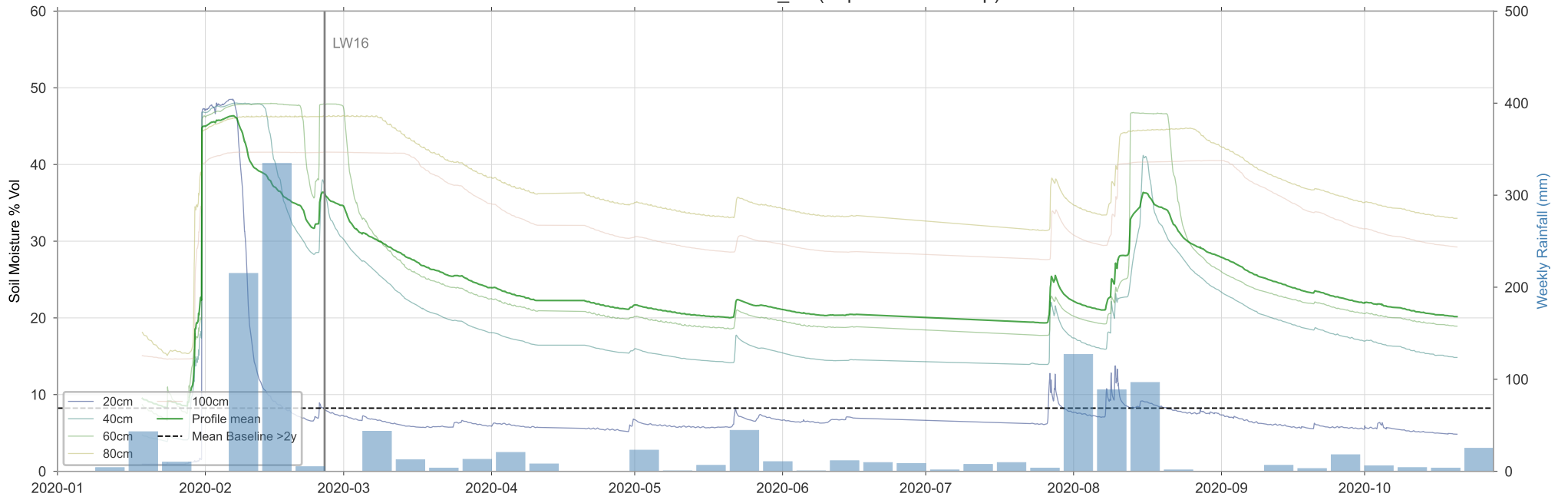
Soil moisture sensor S95\_01 (Impact site swamp)



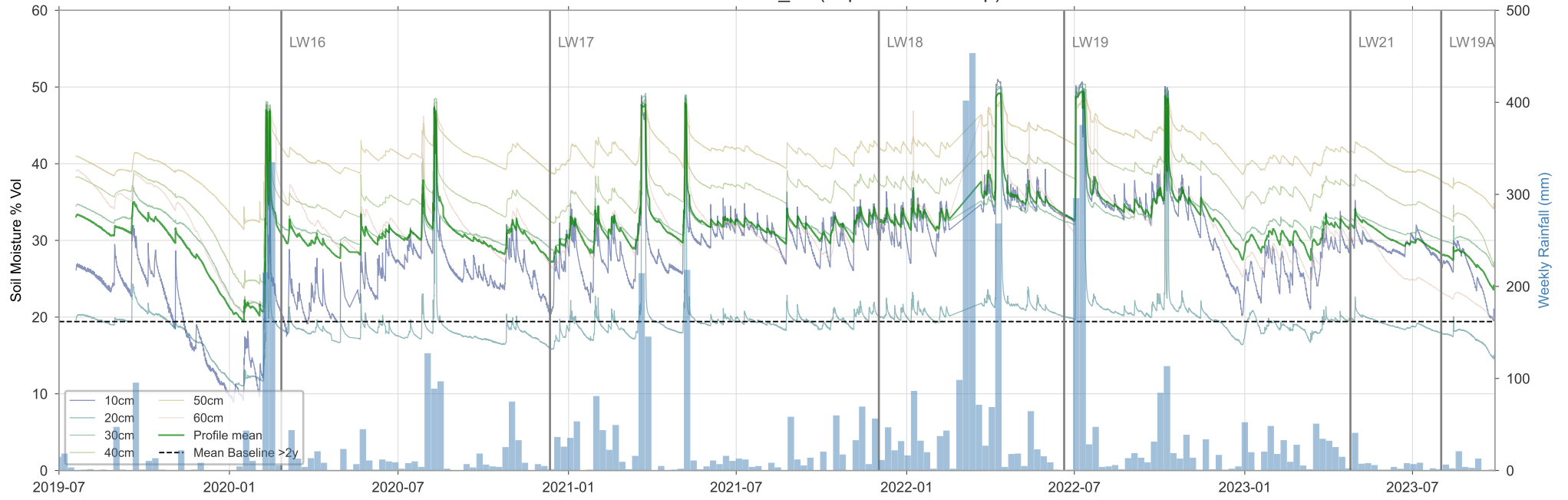
Soil moisture sensor S05\_01 (Impact site swamp)



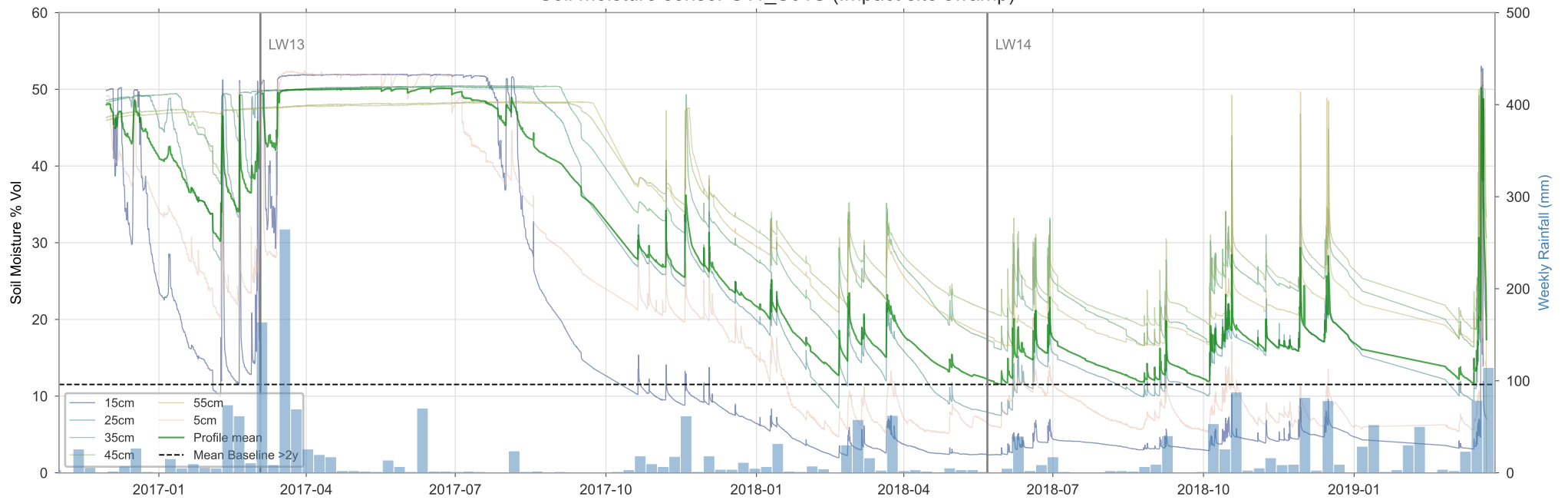
Soil moisture sensor S05\_08 (Impact site swamp)



Soil moisture sensor S11\_01 (Impact site swamp)

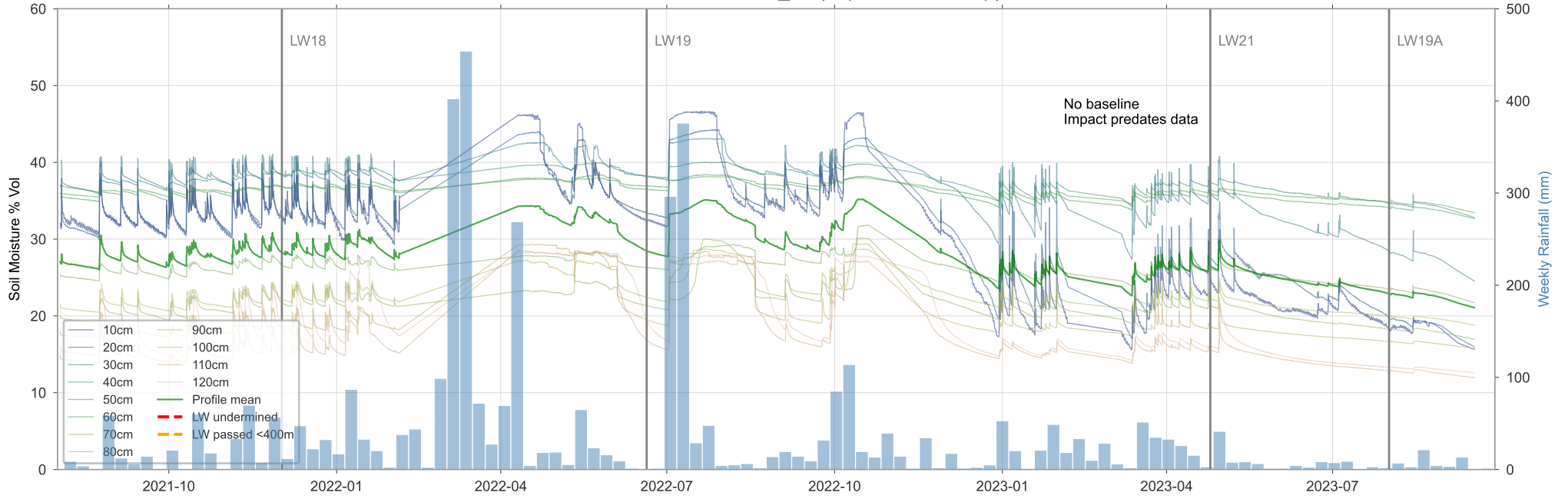


Soil moisture sensor S11\_S01S (Impact site swamp)

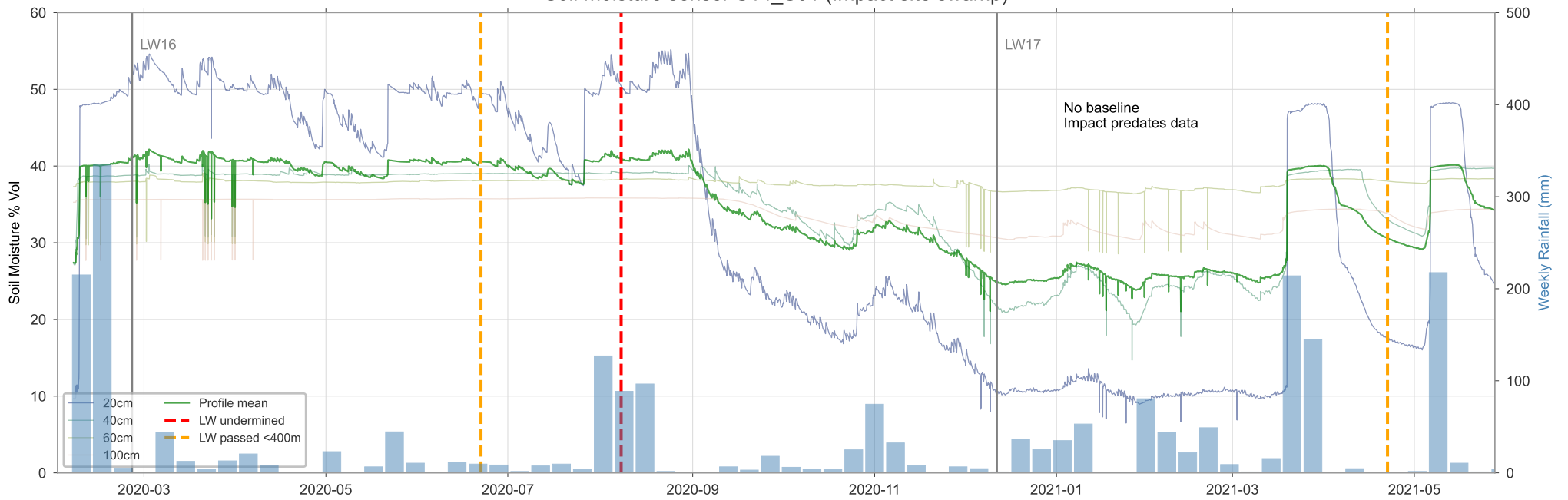




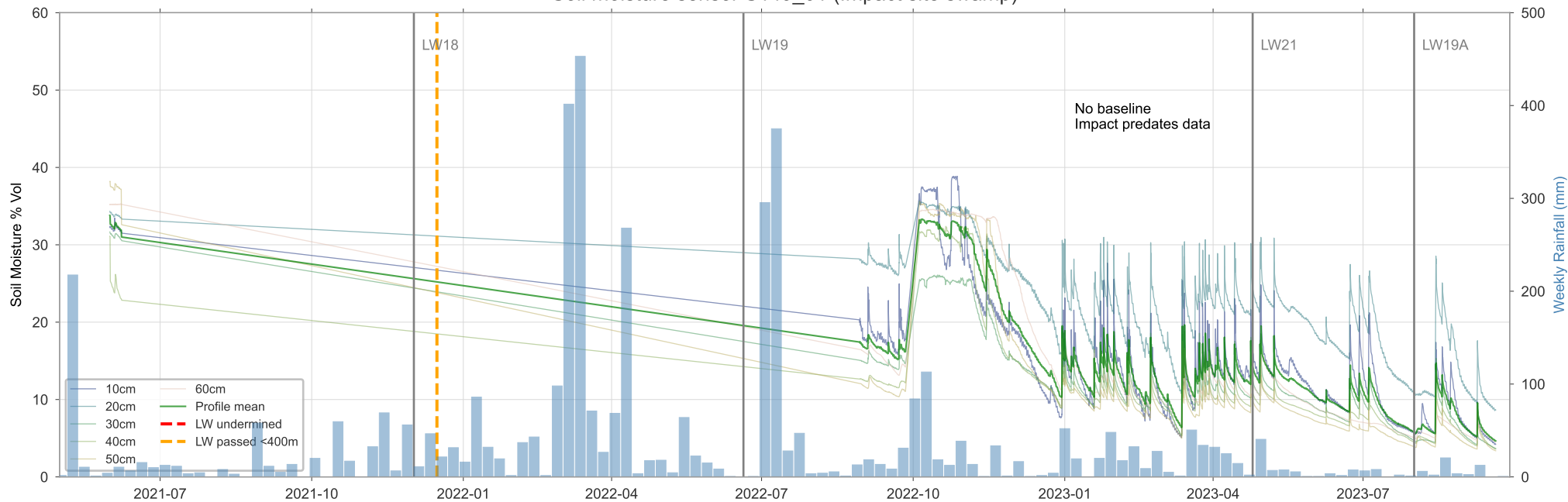
Soil moisture sensor S14\_01 (Impact site swamp)



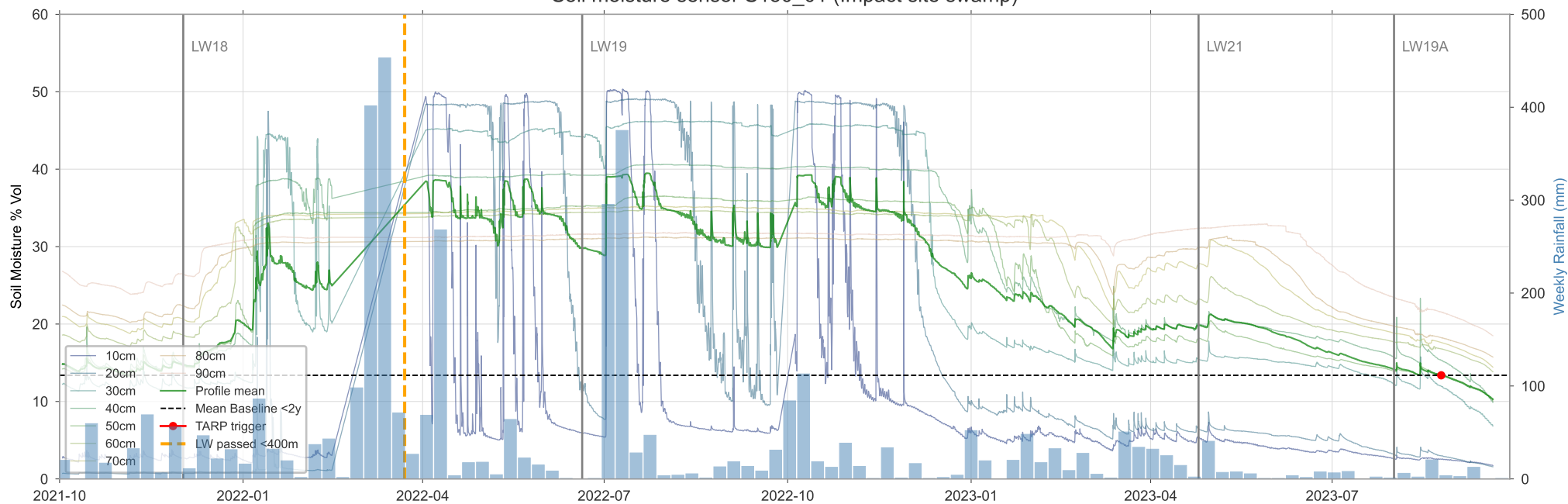
Soil moisture sensor S14\_S01 (Impact site swamp)



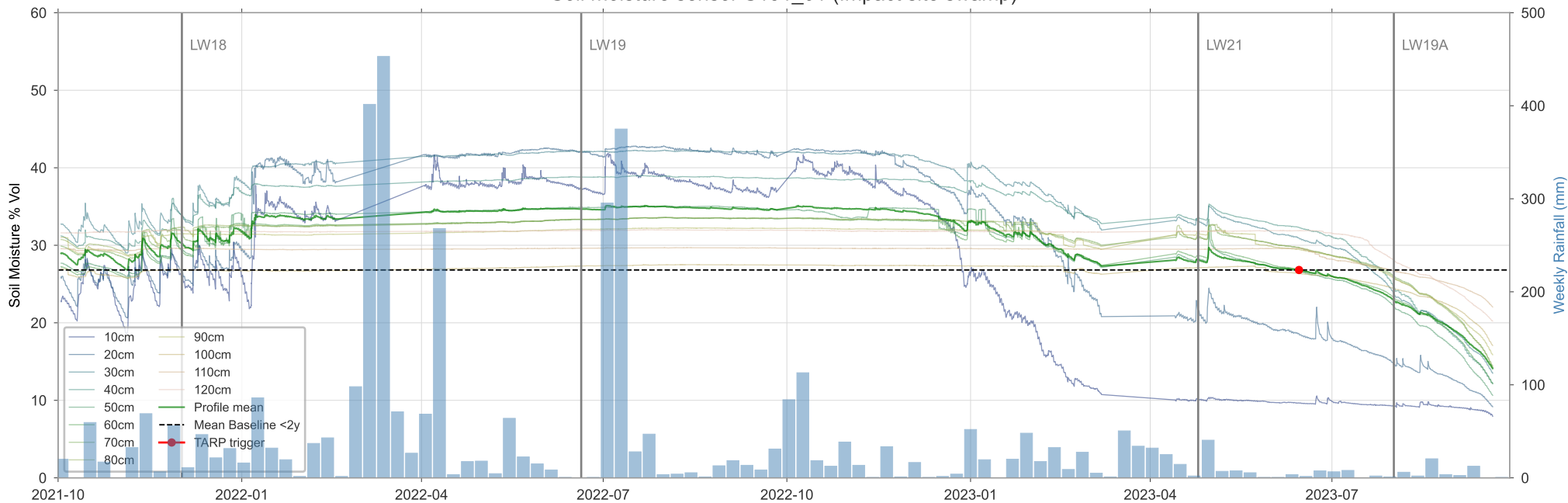
Soil moisture sensor S149\_01 (Impact site swamp)



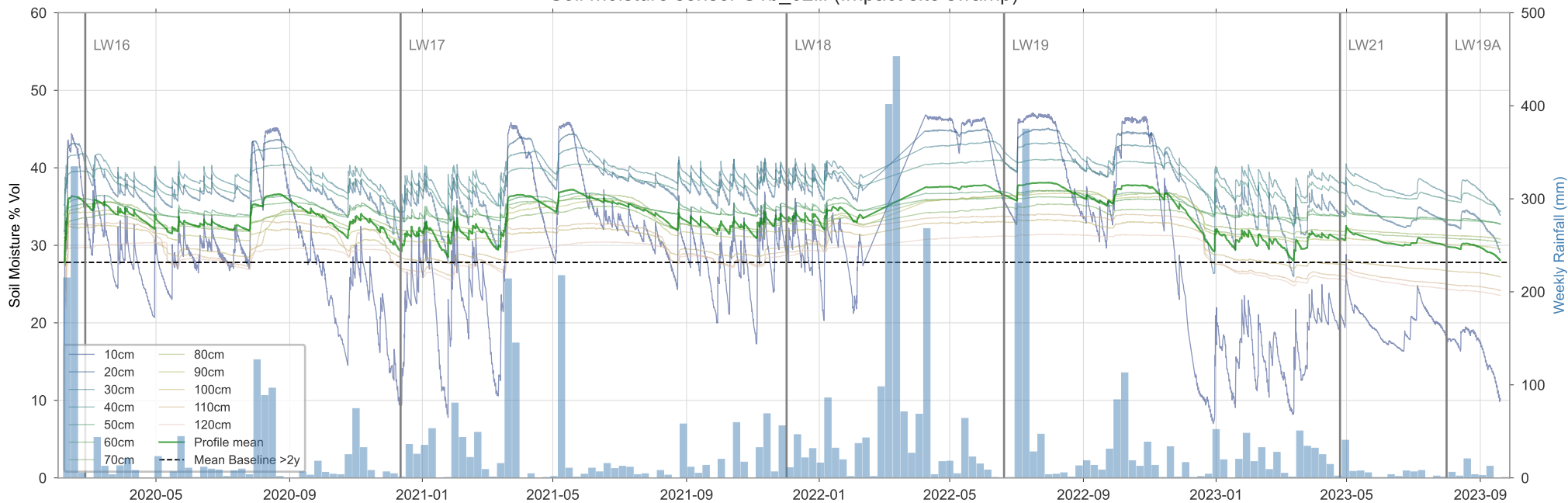
Soil moisture sensor S150\_01 (Impact site swamp)



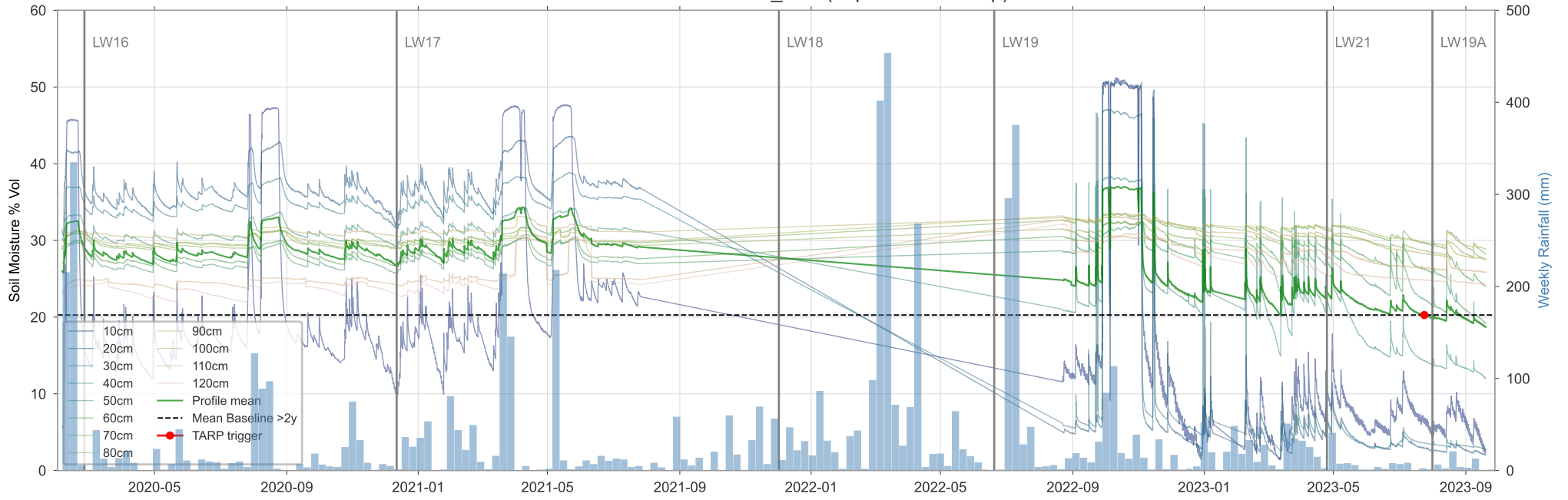
Soil moisture sensor S151\_01 (Impact site swamp)



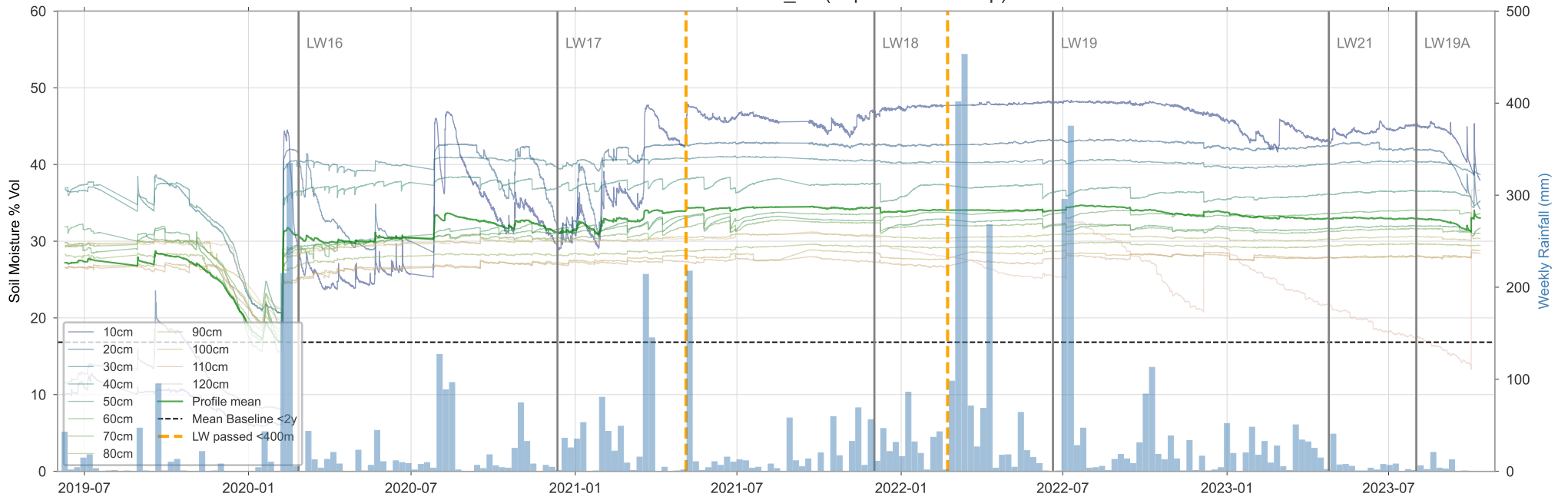
Soil moisture sensor S1b\_02iii (Impact site swamp)



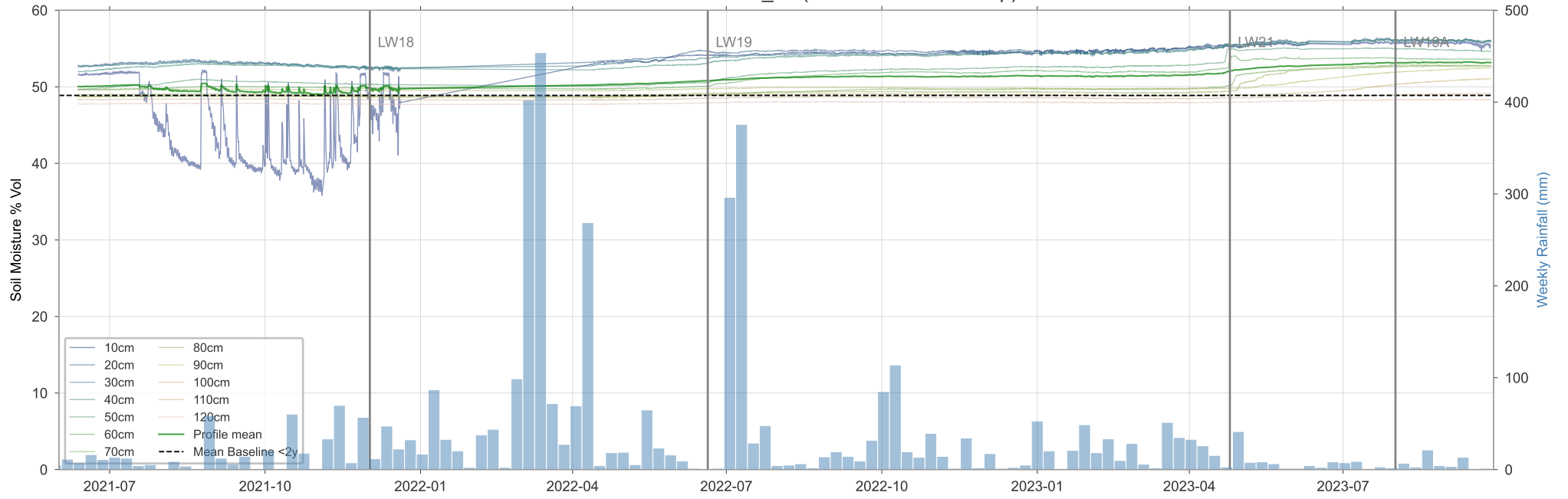
Soil moisture sensor S1b\_02iv (Impact site swamp)



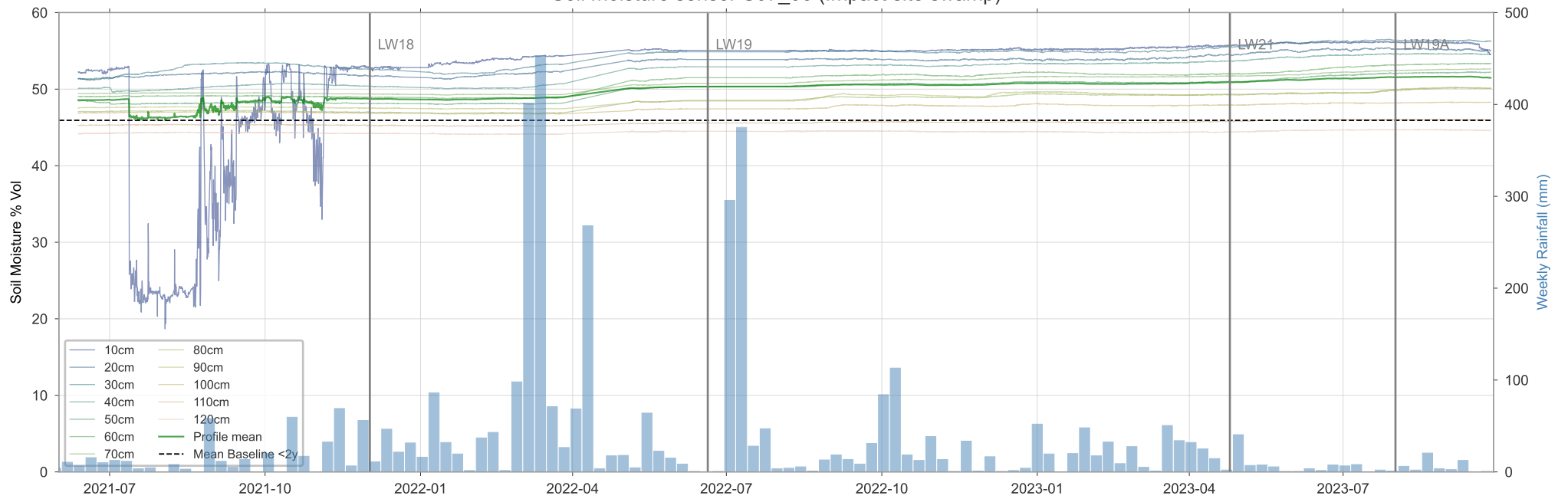
Soil moisture sensor S35a\_01 (Impact site swamp)



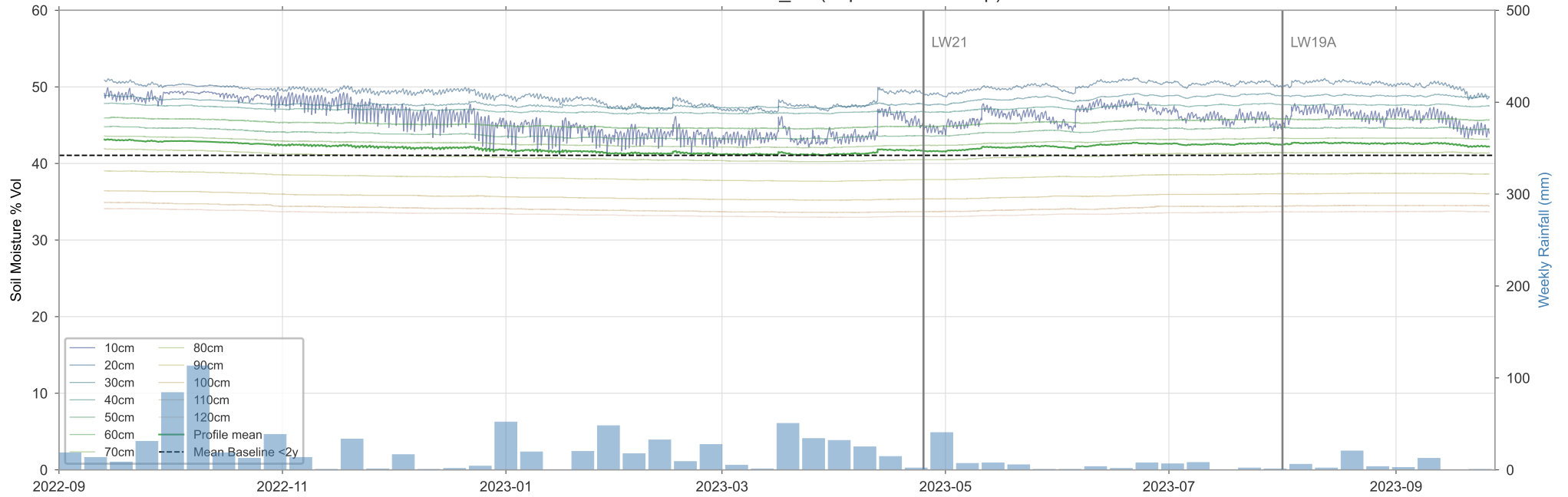
Soil moisture sensor S07\_05 (Reference site swamp)



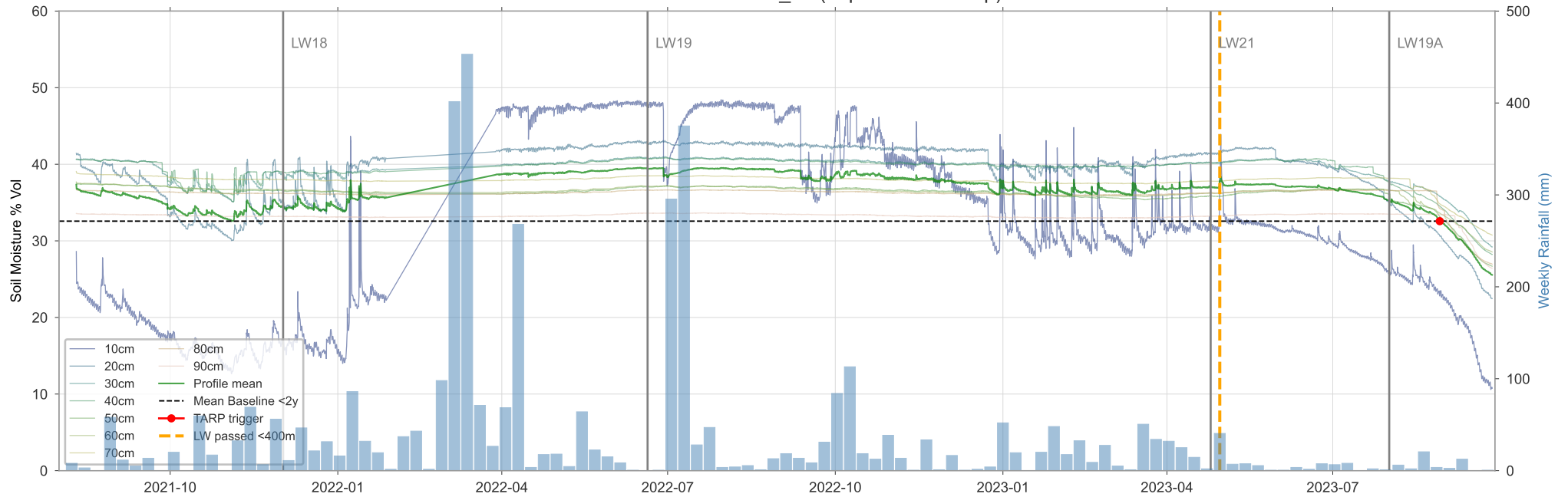
Soil moisture sensor S07\_06 (Impact site swamp)



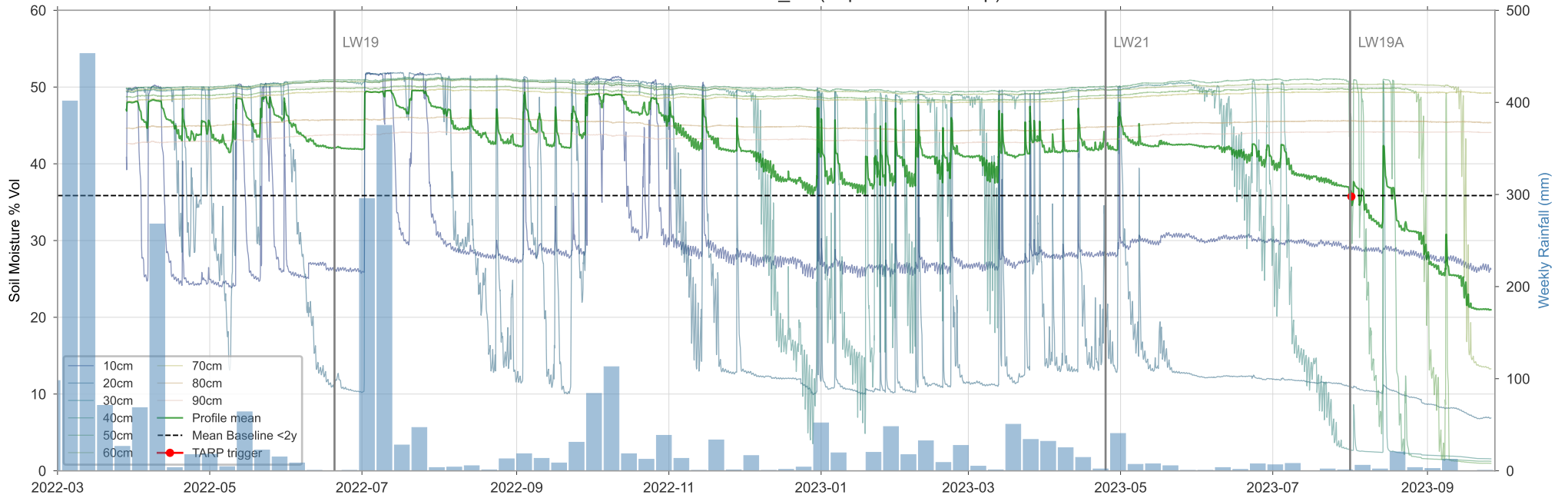
Soil moisture sensor S07\_07 (Impact site swamp)



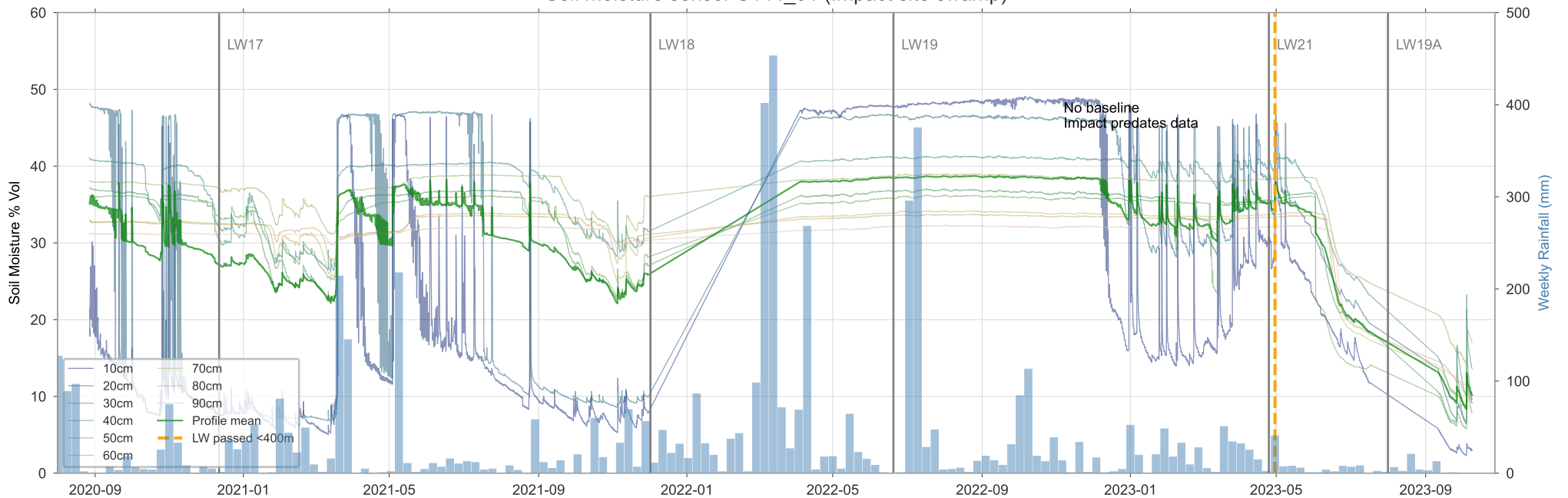
Soil moisture sensor S09\_01 (Impact site swamp)



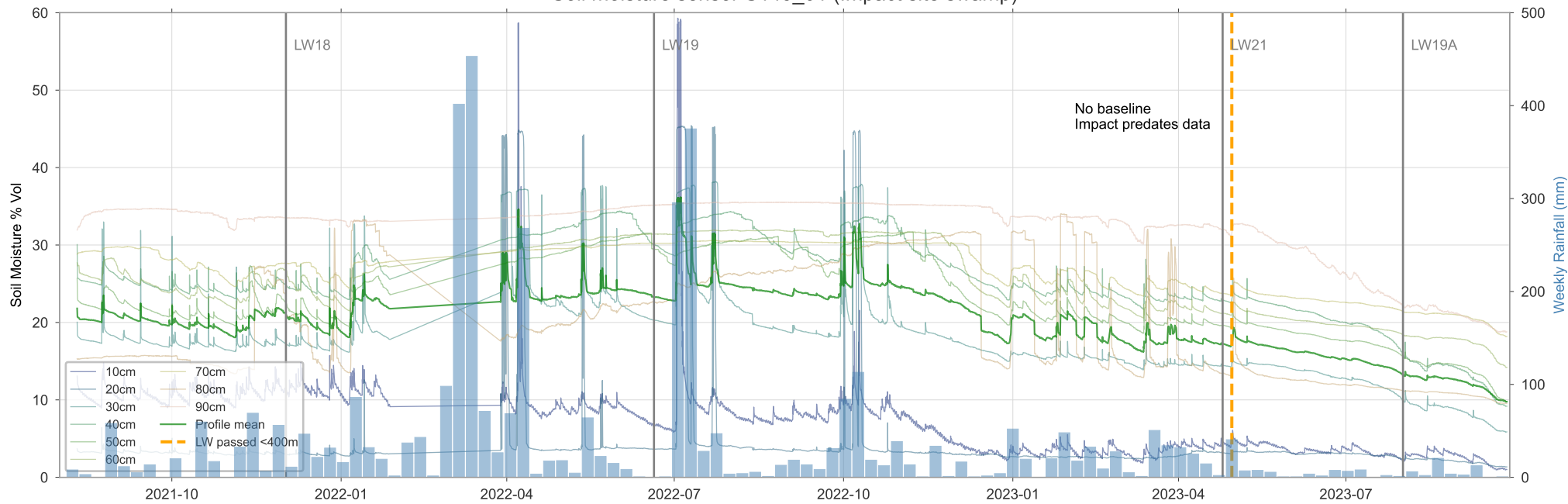
Soil moisture sensor S09\_02 (Impact site swamp)



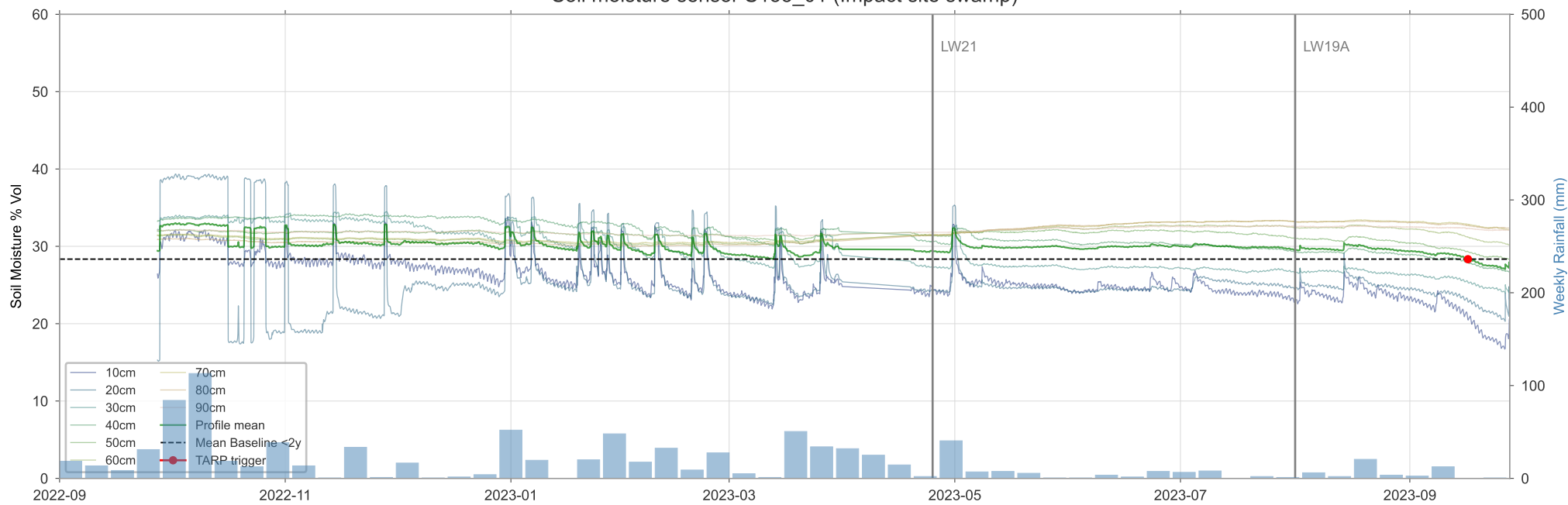
Soil moisture sensor S144\_01 (Impact site swamp)



Soil moisture sensor S145\_01 (Impact site swamp)

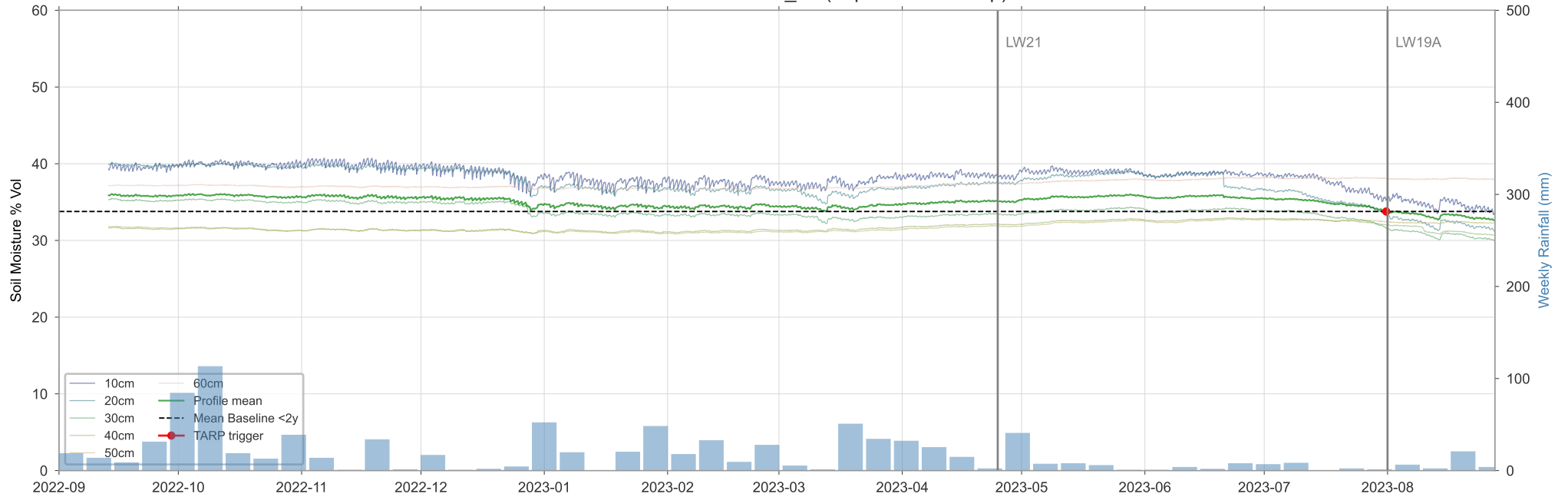


Soil moisture sensor S153\_01 (Impact site swamp)

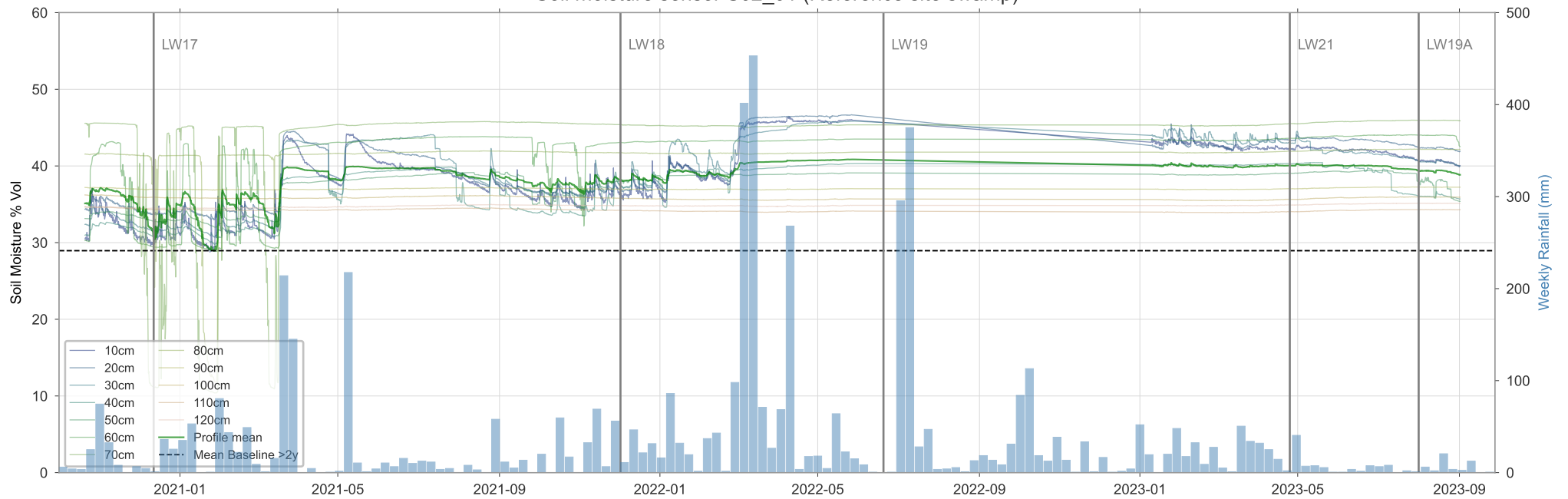




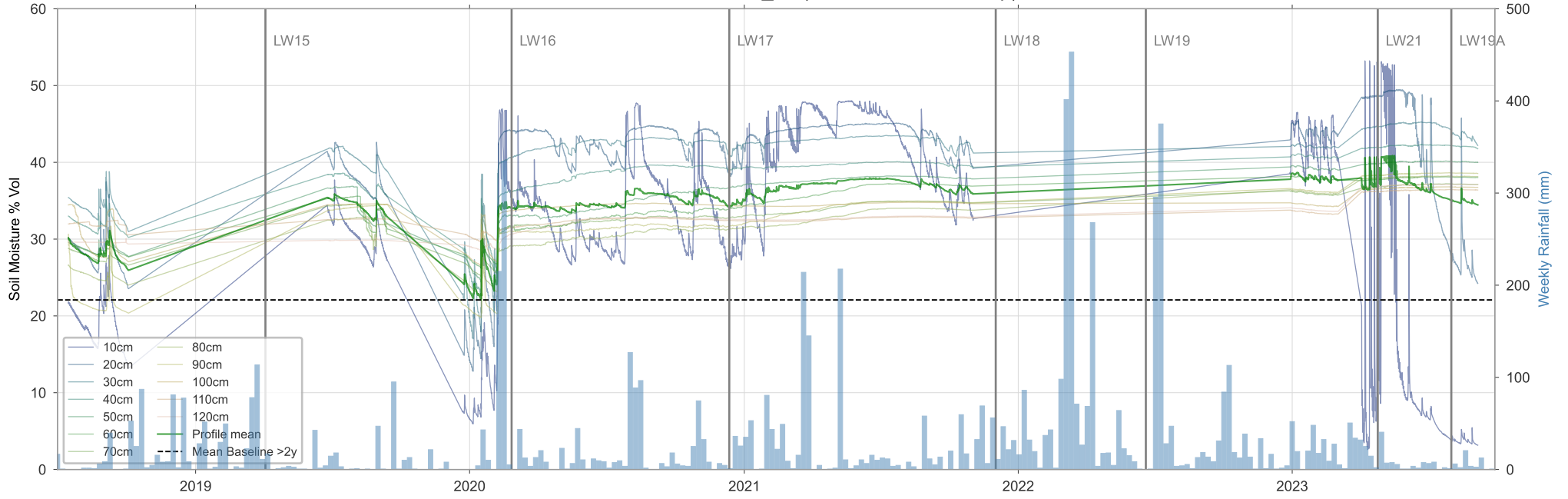
Soil moisture sensor S154\_01 (Impact site swamp)



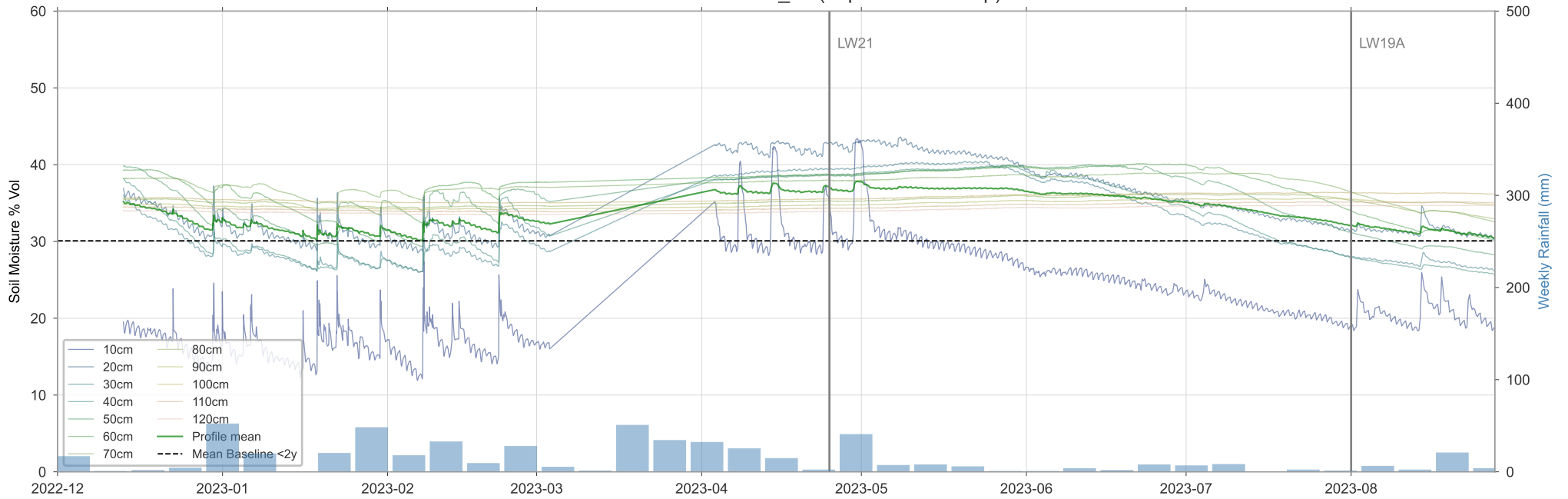
Soil moisture sensor S02\_01 (Reference site swamp)



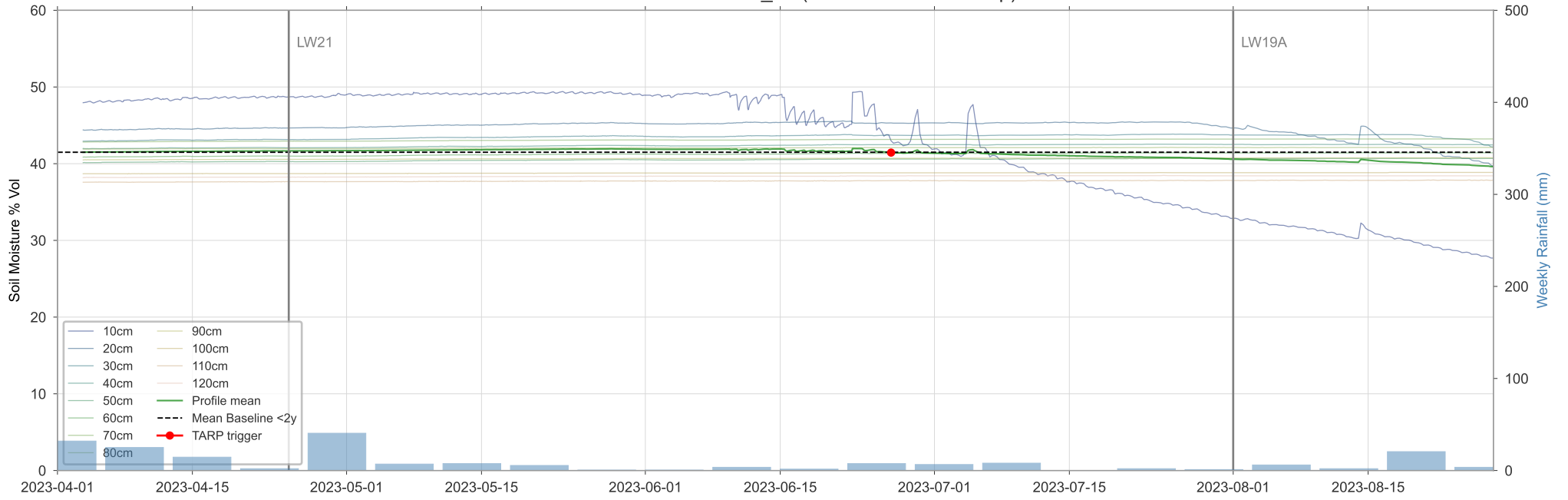
Soil moisture sensor S22\_01 (Reference site swamp)



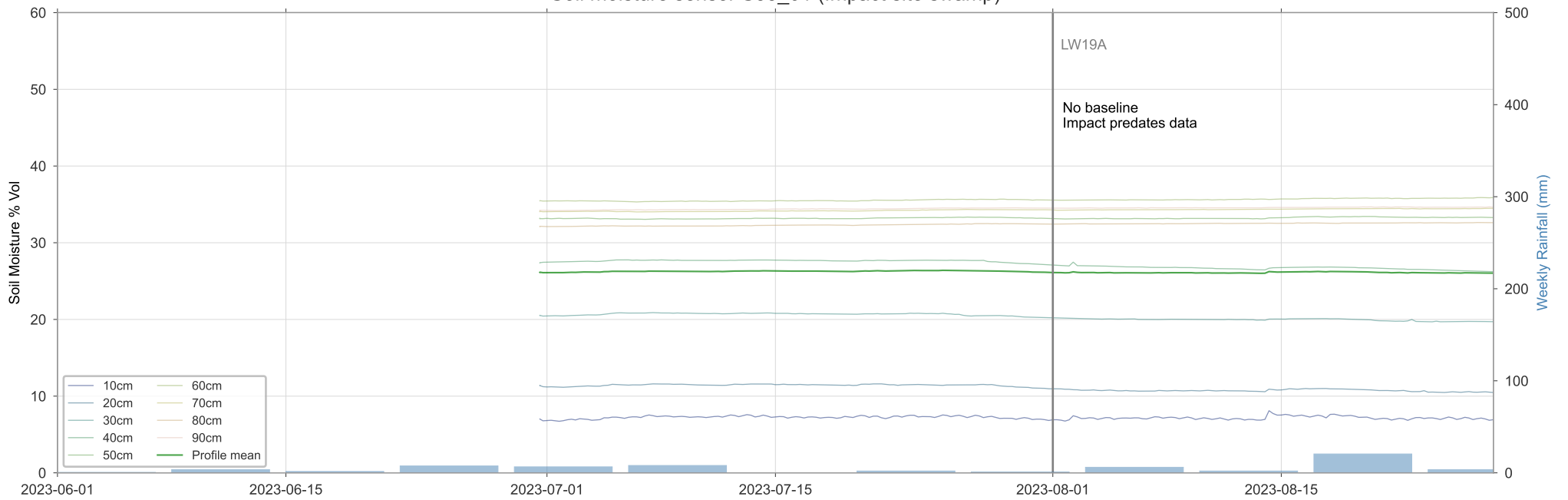
Soil moisture sensor S24\_01 (Impact site swamp)



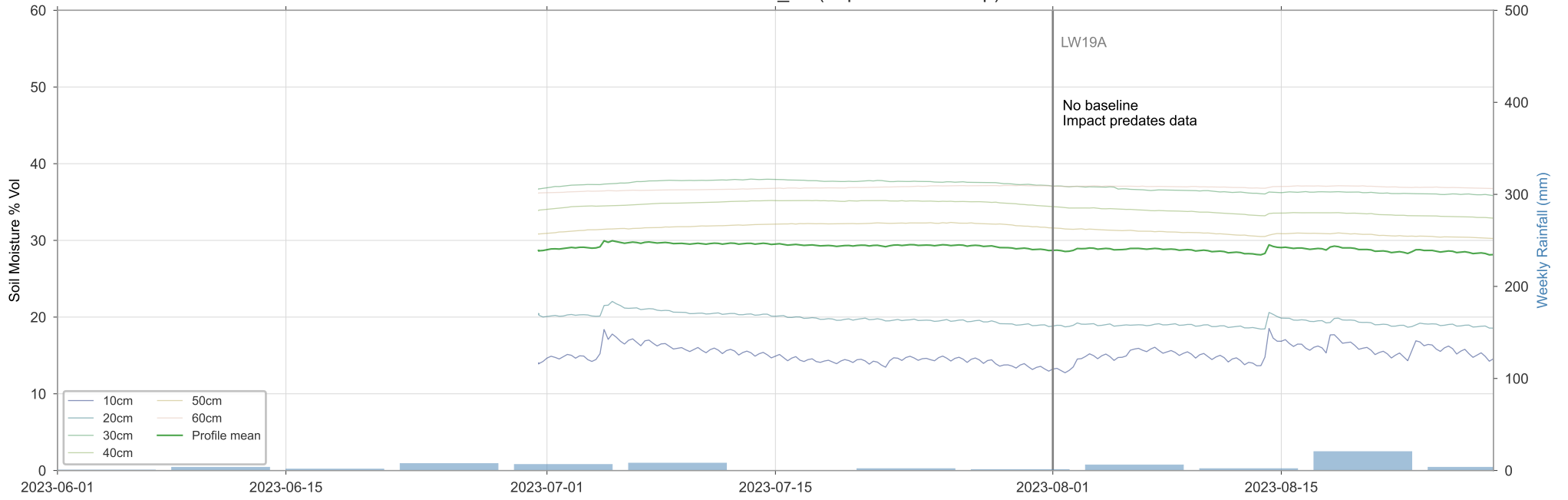
Soil moisture sensor S25\_01 (Reference site swamp)



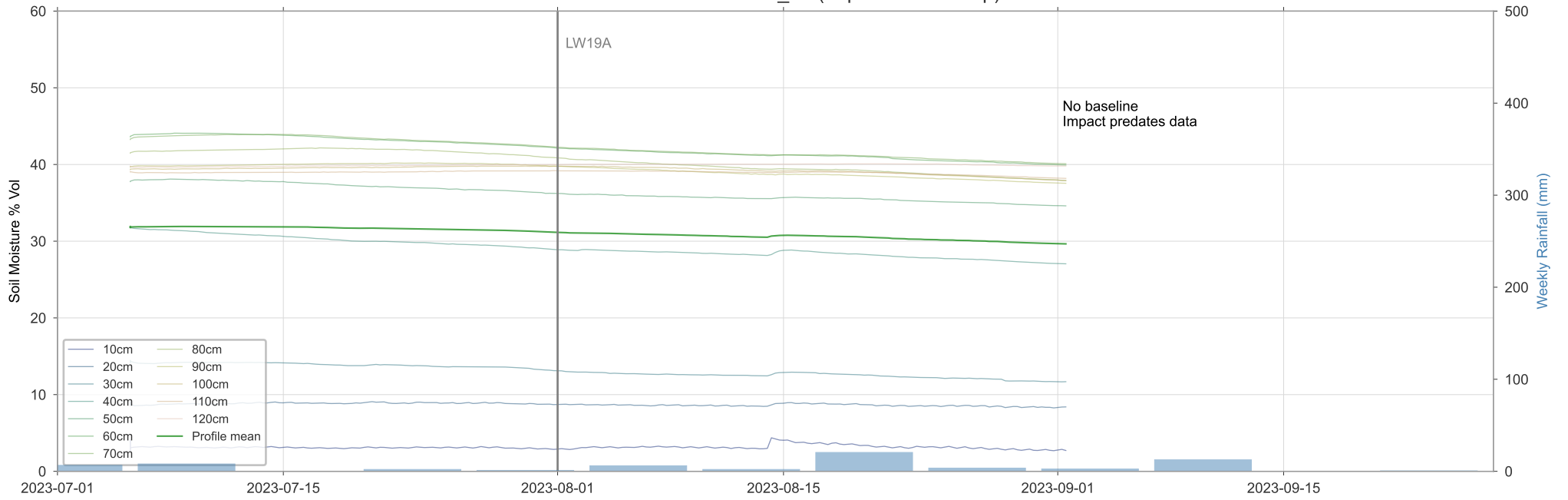
Soil moisture sensor S33\_01 (Impact site swamp)



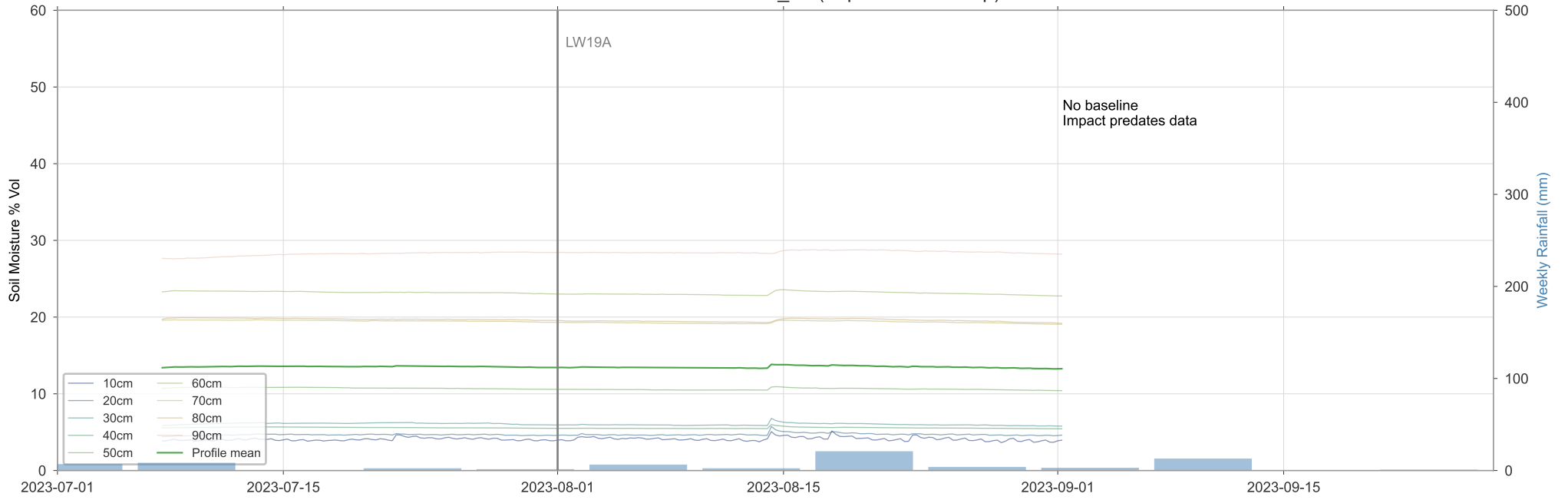
Soil moisture sensor S33\_03 (Impact site swamp)



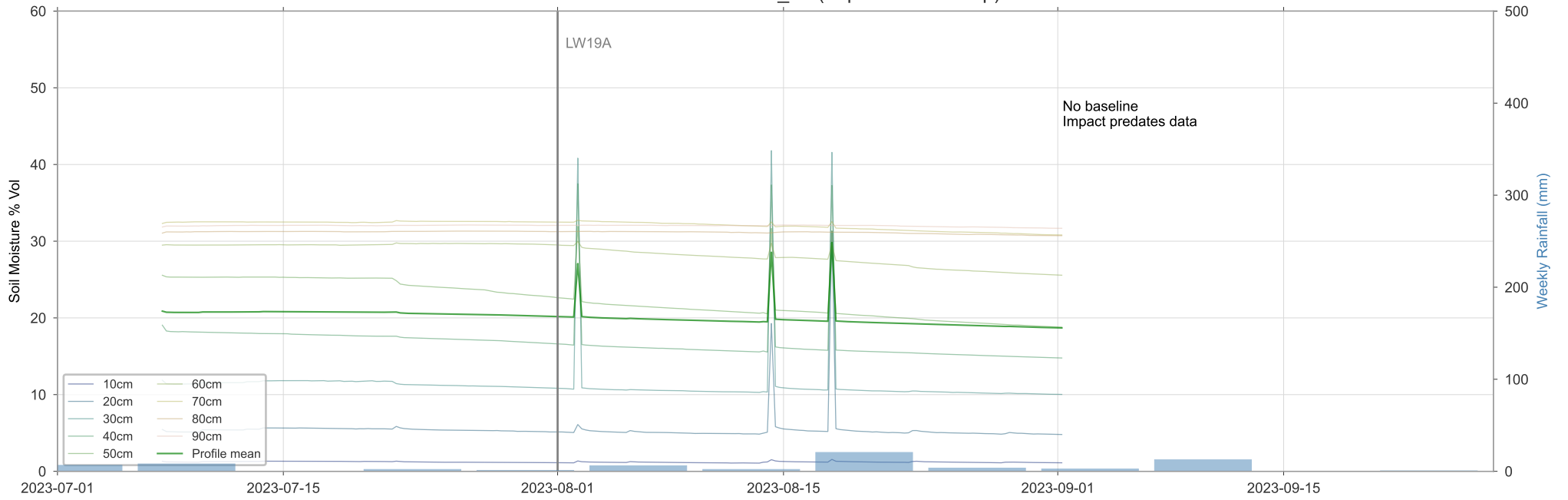
Soil moisture sensor S84\_01 (Impact site swamp)



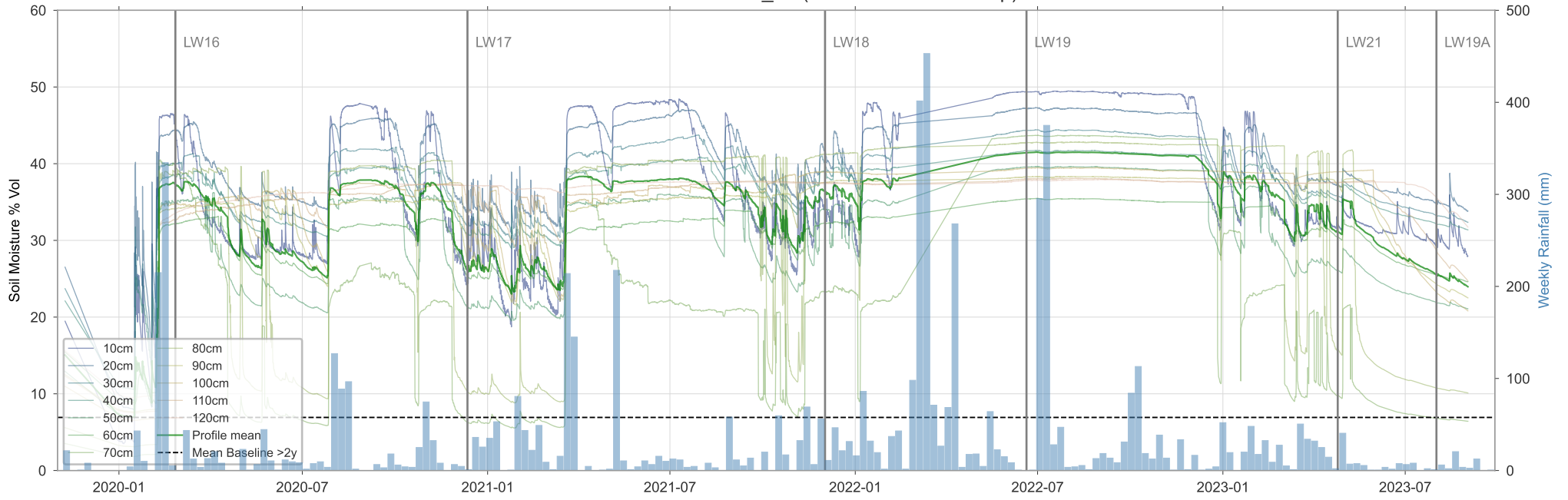
Soil moisture sensor S85\_01 (Impact site swamp)



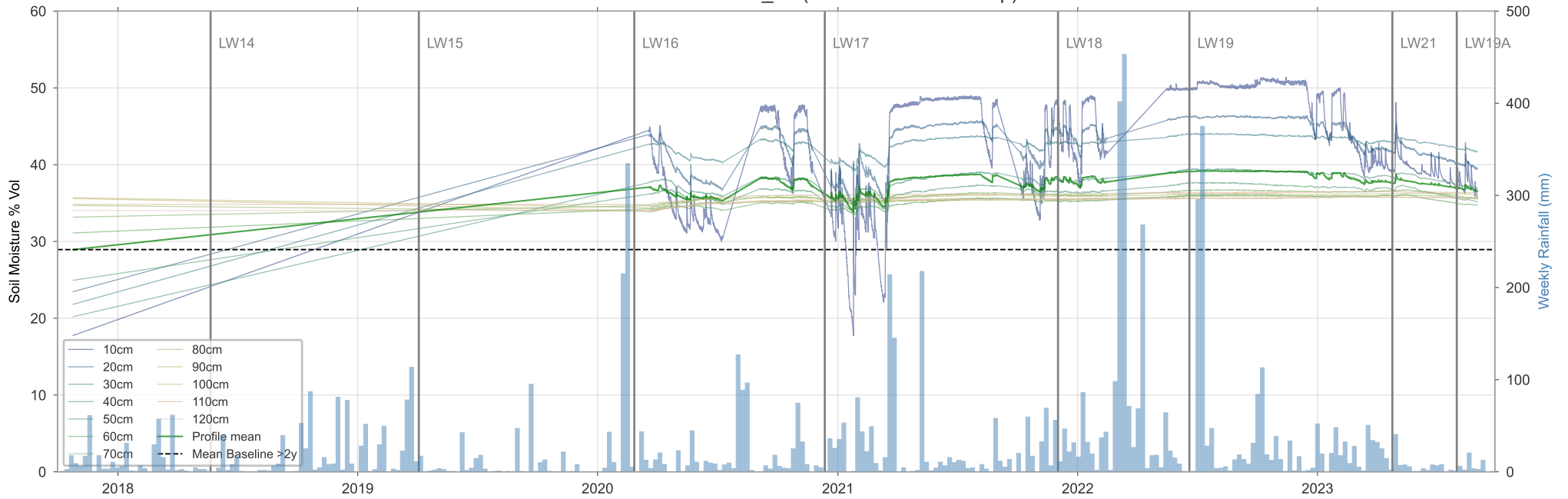
Soil moisture sensor S85\_02 (Impact site swamp)



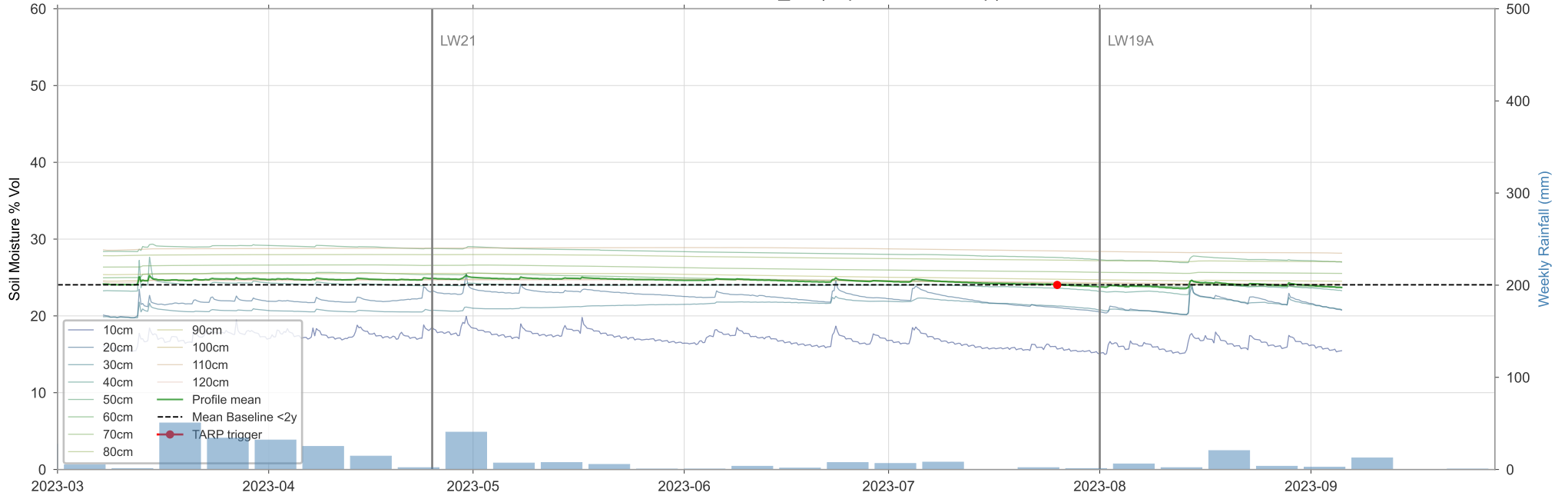
Soil moisture sensor S85\_03 (Reference site swamp)



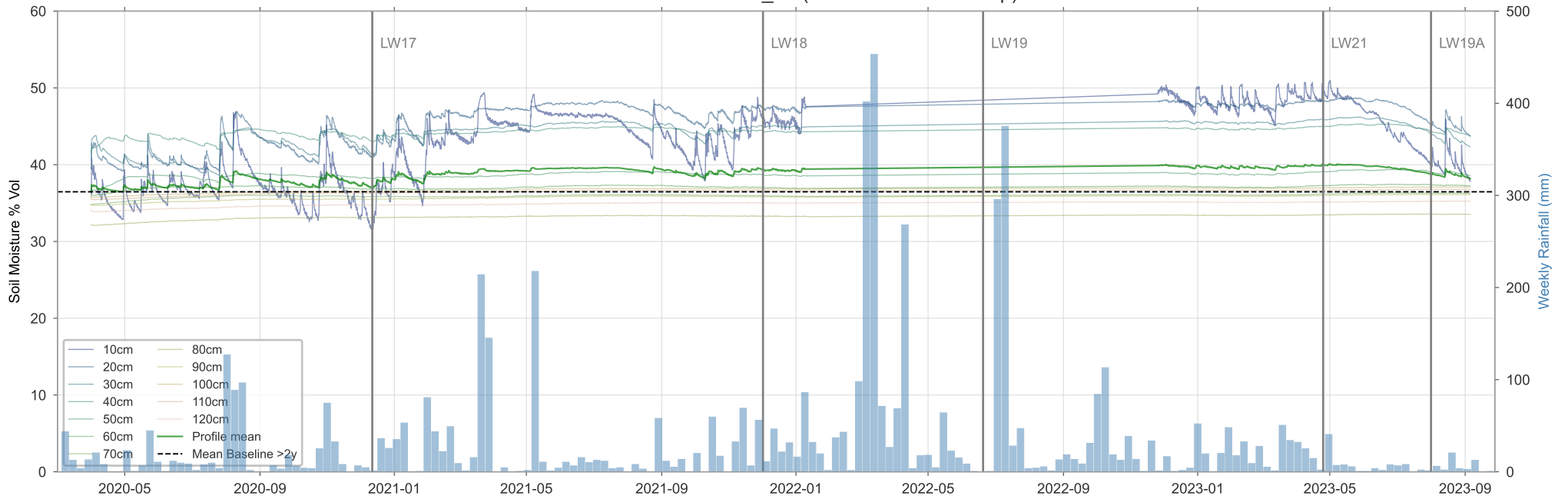
Soil moisture sensor S86\_03 (Reference site swamp)



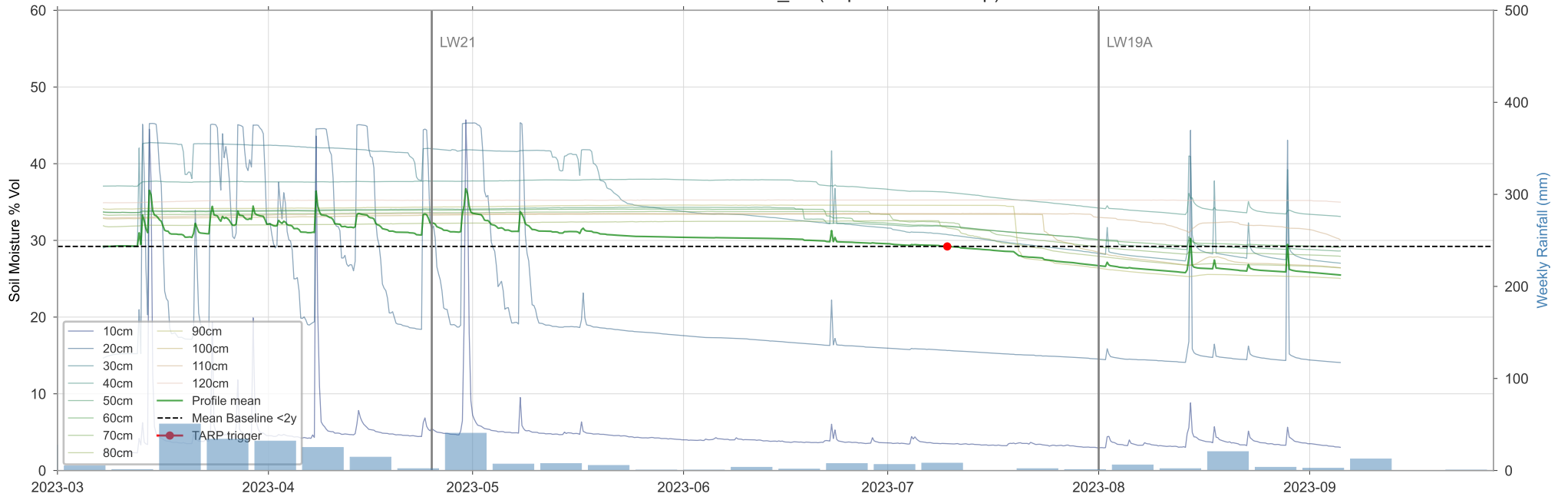
Soil moisture sensor S87\_01 (Impact site swamp)



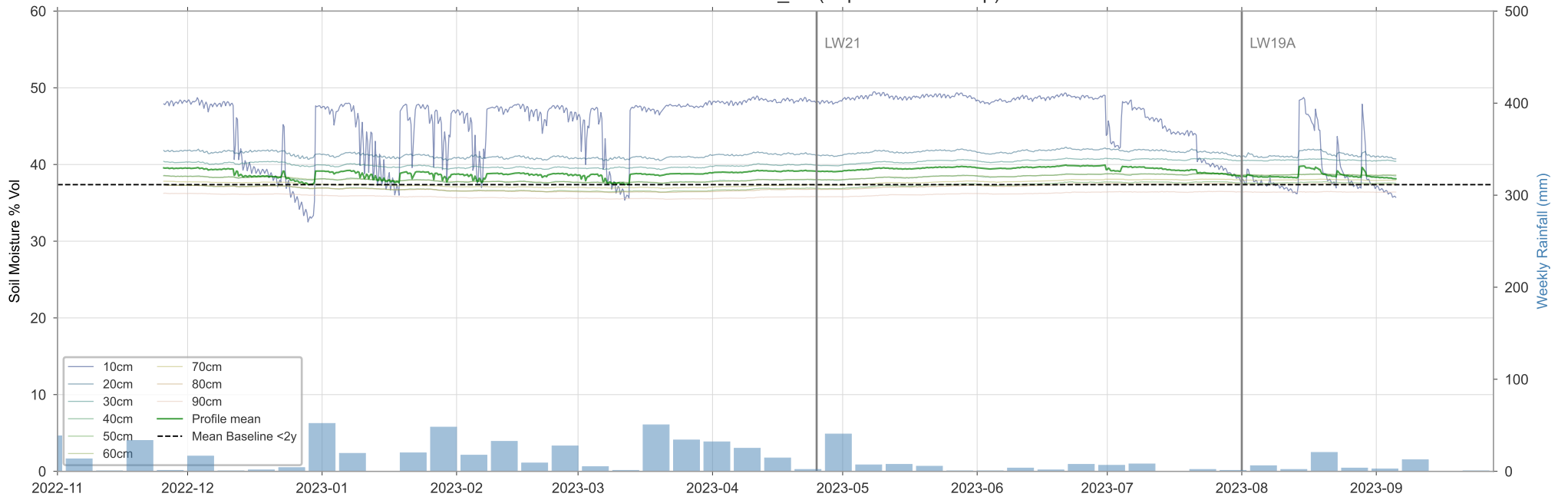
Soil moisture sensor S87\_02 (Reference site swamp)



Soil moisture sensor S88\_01 (Impact site swamp)



Soil moisture sensor S88\_02 (Impact site swamp)

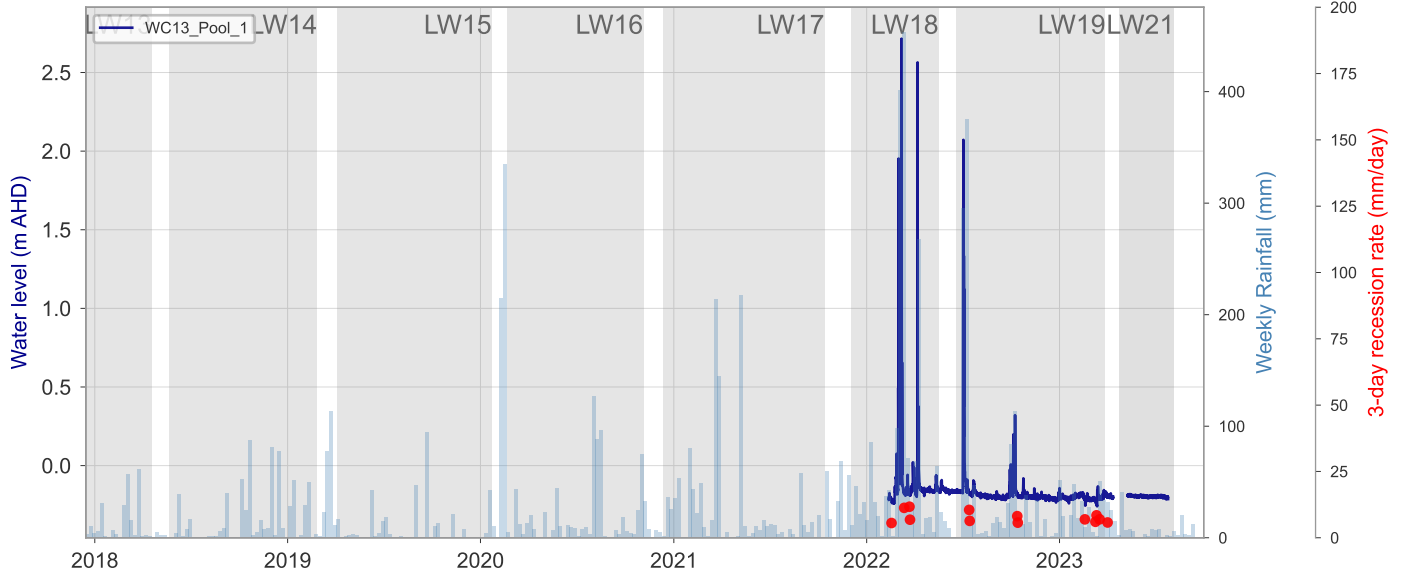




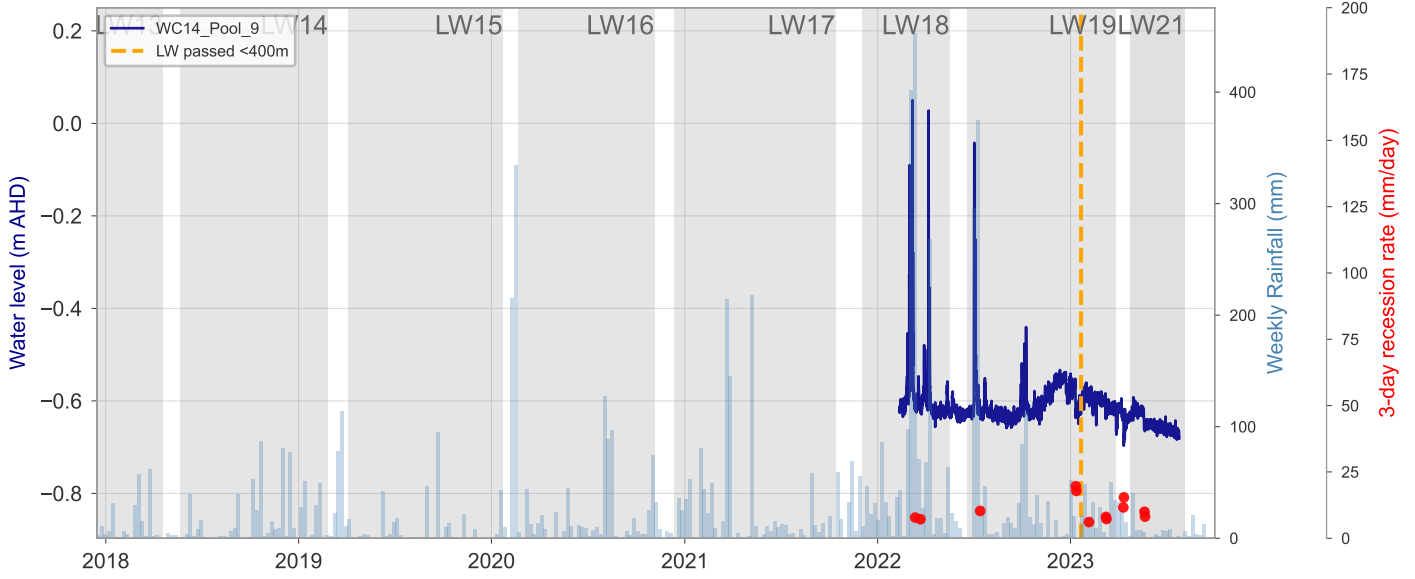
## **Appendix F: Stream pool level hydrographs**

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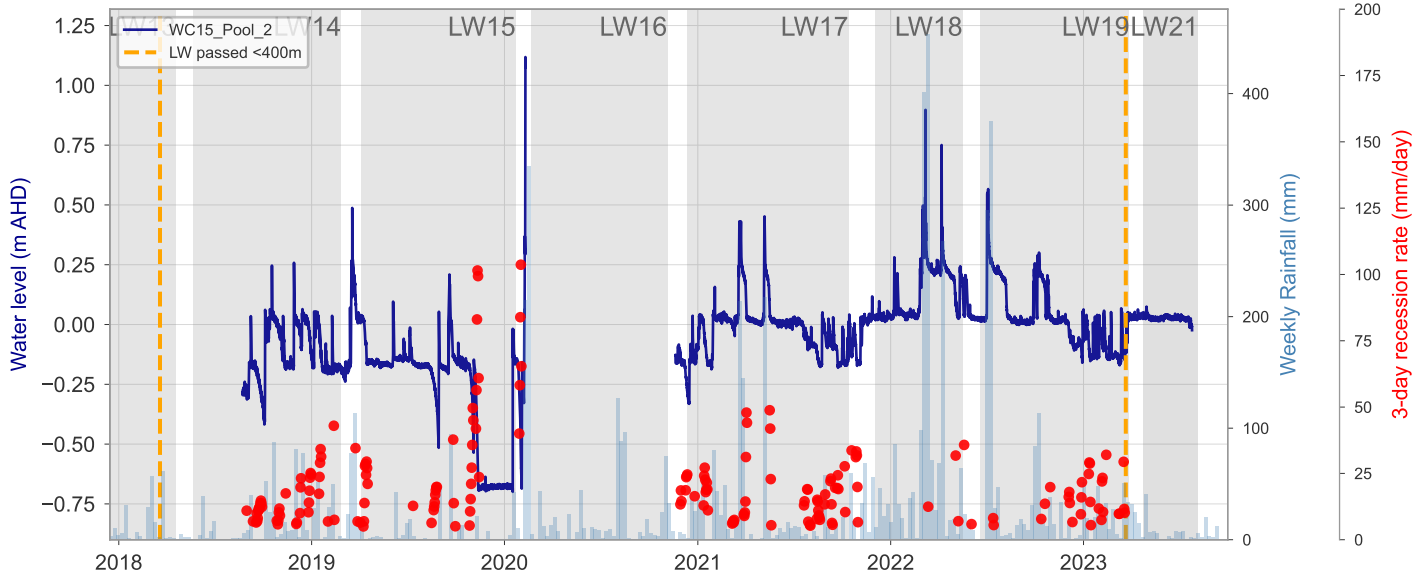
WC13\_Pool\_1



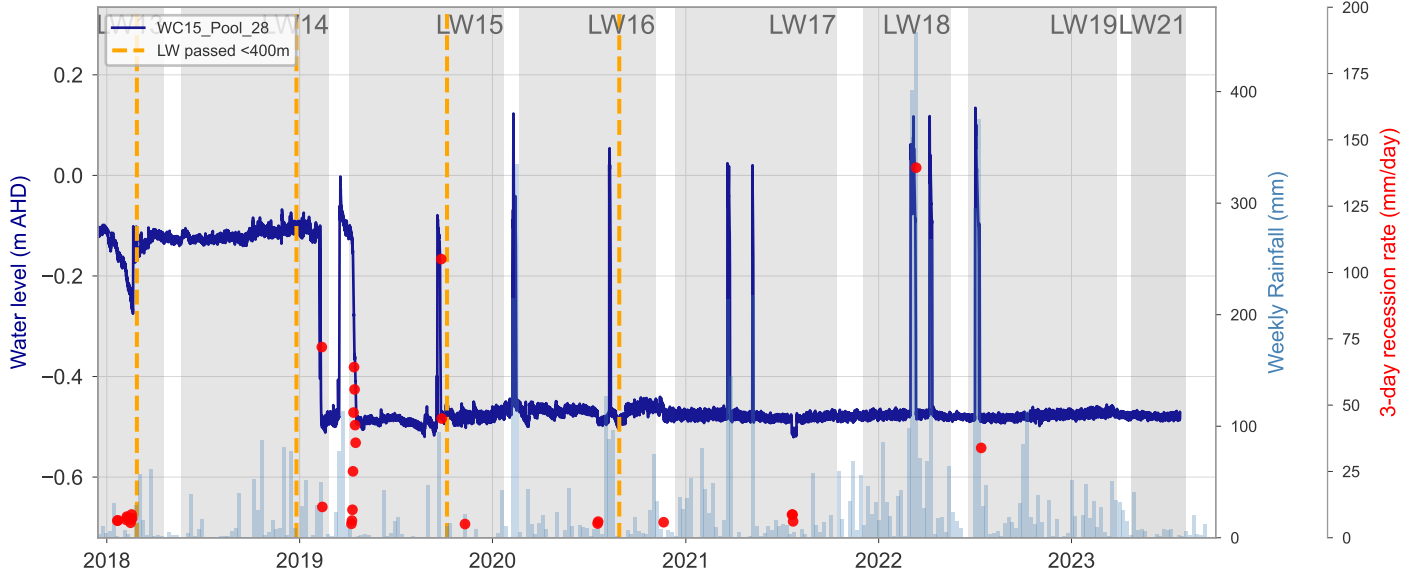
WC14\_Pool\_9



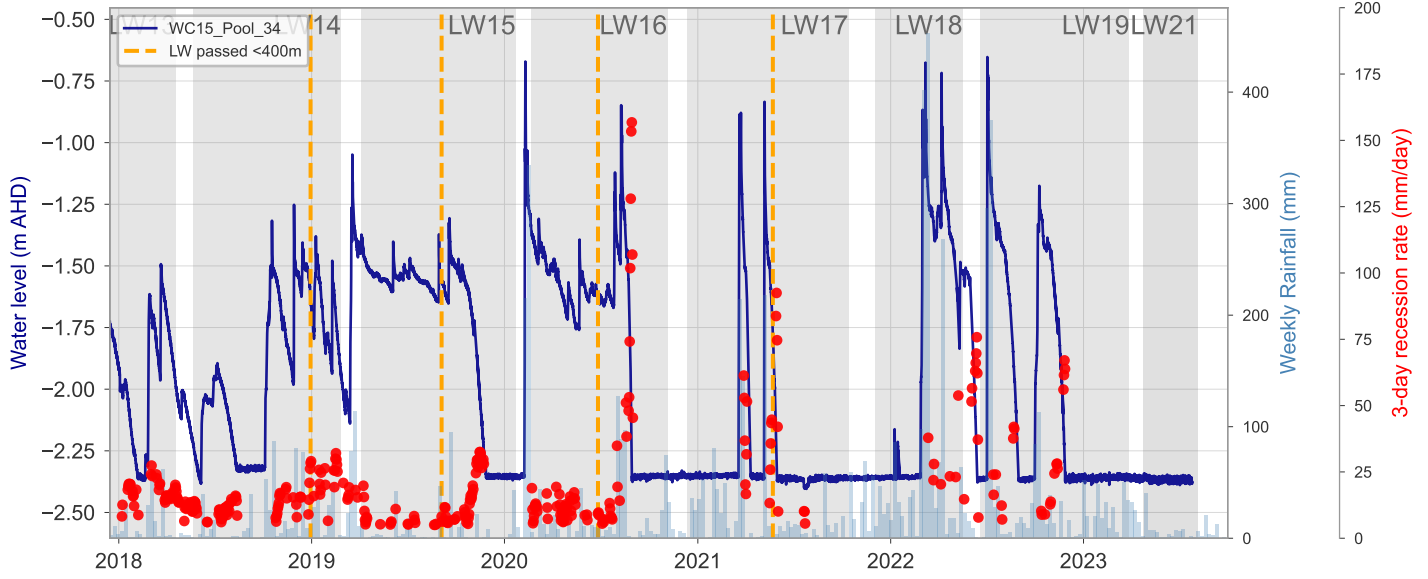
WC15\_Pool\_2



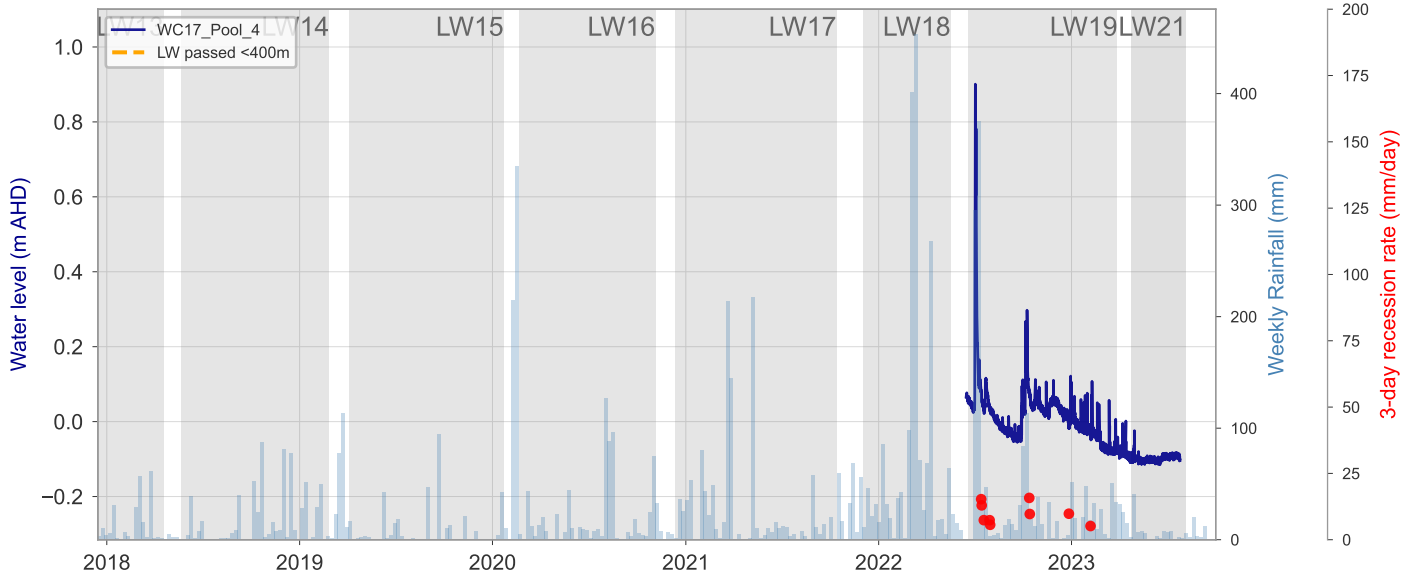
WC15\_Pool\_28



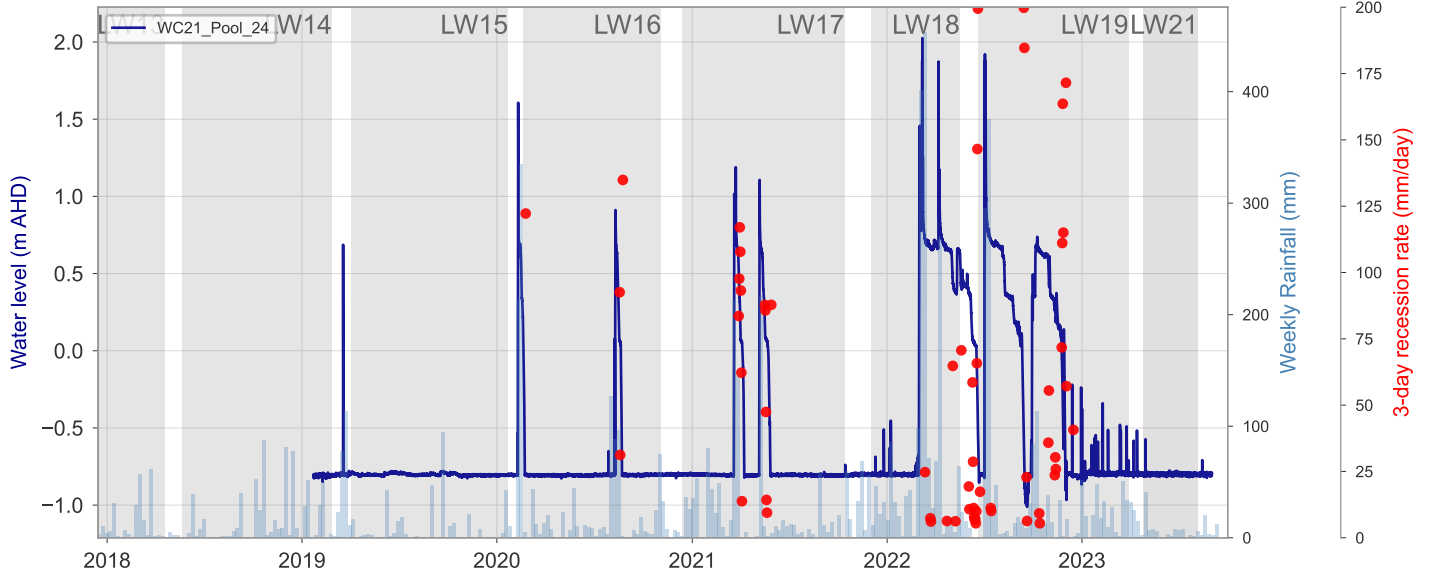
WC15\_Pool\_34



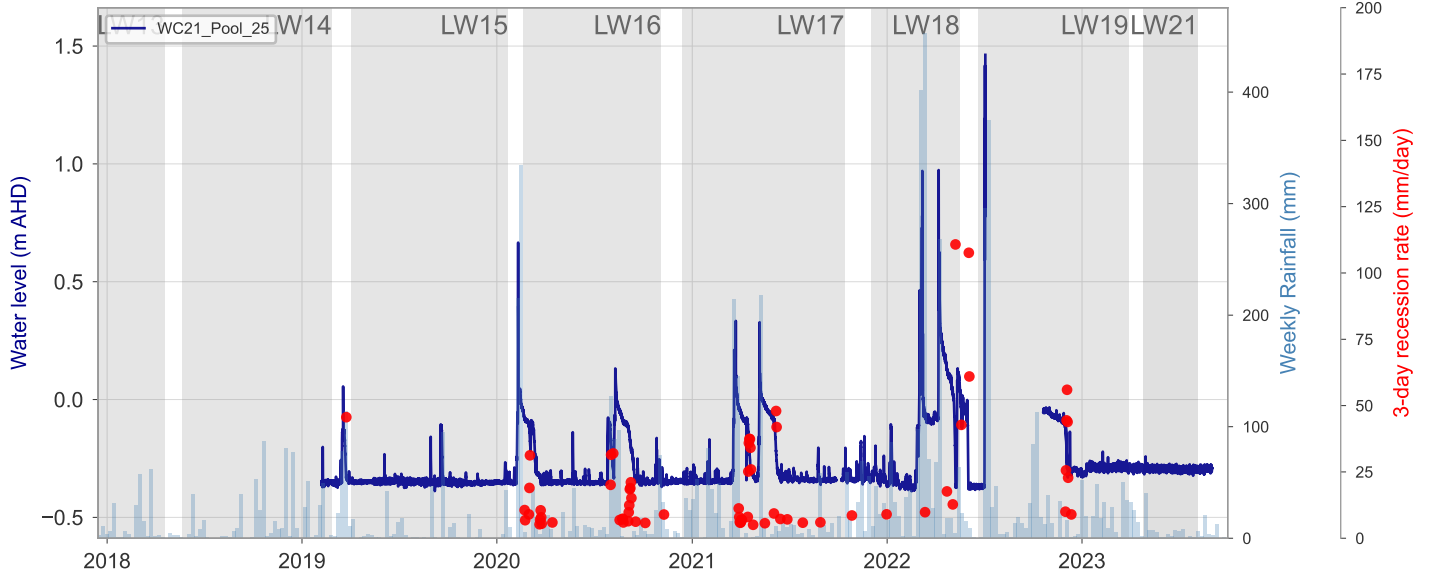
WC17\_Pool\_4



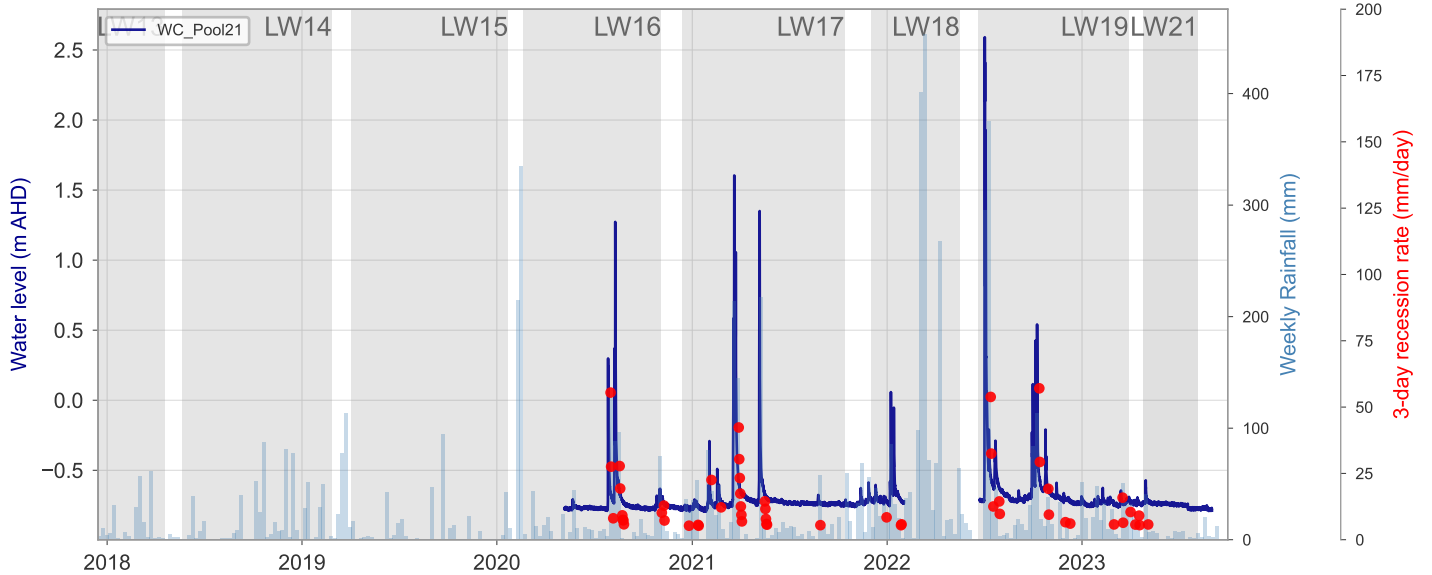
WC21\_Pool\_24



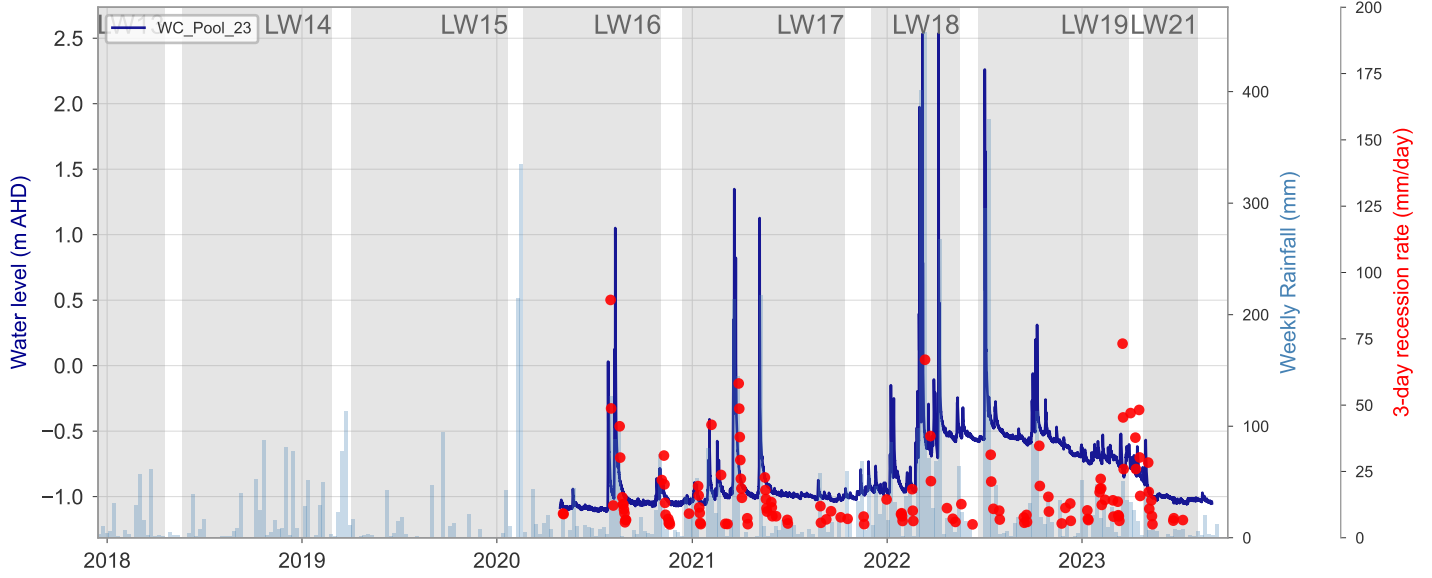
WC21\_Pool\_25



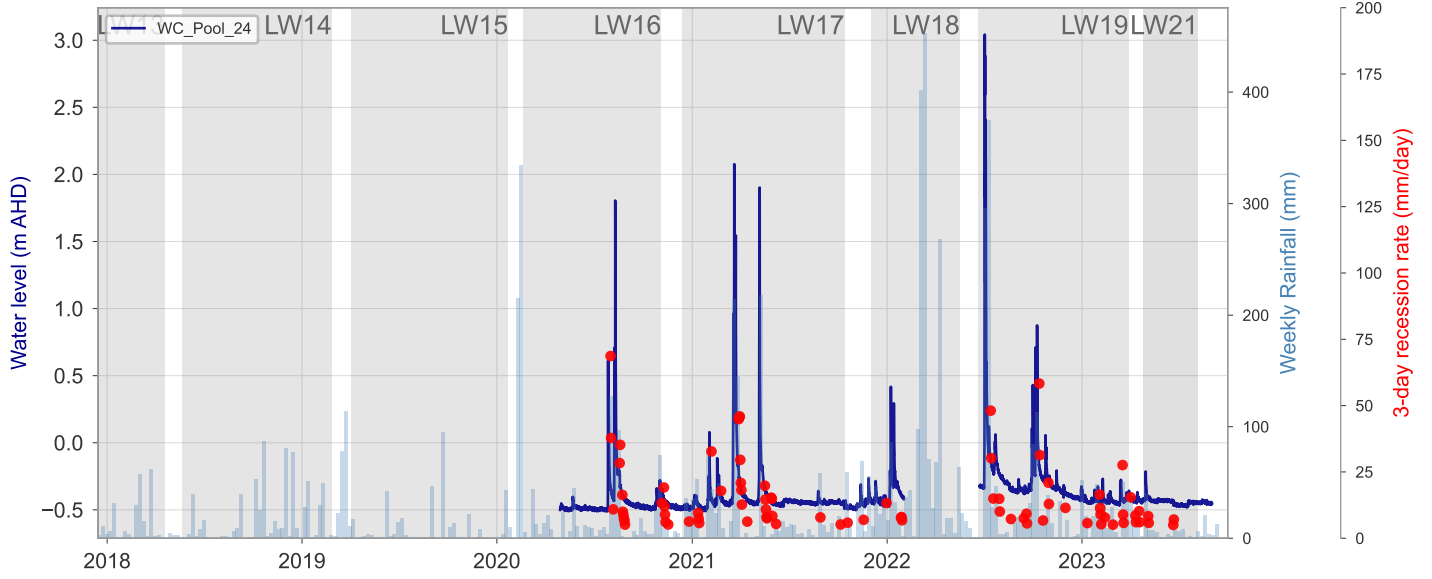
WC\_Pool21



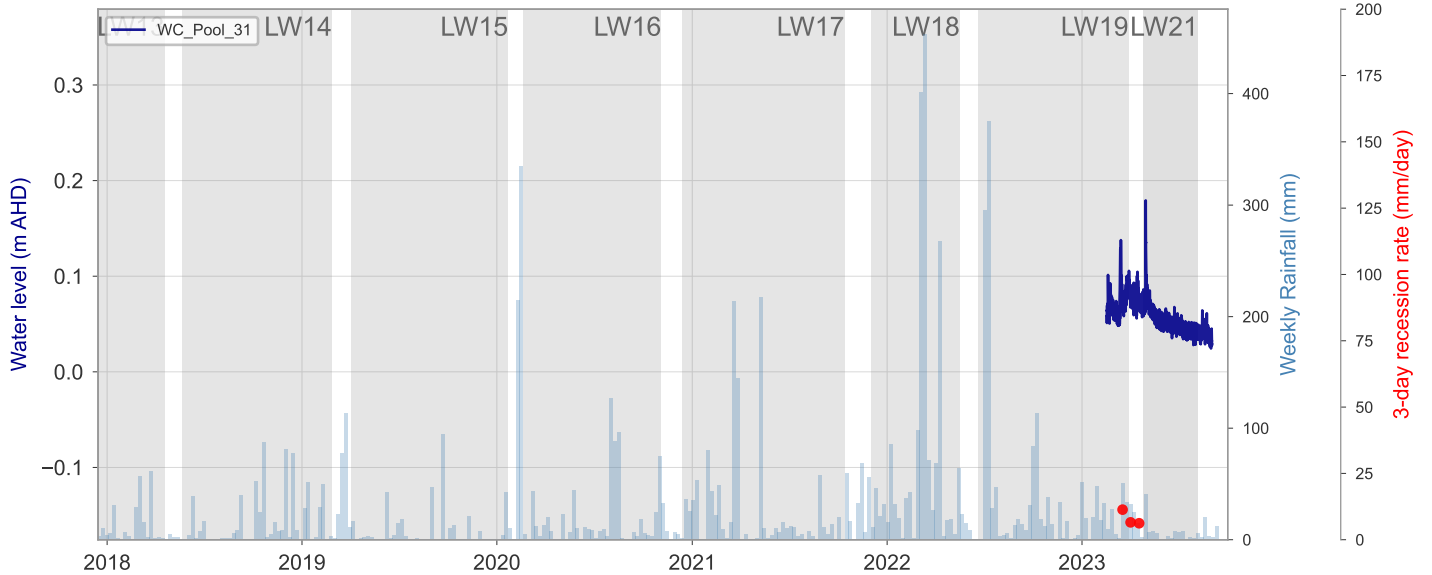
WC\_Pool\_23



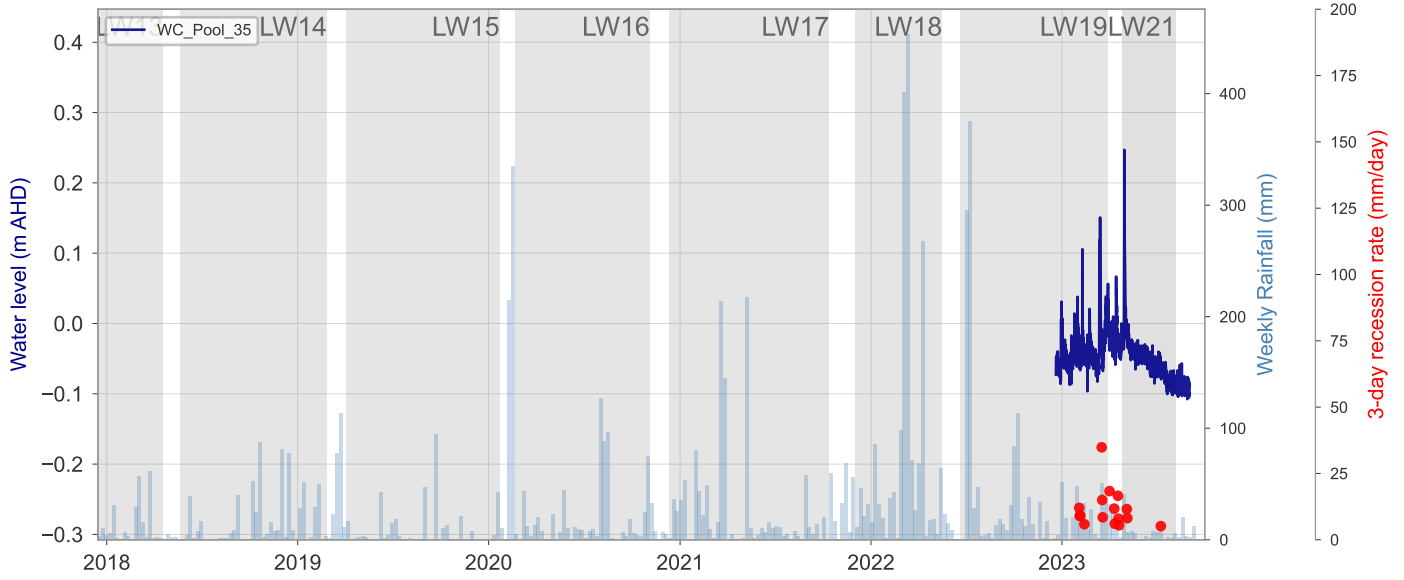
WC\_Pool\_24



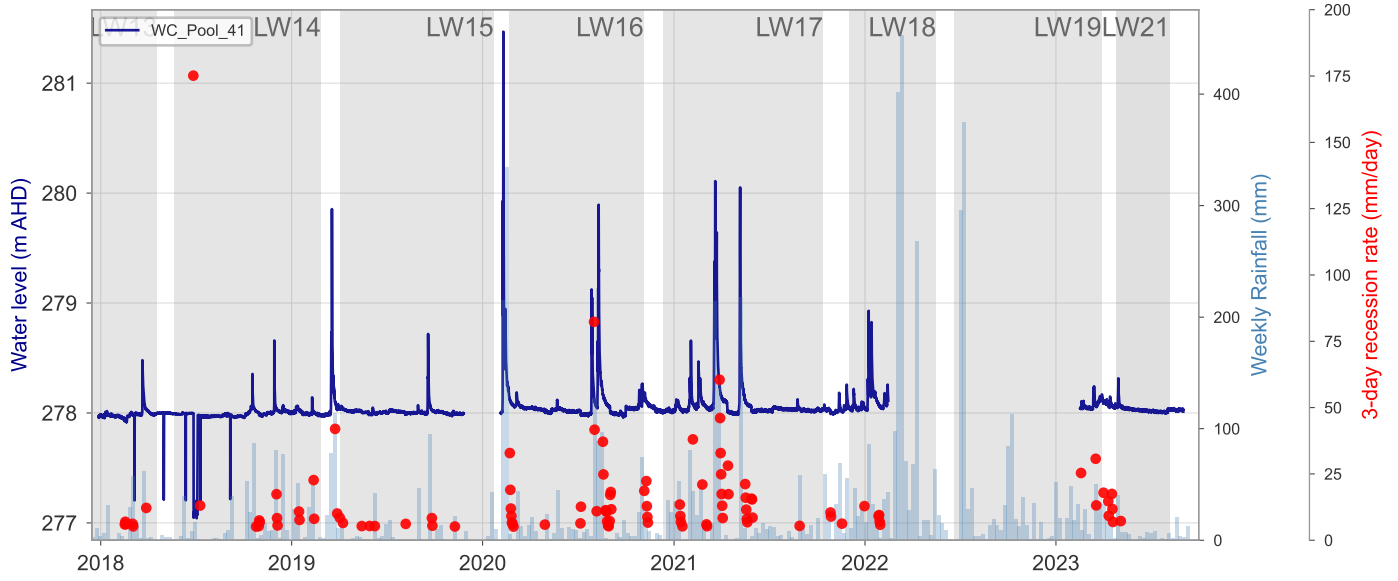
WC\_Pool\_31



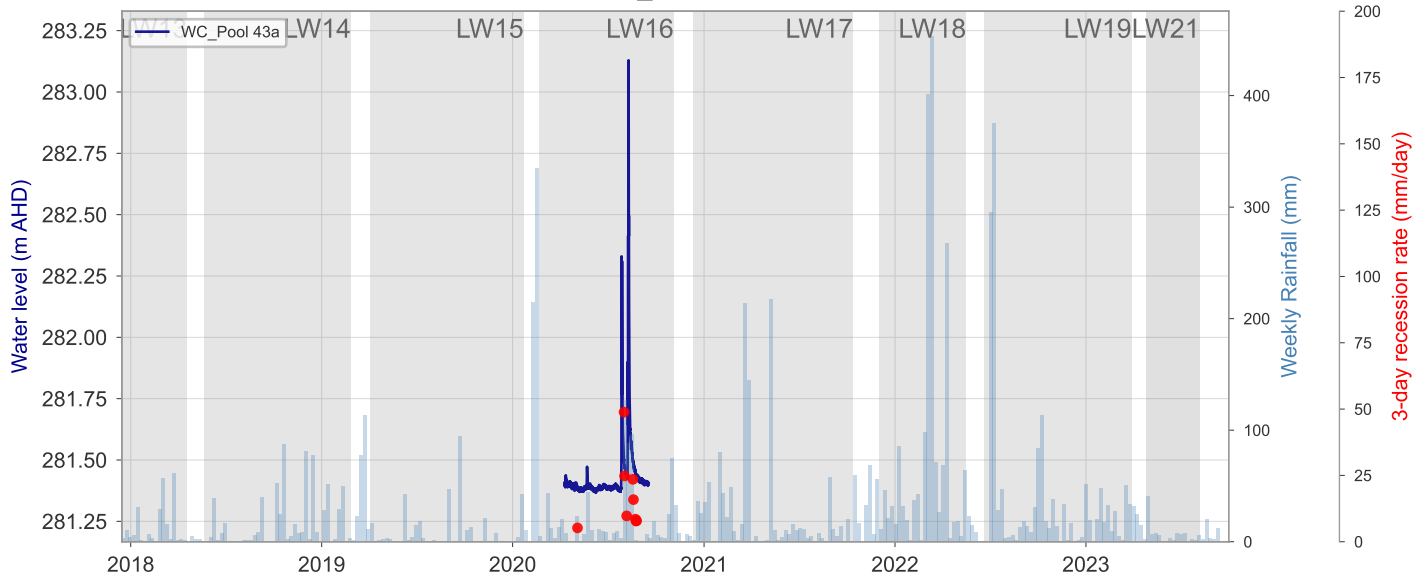
WC\_Pool\_35



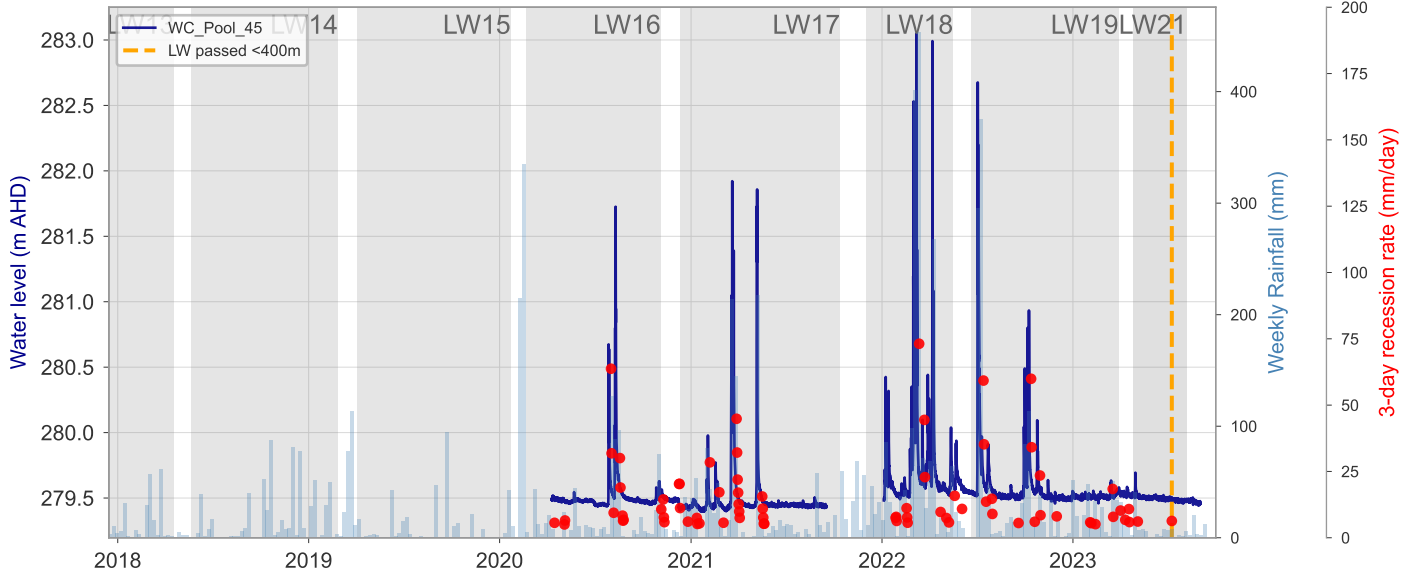
WC\_Pool\_41



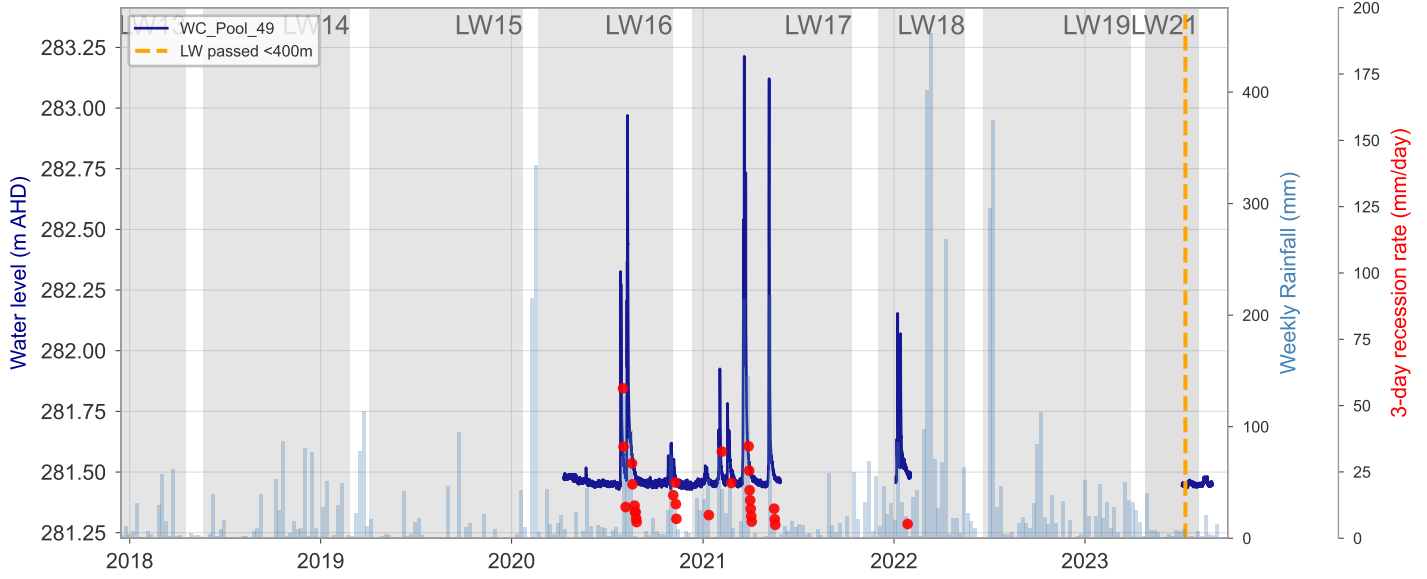
WC\_Pool\_43a



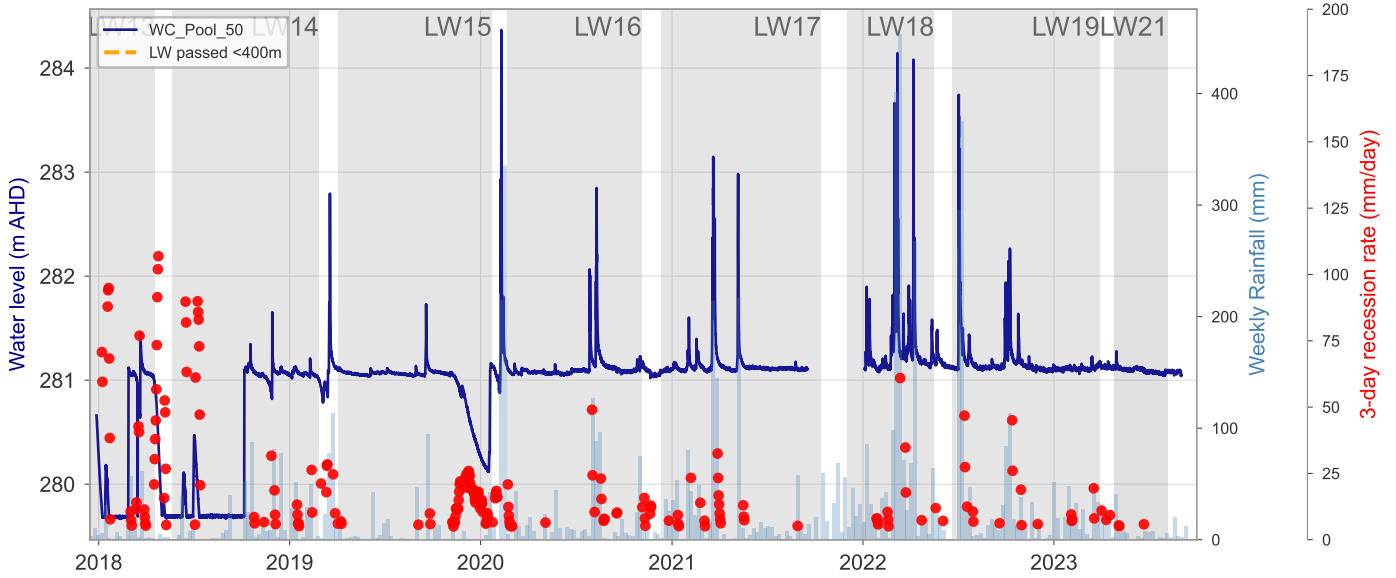
WC\_Pool\_45



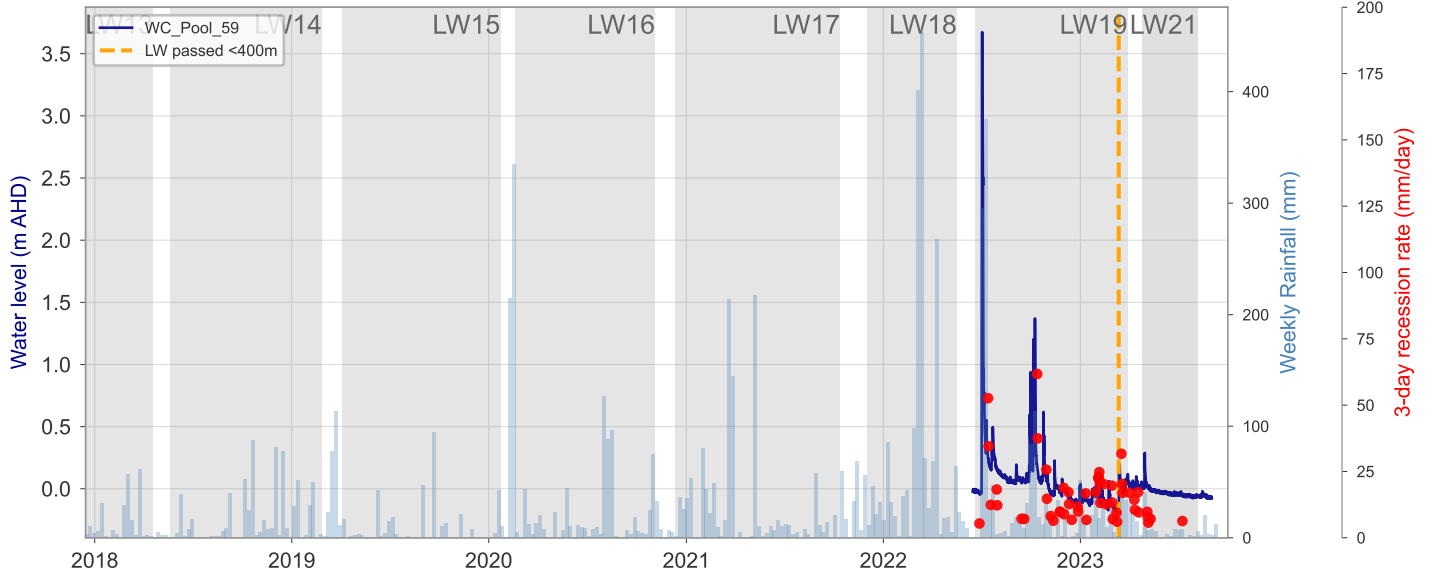
WC\_Pool\_49



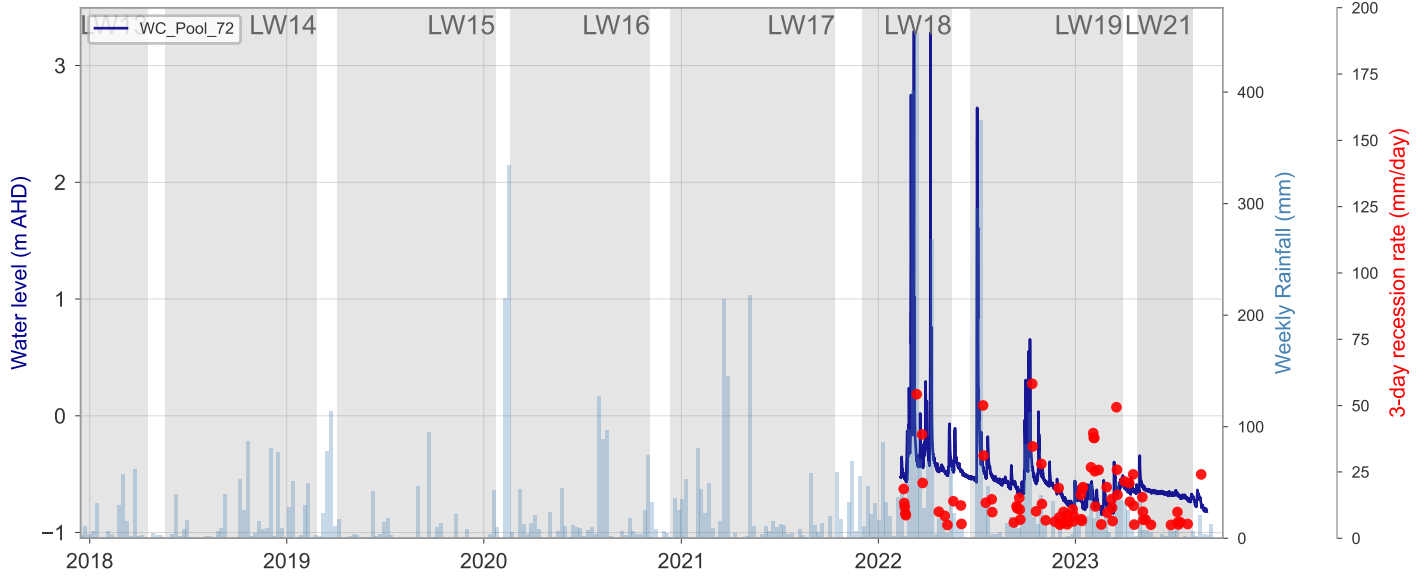
WC\_Pool\_50



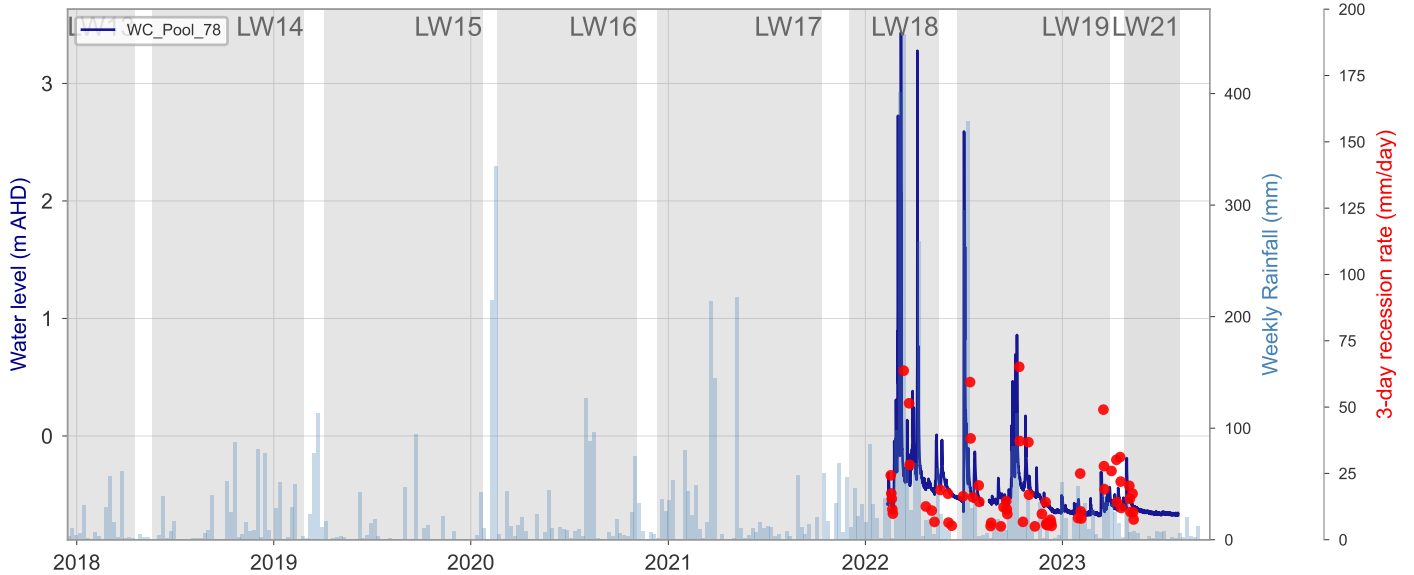
WC\_Pool\_59



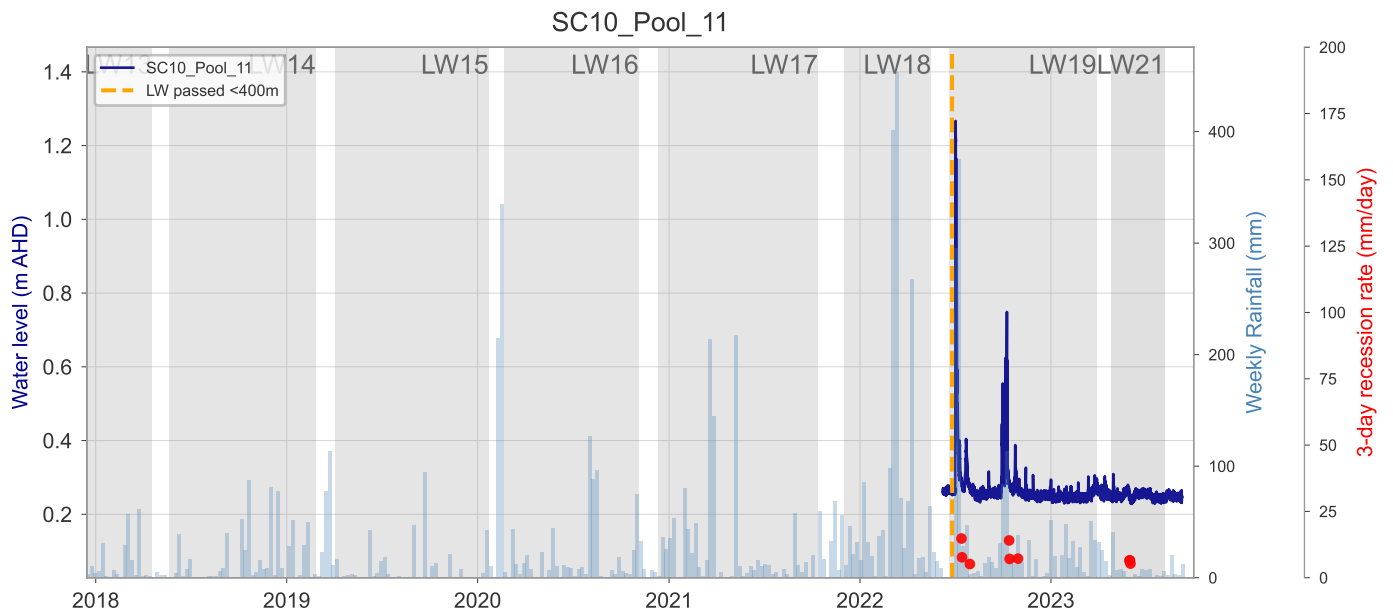
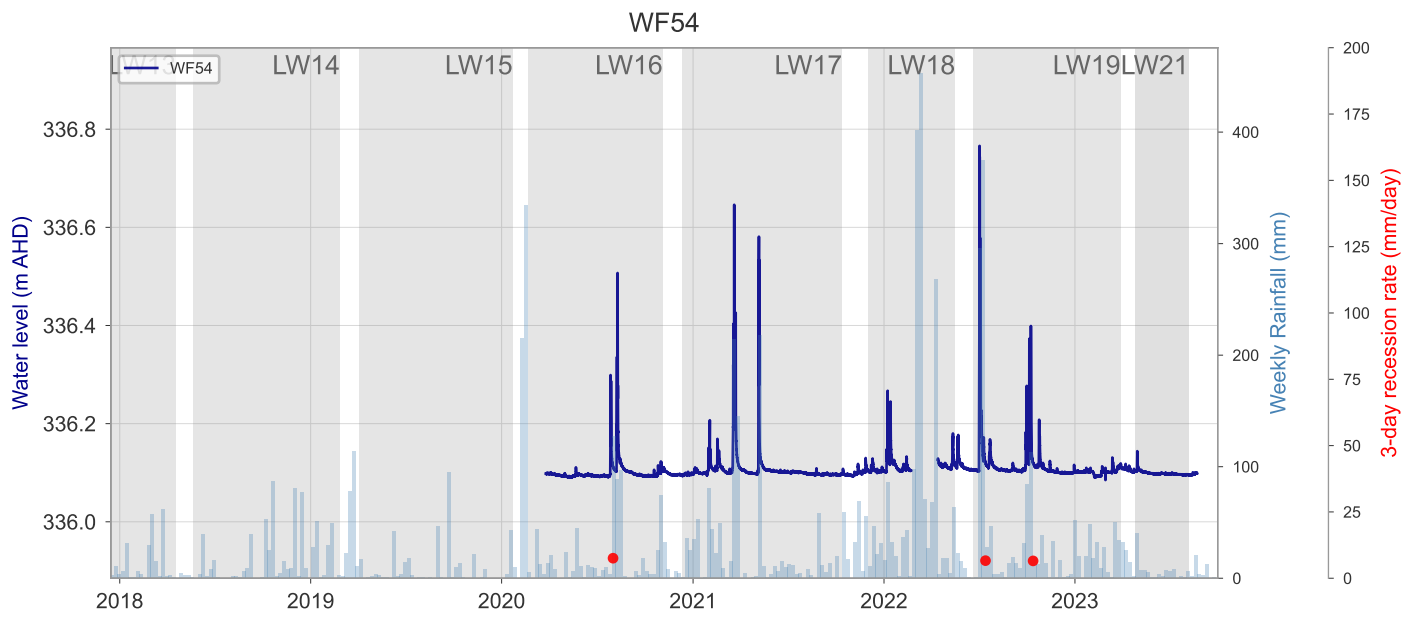
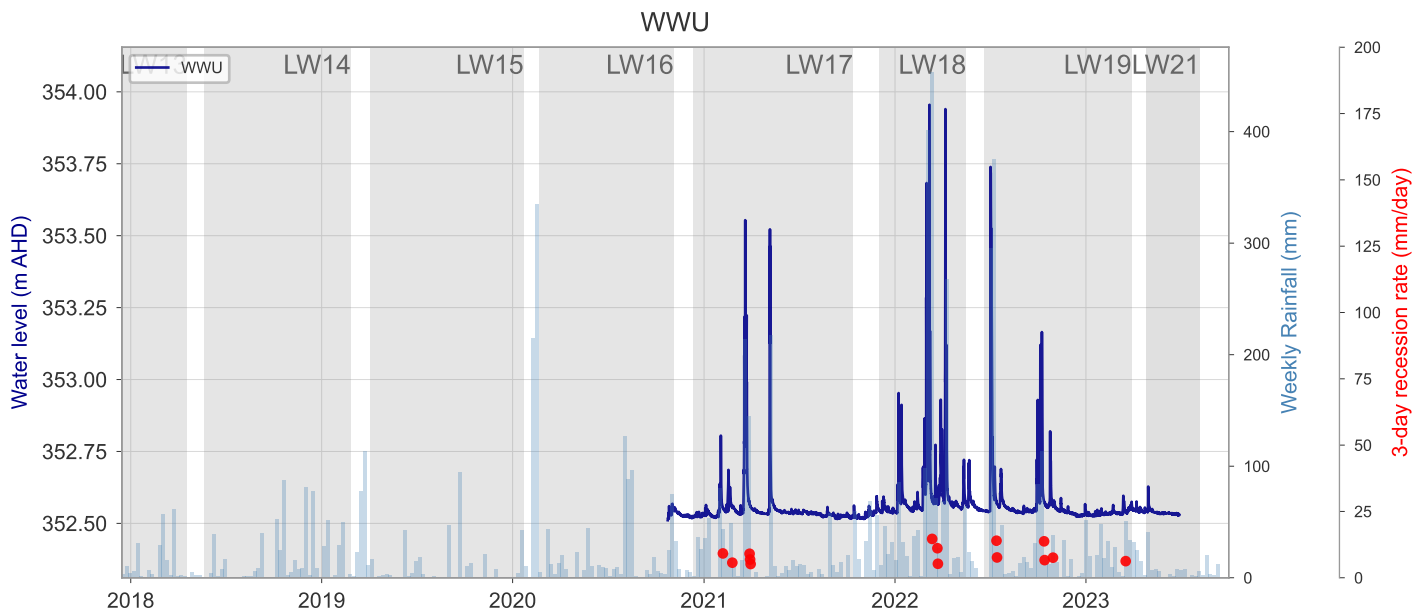
WC\_Pool\_72

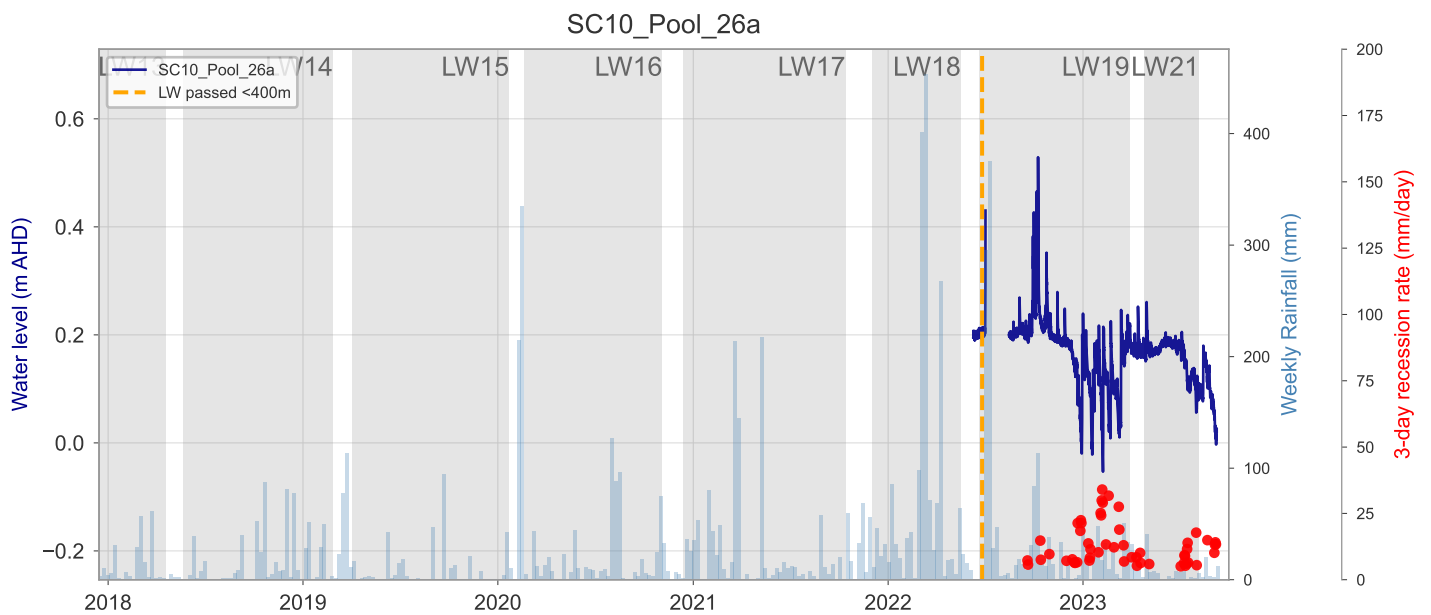
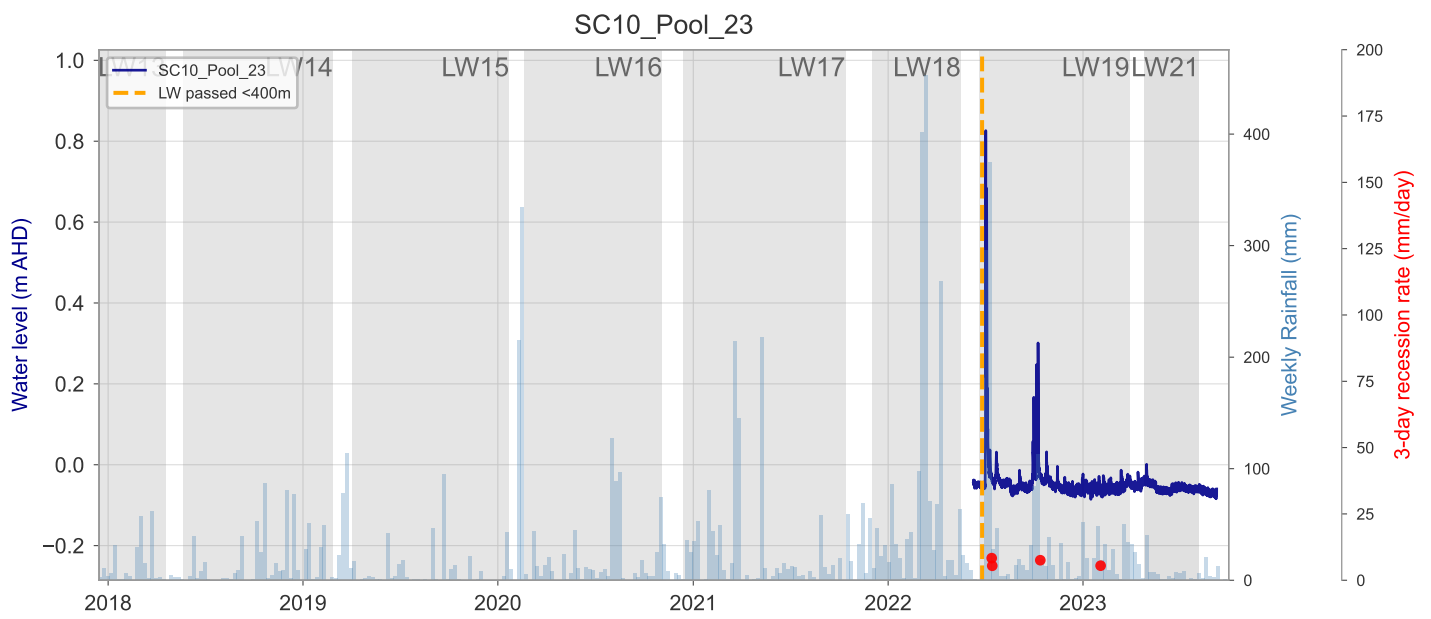
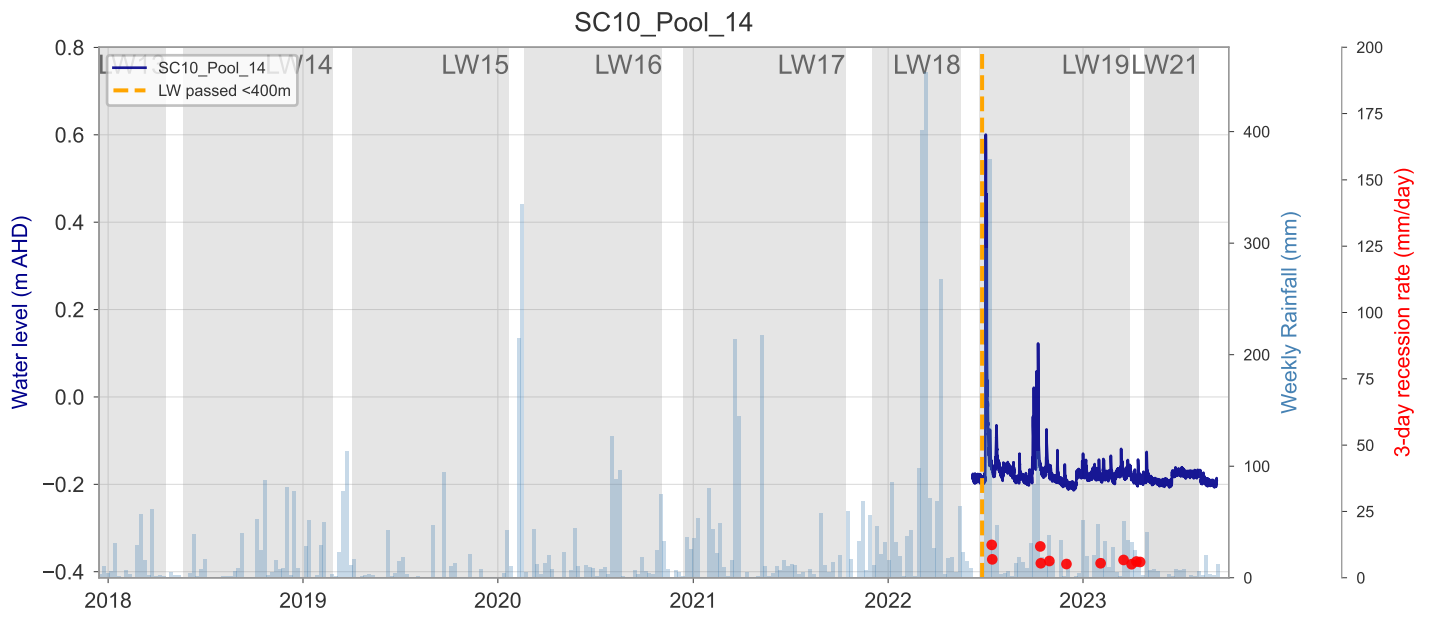


WC\_Pool\_78

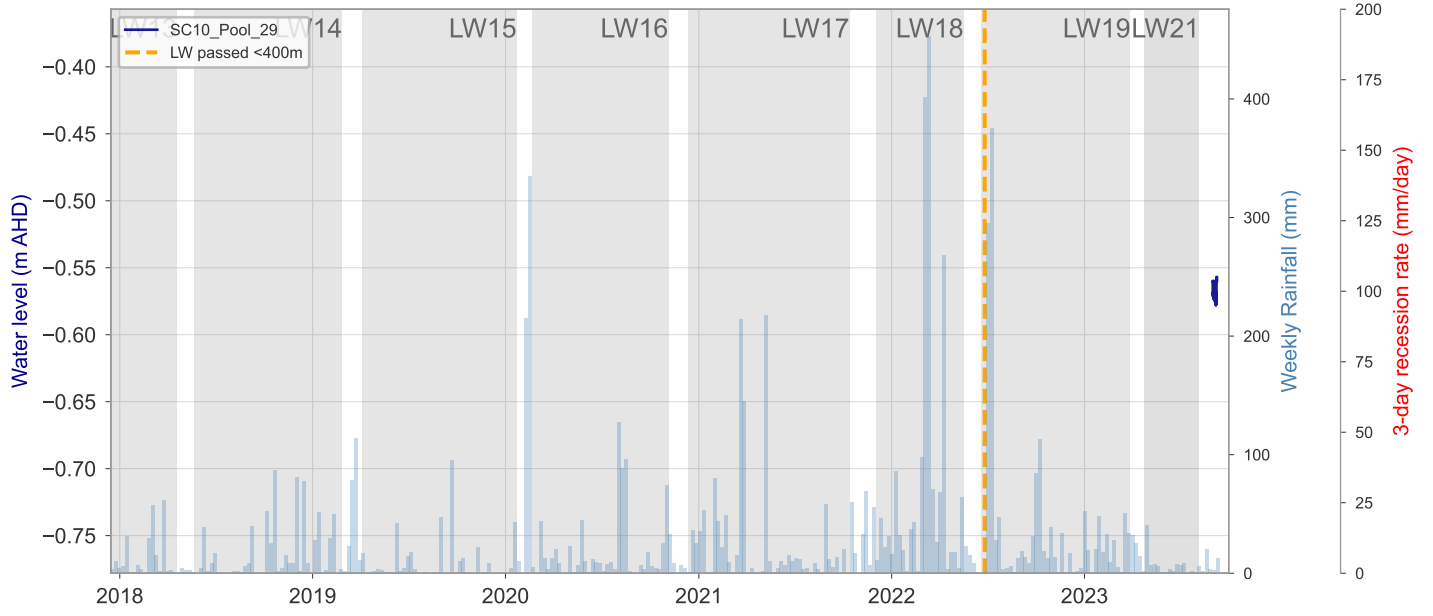








# SC10\_Pool\_29



## **Appendix G: Surface water flow loss assessment**

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### **G1 Assessment for Longwall 21**

Not carried out in this review due to lack of reference site data.

## Appendix H: Watercourse flow observations

TARP Assessment D is carried out in the absence of quantitative flow gauging along the middle reach of Wongawilli Creek, which flows between or past longwalls in Areas 3A, 3B and 3C.

Observations of surface water flow made by IMCEFT are recorded in a semi-qualitative fashion. At each field site (such as at the upstream or downstream end of a pool), an observation of flow conditions is made as follows:

0	No flow visible
1	Subsurface flow observed
2	Surface seepage observed
3	Surface trickle observed
4	Surface flow observed

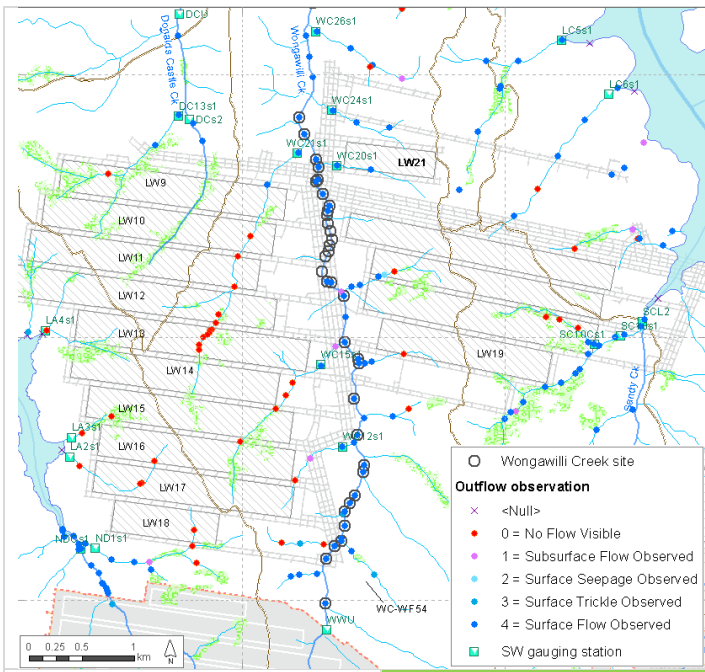
Field surveys typically make an observation at each of the nominated sites around Area 3A, 3B and now Area 3C over the period of a month.

Assessment D makes use of these observations as follows.

- Assess whether observed dry pools and 'cease-to-flow' conditions along Wongawilli Creek between WWU and WWL gauging stations are anomalies, and indicative of mining-related drawdown along that valley (as described in Watershed HydroGeo, 2018).

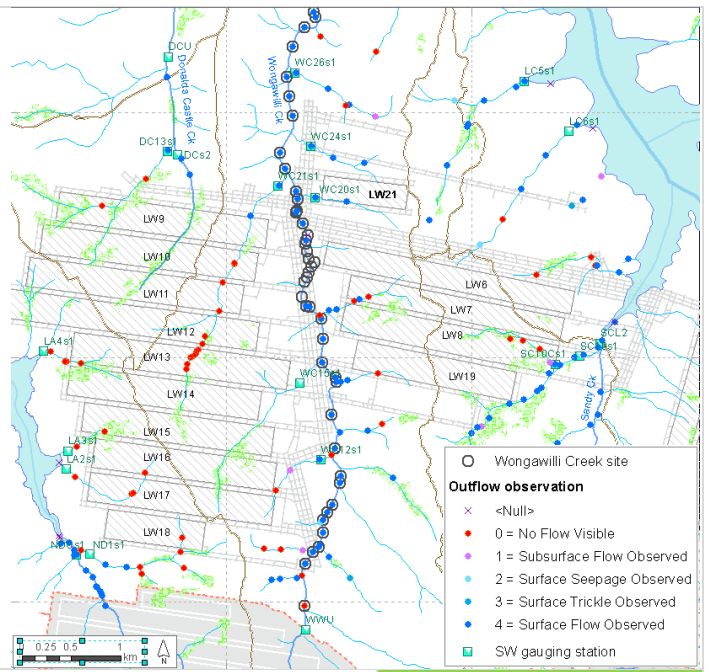
Observations of no flow	Inference
Observation that the subject Creek has ceased to flow at spatially consecutive observation sites.	Level 2 → Carry out Assessment D.

The maps on the following page(s) present the assessment of the "Outflow" observations for the months relevant to Longwall 21. Sites along the main channel of Wongawilli Creek are the subject of Assessment D, and these sites are shown with a hollow black circle to minimise confusion with sites on tributaries yet very close to the main branch of Wongawilli Creek.



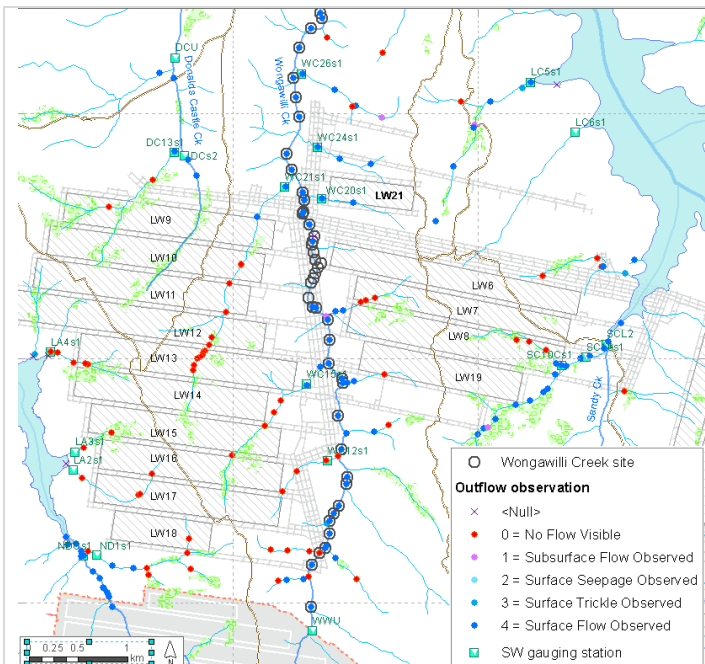
Flow observations: May-2023

Assessment D not triggered



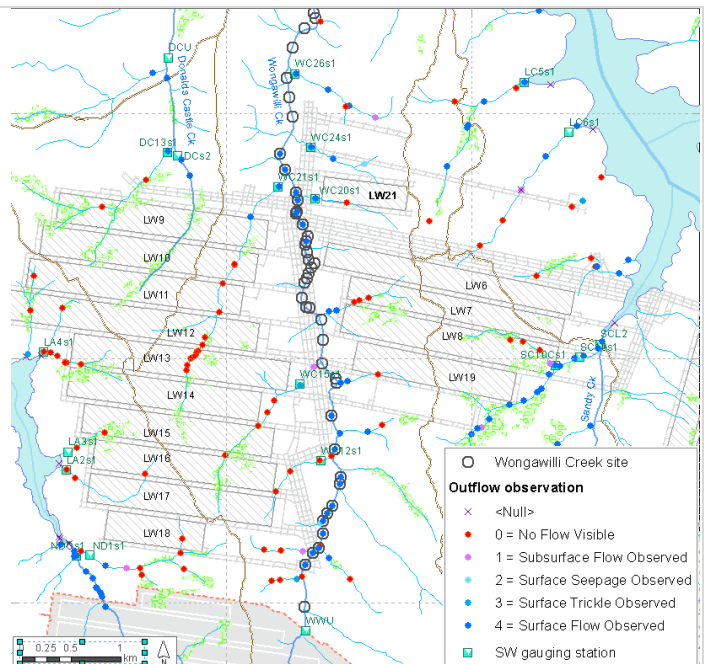
Flow observations: Jun-2023

Assessment D not triggered



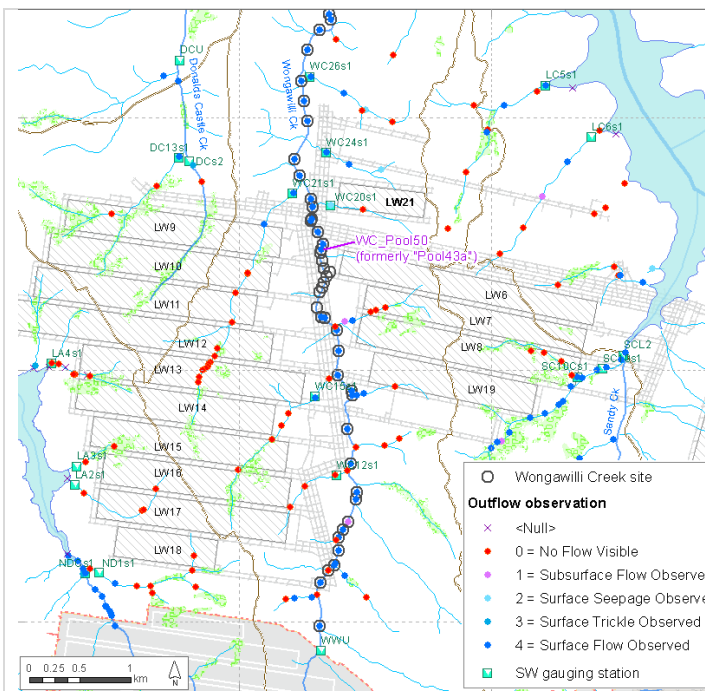
Flow observations: Jul-2023

Assessment D not triggered



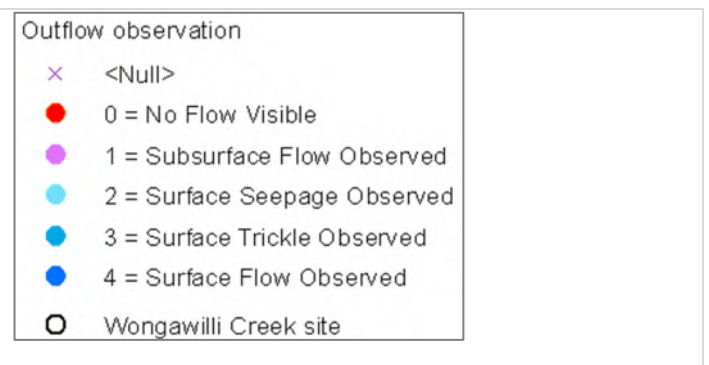
Flow observations: Aug-2023

Assessment D not triggered



Flow observations: Sep-2023

Assessment D not triggered



\* No or limited observations along Wongawilli Ck because of catchment closure due to high rainfall.

## **Appendix I: Rainfall-runoff modelling**

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Not carried out in this review due to lack of reference site data.