

**Climate change scenarios**

**W+ cc T, P:** W+ climate change scenario, considering changes in both temperature (T) and precipitation (P).

**W+ cc T:** W+ climate change scenario, considering changes only in temperature (T).

**W+ cc P:** W+ climate change scenario, considering changes only in precipitation (P).

**No cc:** No-climate-change scenario.

**G+ cc T, P:** G+ climate change scenario, considering changes in both temperature (T) and precipitation (P).

**Table SF13.** Simulated SOC contents for the period 2013–2100 for the grassland system on sandy soil, under the different climate change scenarios.

Year	SOC (%)				
	W+ cc T, P	W+ cc T	W+ cc P	No cc	G+ cc T, P
2013	1.157	1.156	1.157	1.156	1.157
2014	1.160	1.154	1.157	1.154	1.159
2015	1.159	1.153	1.159	1.155	1.160
2016	1.157	1.150	1.155	1.151	1.156
2017	1.157	1.151	1.157	1.153	1.158
2018	1.158	1.150	1.158	1.154	1.159
2019	1.157	1.150	1.158	1.154	1.159
2020	1.160	1.152	1.162	1.157	1.162
2021	1.160	1.151	1.160	1.155	1.159
2022	1.159	1.149	1.161	1.155	1.160
2023	1.157	1.147	1.159	1.153	1.157
2024	1.154	1.144	1.157	1.150	1.156
2025	1.155	1.145	1.159	1.152	1.156
2026	1.153	1.142	1.155	1.148	1.152
2027	1.154	1.144	1.157	1.150	1.154
2028	1.153	1.143	1.158	1.151	1.155
2029	1.153	1.142	1.159	1.151	1.155
2030	1.155	1.144	1.161	1.154	1.158
2031	1.152	1.143	1.159	1.152	1.155
2032	1.153	1.141	1.160	1.152	1.155
2033	1.150	1.140	1.158	1.150	1.154
2034	1.147	1.137	1.155	1.148	1.151
2035	1.146	1.137	1.156	1.149	1.152
2036	1.146	1.135	1.154	1.146	1.149
2037	1.147	1.136	1.157	1.148	1.150
2038	1.145	1.134	1.157	1.149	1.150
2039	1.145	1.132	1.159	1.149	1.149
2040	1.148	1.134	1.162	1.152	1.152
2041	1.145	1.133	1.159	1.150	1.149
2042	1.146	1.132	1.160	1.150	1.149
2043	1.143	1.130	1.159	1.149	1.147
2044	1.139	1.127	1.156	1.146	1.144
2045	1.138	1.126	1.157	1.148	1.145
2046	1.136	1.124	1.153	1.144	1.142
2047	1.137	1.125	1.156	1.146	1.143
2048	1.135	1.123	1.157	1.147	1.144
2049	1.134	1.121	1.158	1.147	1.143
2050	1.137	1.123	1.162	1.150	1.146
2051	1.133	1.122	1.159	1.149	1.146
2052	1.135	1.121	1.160	1.149	1.145
2053	1.131	1.118	1.158	1.147	1.143
2054	1.128	1.116	1.155	1.145	1.141
2055	1.125	1.114	1.156	1.147	1.142
2056	1.123	1.111	1.153	1.143	1.139
2057	1.126	1.112	1.157	1.146	1.141
2058	1.123	1.109	1.157	1.146	1.141
2059	1.124	1.107	1.160	1.147	1.141
2060	1.127	1.109	1.164	1.150	1.145
2061	1.124	1.107	1.162	1.148	1.143

2062	1.127	1.106	1.164	1.148	1.143
2063	1.126	1.103	1.165	1.147	1.142
2064	1.123	1.101	1.163	1.145	1.139
2065	1.120	1.098	1.165	1.146	1.139
2066	1.122	1.095	1.164	1.143	1.137
2067	1.123	1.096	1.166	1.145	1.139
2068	1.120	1.093	1.167	1.146	1.139
2069	1.121	1.091	1.171	1.146	1.139
2070	1.122	1.092	1.174	1.149	1.143
2071	1.120	1.090	1.172	1.148	1.142
2072	1.122	1.089	1.174	1.148	1.143
2073	1.118	1.086	1.173	1.147	1.140
2074	1.115	1.084	1.171	1.145	1.138
2075	1.112	1.080	1.173	1.146	1.138
2076	1.110	1.078	1.170	1.143	1.136
2077	1.112	1.079	1.173	1.145	1.138
2078	1.109	1.075	1.173	1.146	1.137
2079	1.110	1.072	1.178	1.146	1.137
2080	1.112	1.073	1.183	1.149	1.141
2081	1.109	1.072	1.179	1.147	1.139
2082	1.110	1.070	1.182	1.148	1.141
2083	1.109	1.067	1.182	1.146	1.138
2084	1.104	1.065	1.179	1.144	1.136
2085	1.102	1.062	1.181	1.146	1.136
2086	1.101	1.058	1.180	1.143	1.134
2087	1.105	1.059	1.184	1.145	1.136
2088	1.100	1.055	1.184	1.146	1.134
2089	1.099	1.052	1.188	1.146	1.135
2090	1.104	1.053	1.194	1.149	1.138
2091	1.101	1.052	1.192	1.147	1.137
2092	1.102	1.050	1.194	1.148	1.140
2093	1.103	1.047	1.196	1.146	1.137
2094	1.100	1.044	1.194	1.144	1.136
2095	1.097	1.042	1.196	1.146	1.135
2096	1.097	1.038	1.195	1.143	1.133
2097	1.101	1.038	1.201	1.145	1.135
2098	1.096	1.034	1.201	1.146	1.133
2099	1.097	1.031	1.205	1.146	1.133
2100	1.097	1.031	1.208	1.149	1.135

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**Table SF14.** Simulated SOC contents for the period 2013–2100 for the grassland system on loamy soil, under the different climate change scenarios.

Year	SOC (%)				
	W+ cc T, P	W+ cc T	W+ cc P	No cc	G+ cc T, P
2013	1.521	1.520	1.521	1.520	1.521
2014	1.521	1.520	1.520	1.519	1.521
2015	1.521	1.520	1.521	1.521	1.522
2016	1.517	1.516	1.516	1.517	1.518
2017	1.516	1.515	1.517	1.517	1.518
2018	1.518	1.517	1.521	1.521	1.522
2019	1.518	1.517	1.521	1.522	1.523
2020	1.517	1.516	1.521	1.521	1.523
2021	1.514	1.512	1.518	1.517	1.519
2022	1.512	1.510	1.517	1.517	1.519
2023	1.509	1.507	1.515	1.515	1.516
2024	1.506	1.504	1.513	1.513	1.515
2025	1.507	1.505	1.514	1.514	1.516
2026	1.502	1.500	1.510	1.509	1.511
2027	1.500	1.500	1.509	1.510	1.512
2028	1.501	1.501	1.512	1.513	1.515
2029	1.500	1.500	1.513	1.513	1.515
2030	1.499	1.498	1.512	1.513	1.516
2031	1.495	1.494	1.508	1.509	1.512
2032	1.492	1.492	1.508	1.508	1.511
2033	1.490	1.490	1.506	1.507	1.509
2034	1.487	1.487	1.503	1.504	1.507
2035	1.486	1.486	1.504	1.506	1.508
2036	1.483	1.484	1.500	1.501	1.505
2037	1.482	1.482	1.500	1.502	1.504
2038	1.482	1.482	1.504	1.505	1.507
2039	1.481	1.481	1.505	1.506	1.507
2040	1.479	1.479	1.505	1.506	1.506
2041	1.475	1.475	1.501	1.502	1.502
2042	1.474	1.473	1.500	1.502	1.501
2043	1.471	1.471	1.499	1.500	1.499
2044	1.467	1.467	1.497	1.498	1.497
2045	1.465	1.466	1.497	1.500	1.497
2046	1.462	1.463	1.493	1.496	1.494
2047	1.460	1.462	1.494	1.496	1.493
2048	1.460	1.462	1.497	1.500	1.496
2049	1.459	1.460	1.498	1.501	1.496
2050	1.459	1.458	1.499	1.501	1.496
2051	1.454	1.454	1.496	1.497	1.493
2052	1.454	1.452	1.496	1.497	1.492
2053	1.450	1.449	1.494	1.496	1.490
2054	1.448	1.447	1.492	1.494	1.487
2055	1.444	1.444	1.493	1.496	1.488
2056	1.441	1.441	1.489	1.492	1.485
2057	1.441	1.440	1.490	1.493	1.484
2058	1.441	1.439	1.494	1.497	1.486
2059	1.439	1.437	1.495	1.498	1.486
2060	1.439	1.435	1.496	1.498	1.487
2061	1.434	1.431	1.493	1.494	1.484

2062	1.435	1.429	1.493	1.495	1.482
2063	1.433	1.426	1.493	1.494	1.481
2064	1.431	1.423	1.492	1.492	1.479
2065	1.428	1.420	1.494	1.494	1.479
2066	1.425	1.416	1.489	1.490	1.475
2067	1.424	1.415	1.490	1.491	1.474
2068	1.422	1.414	1.494	1.495	1.476
2069	1.422	1.412	1.495	1.496	1.476
2070	1.421	1.410	1.496	1.496	1.477
2071	1.416	1.405	1.493	1.493	1.474
2072	1.416	1.403	1.493	1.493	1.474
2073	1.412	1.400	1.492	1.492	1.472
2074	1.409	1.397	1.490	1.491	1.470
2075	1.406	1.393	1.493	1.493	1.469
2076	1.402	1.390	1.488	1.489	1.465
2077	1.401	1.389	1.489	1.490	1.464
2078	1.399	1.387	1.493	1.494	1.466
2079	1.400	1.385	1.496	1.495	1.466
2080	1.402	1.383	1.499	1.495	1.467
2081	1.397	1.379	1.495	1.492	1.463
2082	1.396	1.376	1.496	1.492	1.464
2083	1.393	1.373	1.495	1.491	1.461
2084	1.390	1.370	1.494	1.490	1.459
2085	1.388	1.367	1.495	1.492	1.458
2086	1.383	1.363	1.492	1.488	1.455
2087	1.383	1.361	1.492	1.489	1.455
2088	1.380	1.360	1.496	1.493	1.456
2089	1.379	1.357	1.497	1.494	1.455
2090	1.381	1.355	1.501	1.495	1.456
2091	1.378	1.352	1.498	1.492	1.454
2092	1.377	1.349	1.499	1.492	1.456
2093	1.375	1.345	1.498	1.491	1.453
2094	1.372	1.341	1.497	1.490	1.452
2095	1.368	1.339	1.498	1.492	1.451
2096	1.364	1.334	1.495	1.488	1.448
2097	1.366	1.333	1.496	1.489	1.447
2098	1.362	1.331	1.499	1.493	1.448
2099	1.362	1.328	1.501	1.494	1.447
2100	1.362	1.326	1.503	1.495	1.446

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**Table SF15.** Simulated SOC contents for the period 2013–2100 for the arable land system on sandy soil, under the different climate change scenarios.

Year	SOC (%) per 4-yr crop rotation				
	W+ cc T, P	W+ cc T	W+ cc P	No cc	G+ cc T, P
2012	1.015	0.997	1.014	1.002	1.017
2016	1.000	0.988	1.002	0.992	1.001
2020	0.997	0.987	1.000	0.991	0.998
2024	0.992	0.982	0.995	0.987	0.991
2028	0.993	0.985	1.001	0.992	0.994
2032	0.991	0.983	1.000	0.991	0.991
2036	0.980	0.971	0.990	0.981	0.980
2040	0.978	0.969	0.990	0.981	0.980
2044	0.975	0.966	0.986	0.977	0.976
2048	0.975	0.965	0.991	0.984	0.982
2052	0.969	0.961	0.989	0.983	0.982
2056	0.962	0.949	0.985	0.973	0.972
2060	0.966	0.946	0.992	0.973	0.972
2064	0.964	0.940	0.991	0.970	0.971
2068	0.957	0.937	0.998	0.977	0.975
2072	0.956	0.934	0.997	0.976	0.973
2076	0.953	0.922	0.995	0.967	0.965
2080	0.953	0.919	1.001	0.967	0.966
2084	0.953	0.913	1.002	0.963	0.963
2088	0.944	0.909	1.006	0.970	0.964
2092	0.941	0.906	1.008	0.970	0.966
2096	0.934	0.895	1.004	0.961	0.956
2100	0.931	0.890	1.008	0.961	0.954

**Table SF16.** Simulated SOC contents for the period 2013–2100 for the arable land system on loamy soil, under the different climate change scenarios.

Year	SOC (%) per 4-yr crop rotation				
	W+ cc T, P	W+ cc T	W+ cc P	No cc	G+ cc T, P
2012	1.317	1.313	1.322	1.320	1.321
2016	1.306	1.302	1.313	1.311	1.313
2020	1.302	1.298	1.310	1.307	1.310
2024	1.304	1.301	1.313	1.311	1.313
2028	1.299	1.298	1.312	1.311	1.313
2032	1.307	1.308	1.323	1.323	1.324
2036	1.295	1.294	1.313	1.314	1.312
2040	1.290	1.289	1.311	1.311	1.308
2044	1.291	1.292	1.314	1.316	1.311
2048	1.288	1.286	1.315	1.316	1.310
2052	1.291	1.291	1.326	1.329	1.322
2056	1.280	1.276	1.318	1.319	1.310
2060	1.282	1.270	1.319	1.317	1.307
2064	1.282	1.268	1.325	1.321	1.310
2068	1.277	1.262	1.326	1.321	1.311
2072	1.278	1.264	1.337	1.335	1.320
2076	1.271	1.250	1.332	1.325	1.308
2080	1.270	1.243	1.334	1.323	1.305
2084	1.269	1.241	1.337	1.328	1.308
2088	1.274	1.234	1.345	1.328	1.310
2092	1.272	1.233	1.353	1.341	1.319
2096	1.266	1.221	1.346	1.332	1.304
2100	1.269	1.215	1.347	1.329	1.301

**Table SF17.** Simulated SOC contents for the period 2013–2100 for the forest system on sandy soil, under the different climate change scenarios.

Year	SOC (%)				
	W+ cc T, P	W+ cc T	W+ cc P	No cc	G+ cc T, P
2013	2.863	2.863	2.863	2.864	2.864
2014	2.868	2.866	2.867	2.866	2.868
2015	2.871	2.870	2.871	2.870	2.871
2016	2.873	2.873	2.873	2.873	2.873
2017	2.876	2.877	2.877	2.877	2.876
2018	2.878	2.878	2.878	2.878	2.878
2019	2.880	2.881	2.881	2.881	2.880
2020	2.884	2.885	2.884	2.885	2.884
2021	2.887	2.889	2.888	2.888	2.886
2022	2.890	2.892	2.890	2.891	2.890
2023	2.892	2.893	2.892	2.893	2.891
2024	2.894	2.896	2.894	2.895	2.894
2025	2.898	2.900	2.898	2.899	2.898
2026	2.901	2.903	2.901	2.902	2.901
2027	2.905	2.906	2.904	2.905	2.904
2028	2.906	2.908	2.906	2.907	2.906
2029	2.909	2.911	2.909	2.910	2.909
2030	2.913	2.915	2.912	2.914	2.913
2031	2.917	2.919	2.916	2.917	2.916
2032	2.921	2.922	2.919	2.920	2.919
2033	2.922	2.924	2.921	2.922	2.921
2034	2.925	2.926	2.923	2.924	2.924
2035	2.929	2.931	2.927	2.928	2.928
2036	2.932	2.933	2.930	2.931	2.931
2037	2.936	2.937	2.934	2.935	2.934
2038	2.937	2.939	2.935	2.936	2.936
2039	2.941	2.942	2.939	2.939	2.939
2040	2.945	2.946	2.943	2.943	2.943
2041	2.948	2.950	2.945	2.947	2.946
2042	2.952	2.954	2.948	2.950	2.950
2043	2.954	2.956	2.950	2.951	2.952
2044	2.956	2.958	2.952	2.954	2.954
2045	2.961	2.963	2.957	2.958	2.958
2046	2.964	2.966	2.960	2.961	2.961
2047	2.968	2.970	2.963	2.965	2.965
2048	2.969	2.972	2.965	2.967	2.967
2049	2.973	2.975	2.968	2.970	2.970
2050	2.977	2.979	2.972	2.973	2.974
2051	2.980	2.983	2.975	2.977	2.978
2052	2.984	2.987	2.978	2.980	2.981
2053	2.986	2.989	2.980	2.982	2.983
2054	2.989	2.992	2.983	2.984	2.985
2055	2.993	2.996	2.987	2.988	2.989
2056	2.996	2.999	2.990	2.991	2.992
2057	3.001	3.003	2.995	2.995	2.996
2058	3.003	3.005	2.996	2.997	2.998
2059	3.007	3.009	3.000	3.000	3.001
2060	3.011	3.013	3.003	3.004	3.005
2061	3.015	3.018	3.006	3.008	3.009



2062	3.019	3.021	3.010	3.011	3.012
2063	3.021	3.023	3.012	3.013	3.014
2064	3.023	3.026	3.014	3.015	3.016
2065	3.026	3.030	3.017	3.019	3.021
2066	3.031	3.034	3.021	3.023	3.024
2067	3.035	3.038	3.024	3.026	3.029
2068	3.036	3.040	3.025	3.028	3.030
2069	3.040	3.044	3.029	3.032	3.034
2070	3.044	3.049	3.032	3.035	3.038
2071	3.047	3.053	3.035	3.039	3.042
2072	3.051	3.057	3.039	3.042	3.045
2073	3.054	3.059	3.040	3.044	3.046
2074	3.056	3.062	3.043	3.047	3.049
2075	3.060	3.066	3.046	3.051	3.053
2076	3.064	3.070	3.050	3.054	3.057
2077	3.069	3.074	3.054	3.058	3.061
2078	3.070	3.076	3.055	3.060	3.063
2079	3.074	3.080	3.059	3.063	3.066
2080	3.079	3.085	3.064	3.067	3.070
2081	3.082	3.090	3.066	3.071	3.074
2082	3.086	3.093	3.069	3.074	3.077
2083	3.088	3.096	3.071	3.076	3.079
2084	3.091	3.099	3.073	3.079	3.082
2085	3.095	3.103	3.077	3.083	3.087
2086	3.099	3.106	3.080	3.086	3.090
2087	3.104	3.111	3.084	3.090	3.094
2088	3.104	3.113	3.085	3.092	3.096
2089	3.108	3.117	3.088	3.095	3.100
2090	3.114	3.122	3.093	3.099	3.104
2091	3.117	3.127	3.095	3.102	3.108
2092	3.120	3.131	3.098	3.106	3.112
2093	3.123	3.133	3.101	3.108	3.113
2094	3.126	3.136	3.103	3.110	3.116
2095	3.128	3.140	3.105	3.115	3.120
2096	3.133	3.144	3.109	3.118	3.123
2097	3.138	3.149	3.113	3.122	3.128
2098	3.138	3.151	3.114	3.124	3.129
2099	3.142	3.155	3.117	3.127	3.132
2100	3.146	3.160	3.120	3.131	3.137

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**Table SF18.** Simulated SOC contents for the period 2013–2100 for the forest system on loamy soil, under the different climate change scenarios.

Year	SOC (%)				
	W+ cc T, P	W+ cc T	W+ cc P	No cc	G+ cc T, P
2013	0.635	0.635	0.635	0.635	0.635
2014	0.635	0.635	0.635	0.635	0.635
2015	0.636	0.636	0.636	0.636	0.636
2016	0.636	0.636	0.636	0.636	0.636
2017	0.636	0.636	0.636	0.636	0.636
2018	0.636	0.636	0.636	0.637	0.636
2019	0.636	0.636	0.636	0.636	0.636
2020	0.636	0.636	0.636	0.636	0.636
2021	0.636	0.637	0.636	0.636	0.636
2022	0.637	0.637	0.636	0.637	0.636
2023	0.637	0.637	0.636	0.637	0.636
2024	0.637	0.638	0.637	0.637	0.637
2025	0.638	0.638	0.637	0.638	0.637
2026	0.638	0.639	0.637	0.638	0.638
2027	0.639	0.639	0.638	0.638	0.638
2028	0.639	0.639	0.638	0.638	0.638
2029	0.639	0.640	0.638	0.638	0.638
2030	0.639	0.640	0.637	0.638	0.638
2031	0.640	0.641	0.638	0.638	0.638
2032	0.641	0.642	0.638	0.639	0.638
2033	0.642	0.643	0.638	0.638	0.638
2034	0.643	0.643	0.638	0.639	0.639
2035	0.643	0.644	0.639	0.639	0.639
2036	0.644	0.645	0.639	0.640	0.640
2037	0.644	0.645	0.639	0.640	0.640
2038	0.644	0.646	0.639	0.640	0.640
2039	0.645	0.646	0.639	0.640	0.640
2040	0.645	0.646	0.639	0.640	0.640
2041	0.646	0.647	0.639	0.640	0.640
2042	0.647	0.648	0.639	0.641	0.640
2043	0.647	0.649	0.639	0.640	0.640
2044	0.648	0.649	0.639	0.641	0.641
2045	0.649	0.651	0.640	0.641	0.641
2046	0.650	0.652	0.640	0.642	0.642
2047	0.651	0.652	0.640	0.642	0.642
2048	0.651	0.652	0.640	0.642	0.642
2049	0.651	0.653	0.640	0.642	0.642
2050	0.651	0.653	0.640	0.642	0.642
2051	0.652	0.654	0.640	0.642	0.642
2052	0.653	0.655	0.640	0.642	0.643
2053	0.654	0.655	0.640	0.642	0.643
2054	0.654	0.656	0.640	0.642	0.643
2055	0.655	0.657	0.641	0.643	0.644
2056	0.656	0.658	0.641	0.643	0.644
2057	0.657	0.659	0.642	0.644	0.644
2058	0.657	0.659	0.642	0.644	0.644
2059	0.657	0.659	0.641	0.644	0.645
2060	0.657	0.659	0.641	0.643	0.645
2061	0.658	0.660	0.641	0.644	0.646

2062	0.659	0.661	0.641	0.644	0.646
2063	0.659	0.662	0.641	0.644	0.647
2064	0.660	0.662	0.641	0.644	0.647
2065	0.661	0.663	0.642	0.645	0.648
2066	0.661	0.664	0.642	0.645	0.649
2067	0.662	0.665	0.642	0.645	0.649
2068	0.662	0.665	0.642	0.645	0.649
2069	0.662	0.665	0.642	0.645	0.650
2070	0.663	0.666	0.641	0.645	0.650
2071	0.663	0.667	0.641	0.645	0.651
2072	0.664	0.668	0.642	0.645	0.652
2073	0.665	0.669	0.641	0.645	0.652
2074	0.666	0.670	0.641	0.645	0.653
2075	0.667	0.671	0.642	0.646	0.654
2076	0.667	0.672	0.642	0.646	0.655
2077	0.668	0.673	0.642	0.647	0.655
2078	0.668	0.673	0.642	0.647	0.655
2079	0.669	0.673	0.642	0.647	0.655
2080	0.670	0.674	0.642	0.646	0.655
2081	0.670	0.675	0.641	0.647	0.656
2082	0.671	0.676	0.641	0.647	0.657
2083	0.672	0.677	0.641	0.647	0.658
2084	0.672	0.677	0.641	0.647	0.658
2085	0.673	0.679	0.642	0.647	0.660
2086	0.674	0.680	0.642	0.648	0.661
2087	0.675	0.681	0.642	0.648	0.661
2088	0.675	0.681	0.642	0.648	0.661
2089	0.675	0.681	0.641	0.648	0.661
2090	0.677	0.682	0.641	0.648	0.662
2091	0.677	0.683	0.641	0.648	0.662
2092	0.677	0.684	0.641	0.648	0.663
2093	0.678	0.685	0.640	0.648	0.664
2094	0.678	0.686	0.641	0.648	0.664
2095	0.679	0.687	0.641	0.649	0.666
2096	0.680	0.688	0.641	0.649	0.666
2097	0.682	0.689	0.641	0.649	0.667
2098	0.681	0.689	0.641	0.650	0.667
2099	0.682	0.690	0.640	0.649	0.667
2100	0.682	0.691	0.640	0.649	0.667

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