

Supplement of SOIL, 2, 351–366, 2016  
<http://www.soil-journal.net/2/351/2016/>  
doi:10.5194/soil-2-351-2016-supplement  
© Author(s) 2016. CC Attribution 3.0 License.



*Supplement of*

## **Thermal alteration of soil physico-chemical properties: a systematic study to infer response of Sierra Nevada climosequence soils to forest fires**

**Samuel N. Araya et al.**

*Correspondence to:* Samuel N. Araya (saraya@ucmerced.edu)

The copyright of individual parts of the supplement might differ from the CC-BY 3.0 licence.

## Supplement: Analysis of variance tables and Tukey's HSD comparison of means Vista series (210m)

One-way analysis of variance for **Aggregate stability (water stable %)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	2310.7	385.1	6.708	0.00165 **
Residuals	14	803.8	57.4		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	1.25	-19.8754 22.37544	0.999992
250-25	11.65667	-9.46877 32.78211	0.519828
350-25	15.49	-5.63544 36.61544	0.229212
450-25	-7.10667	-28.2321 14.01877	0.90182
550-25	-9.58333	-30.7088 11.54211	0.713636
650-25	-15.9067	-37.0321 5.218772	0.206827
250-150	10.40667	-10.7188 31.53211	0.637213
350-150	14.24	-6.88544 35.36544	0.307622
450-150	-8.35667	-29.4821 12.76877	0.817637
550-150	-10.8333	-31.9588 10.29211	0.596903
650-150	-17.1567	-38.2821 3.968772	0.150159
350-250	3.833333	-17.2921 24.95877	0.99495
450-250	-18.7633	-39.8888 2.362106	0.097394
550-250	-21.24	-42.3654 -0.11456	0.048378
650-250	-27.5633	-48.6888 -6.43789	0.007576
450-350	-22.5967	-43.7221 -1.47123	0.032635
550-350	-25.0733	-46.1988 -3.94789	0.015768
650-350	-31.3967	-52.5221 -10.2712	0.002488
550-450	-2.47667	-23.6021 18.64877	0.999554
650-450	-8.8	-29.9254 12.32544	0.781989
650-550	-6.32333	-27.4488 14.80211	0.940235

One-way analysis of variance for **pH (water)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	18.277	3.0462	49.65	1.22e-08 ***
Residuals	14	0.859	0.0614		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	0.116667	-0.57393 0.807264	0.996564
250-25	0.116667	-0.57393 0.807264	0.996564
350-25	1.396667	0.706069 2.087264	0.000116
450-25	1.85	1.159402 2.540598	4.64E-06
550-25	1.933333	1.242736 2.623931	2.73E-06
650-25	2.366667	1.676069 3.057264	2.21E-07
250-150	0	-0.6906 0.690598	1
350-150	1.28	0.589402 1.970598	0.000292
450-150	1.733333	1.042736 2.423931	1.01E-05
550-150	1.816667	1.126069 2.507264	5.77E-06
650-150	2.25	1.559402 2.940598	4.17E-07
350-250	1.28	0.589402 1.970598	0.000292
450-250	1.733333	1.042736 2.423931	1.01E-05
550-250	1.816667	1.126069 2.507264	5.77E-06
650-250	2.25	1.559402 2.940598	4.17E-07
450-350	0.453333	-0.23726 1.143931	0.334286
550-350	0.536667	-0.15393 1.227264	0.181868
650-350	0.97	0.279402 1.660598	0.004092
550-450	0.083333	-0.60726 0.773931	0.999474
650-450	0.516667	-0.17393 1.207264	0.212127
650-550	0.433333	-0.25726 1.123931	0.38125

#### One-way analysis of variance for pH (CaCl2)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	22.074	3.679	79.43	5.28e-10 ***
Residuals	14	0.648	0.046		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	0.086667	-0.51336 0.686696	0.998549
250-25	0.086667	-0.51336 0.686696	0.998549
350-25	1.433333	0.833304 2.033362	1.79E-05
450-25	2.143333	1.543304 2.743362	1.30E-07
550-25	1.573333	0.973304 2.173362	6.00E-06
650-25	2.74	2.139971 3.340029	5.05E-09
250-150	0	-0.60003 0.600029	1

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Confidence Limits	P adj
350-150	1.346667	0.746638	1.946696	3.66E-05
450-150	2.056667	1.456638	2.656696	2.20E-07
550-150	1.486667	0.886638	2.086696	1.17E-05
650-150	2.653333	2.053304	3.253362	7.82E-09
350-250	1.346667	0.746638	1.946696	3.66E-05
450-250	2.056667	1.456638	2.656696	2.20E-07
550-250	1.486667	0.886638	2.086696	1.17E-05
650-250	2.653333	2.053304	3.253362	7.82E-09
450-350	0.71	0.109971	1.310029	0.016126
550-350	0.14	-0.46003	0.740029	0.981485
650-350	1.306667	0.706638	1.906696	5.14E-05
550-450	-0.57	-1.17003	0.030029	0.067622
650-450	0.596667	-0.00336	1.196696	0.051731
650-550	1.166667	0.566638	1.766696	0.000177

#### One-way analysis of variance for SSA (m<sup>2</sup>/g)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	9.560	1.5933	9.771	0.000246 ***
Residuals	14	2.283	0.1631		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Confidence Limits	P adj
150-25	-0.09682	-1.22265	1.029012	0.999926
250-25	-0.03233	-1.15816	1.093494	1
350-25	0.84986	-0.27597	1.975689	0.204753
450-25	1.445717	0.319888	2.571546	0.00861
550-25	1.476909	0.35108	2.602738	0.00725
650-25	1.28598	0.160151	2.411808	0.020814
250-150	0.064482	-1.06135	1.190311	0.999993
350-150	0.946677	-0.17915	2.072506	0.127816
450-150	1.542534	0.416705	2.668363	0.005057
550-150	1.573726	0.447897	2.699555	0.004265
650-150	1.382797	0.256968	2.508625	0.012188
350-250	0.882195	-0.24363	2.008024	0.175599
450-250	1.478052	0.352223	2.60388	0.007205
550-250	1.509244	0.383415	2.635072	0.00607
650-250	1.318314	0.192486	2.444143	0.017409
450-350	0.595857	-0.52997	1.721685	0.564141

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
550-350	0.627049	-0.49878	1.752877	0.509769
650-350	0.436119	-0.68971	1.561948	0.830824
550-450	0.031192	-1.09464	1.157021	1
650-450	-0.15974	-1.28557	0.966091	0.998687
650-550	-0.19093	-1.31676	0.934899	0.996491

#### One-way analysis of variance for CEC (cmol<sub>c</sub>/kg)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	196.19	32.70	28.12	4.85e-07 ***
Residuals	14	16.28	1.16		

---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	-0.65665	-3.6628	2.349504	0.986705
250-25	-1.35089	-4.35704	1.655267	0.721776
350-25	-1.11856	-4.12471	1.887594	0.854183
450-25	-5.6173	-8.62345	-2.61115	0.000268
550-25	-7.4	-10.4062	-4.39385	1.26E-05
650-25	-7.4	-10.4062	-4.39385	1.26E-05
250-150	-0.69424	-3.70039	2.311917	0.982407
350-150	-0.46191	-3.46806	2.544244	0.997955
450-150	-4.96065	-7.9668	-1.9545	0.000936
550-150	-6.74335	-9.7495	-3.7372	3.68E-05
650-150	-6.74335	-9.7495	-3.7372	3.68E-05
350-250	0.232327	-2.77383	3.238481	0.99996
450-250	-4.26641	-7.27257	-1.26026	0.003741
550-250	-6.04911	-9.05527	-3.04296	0.000122
650-250	-6.04911	-9.05527	-3.04296	0.000122
450-350	-4.49874	-7.50489	-1.49259	0.002338
550-350	-6.28144	-9.28759	-3.27529	8.12E-05
650-350	-6.28144	-9.28759	-3.27529	8.12E-05
550-450	-1.7827	-4.78885	1.223454	0.441849
650-450	-1.7827	-4.78885	1.223454	0.441849
650-550	-2.66E-15	-3.00615	3.006154	1

#### One-way analysis of variance for Macro aggregate weight (%)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	197.5	32.91	1.371	0.292
Residuals	14	336.1	24.01		

#### One-way analysis of variance for **Micro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	170.3	28.39	1.919	0.148
Residuals	14	207.2	14.80		

#### One-way analysis of variance for **silt-Clay size particles weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	7.97	1.328	0.606	0.722
Residuals	14	30.68	2.191		

### Musick series (1384m)

#### One-way analysis of variance for **Aggregate stability (water stable %)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	3361	560.2	24.27	1.23e-06 ***
Residuals	14	323	23.1		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	-5.03667	-18.4317 8.358318	0.84835
250-25	-10.5133	-23.9083 2.881652	0.17439
350-25	-8.05667	-21.4517 5.338318	0.42655
450-25	-25.3167	-38.7117 -11.9217	0.000238
550-25	-28.9667	-42.3617 -15.5717	5.56E-05
650-25	-35.9133	-49.3083 -22.5183	4.59E-06
250-150	-5.47667	-18.8717 7.918318	0.795366
350-150	-3.02	-16.415 10.37499	0.9844
450-150	-20.28	-33.675 -6.88501	0.002103
550-150	-23.93	-37.325 -10.535	0.000426
650-150	-30.8767	-44.2717 -17.4817	2.70E-05
350-250	2.456667	-10.9383 15.85165	0.994654
450-250	-14.8033	-28.1983 -1.40835	0.026204
550-250	-18.4533	-31.8483 -5.05835	0.004829
650-250	-25.4	-38.795 -12.005	0.00023
450-350	-17.26	-30.655 -3.86501	0.008378
550-350	-20.91	-34.305 -7.51501	0.001586
650-350	-27.8567	-41.2517 -14.4617	8.56E-05
550-450	-3.65	-17.045 9.744985	0.960944

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
650-450	-10.5967	-23.9917	2.798318	0.168587
650-550	-6.94667	-20.3417	6.448318	0.585346

#### One-way analysis of variance for pH (water)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	79.77	13.295	211.2	6.57e-13 ***
Residuals	14	0.88	0.063		

---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	-0.12667	-0.82616	0.572824	0.995005
250-25	-0.12667	-0.82616	0.572824	0.995005
350-25	1.663333	0.963842	2.362824	1.89E-05
450-25	3.91	3.210509	4.609491	3.81E-10
550-25	4.14	3.440509	4.839491	1.91E-10
650-25	4.283333	3.583842	4.982824	1.24E-10
250-150	-1.78E-15	-0.69949	0.699491	1
350-150	1.79	1.090509	2.489491	8.01E-06
450-150	4.036667	3.337176	4.736158	2.60E-10
550-150	4.266667	3.567176	4.966158	1.31E-10
650-150	4.41	3.710509	5.109491	8.48E-11
350-250	1.79	1.090509	2.489491	8.01E-06
450-250	4.036667	3.337176	4.736158	2.60E-10
550-250	4.266667	3.567176	4.966158	1.31E-10
650-250	4.41	3.710509	5.109491	8.48E-11
450-350	2.246667	1.547176	2.946158	4.99E-07
550-350	2.476667	1.777176	3.176158	1.46E-07
650-350	2.62	1.920509	3.319491	7.08E-08
550-450	0.23	-0.46949	0.929491	0.910625
650-450	0.373333	-0.32616	1.072824	0.555301
650-550	0.143333	-0.55616	0.842824	0.990422

#### One-way analysis of variance for pH (CaCl2)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	105.27	17.54	219.7	5e-13 ***
Residuals	14	1.12	0.08		

---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	95% Confidence Limits	P adj
150-25	0.133333	-0.65453	0.921194	0.996531
250-25	0.133333	-0.65453	0.921194	0.996531
350-25	2.3	1.512139	3.087861	1.63E-06
450-25	4.533333	3.745473	5.321194	2.69E-10
550-25	5.083333	4.295473	5.871194	6.19E-11
650-25	5.106667	4.318806	5.894527	5.80E-11
250-150	-8.88E-16	-0.78786	0.787861	1
350-150	2.166667	1.378806	2.954527	3.38E-06
450-150	4.4	3.612139	5.187861	3.85E-10
550-150	4.95	4.162139	5.737861	8.88E-11
650-150	4.973333	4.185473	5.761194	8.34E-11
350-250	2.166667	1.378806	2.954527	3.38E-06
450-250	4.4	3.612139	5.187861	3.85E-10
550-250	4.95	4.162139	5.737861	8.88E-11
650-250	4.973333	4.185473	5.761194	8.34E-11
450-350	2.233333	1.445473	3.021194	2.34E-06
550-350	2.783333	1.995473	3.571194	1.50E-07
650-350	2.806667	2.018806	3.594527	1.35E-07
550-450	0.55	-0.23786	1.337861	0.273724
650-450	0.573333	-0.21453	1.361194	0.235819
650-550	0.023333	-0.76453	0.811194	1

One-way analysis of variance for SSA (m<sup>2</sup>/g)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	42.50	7.083	34.69	1.27e-07 ***
Residuals	14	2.86	0.204		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	95% Confidence Limits	P adj
150-25	-0.66623	-1.92614	0.593678	0.565067
250-25	-1.07096	-2.33088	0.188946	0.121337
350-25	2.802559	1.542648	4.062469	4.05E-05
450-25	2.061074	0.801163	3.320984	0.001018
550-25	2.064792	0.804881	3.324703	0.001
650-25	1.769851	0.509941	3.029762	0.004088
250-150	-0.40473	-1.66464	0.855179	0.918925



Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Confidence Limits	P adj
350-150	3.468792	2.208881	4.728703	3.34E-06
450-150	2.727307	1.467396	3.987218	5.49E-05
550-150	2.731025	1.471114	3.990936	5.41E-05
650-150	2.436085	1.176174	3.695995	0.000188
350-250	3.873524	2.613613	5.133434	8.62E-07
450-250	3.132039	1.872128	4.391949	1.13E-05
550-250	3.135757	1.875846	4.395667	1.11E-05
650-250	2.840816	1.580906	4.100727	3.47E-05
450-350	-0.74149	-2.0014	0.518426	0.450092
550-350	-0.73777	-1.99768	0.522144	0.455542
650-350	-1.03271	-2.29262	0.227203	0.143996
550-450	0.003718	-1.25619	1.263629	1
650-450	-0.29122	-1.55113	0.968688	0.982328
650-550	-0.29494	-1.55485	0.96497	0.981178

#### One-way analysis of variance for CEC (cmolc/kg)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	1460.9	243.49	91.4	2.04e-10 ***
Residuals	14	37.3	2.66		

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Confidence Limits	P adj
150-25	-1.73516	-6.28573	2.815414	0.840299
250-25	-7.65856	-12.2091	-3.10799	0.000773
350-25	-16.2582	-20.8088	-11.7077	1.30E-07
450-25	-19.3394	-23.89	-14.7888	1.34E-08
550-25	-20.424	-24.9746	-15.8735	6.39E-09
650-25	-20.7445	-25.2951	-16.1939	5.17E-09
250-150	-5.9234	-10.474	-1.37283	0.007722
350-150	-14.5231	-19.0736	-9.97251	5.41E-07
450-150	-17.6043	-22.1548	-13.0537	4.66E-08
550-150	-18.6889	-23.2395	-14.1383	2.12E-08
650-150	-19.0093	-23.5599	-14.4588	1.69E-08
350-250	-8.59967	-13.1502	-4.0491	0.000239
450-250	-11.6809	-16.2314	-7.13029	7.72E-06
550-250	-12.7655	-17.3161	-8.21492	2.66E-06
650-250	-13.0859	-17.6365	-8.53535	1.96E-06
450-350	-3.08119	-7.63176	1.469384	0.303191

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
550-350	-4.16581	-8.71638	0.384757	0.083011
650-350	-4.48625	-9.03682	0.06432	0.054476
550-450	-1.08463	-5.6352	3.465944	0.979427
650-450	-1.40506	-5.95563	3.145507	0.931546
650-550	-0.32044	-4.87101	4.230134	0.999977

One-way analysis of variance for **Macro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	1243.8	207.30	15.39	1.93e-05 ***
Residuals	14	188.6	13.47		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	-3.47332	-13.7054	6.758739	0.898147
250-25	-11.7035	-21.9356	-1.47145	0.020614
350-25	-16.0988	-26.3309	-5.86675	0.001474
450-25	-19.2834	-29.5155	-9.05133	0.000246
550-25	-21.0115	-31.2436	-10.7795	9.82E-05
650-25	-19.3156	-29.5476	-9.08351	0.000241
250-150	-8.23019	-18.4622	2.001873	0.156762
350-150	-12.6255	-22.8575	-2.39343	0.011765
450-150	-15.8101	-26.0421	-5.57801	0.001744
550-150	-17.5382	-27.7703	-7.30617	0.000645
650-150	-15.8422	-26.0743	-5.61019	0.001712
350-250	-4.3953	-14.6274	5.836761	0.758701
450-250	-7.57988	-17.8119	2.652176	0.220417
550-250	-9.30804	-19.5401	0.924022	0.085874
650-250	-7.61206	-17.8441	2.620002	0.216838
450-350	-3.18459	-13.4166	7.047475	0.929151
550-350	-4.91274	-15.1448	5.319321	0.661988
650-350	-3.21676	-13.4488	7.015301	0.926027
550-450	-1.72815	-11.9602	8.503906	0.996568
650-450	-0.03217	-10.2642	10.19989	1
650-550	1.69598	-8.53608	11.92804	0.996902

One-way analysis of variance for **Micro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	1402.1	233.68	25.48	9.04e-07 ***

Residuals 14 128.4 9.17

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

**Tukey's HSD test comparisons of means 95% family-wise confidence level**

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		P adj
150-25	3.785301	-4.65809	12.22869	0.723787
250-25	10.84056	2.397174	19.28395	0.008622
350-25	17.81534	9.371947	26.25873	7.30E-05
450-25	21.91129	13.4679	30.35468	6.78E-06
550-25	21.06403	12.62064	29.50742	1.08E-05
650-25	19.59251	11.14912	28.0359	2.51E-05
250-150	7.055264	-1.38813	15.49865	0.131685
350-150	14.03004	5.586647	22.47343	0.000875
450-150	18.12599	9.682603	26.56938	6.03E-05
550-150	17.27873	8.835338	25.72212	0.000102
650-150	15.80721	7.363821	24.2506	0.000263
350-250	6.974773	-1.46862	15.41816	0.138937
450-250	11.07073	2.627339	19.51412	0.007281
550-250	10.22346	1.780074	18.66685	0.013584
650-250	8.751947	0.308557	17.19534	0.040001
450-350	4.095956	-4.34743	12.53935	0.652133
550-350	3.248691	-5.1947	11.69208	0.834936
650-350	1.777174	-6.66622	10.22056	0.989
550-450	-0.84727	-9.29065	7.596125	0.999818
650-450	-2.31878	-10.7622	6.124608	0.959505
650-550	-1.47152	-9.91491	6.971873	0.995933

**One-way analysis of variance for Silt-clay size particles weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	25.04	4.173	0.925	0.506
Residuals	14	63.15	4.511		

**Shaver series (1938m)**

**One-way analysis of variance for Aggregate stability (water stable %)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	1323.9	220.65	5.744	0.00338 **
Residuals	14	537.8	38.41		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

**Tukey's HSD test comparisons of means 95% family-wise confidence level**

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	-0.89333	-18.1725 16.38582	0.999996
250-25	-5.63333	-22.9125 11.64582	0.913741
350-25	-13.2267	-30.5058 4.052491	0.193568
450-25	-12.1333	-29.4125 5.145825	0.268219
550-25	-21.2767	-38.5558 -3.99751	0.011955
650-25	-19.9267	-37.2058 -2.64751	0.019442
250-150	-4.74	-22.0192 12.53916	0.959714
350-150	-12.3333	-29.6125 4.945825	0.253128
450-150	-11.24	-28.5192 6.039158	0.343606
550-150	-20.3833	-37.6625 -3.10418	0.016494
650-150	-19.0333	-36.3125 -1.75418	0.026799
350-250	-7.59333	-24.8725 9.685825	0.740466
450-250	-6.5	-23.7792 10.77916	0.848103
550-250	-15.6433	-32.9225 1.635825	0.088105
650-250	-14.2933	-31.5725 2.985825	0.138053
450-350	1.093333	-16.1858 18.37249	0.999988
550-350	-8.05	-25.3292 9.229158	0.689979
650-350	-6.7	-23.9792 10.57916	0.830232
550-450	-9.14333	-26.4225 8.135825	0.564353
650-450	-7.79333	-25.0725 9.485825	0.718632
650-550	1.35	-15.9292 18.62916	0.999958

#### One-way analysis of variance for pH (water)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	47.34	7.891	16.03	1.52e-05 ***
Residuals	14	6.89	0.492		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	-0.42	-2.37622 1.536221	0.987823
250-25	-0.42	-2.37622 1.536221	0.987823
350-25	0.416667	-1.53955 2.372888	0.988309
450-25	2.75	0.793779 4.706221	0.004063
550-25	2.98	1.023779 4.936221	0.001988
650-25	2.906667	0.950446 4.862888	0.002493
250-150	-8.88E-16	-1.95622 1.956221	1
350-150	0.836667	-1.11955 2.792888	0.762094
450-150	3.17	1.213779 5.126221	0.001115

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Confidence Limits	P adj
550-150	3.4	1.443779	5.356221	0.000562
650-150	3.326667	1.370446	5.282888	0.000698
350-250	0.836667	-1.11955	2.792888	0.762094
450-250	3.17	1.213779	5.126221	0.001115
550-250	3.4	1.443779	5.356221	0.000562
650-250	3.326667	1.370446	5.282888	0.000698
450-350	2.333333	0.377112	4.289554	0.0152
550-350	2.563333	0.607112	4.519554	0.007318
650-350	2.49	0.533779	4.446221	0.009234
550-450	0.23	-1.72622	2.186221	0.999546
650-450	0.156667	-1.79955	2.112888	0.999951
650-550	-0.07333	-2.02955	1.882888	0.999999

#### One-way analysis of variance for pH (CaCl2)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	59.58	9.930	15.21	3.36e-05 ***
Residuals	13	8.48	0.653		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
 1 observation deleted due to missingness

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Confidence Limits	P adj
150-25	-1.84652	-3.39474	-0.2983	0.010555
250-25	0.076667	-2.2015	2.354833	1
350-25	0.076667	-2.2015	2.354833	1
450-25	1.21	-1.06817	3.488166	0.549979
550-25	3.436667	1.158501	5.714833	0.002415
650-25	3.78	1.501834	6.058166	0.001025
250-150	4.185	1.637933	6.732067	0.001122
350-150	1.78E-15	-2.27817	2.278166	1
450-150	1.133333	-1.14483	3.411499	0.61702
550-150	3.36	1.081834	5.638166	0.002935
650-150	3.703333	1.425167	5.981499	0.001238
350-250	4.108333	1.561266	6.6554	0.00133
450-250	1.133333	-1.14483	3.411499	0.61702
550-250	3.36	1.081834	5.638166	0.002935
650-250	3.703333	1.425167	5.981499	0.001238
450-350	4.108333	1.561266	6.6554	0.00133
550-350	2.226667	-0.0515	4.504833	0.057167

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
650-350	2.57	0.291834	4.848166	0.023194
550-450	2.975	0.427933	5.522067	0.018232
650-450	0.343333	-1.93483	2.621499	0.998002
650-550	0.748333	-1.79873	3.2954	0.94151

#### One-way analysis of variance for SSA (m<sup>2</sup>/g)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	10.858	1.8096	16.5	1.28e-05 ***
Residuals	14	1.536	0.1097		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	-0.5625	-1.48585	0.36084	0.412789
250-25	-1.3221	-2.24544	-0.39875	0.003463
350-25	0.384585	-0.53876	1.307929	0.78207
450-25	0.965103	0.041759	1.888447	0.037926
550-25	0.628219	-0.29513	1.551562	0.298453
650-25	0.325463	-0.59788	1.248806	0.881607
250-150	-0.75959	-1.68294	0.163752	0.141614
350-150	0.947089	0.023746	1.870433	0.042743
450-150	1.527607	0.604263	2.45095	0.000913
550-150	1.190722	0.267379	2.114066	0.008324
650-150	0.887966	-0.03538	1.81131	0.063029
350-250	1.706681	0.783337	2.630024	0.000301
450-250	2.287198	1.363855	3.210542	1.18E-05
550-250	1.950314	1.02697	2.873658	7.21E-05
650-250	1.647558	0.724214	2.570902	0.000431
450-350	0.580518	-0.34283	1.503861	0.379167
550-350	0.243633	-0.67971	1.166977	0.966405
650-350	-0.05912	-0.98247	0.864221	0.999987
550-450	-0.33688	-1.26023	0.586459	0.864649
650-450	-0.63964	-1.56298	0.283703	0.281027
650-550	-0.30276	-1.2261	0.620588	0.911659

#### One-way analysis of variance for CEC (cmolc/kg)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	271.33	45.22	7.709	0.000836 ***
Residuals	14	82.13	5.87		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	95% Confidence Limits	P adj
150-25	-2.11422	-8.86677	4.63834	0.92731
250-25	-5.74467	-12.4972	1.00789	0.120849
350-25	-4.1961	-10.9487	2.556456	0.391565
450-25	-9.0778	-15.8304	-2.32524	0.005929
550-25	-9.66667	-16.4192	-2.91411	0.003469
650-25	-9.66667	-16.4192	-2.91411	0.003469
250-150	-3.63045	-10.383	3.122106	0.547557
350-150	-2.08188	-8.83444	4.670673	0.931983
450-150	-6.96358	-13.7161	-0.21103	0.04132
550-150	-7.55245	-14.305	-0.79989	0.024128
650-150	-7.55245	-14.305	-0.79989	0.024128
350-250	1.548567	-5.20399	8.301123	0.98301
450-250	-3.33313	-10.0857	3.419423	0.635226
550-250	-3.922	-10.6746	2.830556	0.464382
650-250	-3.922	-10.6746	2.830556	0.464382
450-350	-4.8817	-11.6343	1.870856	0.241634
550-350	-5.47057	-12.2231	1.28199	0.151821
650-350	-5.47057	-12.2231	1.28199	0.151821
550-450	-0.58887	-7.34142	6.16369	0.999919
650-450	-0.58887	-7.34142	6.16369	0.999919
650-550	-1.33E-15	-6.75256	6.752556	1

One-way analysis of variance for **Macro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	29.92	4.987	1.357	0.297
Residuals	14	51.47	3.676		

One-way analysis of variance for **Micro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	24.21	4.036	2.199	0.105
Residuals	14	25.69	1.835		

One-way analysis of variance for **Silt-clay size particles weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	6.94	1.157	0.404	0.864
Residuals	14	40.06	2.862		

**Sirretta series (2316m)**One-way analysis of variance for **Aggregate stability (water stable %)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	3904	650.7	5.691	0.00352 **
Residuals	14	1601	114.3		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	7.326667	-22.4842 37.13758	0.976095
250-25	-21.2967	-51.1076 8.514242	0.252336
350-25	-26.12	-55.9309 3.690909	0.104417
450-25	-26.38	-56.1909 3.430909	0.099268
550-25	-29.11	-58.9209 0.700909	0.057654
650-25	-26.2433	-56.0542 3.567575	0.101945
250-150	-28.6233	-58.4342 1.187575	0.063608
350-150	-33.4467	-63.2576 -3.63576	0.023609
450-150	-33.7067	-63.5176 -3.89576	0.022365
550-150	-36.4367	-66.2476 -6.62576	0.012651
650-150	-33.57	-63.3809 -3.75909	0.023011
350-250	-4.82333	-34.6342 24.98758	0.997284
450-250	-5.08333	-34.8942 24.72758	0.996386
550-250	-7.81333	-37.6242 21.99758	0.967453
650-250	-4.94667	-34.7576 24.86424	0.996883
450-350	-0.26	-30.0709 29.55091	1
550-350	-2.99	-32.8009 26.82091	0.999818
650-350	-0.12333	-29.9342 29.68758	1



Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
550-450	-2.73	-32.5409	27.08091	0.999893
650-450	0.136667	-29.6742	29.94758	1
650-550	2.866667	-26.9442	32.67758	0.999858

#### One-way analysis of variance for pH (water)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	46.90	7.817	22.91	1.76e-06 ***
Residuals	14	4.78	0.341		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	-0.44333	-2.07206	1.185394	0.96114
250-25	-0.48667	-2.11539	1.142061	0.940693
350-25	0.83	-0.79873	2.458728	0.603312
450-25	2.746667	1.117939	4.375394	0.000757
550-25	2.843333	1.214606	4.472061	0.000538
650-25	3.05	1.421272	4.678728	0.000262
250-150	-0.04333	-1.67206	1.585394	1
350-150	1.273333	-0.35539	2.902061	0.177319
450-150	3.19	1.561272	4.818728	0.000164
550-150	3.286667	1.657939	4.915394	0.000119
650-150	3.493333	1.864606	5.122061	6.09E-05
350-250	1.316667	-0.31206	2.945394	0.153295
450-250	3.233333	1.604606	4.862061	0.000142
550-250	3.33	1.701272	4.958728	0.000103
650-250	3.536667	1.907939	5.165394	5.31E-05
450-350	1.916667	0.287939	3.545394	0.01679
550-350	2.013333	0.384606	3.642061	0.011604
650-350	2.22	0.591272	3.848728	0.005284
550-450	0.096667	-1.53206	1.725394	0.999992
650-450	0.303333	-1.32539	1.932061	0.994199
650-550	0.206667	-1.42206	1.835394	0.9993

#### One-way analysis of variance for pH (CaCl2)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	61.11	10.186	28.16	4.81e-07 ***
Residuals	14	5.06	0.362		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	0.086667	-1.59002 1.763355	0.999996
250-25	0.22	-1.45669 1.896689	0.999154
350-25	1.59	-0.08669 3.266689	0.068295
450-25	3.516667	1.839978 5.193355	7.79E-05
550-25	3.783333	2.106645 5.460022	3.45E-05
650-25	3.996667	2.319978 5.673355	1.84E-05
250-150	0.133333	-1.54336 1.810022	0.999953
350-150	1.503333	-0.17336 3.180022	0.092724
450-150	3.43	1.753311 5.106689	0.000102
550-150	3.696667	2.019978 5.373355	4.48E-05
650-150	3.91	2.233311 5.586689	2.37E-05
350-250	1.37	-0.30669 3.046689	0.146082
450-250	3.296667	1.619978 4.973355	0.000157
550-250	3.563333	1.886645 5.240022	6.74E-05
650-250	3.776667	2.099978 5.453355	3.52E-05
450-350	1.926667	0.249978 3.603355	0.019948
550-350	2.193333	0.516645 3.870022	0.007419
650-350	2.406667	0.729978 4.083355	0.00339
550-450	0.266667	-1.41002 1.943355	0.997528
650-450	0.48	-1.19669 2.156689	0.951025
650-550	0.213333	-1.46336 1.890022	0.999289

One-way analysis of variance for **SSA (m<sup>2</sup>/g)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	71.48	11.914	1.831	0.165
Residuals	14	91.10	6.507		

One-way analysis of variance for **CEC (cmolc/kg)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	330.7	55.11	8.85	0.000414 ***
Residuals	14	87.2	6.23		

---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	-2.42711	-9.38415 4.529925	0.886329

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	95%	P adj
250-25	-7.2009	-14.1579	-0.24386	0.040369
350-25	-6.10599	-13.063	0.851045	0.103526
450-25	-9.94712	-16.9042	-2.99008	0.003507
550-25	-10.6281	-17.5851	-3.67107	0.001937
650-25	-11.2333	-18.1904	-4.27629	0.001153
250-150	-4.77379	-11.7308	2.183252	0.290179
350-150	-3.67888	-10.6359	3.278159	0.565056
450-150	-7.52001	-14.477	-0.56297	0.03044
550-150	-8.20099	-15.158	-1.24395	0.016581
650-150	-8.80622	-15.7633	-1.84918	0.009649
350-250	1.094907	-5.86213	8.051945	0.997667
450-250	-2.74622	-9.70326	4.210819	0.818999
550-250	-3.42721	-10.3842	3.529832	0.637191
650-250	-4.03243	-10.9895	2.924605	0.466622
450-350	-3.84113	-10.7982	3.115912	0.519171
550-350	-4.52211	-11.4792	2.434925	0.34438
650-350	-5.12734	-12.0844	1.829699	0.224801
550-450	-0.68099	-7.63803	6.276052	0.999842
650-450	-1.28621	-8.24325	5.670825	0.99442
650-550	-0.60523	-7.56227	6.351812	0.999921

One-way analysis of variance for **Macro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	135.3	22.55	2.147	0.112
Residuals	14	147.1	10.51		

One-way analysis of variance for **Micro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	35.71	5.952	0.836	0.562
Residuals	14	99.72	7.123		

One-way analysis of variance for **Silt-clay size particles weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	62.18	10.364	8.517	0.000505 ***
Residuals	14	17.04	1.217		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	0.683154	-2.39235 3.758662	0.985527
250-25	1.187633	-1.88787 4.263141	0.832745
350-25	3.156077	0.080569 6.231585	0.042618
450-25	3.966435	0.890927 7.041943	0.008318
550-25	4.82334	1.747832 7.898848	0.001519
650-25	3.715029	0.63952 6.790537	0.01383
250-150	0.504479	-2.57103 3.579987	0.997073
350-150	2.472922	-0.60259 5.54843	0.157007
450-150	3.283281	0.207773 6.358789	0.033057
550-150	4.140185	1.064677 7.215693	0.005863
650-150	3.031874	-0.04363 6.107382	0.054494
350-250	1.968444	-1.10706 5.043952	0.360406
450-250	2.778802	-0.29671 5.85431	0.089042
550-250	3.635707	0.560199 6.711215	0.016239
650-250	2.527395	-0.54811 5.602904	0.142306
450-350	0.810359	-2.26515 3.885867	0.966628
550-350	1.667263	-1.40825 4.742771	0.538755
650-350	0.558952	-2.51656 3.63446	0.994907
550-450	0.856904	-2.2186 3.932412	0.956718
650-450	-0.25141	-3.32691 2.824101	0.999945
650-550	-1.10831	-4.18382 1.967197	0.870937

### Chiquito series (2865m)

One-way analysis of variance for **Aggregate stability (water stable %)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	9865	1644.1	15.61	1.78e-05 ***
Residuals	14	1475	105.3		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	3.63	-24.9847 32.24467	0.999301
250-25	1.19	-27.4247 29.80467	0.999999
350-25	-37.5867	-66.2013 -8.972	0.007174
450-25	-41.06	-69.6747 -12.4453	0.003399
550-25	-44.658	-73.2727 -16.0433	0.00159
650-25	-44.3867	-73.0013 -15.772	0.001682
250-150	-2.44	-31.0547 26.17467	0.999929
350-150	-41.2167	-69.8313 -12.602	0.003287

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
450-150	-44.69	-73.3047	-16.0753	0.001579
550-150	-48.288	-76.9027	-19.6733	0.000752
650-150	-48.0167	-76.6313	-19.402	0.000795
350-250	-38.7767	-67.3913	-10.162	0.005547
450-250	-42.25	-70.8647	-13.6353	0.002639
550-250	-45.848	-74.4627	-17.2333	0.001241
650-250	-45.5767	-74.1913	-16.962	0.001313
450-350	-3.47333	-32.088	25.14134	0.999456
550-350	-7.07133	-35.686	21.54334	0.97545
650-350	-6.8	-35.4147	21.81467	0.979727
550-450	-3.598	-32.2127	25.01667	0.999335
650-450	-3.32667	-31.9413	25.288	0.999575
650-550	0.271333	-28.3433	28.886	1

#### One-way analysis of variance for pH (water)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	28.176	4.696	22.32	2.06e-06 ***
Residuals	14	2.946	0.210		

---  
 Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	-0.45	-1.72888	0.828881	0.882415
250-25	-0.30333	-1.58221	0.975548	0.979917
350-25	0.863333	-0.41555	2.142214	0.306154
450-25	2.023333	0.744452	3.302214	0.001399
550-25	2.363333	1.084452	3.642214	0.000301
650-25	2.293333	1.014452	3.572214	0.00041
250-150	0.146667	-1.13221	1.425548	0.999606
350-150	1.313333	0.034452	2.592214	0.042425
450-150	2.473333	1.194452	3.752214	0.000187
550-150	2.813333	1.534452	4.092214	4.59E-05
650-150	2.743333	1.464452	4.022214	6.08E-05
350-250	1.166667	-0.11221	2.445548	0.084588
450-250	2.326667	1.047786	3.605548	0.000354
550-250	2.666667	1.387786	3.945548	8.31E-05
650-250	2.596667	1.317786	3.875548	0.000111
450-350	1.16	-0.11888	2.438881	0.087223
550-350	1.5	0.221119	2.778881	0.017201

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
650-350	1.43	0.151119	2.708881	0.024172
550-450	0.34	-0.93888	1.618881	0.965191
650-450	0.27	-1.00888	1.548881	0.988827
650-550	-0.07	-1.34888	1.208881	0.999995

#### One-way analysis of variance for pH (CaCl2)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	39.54	6.590	40.98	4.3e-08 ***
Residuals	14	2.25	0.161		

---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous Confidence Limits	95% Limits	P adj
150-25	0.033333	-1.08465	1.151317	1
250-25	0.14	-0.97798	1.257984	0.99935
350-25	1.456667	0.338683	2.57465	0.007662
450-25	2.766667	1.648683	3.88465	1.19E-05
550-25	2.996667	1.878683	4.11465	4.61E-06
650-25	3.256667	2.138683	4.37465	1.68E-06
250-150	0.106667	-1.01132	1.22465	0.999864
350-150	1.423333	0.30535	2.541317	0.009219
450-150	2.733333	1.61535	3.851317	1.37E-05
550-150	2.963333	1.84535	4.081317	5.27E-06
650-150	3.223333	2.10535	4.341317	1.90E-06
350-250	1.316667	0.198683	2.43465	0.016694
450-250	2.626667	1.508683	3.74465	2.17E-05
550-250	2.856667	1.738683	3.97465	8.15E-06
650-250	3.116667	1.998683	4.23465	2.87E-06
450-350	1.31	0.192016	2.427984	0.017325
550-350	1.54	0.422016	2.657984	0.004834
650-350	1.8	0.682016	2.917984	0.001185
550-450	0.23	-0.88798	1.347984	0.990223
650-450	0.49	-0.62798	1.607984	0.742629
650-550	0.26	-0.85798	1.377984	0.981783

#### One-way analysis of variance for SSA (m<sup>2</sup>/g)

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	12.113	2.019	7.56	0.000922 ***
Residuals	14	3.739	0.267		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## Tukey's HSD test comparisons of means 95% family-wise confidence level

Temperature Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	P adj
150-25	-0.32903	-1.76978 1.11172	0.983361
250-25	-0.27811	-1.71886 1.162644	0.992989
350-25	1.383205	-0.05754 2.823955	0.063648
450-25	1.350353	-0.0904 2.791103	0.072946
550-25	1.417901	-0.02285 2.858651	0.055048
650-25	1.072001	-0.36875 2.512752	0.216707
250-150	0.050924	-1.38983 1.491675	1
350-150	1.712235	0.271485 3.152985	0.015616
450-150	1.679383	0.238633 3.120133	0.017997
550-150	1.746931	0.306181 3.187681	0.013442
650-150	1.401032	-0.03972 2.841782	0.059082
350-250	1.661311	0.220561 3.102061	0.019458
450-250	1.628459	0.187709 3.069209	0.02242
550-250	1.696006	0.255256 3.136756	0.016751
650-250	1.350107	-0.09064 2.790857	0.07302
450-350	-0.03285	-1.4736 1.407898	1
550-350	0.034695	-1.40605 1.475446	1
650-350	-0.3112	-1.75195 1.129546	0.987442
550-450	0.067547	-1.3732 1.508298	0.999998
650-450	-0.27835	-1.7191 1.162398	0.992957
650-550	-0.3459	-1.78665 1.094851	0.978681

One-way analysis of variance for **CEC (cmolc/kg)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	66.46	11.077	3.352	0.0291 *
Residuals	14	46.27	3.305		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

One-way analysis of variance for **Macro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	41.24	6.874	3.23	0.0331 *
Residuals	14	29.80	2.128		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

One-way analysis of variance for **Micro aggregate weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
--	----	--------	---------	---------	--------

Temp	6	21.04	3.507	1.445	0.266
Residuals	14	33.96	2.426		

One-way analysis of variance for **Silt-clay size particles weight (%)**

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
Temp	6	62.73	10.455	3.406	0.0276 *
Residuals	14	42.97	3.069		

---

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1