Vegetation data information

1. General

Vegetation monitoring was carried out at 120 plots of 25 m^2-size. Each plot is centered at a raster point and contains four quadrants (1 to 4) of 1 m^2-size (see Fig. 1). Plot A7 has only two quadrants (2 und 3); all other plots have four quadrants as shown in Fig. 1. Cover values in % were only roughly estimated for the 25 m^2–plots, whereas the estimation for each of the four 1 m^2-quadrants within a plot was more precise. The catchment as a whole is then represented by all 1 m^2-quadrants analyzed. The number of analyzed quadrants was changed several times (see Table 1).

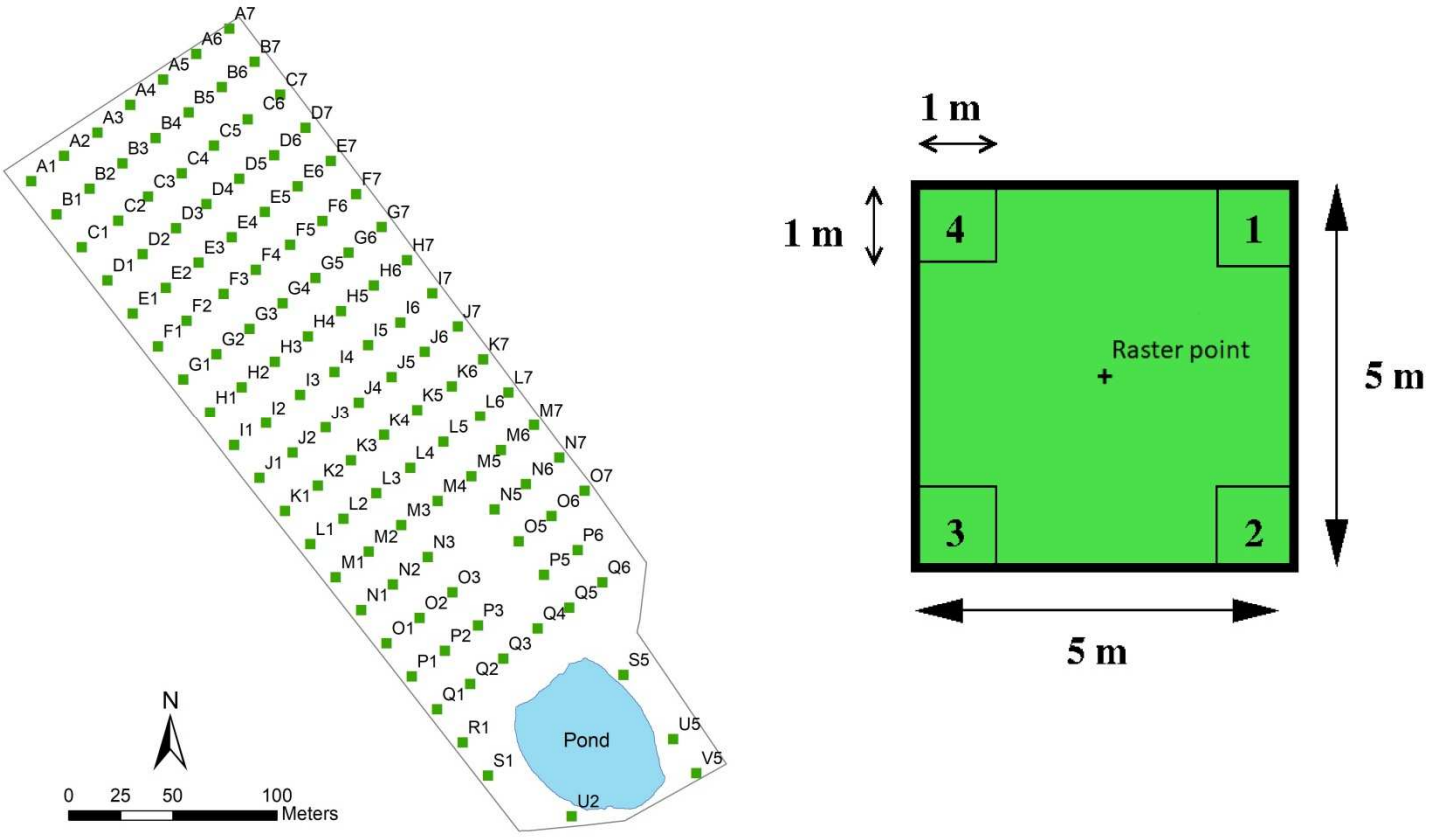

Figure 1. Map of the vegetation plots in the Chicken Creek catchment (left) and scheme of a vegetation plot (right).

Table 1. Number of analyzed quadrants.

Year	Number of analyzed quadrants (only quadrants 1 to 4)
from 2005 to 2007	478
from 2008 to 2019	474
2020	472

2. Plot

The plot generated after clicking the button plot data 

displays the catchment total cover of the selected species (for the years specified in the time range). The catchment total cover of a given species is the sum of calculated cover values [in %] in quadrants 1 to 4, divided by all analyzed quadrants (see Table 1). Species with poor distribution on catchment level will logically have catchment total cover close to 0 %.

The total catchment cover of all currently selected species will be summed and displayed in the plot if "Sum cover of all selected species" is checked. Summation of catchment total cover for distinct plant groups (grasslike, woody, etc.) will be carried out if "Sum cover of selected species by plant groups" is checked.

Cover values are written to July 1st in the plot, although vegetation monitoring was done in July and August.

3. Downloaded data

Clicking the save data button 

will download the cover data of the selected species. Downloaded vegetation data contains cover values by raster points/quadrants, whereas the plot generated in the data portal shows only the catchment total cover of the selected species.

Cover values for quadrants 0 correspond to the estimated vegetation cover for the whole 25 m^2–plots (see Fig. 1). From 2018 onwards the species that were present in the 25 m^2–plots, were still registered but their cover was not estimated. At early stages of the ecosystem development some species (e.g. lichen) were present only in quadrant 0, but not in quadrants 1 – 4. In such case, data will be downloaded on clicking the save data button, but no plot will be drawn (plotted data is based on quadrants 1 to 4).

The distribution of species within the catchment can be examined by interpolation using the XY-Coordinates of the raster points (Fig. 1), which are included in the downloaded data. The coordinate system is DHDN Gauss Zone 5.

In order to properly interpret the downloaded vegetation data, it is necessary to distinguish between 3 different cases concerning the presence of a certain species in the catchment.

> Case 1: A species is *not present* in a given quadrant, so it *does not appear* in the data for the given quadrant. This was preferred over writing zeros for the cover values of every possible species for all quadrants and every year.
>
> Case 2: A species *might be present* in a given quadrant, but it *does not appear* in the data. This is the case for moss and lichen after 2018. Moss and lichen species were still present in the catchment after 2018, but they were omitted during vegetation monitoring.
>
> Case 3: A species is *present* in a given quadrant and it *appears* in the data for that quadrant, however its *cover value is empty*. This is the case for quadrant 0 (25 m^2–plots) after 2017, when the species were just registered, but their cover was not estimated. Case 3 is not restricted to quadrant 0 only.

4. Number of species

Table 2. Number of species registered in the catchment (including quadrant 0).

Year	Plant group							Total
	Grasslike	Herbaceous (legume)	Herbaceous (non-legume)	Woody (legume)	Woody (non-legume)	Lichen	Moss	
2005	8	1	8	1	1	0	0	19
2006	31	1	62	1	3	1	1	100
2007	39	8	67	1	9	0	1	125
2008	45	11	77	2	10	0	2	147
2009	51	11	82	2	15	0	2	163
2010	48	13	90	2	16	0	2	171
2011	51	15	88	2	18	1	2	177
2012	53	14	95	3	21	5	2	193
2013	49	17	92	3	25	6	2	194
2014	50	17	99	3	28	7	2	206
2015	47	16	97	3	33	8	2	206
2016	47	15	89	3	39	7	2	202
2017	43	15	86	3	32	3	2	184
2018	54	16	107	3	41	4	2	227
2019	52	16	116	3	44	-	-	231 *
2020	54	23	131	3	63	-	-	274 *

* lichen and moss species were not analyzed after year 2018