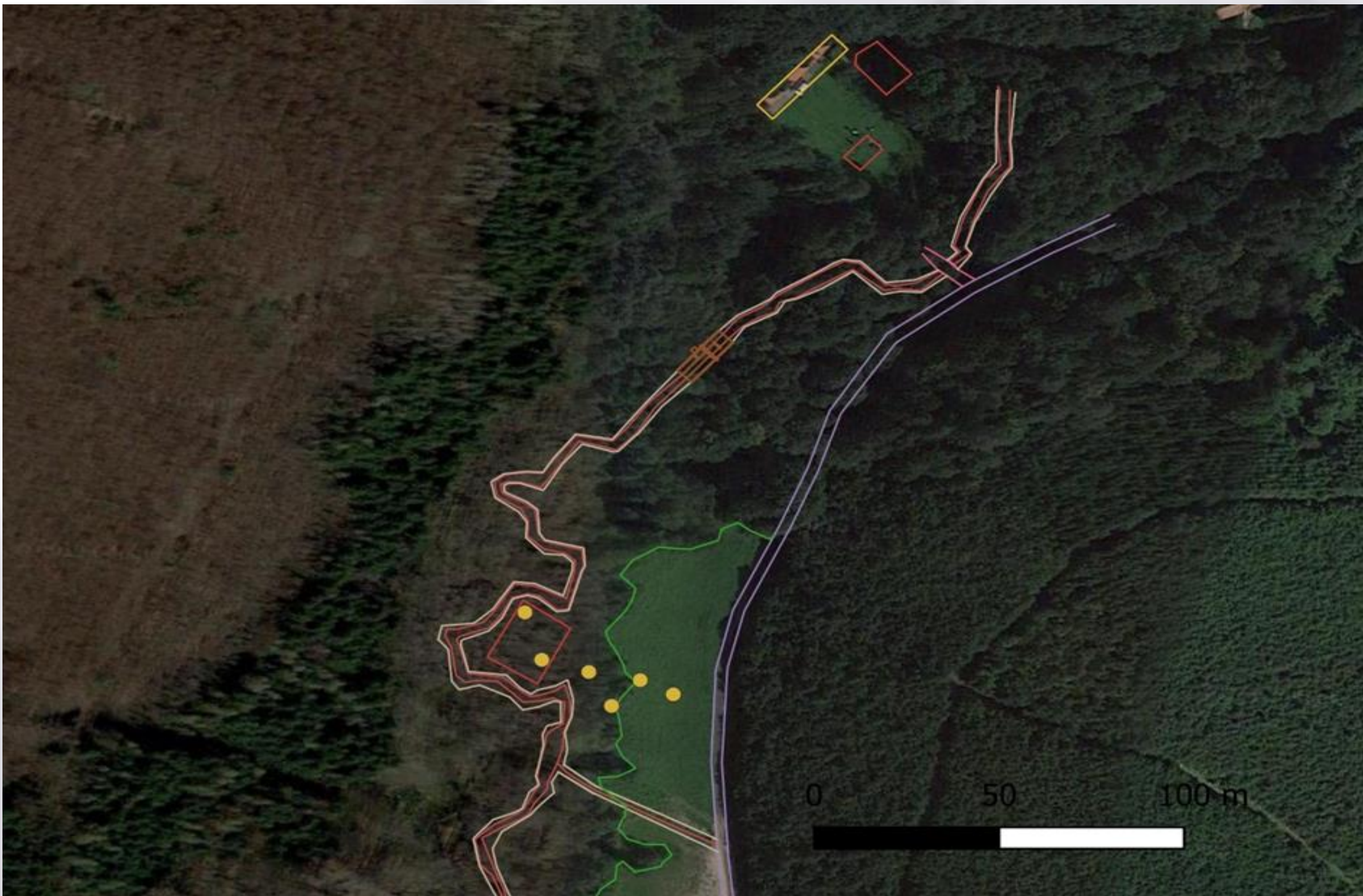


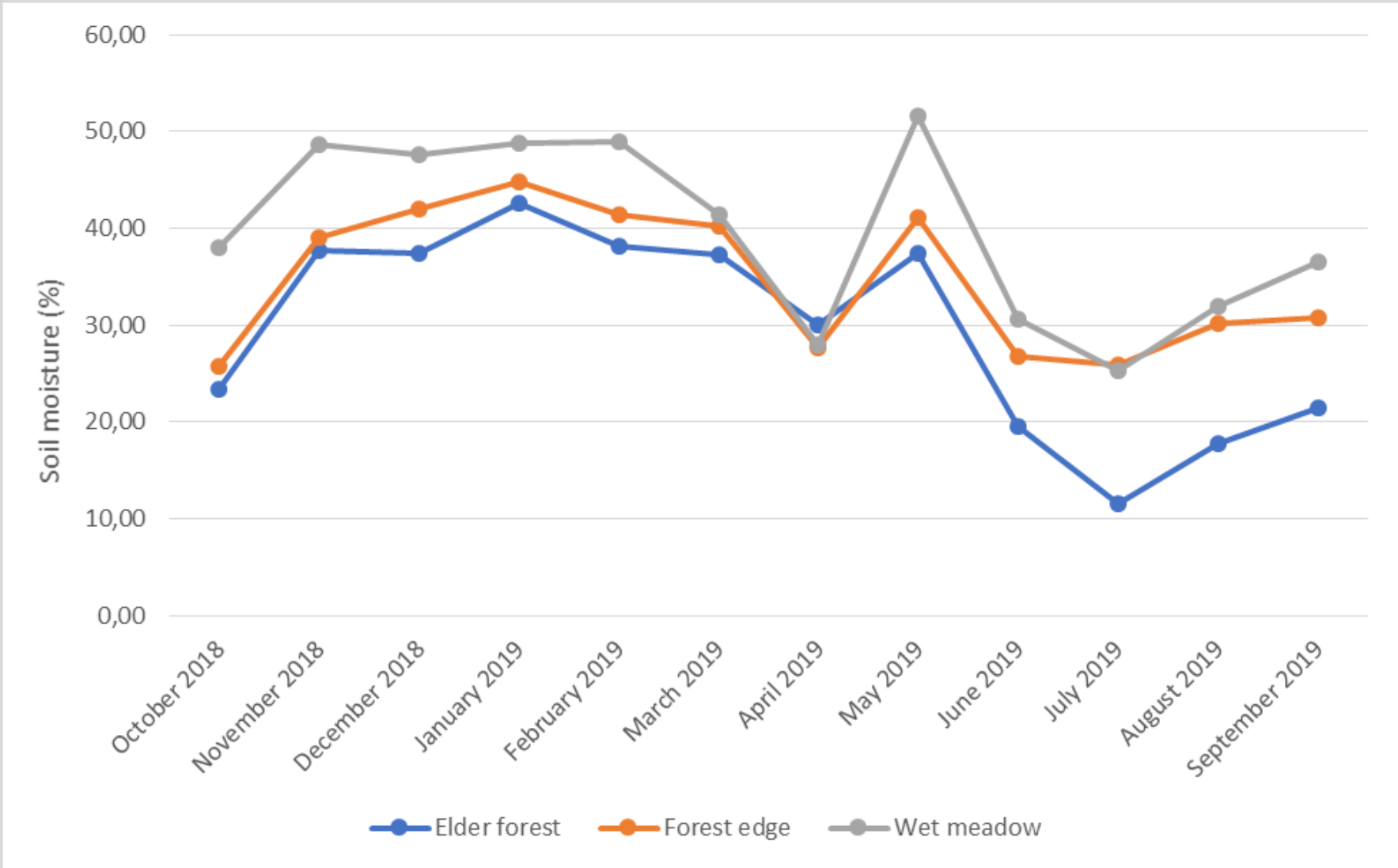
# GROUNDWATER DEPENDENT FOREST AND WET MEADOW CHARACTERISTICS IN A CHANGING CLIMATE

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**Figure 1: The sampling area in the Hidegvíz-valley experimental catchment.** The brown line stands for the stream, the lilac is the road, the red one is the elder garden, and the green is the edge of the forest. Yellow dots are representing the places where we measured the soil moisture.



**Figure 2: Soil moisture measured by the TDR instrument in the observed year**

The water balance equation is:

$$P - INT - (PET - INT) = dS - ETgw$$

Where P is precipitation, INT is interception, PET is potential evapotranspiration, dS is change in the storage, ETgw is groundwater inflow. The PET-INT means the transpiration water intake.

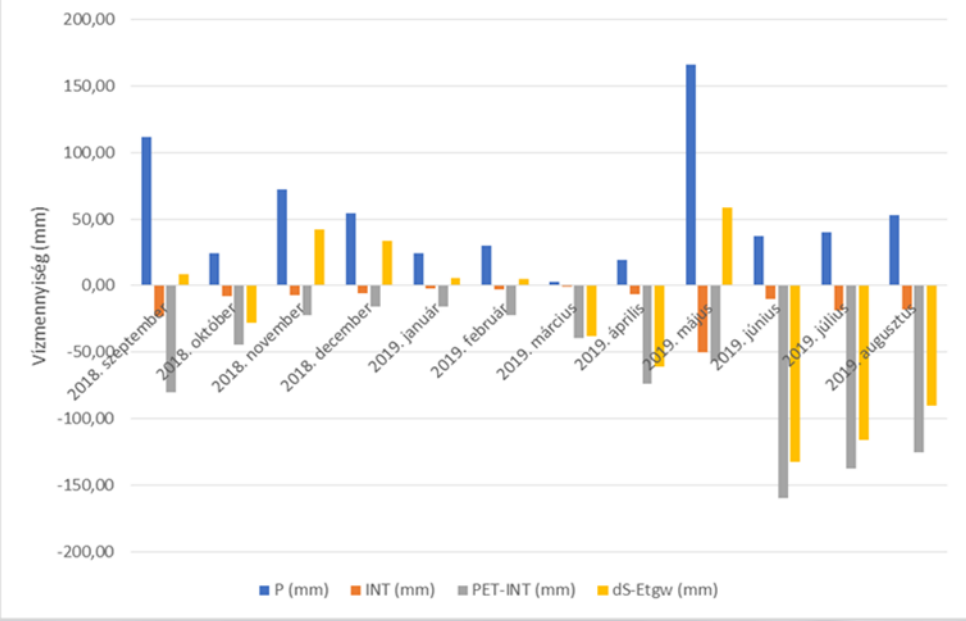
Plant species	A-D value	W value
Canopy layer		
Black alder ( <i>Alnus glutinosa</i> )	4	10
Sycamore ( <i>Acer pseudoplatanus</i> )	+	6
Shrub layer		
Black elder ( <i>Sambucus nigra</i> )	3	5
Blackberry ( <i>Rubus spp.</i> )	2	5
Common spindle ( <i>Eounymus europaeus</i> )	1	5
Ivy ( <i>Hedera helix</i> )	1	5
Herb layer		
Ground elder ( <i>Aegopodium podagraria</i> )	4	7
Yellow archangel ( <i>Galeobdolon luteum agg.</i> )	4	6
<i>Carex brizoides</i>	4	6
Blackberry ( <i>Rubus spp.</i> )	3	5
Wood sorrel ( <i>Oxalis acetosella</i> )	2	7
Touch-me-not Balsam ( <i>Impatiens noli-tagere</i> )	2	9
Hedge woundwort ( <i>Stachys sylvatica</i> )	1	6

**Chart 1: Typical plant species of the elder woodland.** The A-D value stands for the cover, the W value is the wetness level that the named plant ecologically prefers. The picture below the chart shows the elder woodland during the summer.



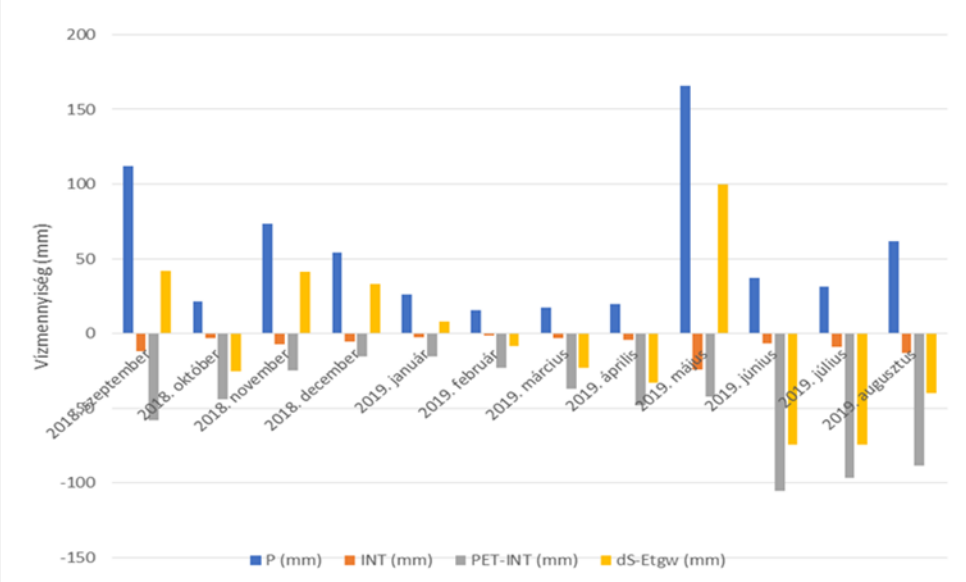
Plant species	A-D value	W value
Canopy layer		
Black alder ( <i>Alnus glutinosa</i> )	3	10
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Shrub layer		
Black elder ( <i>Sambucus nigra</i> )	3	5
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Common spindle ( <i>Eounymus europaeus</i> )	1	5
Ivy ( <i>Hedera helix</i> )	1	5
Herb layer		
Ground elder ( <i>Aegopodium podagraria</i> )	3	7
Yellow archangel ( <i>Galeobdolon luteum agg.</i> )	3	6
Common nettle ( <i>Urtica dioica</i> )	3	5
<i>Carex brizoides</i>	2	6
Blackberry ( <i>Rubus spp.</i> )	2	5

**Chart 2: Typical plant species of the elder woodlands edge.** The A-D value stands for the cover, the W value is the wetness level that the named plant ecologically prefers. The picture below the chart shows the elder woodlands edge during the summer.



**Figure 3: Water balance of the elder woodland during one year.** The chart below the figure shows the monthly inflows and outflows.

	P (mm)	INT (mm)	PET-INT (mm)	dS-ETgw
2018. 09.01. - 2019. 08. 01.	634,79	-153,29	-793,11	-311,6



**Figure 4: Water balance of the wet meadow during one year.** The chart below the figure shows the monthly inflows and outflows.

	P (mm)	INT (mm)	PET-INT (mm)	dS-ETgw
2018. 09. 01. - 2019. 08. 01.	634,79	-91,5	-597,7	-54,41

Plant species	A-D value	W value
Herb layer		
False oat-grass ( <i>Arrhenatherum elatius</i> )	4	5
Horse mint ( <i>Mentha longifolia</i> )	4	7
Parsnip ( <i>Pastinaca sativa</i> )	4	6
Cow parsley ( <i>Anthriscus sylvestris</i> )	3	6
Wild carrot ( <i>Daucus carota</i> )	3	2
Orchard grass ( <i>Dactylis glomerata</i> )	3	6
English ryegrass ( <i>Lolium perenne</i> )	3	5
Sheep's sorrel ( <i>Rumex acetosella</i> )	2	5
Cabbage thistle ( <i>Cirsium oleraceum</i> )	2	7
Purple loosestrife ( <i>Lythrum salicaria</i> )	1	9
Common yarrow ( <i>Achillea millefolium</i> )	1	2
St John's wort ( <i>Hypericum perforatum</i> )	+	3
Sand leek ( <i>Allium scorodoprasum</i> )	+	7

**Chart 3: Typical plant species of the wet meadow.** The A-D value stands for the cover, the W value is the wetness level that the named plant ecologically prefers. The picture below the chart shows the elder wet meadow during the summer.

