

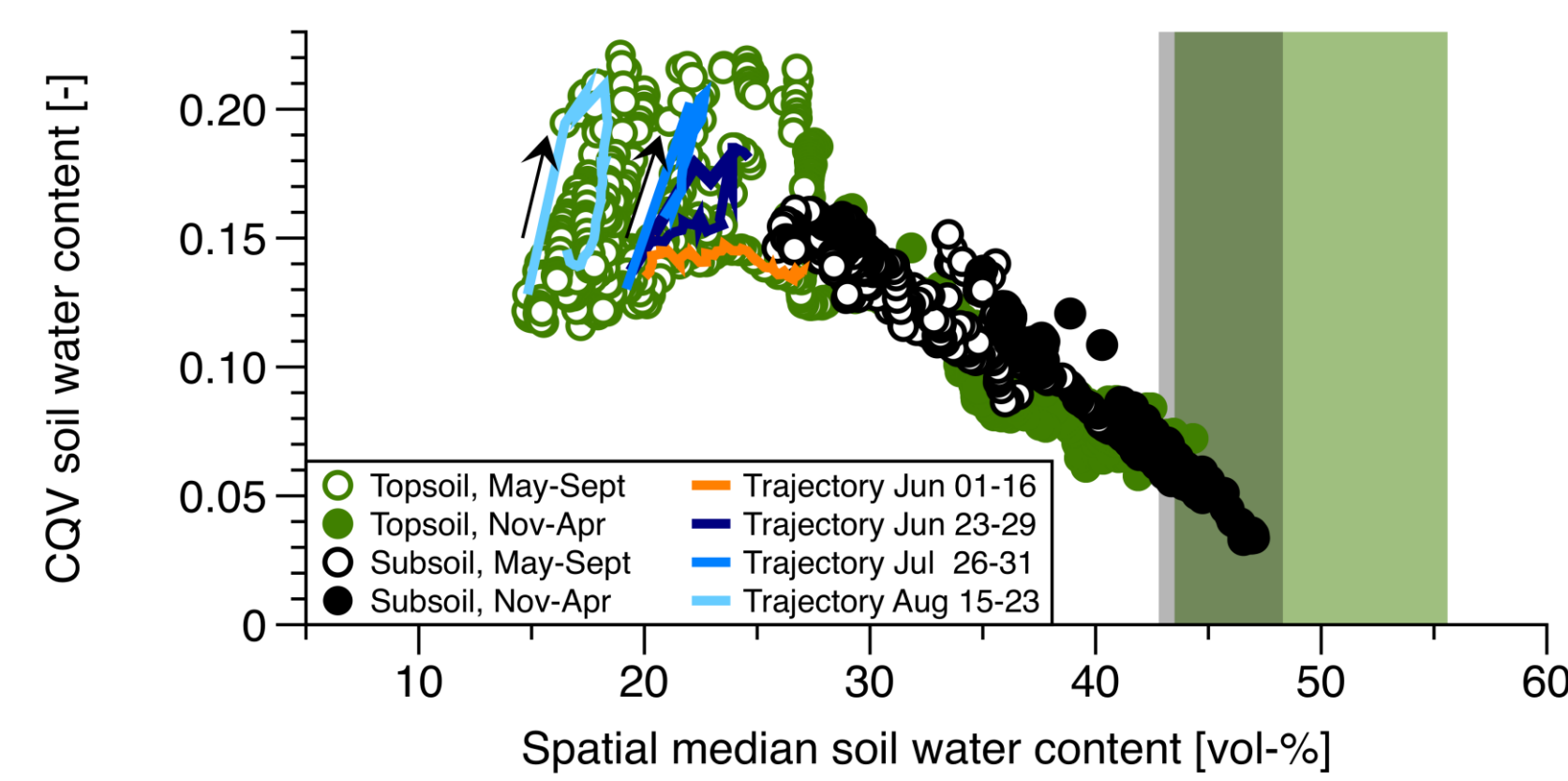
# Spatial Variation of Soil Properties and Throughfall in European Mixed Beech Forest

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**Spatial variation in throughfall and soil properties are of similar magnitude. Both could equally affect distribution of plant available water.**

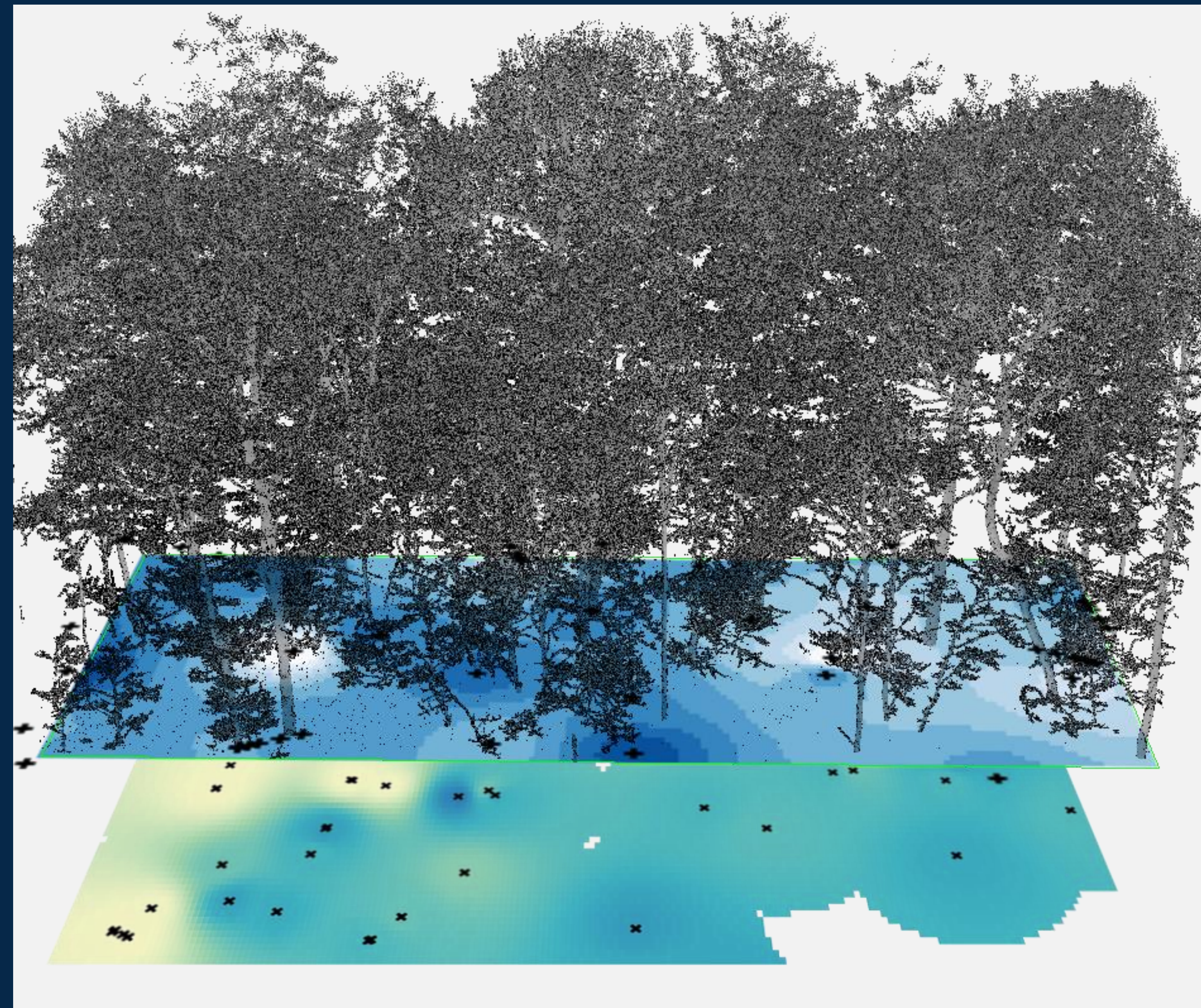
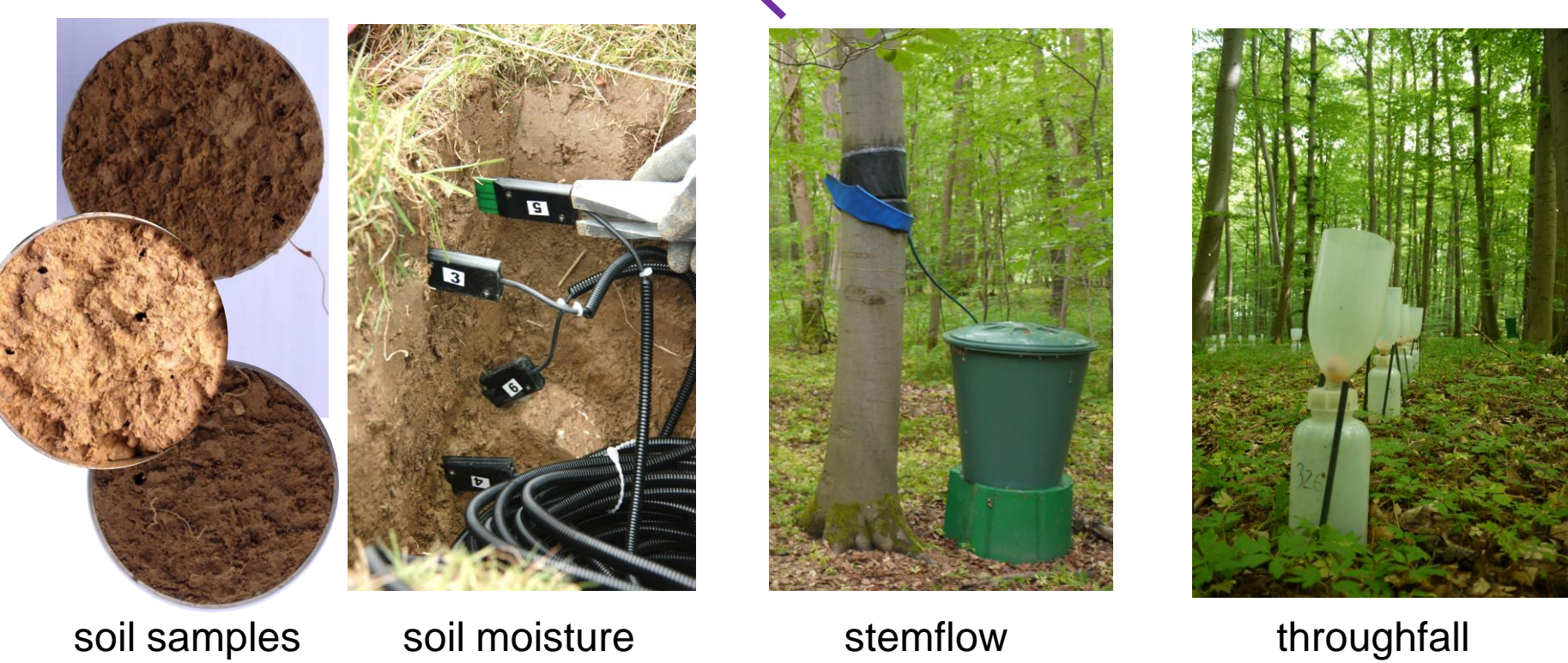
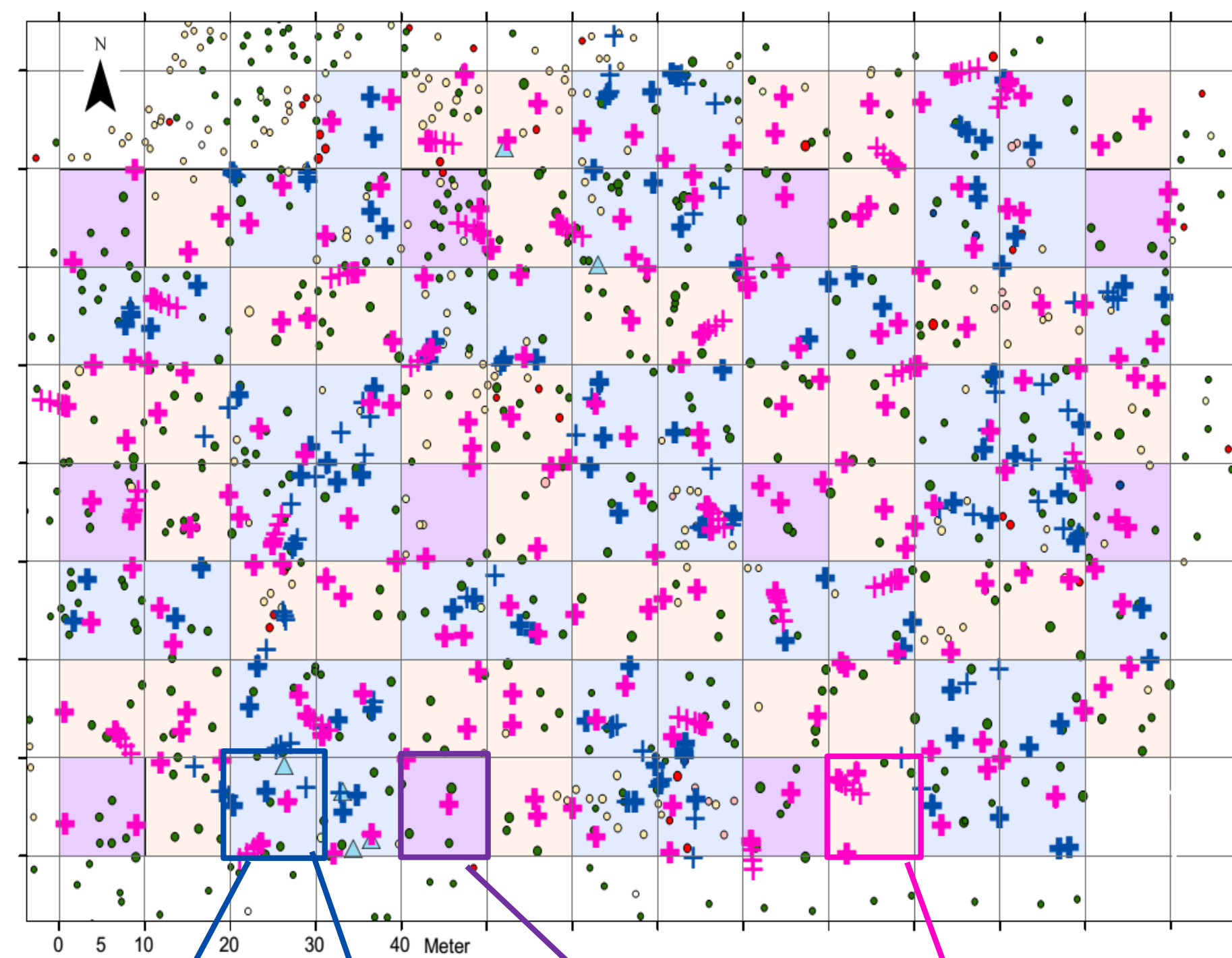
## INTRODUCTION

Variability in soil properties influences soil-water-content distribution and hence plant-available water. It may be a driver to organize root water uptake. At the same time net precipitation hotspots provide greater water availability for root systems. There is no consensus which variation influences plant available water.



## RESEARCH SITE

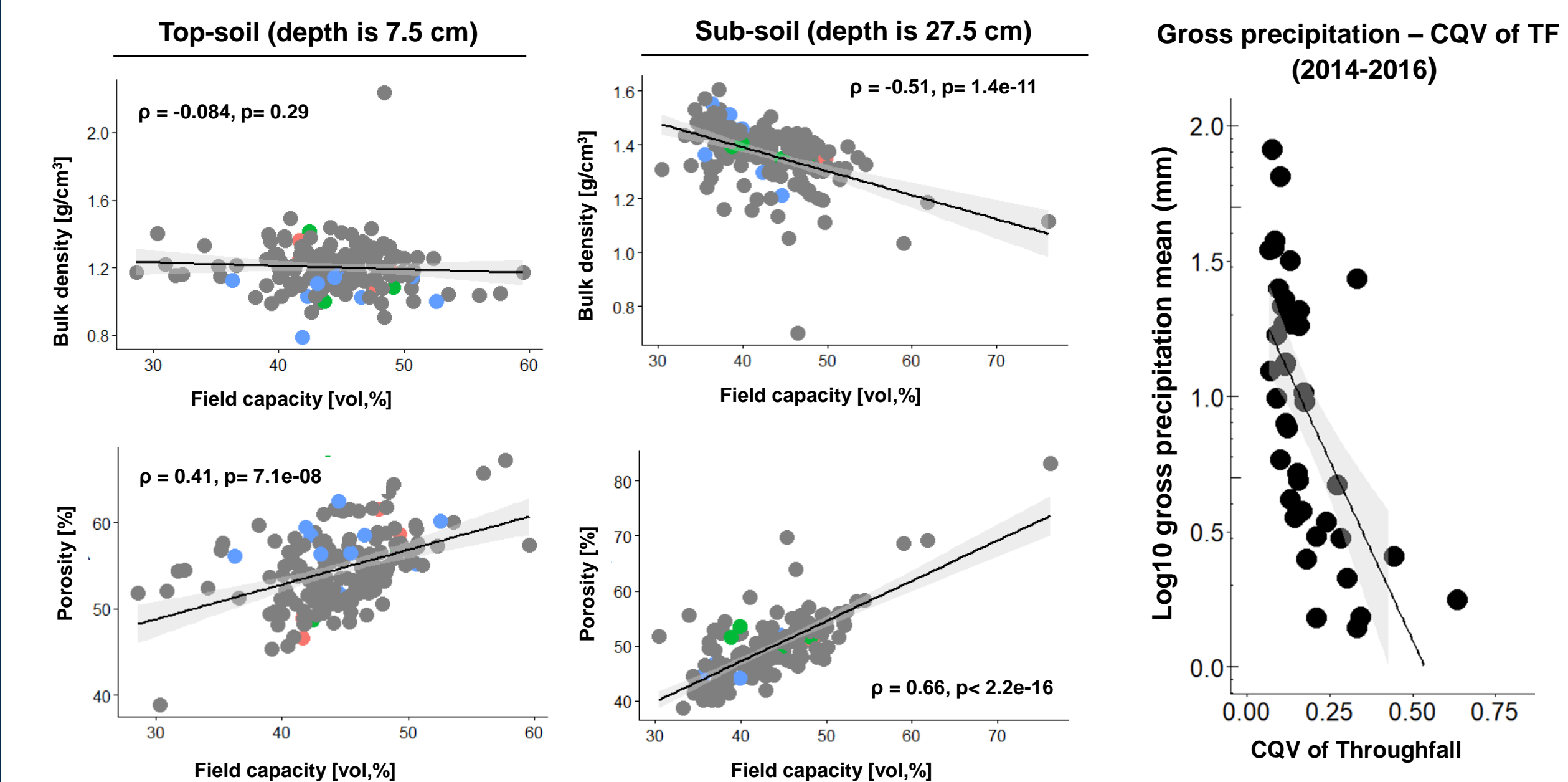
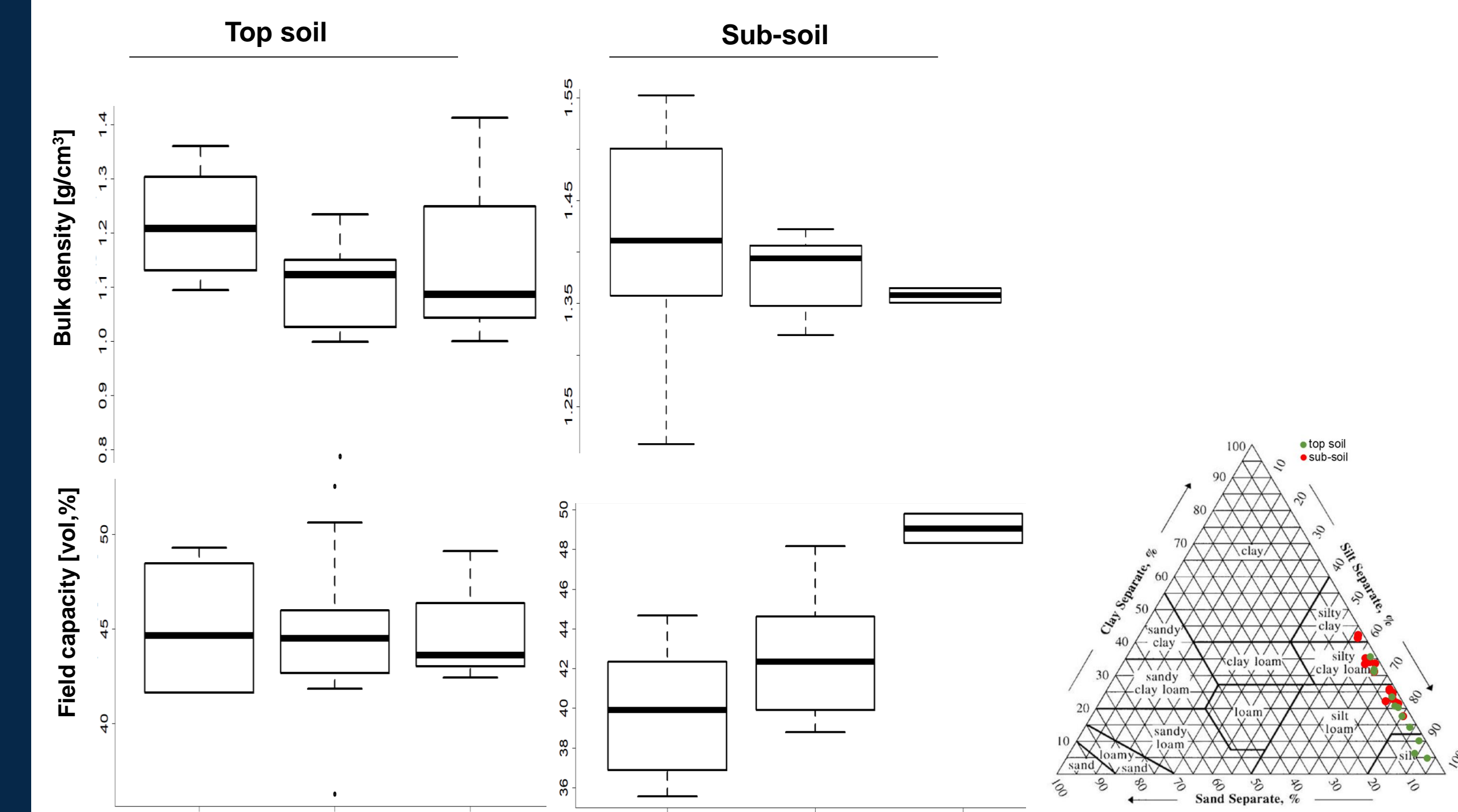
An intensive field was established in the AquaDiva Hainich CZE (Thuringia, Germany).



## METHODS

- Event based throughfall collection: May to June for 2014, 2015 and 2016
- Undisturbed soil samples collection: fall 2014 and 2015

## RESULTS



Top Soil (7.5 cm)					Sub Soil (27.5 cm)					
	n	Median	CQV	OS		n	Median	CQV	OS	
Measured	Field Capacity [vol.%]	162	45	0.06	-0.01	Field Capacity [vol.%]	156	43	0.1	-0.04
	Bulk density [g/cm³]	162	1.2	0.06	-0.01	Bulk density [g/cm³]	156	1.37	0.04	-0.16
	Porosity [%]	162	54	0.05	0.1	Porosity [%]	156	49	0.06	0.03
Estimated	Field Capacity [vol.%]	18	50.03	0.05	-0.11	Field Capacity [vol.%]	16	44.73	0.04	-0.23
	Permanent Wilting Point [vol.%]	18	30.19	0.12	-0.35	Permanent Wilting Point [vol.%]	16	31.82	0.06	-0.16
	Plant Available Water [vol.%]	18	19.4	0.18	0.44	Plant Available Water [vol.%]	16	12.25	0.09	0.56

