**MgMAOM**

m3 = gls(mgCpergSoilM ~ ppt.cm \* soil\_texture\_clay \* tmeanC + ppt.cm \* tmeanC +

active\_carbon +aggregate\_stability,

summary(m3)

Value Std.Error t-value p-value

(Intercept) -304.46540 179.32419 -1.697849 0.0912

ppt.cm 2.93276 1.59192 1.842273 0.0670

soil\_texture\_clay 14.43473 8.67702 1.663559 0.0979

tmeanC 39.75647 23.49932 1.691814 0.0924

active\_carbon 0.01955 0.00289 6.769101 0.0000

aggregate\_stability 0.10780 0.02510 4.294408 0.0000

ppt.cm:soil\_texture\_clay -0.14717 0.07837 -1.877838 0.0620

ppt.cm:tmeanC -0.38965 0.21091 -1.847499 0.0663

soil\_texture\_clay:tmeanC -1.99091 1.11733 -1.781844 0.0764

ppt.cm:soil\_texture\_clay:tmeanC 0.02043 0.01025 1.993944 0.0476

This is for model2

Coefficients:

Value Std.Error t-value p-value

(Intercept) -335.9355 183.90128 -1.826716 0.0694

active\_carbon 0.0195 0.00312 6.231181 0.0000

ph -3.1962 2.43311 -1.313628 0.1906

soil\_texture\_clay 16.3116 8.97484 1.817482 0.0708

ppt.cm 3.3356 1.64223 2.031116 0.0437

tmeanC 46.4808 24.30597 1.912320 0.0574

aggregate\_stability 0.1115 0.02694 4.140112 0.0001

ph:soil\_texture\_clay 0.1579 0.11413 1.383441 0.1682

ppt.cm:tmeanC -0.4406 0.21737 -2.026798 0.0441

soil\_texture\_clay:ppt.cm -0.1697 0.08207 -2.068327 0.0400

soil\_texture\_clay:tmeanC -2.3529 1.17624 -2.000388 0.0469

soil\_texture\_clay:ppt.cm:tmeanC 0.0232 0.01072 2.161280 0.0320

A graph with a line and a line

Description automatically generated

A graph of a graph with a line and a line

Description automatically generated with medium confidence

**Proportion**

> m4M=gls(logitpropM~ppt.cm \* soil\_texture\_clay \* tmeanC + ppt.cm \* tmeanC +

+ active\_carbon,

+ data=data, na.action=na.exclude, method="ML")

> summary(m4M)

Generalized least squares fit by maximum likelihood

Model: logitpropM ~ ppt.cm \* soil\_texture\_clay \* tmeanC + ppt.cm \* tmeanC + active\_carbon

Data: data

AIC BIC logLik

322.6137 355.2923 -151.3069

Coefficients:

Value Std.Error t-value p-value

(Intercept) -18.249930 15.381141 -1.186513 0.2369

ppt.cm 0.190465 0.137114 1.389098 0.1665

soil\_texture\_clay 1.655525 0.734499 2.253951 0.0254

tmeanC 2.443272 2.011490 1.214658 0.2260

active\_carbon -0.000377 0.000253 -1.491681 0.1375

ppt.cm:soil\_texture\_clay -0.016208 0.006646 -2.438706 0.0157

ppt.cm:tmeanC -0.024487 0.018115 -1.351732 0.1781

soil\_texture\_clay:tmeanC -0.216579 0.094394 -2.294416 0.0229

ppt.cm:soil\_texture\_clay:tmeanC 0.002141 0.000868 2.466960 0.0145

A graph of a graph with a line and dots

Description automatically generated with medium confidence

A graph with red and blue dots

Description automatically generatedA graph of a graph showing the amount of precipitation

Description automatically generated with medium confidence

A graph with red and blue dots

Description automatically generated

A graph of a graph showing the average temperature

Description automatically generated with medium confidence

**Particulate Organic Matter MgPOM**

m3P=gls(mgCpergSoilP~ppt.cm\*tmeanC

+aggregate\_stability+active\_carbon,

data=data, na.action=na.exclude, method="REML")

summary(m3P)

Coefficients:

Value Std.Error t-value p-value

(Intercept) -107.92525 30.235191 -3.569524 0.0005

ppt.cm 0.96799 0.266994 3.625507 0.0004

tmeanC 13.32734 4.087531 3.260486 0.0013

aggregate\_stability 0.06799 0.013840 4.912782 0.0000

active\_carbon 0.01317 0.001581 8.333649 0.0000

ppt.cm:tmeanC -0.12585 0.036424 -3.455111 0.0007

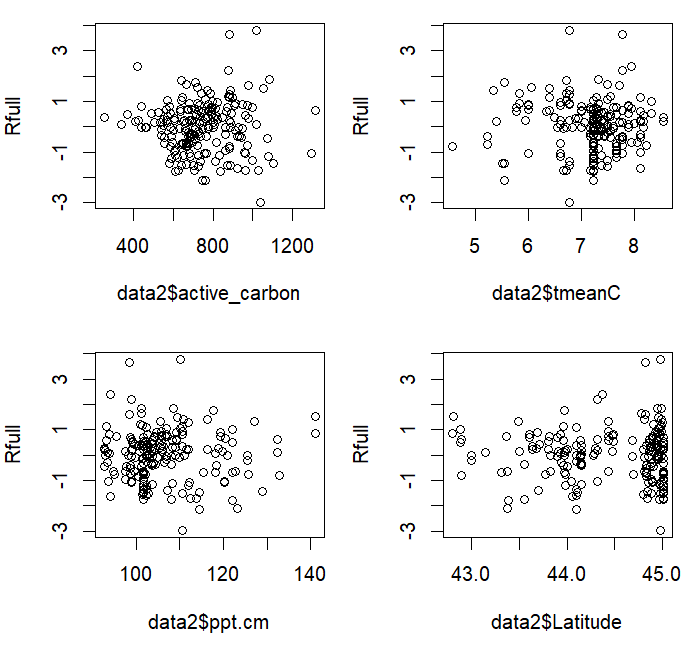
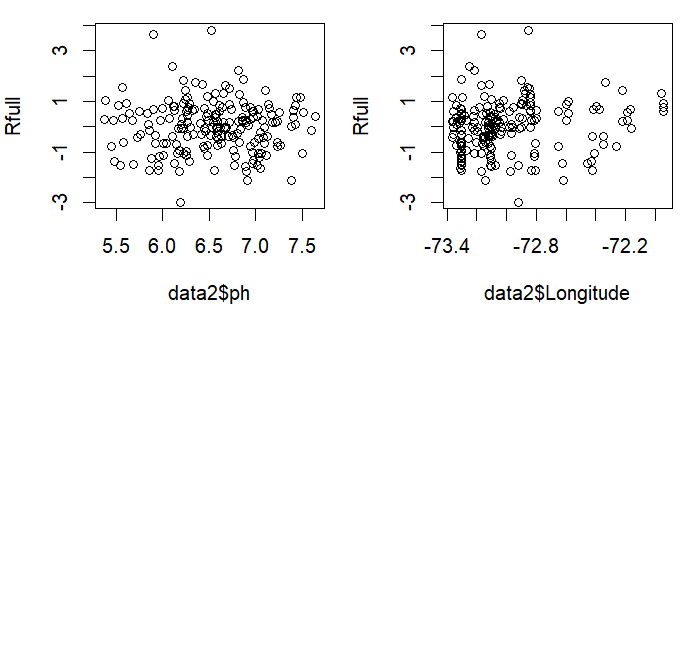
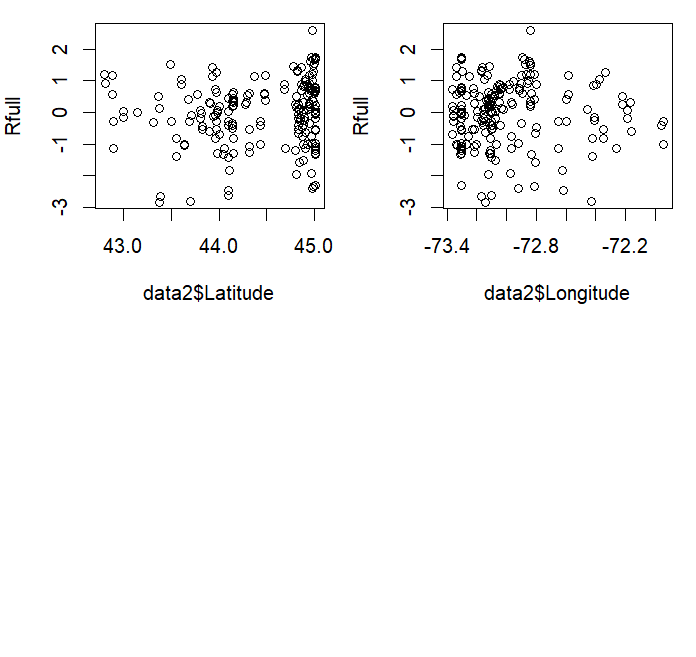
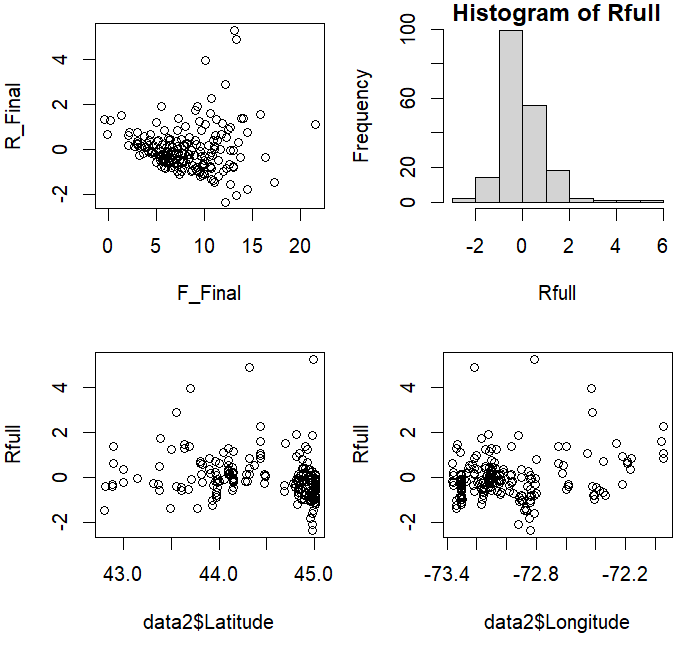
**A graph of a temperature

Description automatically generated with medium confidence**

**Location**

**In a correlation plot longitude is correlated (.7+) with tmeanC.**

**Graph residuals of the models used to see if latitude or longitude explain some of the variability.**

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**A graph of a graph with dots

Description automatically generated with medium confidenceA graph of a graph with a line and a line

Description automatically generated with medium confidenceA graph with a line and a line

Description automatically generated**

**A graph with red and blue dots

Description automatically generatedA graph with red and blue dots

Description automatically generated**