

## Supplementary Tables

*Suppl. Table S1: Tree and site parameters. Tree height, diameter at breast height (DBH) and sapwood thickness (means  $\pm$  standard errors,  $n=5$ ). The age for the studied trees in Rüsselsheim (RU), Frankfurt-Schwanheim (SW) and Lorchhausen (LO) was determined by dendrochronology (wood core or slice of the stem). The information for the planted trees in LO was given from the management logbook of the forestry office. The ground area of the site reflects the occupied area by the crown. The information on accompanying vegetation refers to its occurrence within the ground area. FSA, fraction of basal area occupied by sapwood. The specifications reflect the results of 2017/2018.*

Tree and Site Parameters	Rüsselsheim	Schwanheim	Lampertheim-1	Lampertheim-2	Lorchhausen
mean oak height [m]	13.0 $\pm$ 1.1	18.1 $\pm$ 3.7	31.8 $\pm$ 1.7	28.4 $\pm$ 0.8	10.6 $\pm$ 1.1
age [yrs.]	80-85	80-100	198	120	40
ground area site [m <sup>2</sup> ]	338	451	598	338	196
mean DBH (cm)	36.1 $\pm$ 4.1	43.3 $\pm$ 14.2	79.6 $\pm$ 13.5	49.7 $\pm$ 5.5	28.3 $\pm$ 5.5
stem area oaks [dm <sup>2</sup> ]	51.7	80	254	98	32.5
stem area other trees [dm <sup>2</sup> ]	8.13	23.75	45.0	25.32	2.1
mean sapwood thickness [mm]	22.7 $\pm$ 2.0	27.3 $\pm$ 6.5	25.3 $\pm$ 9.4	23.4 $\pm$ 3.8	4.2 $\pm$ 0.9
total sapwood area [dm <sup>2</sup> ]	10.6	16.3	29.1	16.0	1.69
basal area oaks [dm <sup>2</sup> *m <sup>-2</sup> <sub>ground area</sub> ]	0.153	0.178	0.425	0.290	0.166
basal area other trees [dm <sup>2</sup> *m <sup>-2</sup> <sub>ground area</sub> ]	0.024	0.053	0.075	0.075	0.011
FSA oaks [dm <sup>2</sup> *m <sup>-2</sup> <sub>ground area</sub> ]	0.031	0.036	0.049	0.047	0.009

*Suppl. Table S2: Sensor failures. During the growing season, technical problems with individual sensors, damaging wildlife activity or extreme weather events occurred at different sites for various intervals, reducing the numbers of biological replicates. The individual sensors are labelled with #1 to #5. In LA1, due to wrong power adjustment, one tree had to be removed from the data for 2018.*

Sensor Failures	Rüsselsheim	Schwanheim	Lampertheim-1	Lampertheim-2
<b>2012</b>	#3 DOY 255-316			
<b>2017</b>	#2 DOY 257-332	#4/5 DOY 171-184		#1-5 DOY 115-136 #2 DOY 257-270
<b>2018</b>	#1 DOY 113-176 / 271-337 #3 DOY 101-225 #4 DOY 181-214 #5 DOY 271-337		#5 complete	#2 DOY 101-136 #3 DOY 246-346 #4 DOY 178-203 #5 DOY 112-120

## Supplementary Tables

Suppl. Table S3: Initial slopes of regression analysis of Fig. S5 for data points with VPD  $\leq 1$  kPa..

Rüsselsheim 2017				Frankfurt 2017			
DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions	DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions
158-332	0.258	0.59	whole period of F <sub>0</sub> activity	172-329	0.160	0.45	whole period of F <sub>0</sub> activity
121-157			early summer / watersaturated soil	172-184	0.074	0.27	summer / beginning drought
158-160	0.079	0.47	summer / intense rain	185-188	0.035	0.49	summer / short drought period
161-190	0.061	0.70	summer / short drought period	189-195	0.090	0.42	summer / intense rain
191-248	0.152	0.65	mid summer / wet	196-228	0.127	0.41	mid summer / very wet
249-298	0.169	0.65	late summer / wet	229-263	0.183	0.50	late summer / moderate conditions
299-322	0.066	0.84	autumn / wet	264-294	0.240	0.86	early autumn / increasing humidity
				295-329	0.057	0.39	autumn / wet

  

Rüsselsheim 2018				Frankfurt 2018			
DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions	DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions
84-337	0.060	0.22	whole period of F <sub>0</sub> activity	81-328	0.099	0.25	whole period of F <sub>0</sub> activity
84-115	0.029	0.26	spring, bud swelling & burst / wet	81-112	0.023	0.72	early spring, bud swelling & burst / wet
116-181	0.135	0.61	early summer, leaf development / moderate	113-180	0.165	0.49	early summer, leaf development / moderate
182-199	0.036	0.33	summer / beginning drought	181-194	0.050	0.50	summer / beginning drought
200-265	0.008	0.17	mid summer / extrem drought	195-264	0.027	0.49	mid summer / extrem drought
266-295	0.018	0.67	late summer / intense rain, drought	265-298	0.082	0.61	late summer / intense rain, drought
296-337	0.016	0.52	autumn / increasing humidity	299-328	0.051	0.37	autumn / increasing humidity

  

Lampertheim-1 2017				Lampertheim-2 2017			
DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions	DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions
174-332	0.145	0.40	whole period of F <sub>0</sub> activity	188-319	0.166	0.43	whole period of F <sub>0</sub> activity
174-204	0.089	0.36	summer / wet	188-204	0.075	0.74	summer / wet
205-240	0.156	0.65	mid summer / intense rain, very wet	205-240	0.163	0.51	mid summer / intense rain, very wet
241-256	0.141	0.62	late summer / moderate drought	241-256	0.178	0.51	late summer / moderate drought
257-293	0.227	0.62	early autumn / intense rain, wet	257-293	0.230	0.52	early autumn / intense rain, wet
294-314	0.204	0.65	autumn / moderate conditions	294-314	0.113	0.40	autumn / moderate conditions
315-332	0.009	0.10	autumn / wet	315-319	0.063	0.29	autumn / wet

  

Lampertheim-1 2018				Lampertheim-2 2018			
DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions	DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions
84-346	0.100	0.33	whole period of F <sub>0</sub> activity	84-346	0.123	0.27	whole period of F <sub>0</sub> activity
84-115	0.023	0.38	early spring, bud swelling & burst / wet	84-115	0.034	0.17	early spring, bud swelling & burst / wet
116-147	0.120	0.57	early summer, leaf development / intense rain	116-147	0.165	0.51	early summer, leaf development / intense rain
148-183	0.173	0.55	summer / short rain, moderate	148-183	0.203	0.53	summer / short rain, moderate
184-190	0.128	0.34	summer / beginning drought	184-199	0.143	0.21	summer / beginning drought
191-224	0.113	0.35	mid summer / drought	200-224	0.155	0.39	mid summer / drought
225-263	0.085	0.39	mid summer / short rain, drought	225-263	0.097	0.36	mid summer / short rain, drought
264-299	0.066	0.27	late summer / extrem drought	264-299	0.070	0.28	late summer / extrem drought
300-346	0.067	0.39	autumn / intense rain, wet	300-346	0.052	0.31	autumn / intense rain, wet

  

Lorchhausen 2018			
DOY	Initial Slope of Regression for VPD $\leq 1$ kPa	R <sup>2</sup>	Development Status and Conditions
107-338	0.141	0.08	whole period of F <sub>0</sub> activity
107-115	0.229	0.05	spring, bud burst / very wet
116-147	0.107	0.07	early summer, leaf development / intense rain
148-183	0.001	0.00	summer / beginning drought
184-199	-0.013	0.01	summer / extrem drought
200-224	0.006	0.00	summer / max temp., extrem drought
225-263	0.071	0.42	mid summer / short rain, drought
264-282	0.131	0.34	late summer / intense rain, drought
283-299	0.103	0.47	early autumn / drought
300-338	0.095	0.43	autumn / wet

## Supplementary Tables

*Suppl. Table S4: Long-term mean precipitation. Data from DWD weather observation stations nearest to the monitored sites. The pale green highlighted rows mark the precipitation during the long-term growing season.*

<b>Long-Term Mean Precipitation 1981-2010</b> (DWD-Stations)				
	Rüsselsheim	Frankfurt	Lampertheim	Lorchhausen
Annual Sum [mm]	582	629	682	653
During Growing Season [mm]	333.1	372.7	406.6	403
Distance DWD Station to Site [km]	10	5	4	6

## Supplementary Tables

Suppl. Table S5: Climate conditions. Air and soil temperature, solar radiation, precipitation and soil water conditions were recorded by iMetos SMT280 climate stations. Vapour pressure deficit (VPD) was calculated from air temperature and dew point according to Allen 2002. Evapotranspiration (ET<sub>o</sub>) was calculated with the FAO-56 Penman-Monteith equation. Climatic water balance (CWB) is the difference between precipitation level and potential evaporation, calculated according to the DWD standard DIN 4049-3, 1994-10. Observation periods with negative CWB-values are highlighted in red. Daylight conditions were determined by solar radiation  $\geq 10$  W/m<sup>2</sup>. For the time before the site-specific climate recording began, values from nearby DWD weather observation stations were inserted if available and reasonable. The date in the first column represents the beginning of the own weather observation. In Lorchhausen, the recording ends on the Dec. 5<sup>th</sup> 2018. The pale green highlighted rows mark the growing season.

Rüsselsheim 2017														
Month	Air Temp. [°C] mean/mo.	Air Temp. [°C] max/mo.	Air Temp. [°C] min/mo.	VPD [kPa] mean/mo.	VPD [kPa] max/mo.	VPD [kPa] mean/daylight	VPD [kPa] mean/night	SolRad [W/m <sup>2</sup> ] sum/mo.	Prec. [mm] sum/mo.	ET <sub>o</sub> [mm] sum/mo.	Climatic Water Balance [Prec. - ET <sub>o</sub> ]	Soil Moisture mean pF	Soil Temp. [°C] mean/mo.	
Jan 17								6353	21.5					
Feb 17								18335	16.4					
Mar 23. 2017	11.5	25.3	-0.3	0.67	2.50	0.97	0.33	22106	24.2	11.9	-11.9	1.66		9.5
Apr 17	9.0	25.0	-5.6	0.54	2.19	0.76	0.24	76565	12.4	40.7	-28.3	2.16		9.9
May 17	15.4	36.4	-1.6	0.71	4.08	0.99	0.21	96331	73.2	61	12.2	1.81		14.8
Jun 17	19.7	37.3	5.2	1.07	4.62	1.42	0.37	109392	32.2	74.4	-42.2	2.40		16.6
Jul 17	19.9	37.6	7.3	0.87	4.40	1.19	0.27	97344	76	68.8	7.2	2.45		17.3
Aug 17	18.8	33.3	8.2	0.64	3.05	0.97	0.19	80154	96.7	54.5	42.2	1.84		17.4
Sep 17	13.5	27.4	3.4	0.38	1.94	0.61	0.15	56329	68.2	33.9	34.3	2.23		17.2
Oct 17	11.1	22.6	-2.2	0.22	1.26	0.38	0.11	27075	37.2	18.6	18.6	2.30		14.2
Nov 17	5.3	16.0	-2.4	0.10	0.91	0.16	0.07	9751	83	11.2	71.8	2.09		11.5
Dec 17	3.4	12.5	-5.8	0.09	0.43	0.12	0.07	5726	93.4	10.3	83.1	1.96		8.2
Annual Sum								605460	634.4	385.3	187.0			
During Growing Season								543190	391.3	355.5	35.8			

Growing Season T<sub>mean</sub>  $\geq 10^{\circ}\text{C}$  Mar 28<sup>th</sup> - Oct 27<sup>th</sup> 2017 (213 days)

## Supplementary Tables

Table S5 (continued)

Frankfurt 2017														
	Air Temp. [°C]	Air Temp. [°C]	Air Temp. [°C]	VPD [kPa]	VPD [kPa]	VPD [kPa]	VPD [kPa]	SolRad [W/m²]	Prec. [mm]	ETo [mm]	Climatic Water	Soil Moisture	Soil Temp. [°C]	
Month	mean/mo.	max/mo.	min/mo.	mean/mo.	max/mo.	mean/daylight	mean/night	sum/mo.	sum/mo.	sum/mo.	Balance [Prec. - ETo]	mean pF	mean/mo.	
Jan 17	-1.9	5.7	-13.3	0.08	0.48	0.13	0.06	4478	26.2	9.9	16.3	2.12	3.9	
Feb 17	4.5	14.8	-4.8	0.19	0.98	0.29	0.13	12707	22.4	13.5	8.9	2.07	6.3	
Mar 17	8.4	24.8	-2.6	0.40	2.34	0.59	0.20	33810	52.2	25	27.2	2.05	9.5	
Apr 17	8.9	25.6	-5.3	0.53	2.23	0.73	0.26	55045	1.0	34.5	-33.5	2.33	9.9	
May 17	15.1	37.5	-1.7	0.65	4.26	0.94	0.17	69551	105.8	49.3	56.5	2.23	17.6	
Jun 17	19.5	37.8	6.4	1.04	4.55	1.40	0.36	78921	19.2	58.7	-39.5	2.92	19.0	
Jul 17	19.7	37.5	7.3	0.81	4.61	1.15	0.23	71245	97.4	54.8	42.6	2.82	19.7	
Aug 17	18.5	32.9	7.1	0.58	2.92	0.94	0.16	60917	85.5	45.3	40.2	2.91	19.8	
Sep 17	13.1	28.4	3.8	0.29	2.00	0.50	0.11	38302	32.8	27.7	5.1	2.96	18.1	
Oct 17	10.8	20.7	-1.0	0.16	1.10	0.30	0.09	14369	36.2	16.7	19.5	2.83	14.6	
Nov 17	5.1	15.3	-3.0	0.08	0.66	0.13	0.06	5162	75.8	11.6	64.2	2.56	10.1	
Dec 17	3.1	13.1	-5.3	0.07	0.42	0.11	0.06	2828	90.2	10.9	79.3	2.02	6.7	
Annual Sum								447333	644.7	357.9	286.8			
During Growing Season								388350	377.9	287.0	90.9			

Growing Season  $T_{\text{mean}} \geq 10^{\circ}\text{C}$  Mar 28<sup>th</sup> - Oct 27<sup>th</sup> 2017 (213 days)

Lampertheim 2017														
	Air Temp. [°C]	Air Temp. [°C]	Air Temp. [°C]	VPD [kPa]	VPD [kPa]	VPD [kPa]	VPD [kPa]	SolRad [W/m²]	Prec. [mm]	ETo [mm]	Climatic Water	Soil Moisture	Soil Temp. [°C]	
Month	mean/mo.	max/mo.	min/mo.	mean/mo.	max/mo.	mean/daylight	mean/night	sum/mo.	sum/mo.	sum/mo.	Balance [Prec. - ETo]	mean pF	mean/mo.	
Jan 17										20.7				
Feb 17										22.7				
Mar 17										36.7				
Apr 17										3.8				
May 23.2017	20.3	36.1	8.5	1.14	4.30	1.60	0.28	53452	60.5	33.1	27.4	1.92	12.9	
Jun 17	19.7	38.8	5.5	1.10	4.70	1.50	0.29	179821	46.0	107.2	-61.2	2.19	14.9	
Jul 17	19.9	37.9	5.7	0.87	4.87	1.22	0.20	150285	118.8	94.2	24.6	2.17	15.6	
Aug 17	18.7	33.0	5.4	0.62	3.18	0.98	0.12	122678	101.8	73.3	28.5	2.14	15.9	
Sep 17	12.9	27.6	1.5	0.31	1.86	0.53	0.10	63113	84.6	35.2	49.4	2.58	15.6	
Oct 17	10.5	24.8	-3.3	0.18	1.66	0.33	0.07	33643	45.6	18.9	26.7	2.42	12.9	
Nov 17	5.0	15.3	-3.4	0.17	1.06	0.24	0.14	11100	104	10.4	93.6	2.33	11.0	
Dec 17	3.0	12.7	-6.7	0.09	0.46	0.13	0.08	5966	96.4	9.6	86.8	1.90	7.9	
Annual Sum								620056	741.6	381.9	359.7			
During Growing Season								602991	461.1	361.9	99.2			

Growing Season  $T_{\text{mean}} \geq 10^{\circ}\text{C}$  Mar 28<sup>th</sup> - Oct 25<sup>th</sup> 2017 (211 days)

## Supplementary Tables

Table S5 (continued)

Rüsselsheim 2018														
	Air Temp. [°C]	Air Temp. [°C]	Air Temp. [°C]	VPD [kPa]	VPD [kPa]	VPD [kPa]	VPD [kPa]	SolRad [W/m²]	Prec. [mm]	ETo [mm]	Climatic Water	Soil Moisture	Soil Temp. [°C]	
Month	mean/mo.	max/mo.	min/mo.	mean/mo.	max/mo.	mean/daylight	mean/night	sum/mo.	sum/mo.	sum/mo.	Balance [Prec. - ETo]	mean pF	mean/mo.	
Jan 18	5.2	11.2	-4.1	0.14	0.65	0.18	0.11	8795	68.4	12.4	56.0	1.95	7.3	
Feb 18	-1.0	6.8	-12.1	0.15	0.61	0.22	0.10	27072	12.6	12.1	0.5	1.98	7.0	
Mar 18	4.1	16.5	-9.1	0.23	1.26	0.34	0.12	41324	36.8	22.9	13.9	1.98	6.5	
Apr 18	13.4	31.8	-2.5	0.69	3.38	1.04	0.26	81455	42.8	48.7	-5.9	1.89	11.8	
May 18	17.0	35.0	-1.0	0.86	3.53	1.21	0.29	109835	26.6	70.9	-44.3	2.18	15.5	
Jun 18	20.0	36.3	7.8	1.04	3.75	1.39	0.38	104517	35.8	72.5	-36.7	2.60	17.0	
Jul 18	22.3	41.1	10.0	1.59	5.23	2.14	0.63	124106	13.0	83.5	-70.5	3.16	18.1	
Aug 18	21.4	40.7	5.1	1.30	4.78	1.80	0.59	98086	19.2	66.3	-47.1	3.30	18.9	
Sep 18	15.3	33.7	0.2	0.78	3.88	1.24	0.32	69739	22.2	39.3	-17.1	3.30	16.5	
Oct 18	10.6	25.4	-1.9	0.41	2.25	0.70	0.18	45029	4.6	22.1	-17.5	3.11	13.5	
Nov 18	5.8	15.5	-4.5	0.16	0.85	0.25	0.11	14606	23.4	11.6	11.8	2.97	11.2	
Dec 18	4.1	12.5	-4.7	0.10	0.54	0.14	0.09	7564	45.6	9.4	36.2	2.54	9.0	
Annual Sum								732124,5	351.0	471.7	-120.7			
During Growing Season								632765	164.2	403.3	-239.1			

Growing Season  $T_{\text{mean}} \geq 10^\circ\text{C}$  Apr 11<sup>th</sup> - Oct 26<sup>th</sup> 2018 (199 days)

Frankfurt 2018														
	Air Temp. [°C]	Air Temp. [°C]	Air Temp. [°C]	VPD [kPa]	VPD [kPa]	VPD [kPa]	VPD [kPa]	SolRad [W/m²]	Prec. [mm]	ETo [mm]	Climatic Water	Soil Moisture	Soil Temp. [°C]	
Month	mean/mo.	max/mo.	min/mo.	mean/mo.	max/mo.	mean/daylight	mean/night	sum/mo.	sum/mo.	sum/mo.	Balance [Prec. - ETo]	mean pF	mean/mo.	
Jan 18	5.2	11.2	-4.1	0.12	0.63	0.17	0.10	4676	80.0	11.7	68.3	1.92	7.0	
Feb 18	-1.0	6.8	-12.1	0.13	0.54	0.20	0.10	13203	13.8	11.3	2.5	2.01	6.5	
Mar 18	4.1	16.5	-9.1	0.21	1.23	0.34	0.11	26579	30.4	19.6	10.8	2.05	6.8	
Apr 18	13.4	31.8	-2.5	0.67	3.71	1.04	0.24	61086	55.2	39.9	15.3	1.97	13.9	
May 18	17.0	35.0	-1.0	0.80	3.71	1.18	0.28	78334	24.0	54.1	-30.1	2.57	17.7	
Jun 18	20.0	36.3	7.8	1.00	3.96	1.41	0.41	71279	45.0	55.0	-10	3.15	18.8	
Jul 18	22.3	41.1	10.0	1.55	5.77	2.22	0.62	82976	12.8	62.3	-49.5	3.30	20.9	
Aug 18	21.4	40.7	5.1	1.37	5.64	1.95	0.66	68968	15.6	51.4	-35.8	3.30	21.6	
Sep 18	15.3	33.7	0.2	0.77	3.78	1.26	0.35	42563	30.4	30.2	0.2	3.30	17.0	
Oct 18	10.6	25.4	-1.9	0.35	2.14	0.63	0.18	15544	0.6	17.6	-17	3.30	12.6	
Nov 18	5.8	15.5	-4.5	0.14	0.64	0.22	0.11	6200	13.4	12.1	1.3	3.30	10.7	
Dec 18	4.1	12.5	-4.7	0.09	0.50	0.13	0.08	3064	54.0	11.7	42.3	3.26	8.7	
Annual Sum								474470	375.2	376.9	-1.7			
During Growing Season								420748	183.6	310.5	-126.9			

Growing Season  $T_{\text{mean}} \geq 10^\circ\text{C}$  Apr 11<sup>th</sup> - Oct 26<sup>th</sup> 2018 (199 days)

## Supplementary Tables

Table S5 (continued)

Lampertheim 2018														
	Air Temp. [°C]	Air Temp. [°C]	Air Temp. [°C]	VPD [kPa]	VPD [kPa]	VPD [kPa]	VPD [kPa]	SolRad [W/m²]	Prec. [mm]	ETo [mm]	Climatic Water	Soil Moisture	Soil Temp. [°C]	
Month	mean/mo.	max/mo.	min/mo.	mean/mo.	max/mo.	mean/daylight	mean/night	sum/mo.	sum/mo.	sum/mo.	Balance [Prec. - ETo]	mean pF	mean/mo.	
Jan 18	5.7	12.2	-5.3	0.13	0.65	0.19	0.11	9918	79.8	11.4	68.4	1.92	7.1	
Feb 18	-0.8	9.0	-14.0	0.08	0.64	0.16	0.03	29664	17.4	10.8	6.6	2.05	6.8	
Mar 18	4.2	15.9	-8.3	0.18	1.13	0.31	0.06	48648	63.4	22.7	40.7	2.16	5.7	
Apr 18	13.4	31.3	-3.2	0.70	3.37	1.07	0.22	127274	38.0	66.5	-28.5	2.29	10.3	
May 18	16.9	34.5	-1.8	0.81	3.83	1.19	0.22	159840	39.2	91.3	-52.1	2.98	12.6	
Jun 18	19.9	35.2	3.2	0.99	3.95	1.39	0.24	150062	68.8	94.8	-26.0	3.25	14.1	
Jul 18	22.4	40.6	7.9	1.63	6.30	2.34	0.46	177758	10.2	107.2	-97.0	3.30	15.5	
Aug 18	21.3	40.5	3.3	1.37	5.90	2.02	0.46	131643	19.0	79.1	-60.1	3.30	16.3	
Sep 18	15.3	34.6	-1.5	0.74	4.05	1.25	0.24	71434	35.2	39.0	-3.8	3.30	15.0	
Oct 18	10.5	29.0	-1.6	0.38	2.81	0.67	0.15	37103	8.8	19.7	-10.9	3.30	13.1	
Nov 18	5.7	18.0	-6.3	0.14	0.99	0.23	0.09	11635	32.8	10.9	21.9	3.30	11.2	
Dec 18	4.2	13.0	-6.8	0.09	0.53	0.12	0.07	5747	138.6	10.4	128.2	2.39	8.9	
Annual Sum								960723	551.2	563.8	-12.6			
During Growing Season								855113	219.2	497.6	-278.4			

Growing Season  $T_{\text{mean}} \geq 10^\circ\text{C}$  Apr 11<sup>th</sup> - Oct 25<sup>th</sup> 2018 (198 days)

Lorchhausen 2018														
Month	Air Temp. [°C] mean/mo.	Air Temp. [°C] max/mo.	Air Temp. [°C] min/mo.	VPD [kPa] mean/mo.	VPD [kPa] max/mo.	VPD [kPa] mean/daylight	VPD [kPa] mean/night	SolRad [W/m²] sum/mo.	Prec. [mm] sum/mo.	ETo [mm] sum/mo.	Climatic Water Balance [Prec. - ETo]	Soil Moisture mean pF	Soil Temp. [°C] mean/mo.	
Jan 18										71.2				
Feb 18										11.3				
Mar 18										39.4				
Apr 14. 2018	15.4	29.1	3.0	0.45	3.00	1.16	0.40	70108	18.7	41.6	-22.9	1.6	13.8	
May 18	16.2	30.7	0.7	0.69	2.81	0.99	0.28	135305	51.2	83.1	-31.9	2.2	17.0	
Jun 18	19.0	31.6	8.8	0.78	3.39	1.06	0.37	125300	27.4	84.7	-57.3	3.0	18.6	
Jul 18	22.0	36.9	10.7	1.44	4.71	1.95	0.73	149077	21.2	85.3	-64.1	3.4	20.8	
Aug 18	20.9	36.9	6.2	1.24	4.61	1.72	0.67	121193	27.0	85.3	-58.3	3.4	21.8	
Sep 18	15.9	32.4	2.1	0.79	3.66	1.22	0.40	81202	32.5	48.9	-16.4	3.3	19.2	
Oct 18	11.7	26.2	2.1	0.41	2.31	0.68	0.23	51362	12.6	25.4	-12.8	3.4	16.5	
Nov 18	6.6	17.9	-3.0	0.19	0.91	0.27	0.14	22798	25.5	11.7	13.8	3.3	13.2	
Dec 5. 2018	8.8	13.8	0.5	0.16	0.35	0.21	0.13	1891	40.0	1.5	38.5	3.0	10.2	
Annual Sum								758236	378.0	467.5	-226.4			
During Growing Season								733547	190.6	454.3	-278.7			

Growing Season  $T_{\text{mean}} \geq 10^\circ\text{C}$  Apr 11<sup>th</sup> - Oct 25<sup>th</sup> 2018 (198 days)