# APPENDIX D

## Data Substitution Results for Individual Sites

The charts and tables on the following pages detail the substitutions that were used for the sites in and around VISTAS, including BRET1, CHAS1, COHU1, SAMA1, SHRO1, and SWAN1. The following charts/tables are provided for each site:

- **1st chart:** Bar charts by year indicating original RHR data in blue, and substituted data by species in the standard IMPROVE colors. Substituted days are also indicated by a black bar underneath the day. The red line indicates the threshold above which days are counted in the 20% worst days for that year. A red line is not included for any year that was incomplete and not substituted.

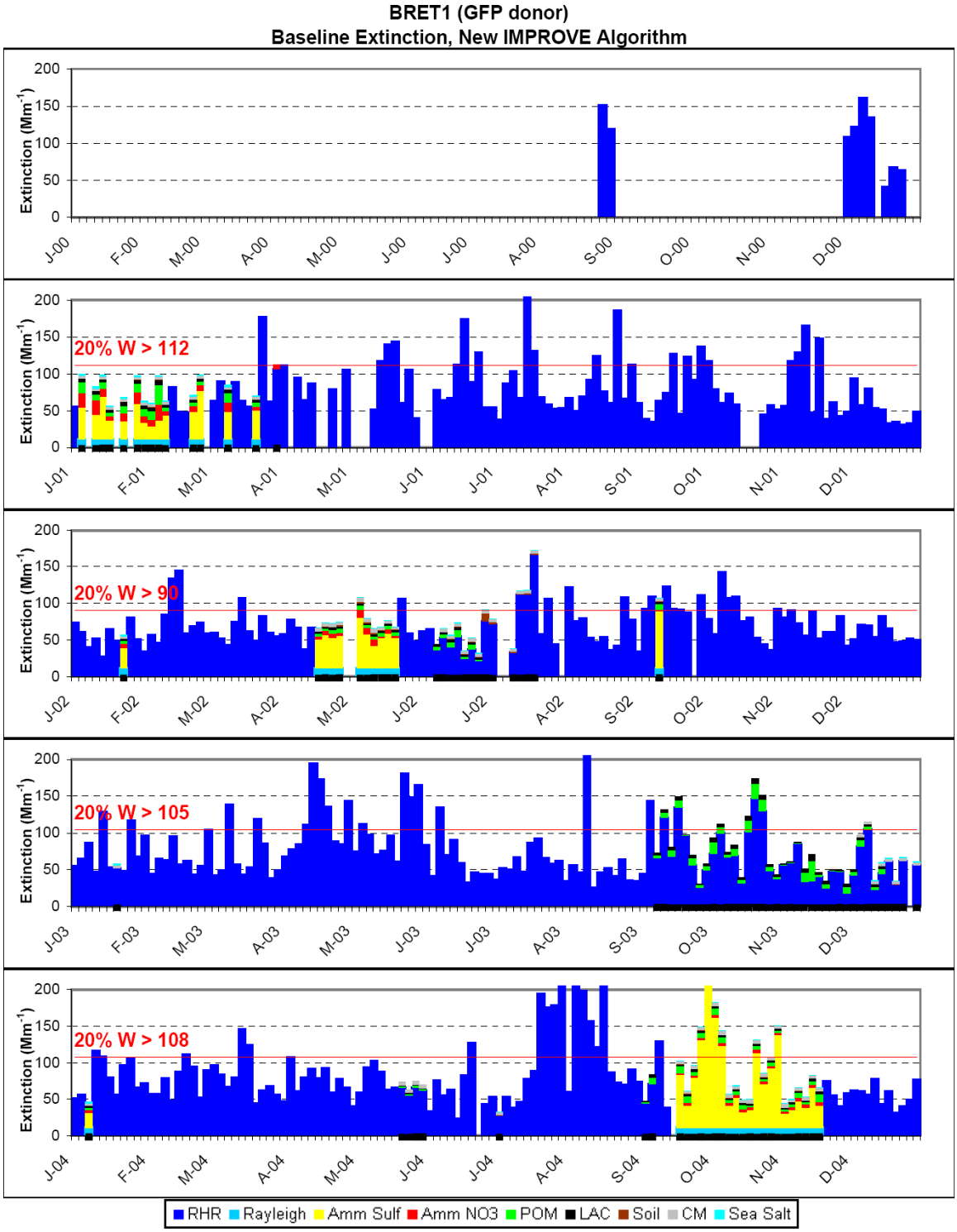
- **2nd chart:** Bar charts by year indicating speciation of all data. Days in which all or part of the day was substituted are indicated by a black bar underneath the day. The red line indicates the threshold above which days are counted in the 20% worst days.

- **Table:** The table lists the regression statistics used to calculate substituted values. Data represent raw mass value correlations for aerosol collected during 2000-04 for all days, and by quarter.

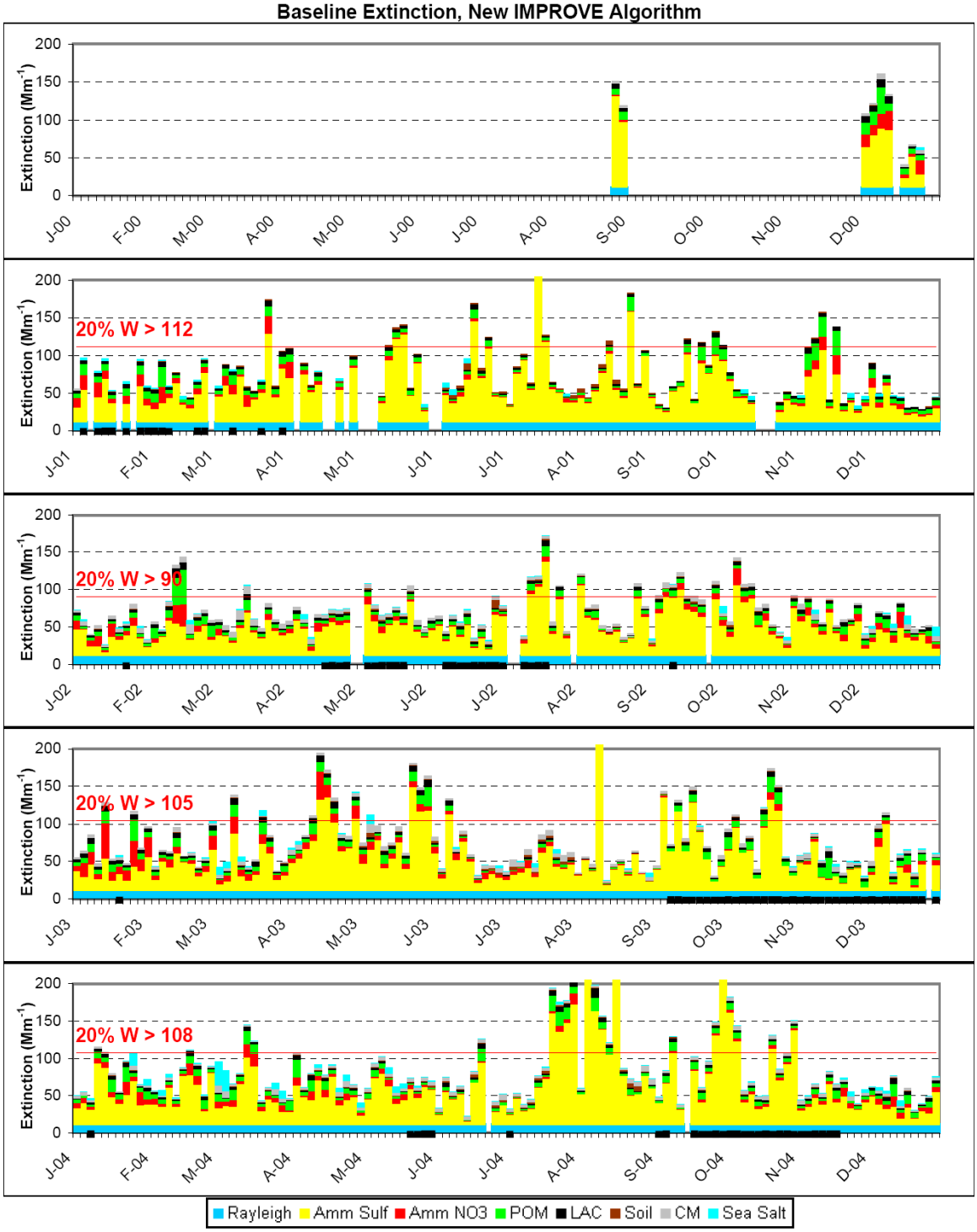
- **Scatter plots:** A series of nine scatter plots, showing the distribution of points and the line fits for the regression statistics that were used to calculate substituted values. Plots indicate raw data collected at the sites during 2000-04, with donor sites represented on the x-axis.

## Chassahowitzka NWR, FL
## Statistics for Substitutions

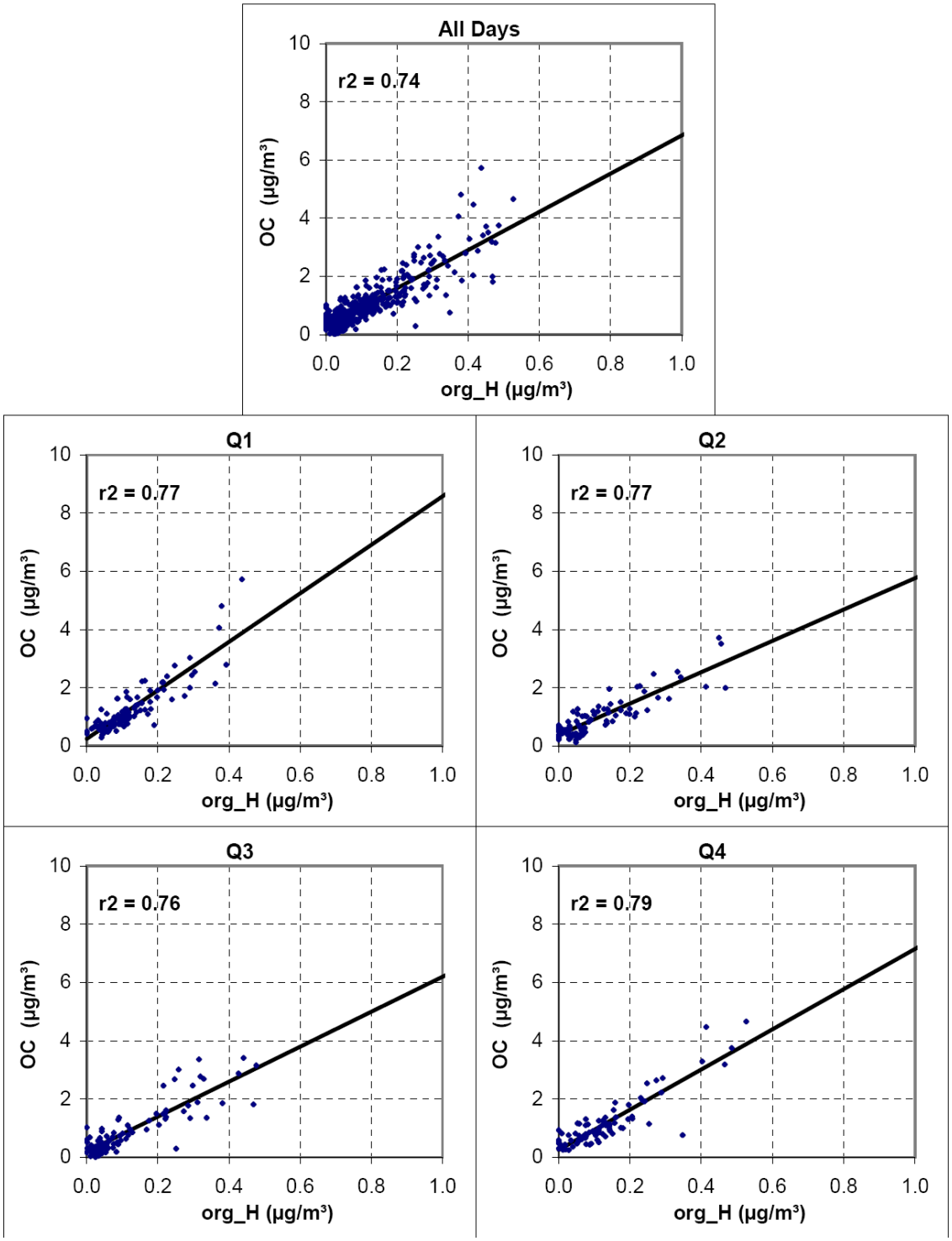
| CHAS1 | | | | | | |
|---|---|---|---|---|---|---|
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| OC vs. org_H | Slope | 8.06 | 10.30 | 7.55 | 4.72 | 8.36 |
| | Intercept | 0.49 | 0.27 | 0.47 | 0.68 | 0.61 |
| | R2 | 0.72 | 0.84 | 0.73 | 0.67 | 0.76 |
| EC vs. OC | Slope | 0.16 | 0.13 | 0.11 | 0.12 | 0.20 |
| | Intercept | 0.17 | 0.26 | 0.17 | 0.18 | 0.16 |
| | R2 | 0.47 | 0.34 | 0.41 | 0.26 | 0.66 |
| **CHAS1 v. SAMA1** | | | | | | |
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| SO4 | Slope | 0.58 | 0.66 | 0.47 | 0.53 | 0.68 |
| | Intercept | 1.58 | 1.57 | 2.26 | 1.60 | 0.93 |
| | R2 | 0.42 | 0.37 | 0.30 | 0.41 | 0.57 |
| NO3 | Slope | 0.53 | 0.35 | 0.92 | 0.75 | 0.71 |
| | Intercept | 0.26 | 0.40 | 0.13 | 0.16 | 0.19 |
| | R2 | 0.38 | 0.27 | 0.39 | 0.44 | 0.42 |
| OC | Slope | 0.54 | 0.46 | 0.25 | 0.45 | 0.76 |
| | Intercept | 0.26 | 0.29 | 0.26 | 0.26 | 0.26 |
| | R2 | 0.29 | 0.27 | 0.12 | 0.18 | 0.33 |
| LAC | Slope | 0.33 | 0.40 | 0.12 | 0.45 | 0.62 |
| | Intercept | 1.22 | 1.19 | 1.33 | 0.82 | 0.92 |
| | R2 | 0.21 | 0.29 | 0.08 | 0.33 | 0.29 |
| Soil | Slope | 1.03 | 0.58 | 1.07 | 0.96 | 0.57 |
| | Intercept | 0.08 | 0.16 | 0.01 | 0.38 | 0.14 |
| | R2 | 0.45 | 0.44 | 0.45 | 0.35 | 0.42 |
| CM | Slope | 0.54 | 0.18 | 1.04 | 0.32 | 0.52 |
| | Intercept | 2.95 | 3.46 | 1.42 | 4.92 | 2.41 |
| | R2 | 0.19 | 0.05 | 0.28 | 0.07 | 0.21 |
| Sea Salt | Slope | 0.00 | 0.01 | 0.00 | -0.02 | 0.00 |
| | Intercept | 0.01 | 0.00 | 0.03 | 0.02 | 0.00 |
| | R2 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 |


BRET1 (GFP donor)
Baseline Extinction, New IMPROVE Algorithm
Extinction (Mm-1)
20% W > 112
20% W > 90
20% W > 105
20% W > 108
J-00 F-00 M-00 A-00 M-00 J-00 J-00 A-00 S-00 O-00 N-00 D-00
J-01 F-01 M-01 A-01 M-01 J-01 J-01 A-01 S-01 O-01 N-01 D-01
J-02 F-02 M-02 A-02 M-02 J-02 J-02 A-02 S-02 O-02 N-02 D-02
J-03 F-03 M-03 A-03 M-03 J-03 J-03 A-03 S-03 O-03 N-03 D-03
J-04 F-04 M-04 A-04 M-04 J-04 J-04 A-04 S-04 O-04 N-04 D-04
RHR Rayleigh Amm Sulf Amm NO3 POM LAC Soil CM Sea Salt

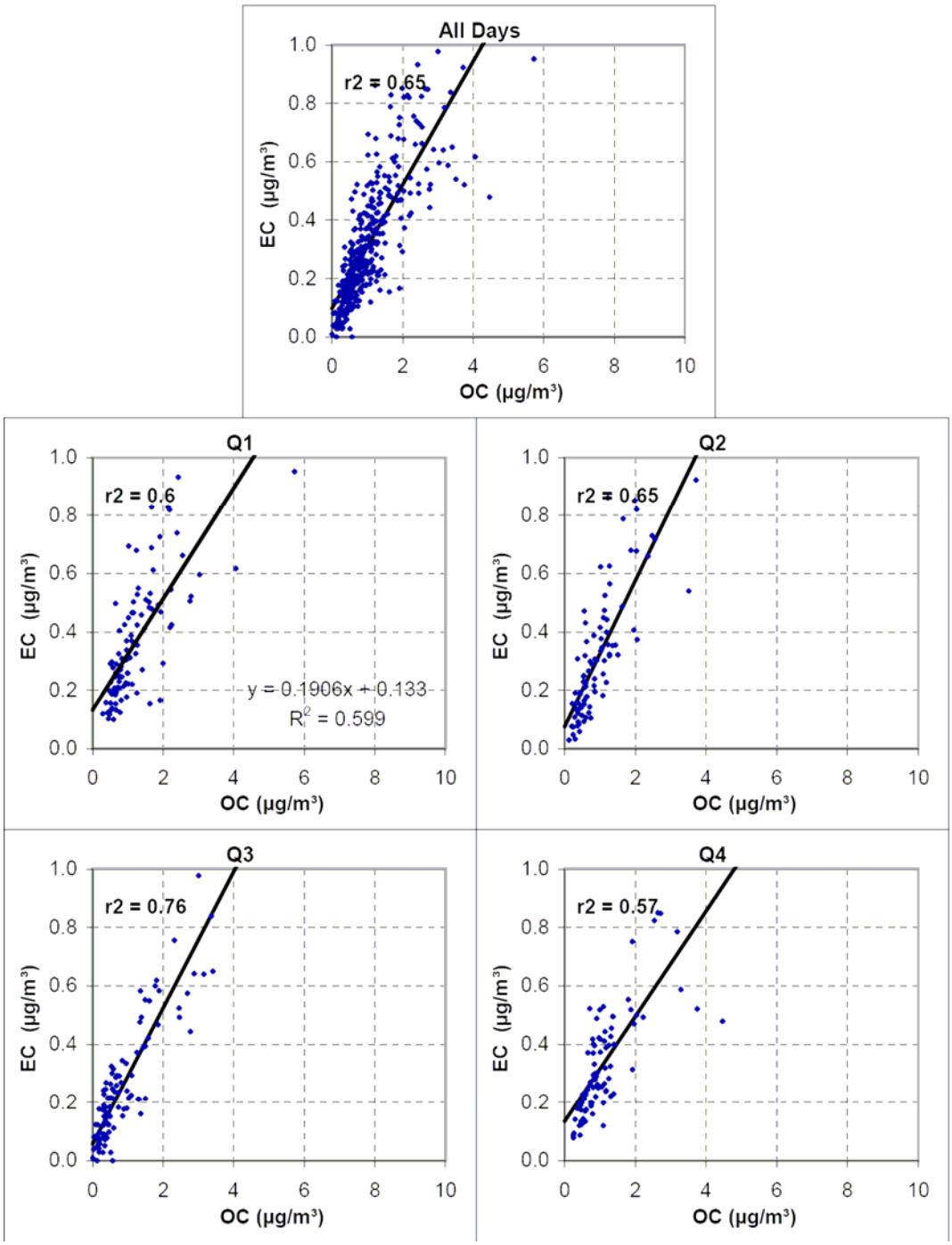
**BRET1 (GFP donor)**
**Baseline Extinction, New IMPROVE Algorithm**



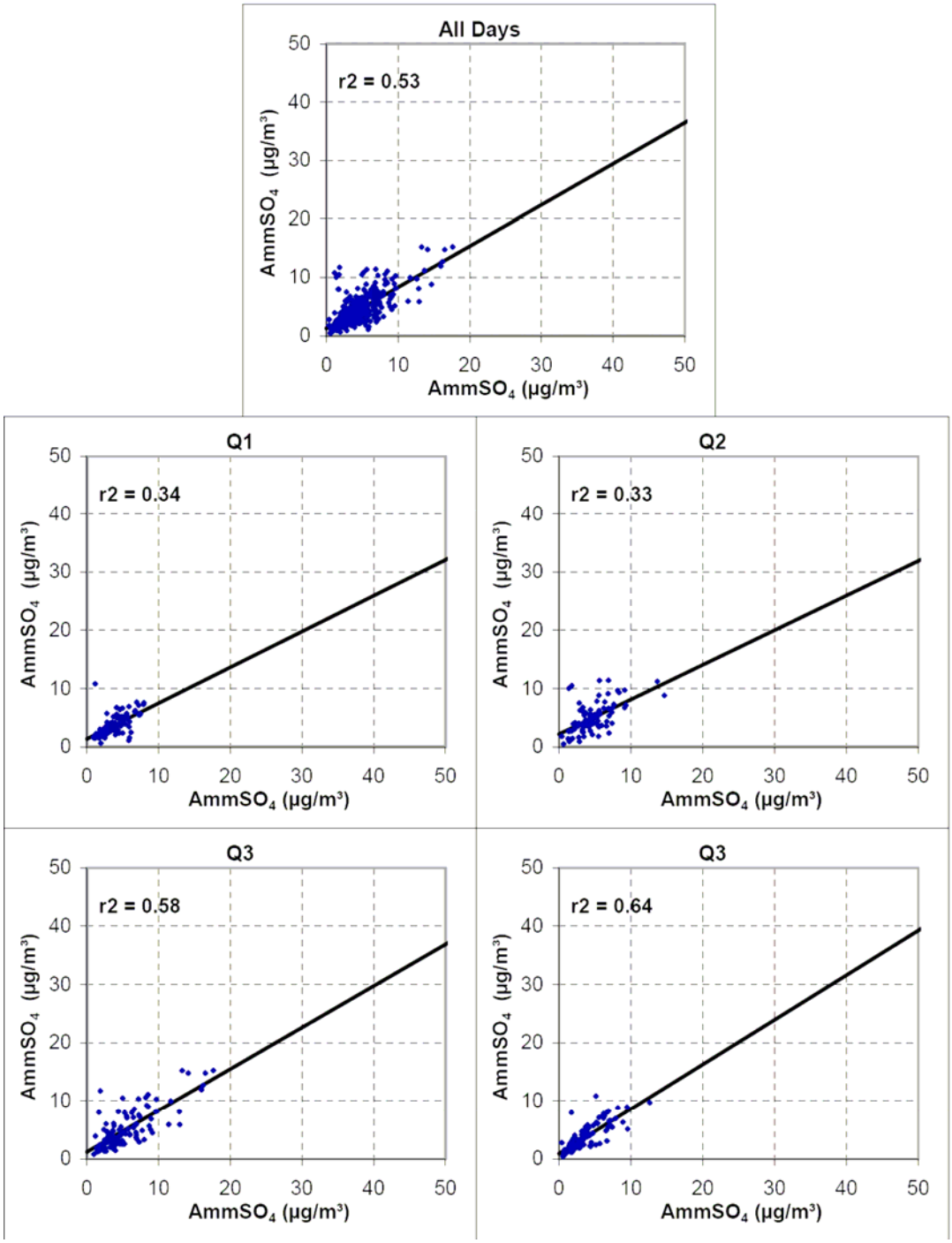
# BRET1
## OC vs. org_H



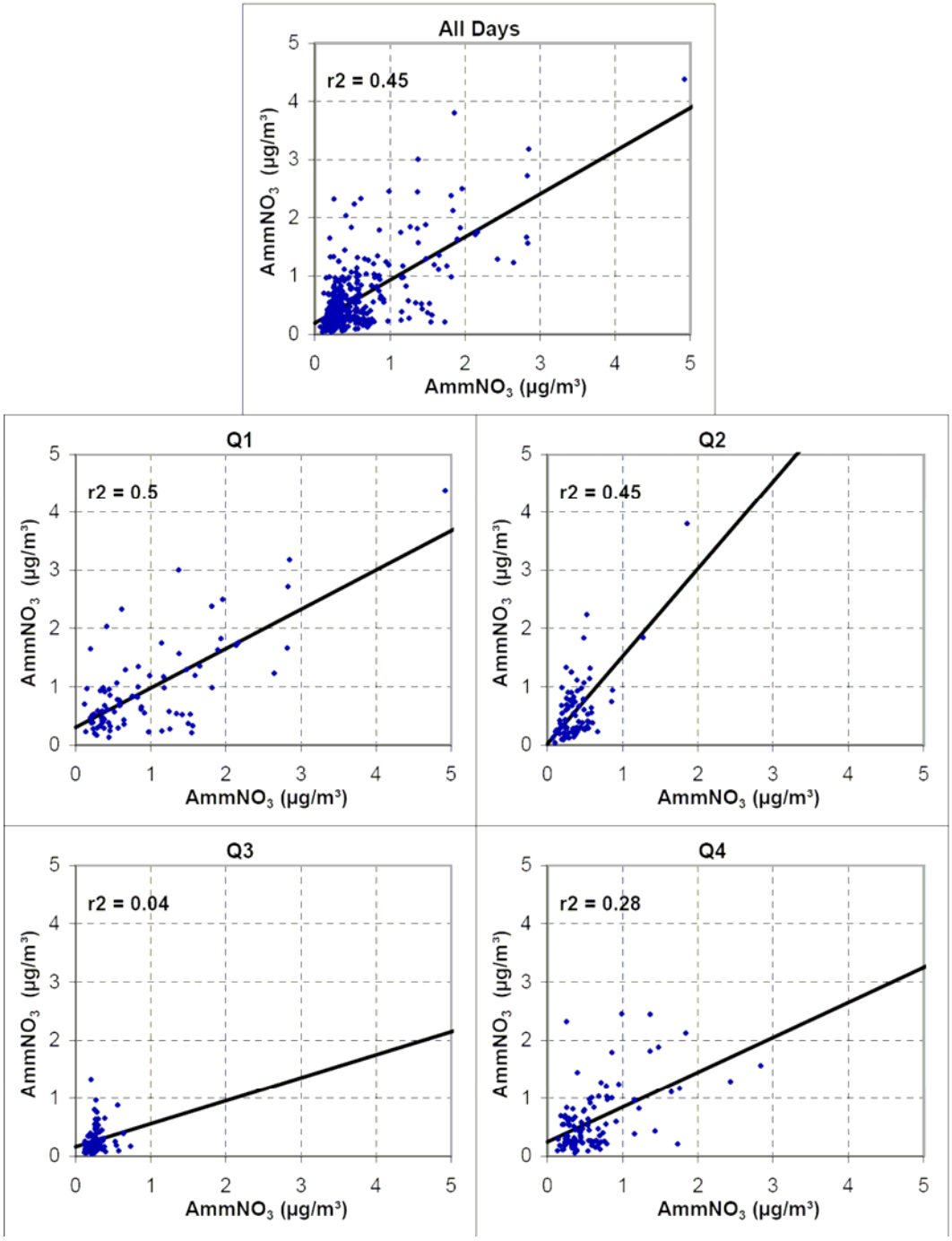
## BRET1
## EC vs. OC



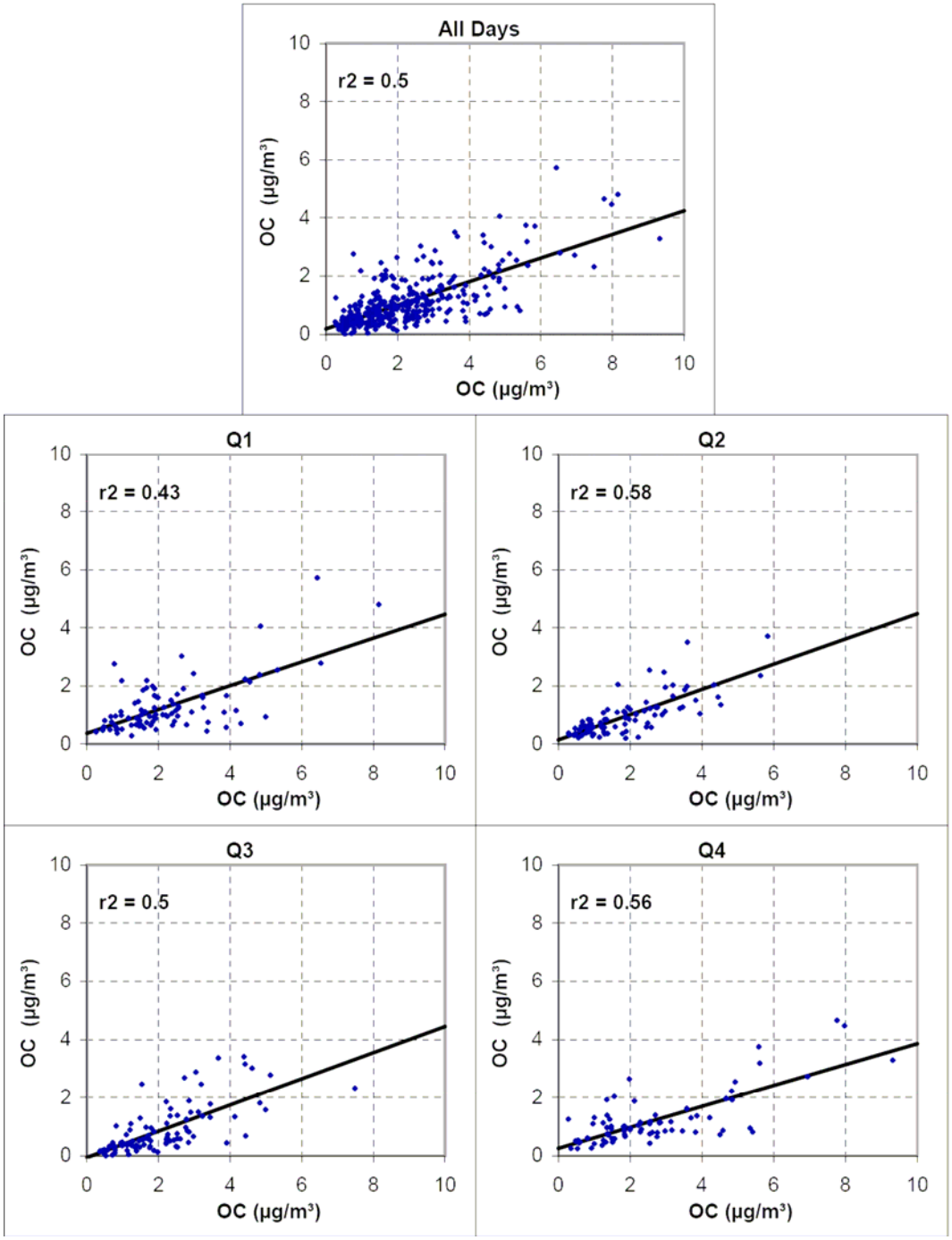
## BRET1 vs. GFP
## Ammonium Sulfate



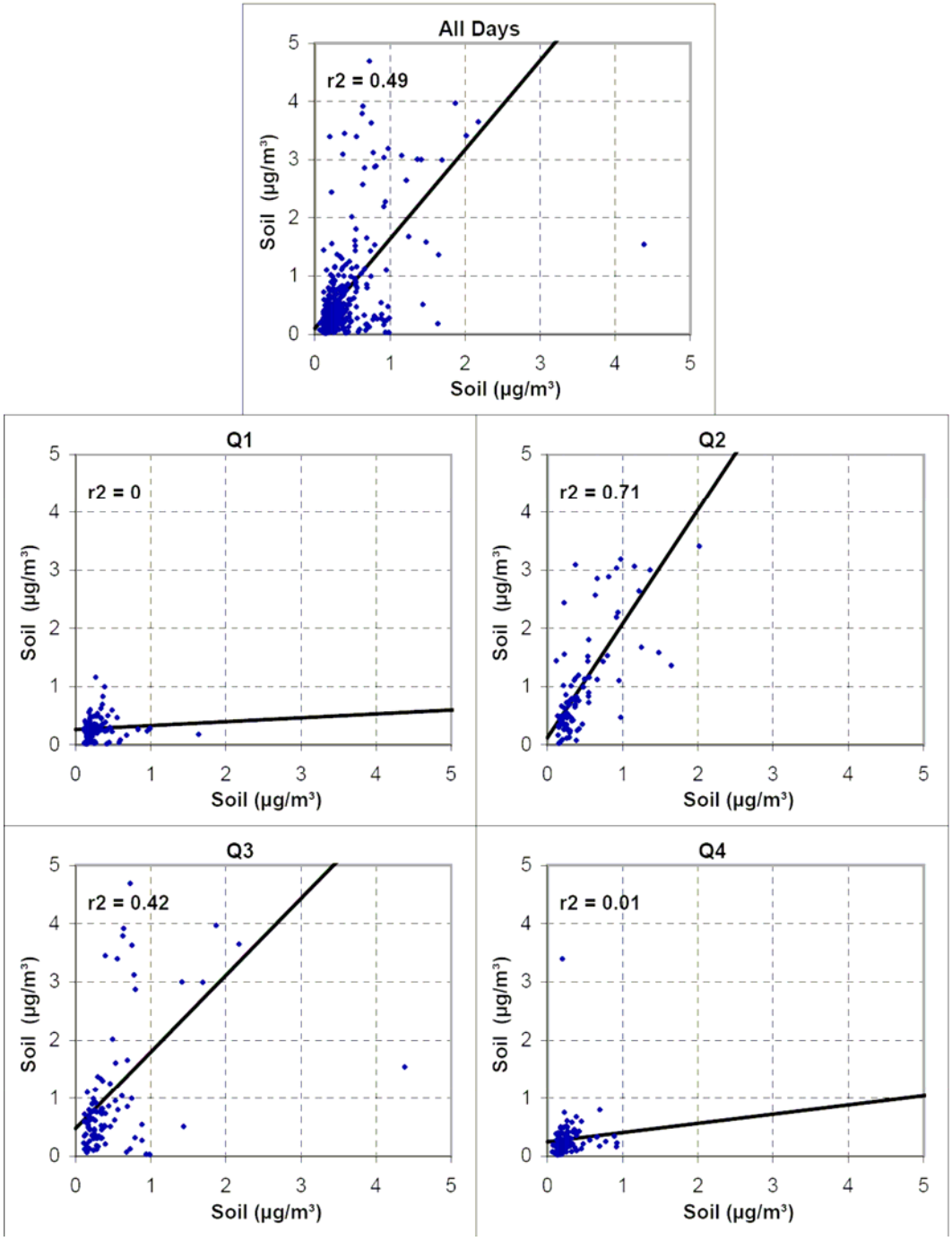
## BRET1 vs. GFP
## Ammonium Nitrate



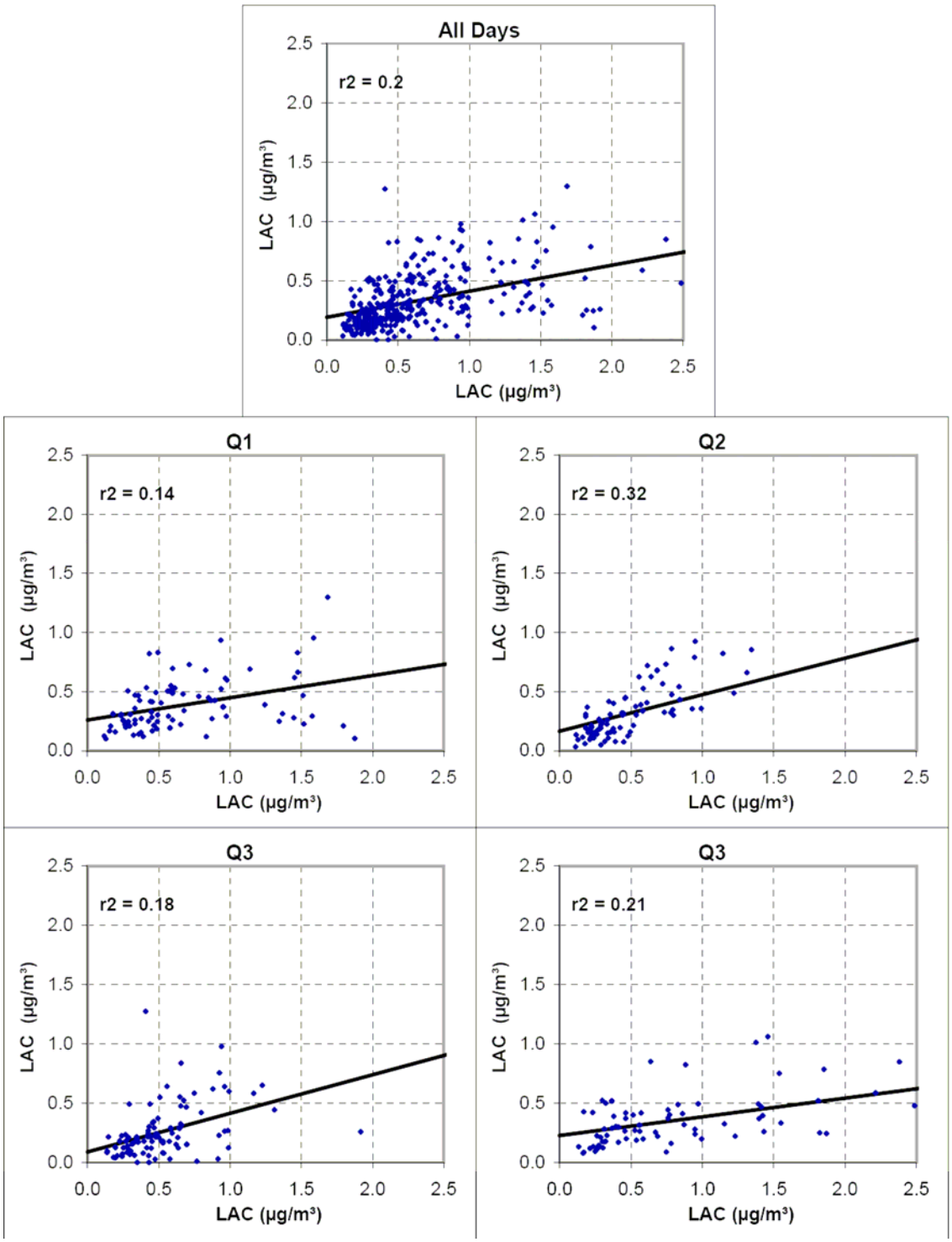
## BRET1 vs. GFP
## Organic Carbon



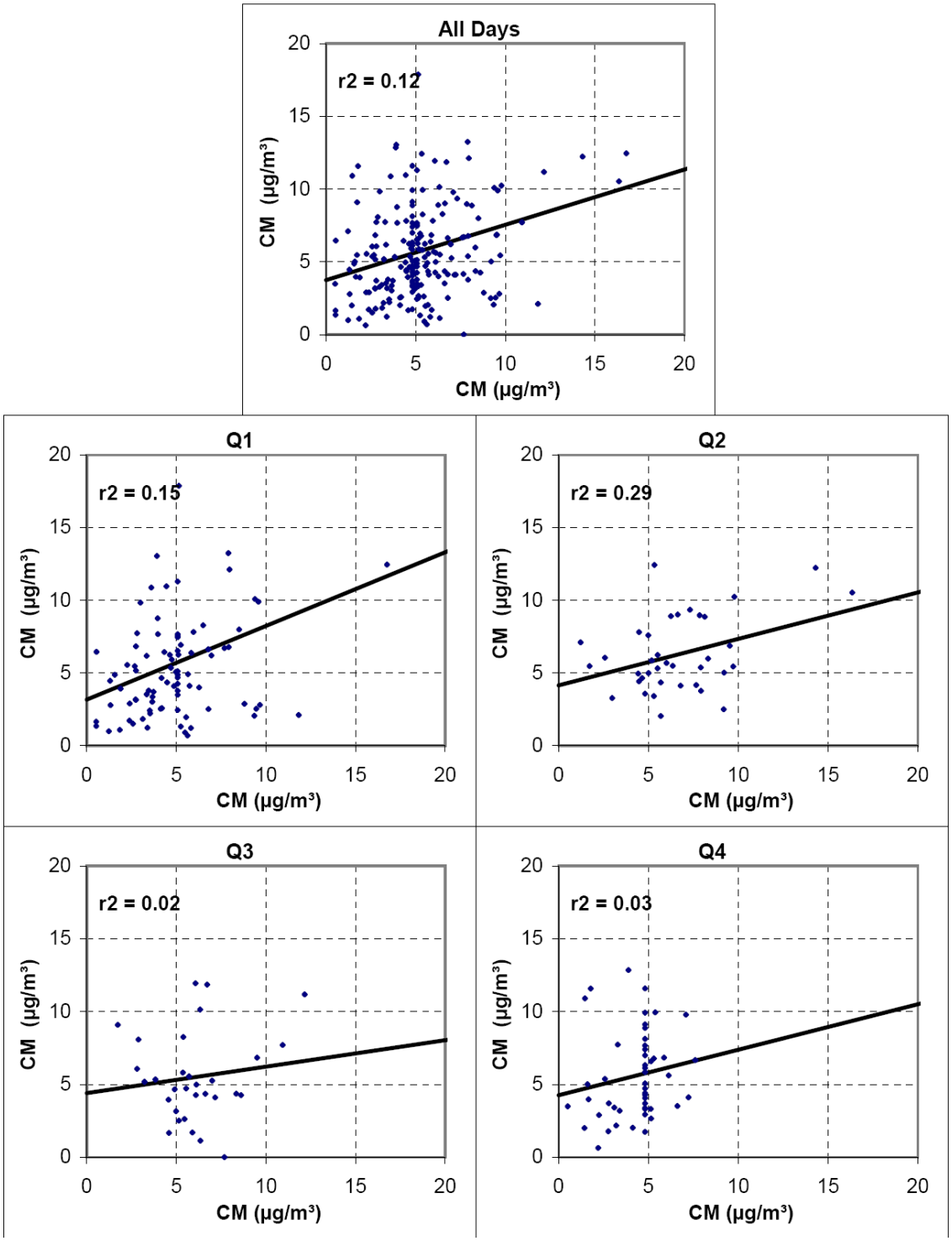
## BRET1 vs. GFP
## Soil



## BRET1 vs. GFP
## Light Absorbing Carbon

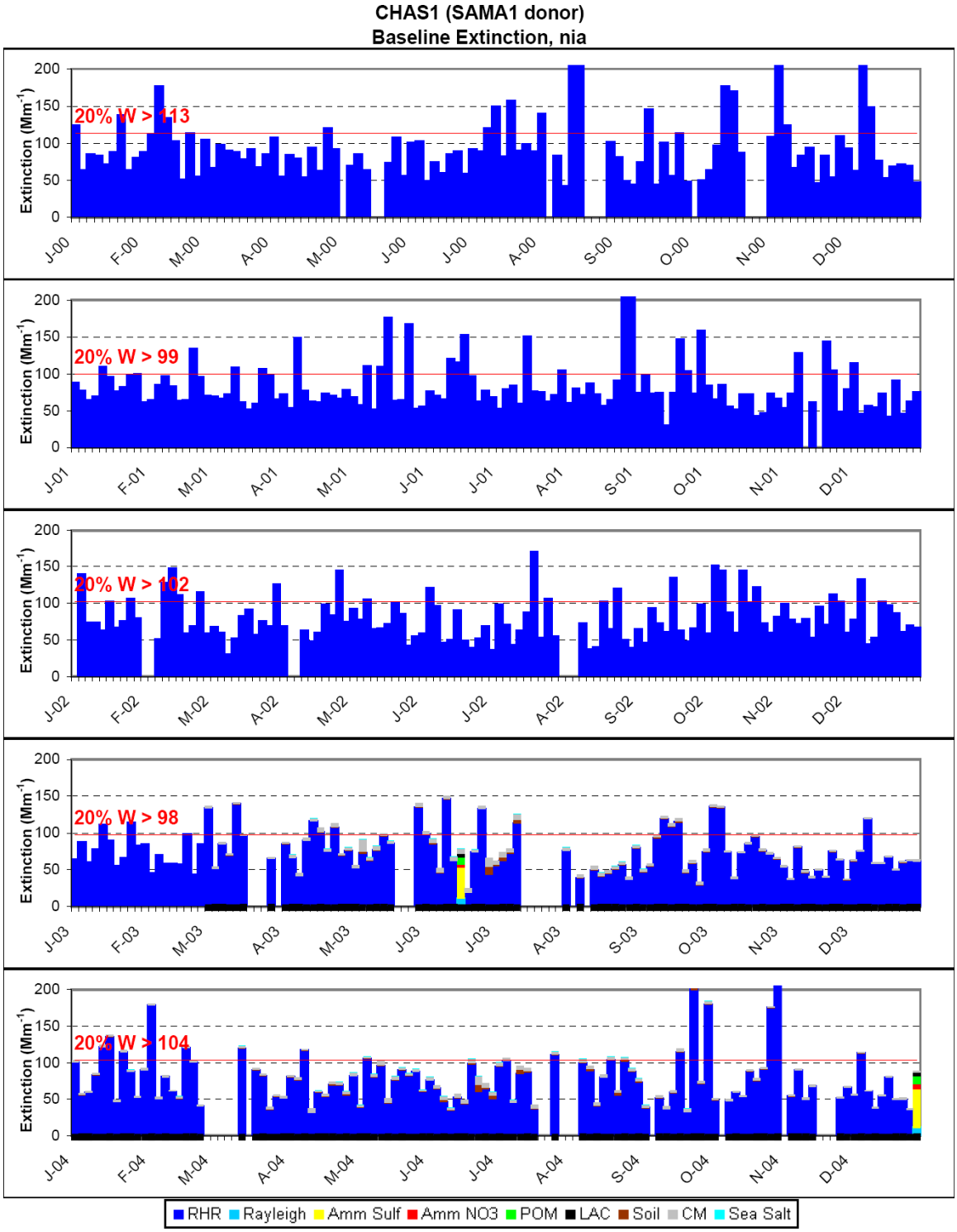


## BRET1 vs. GFP
## Coarse Mass



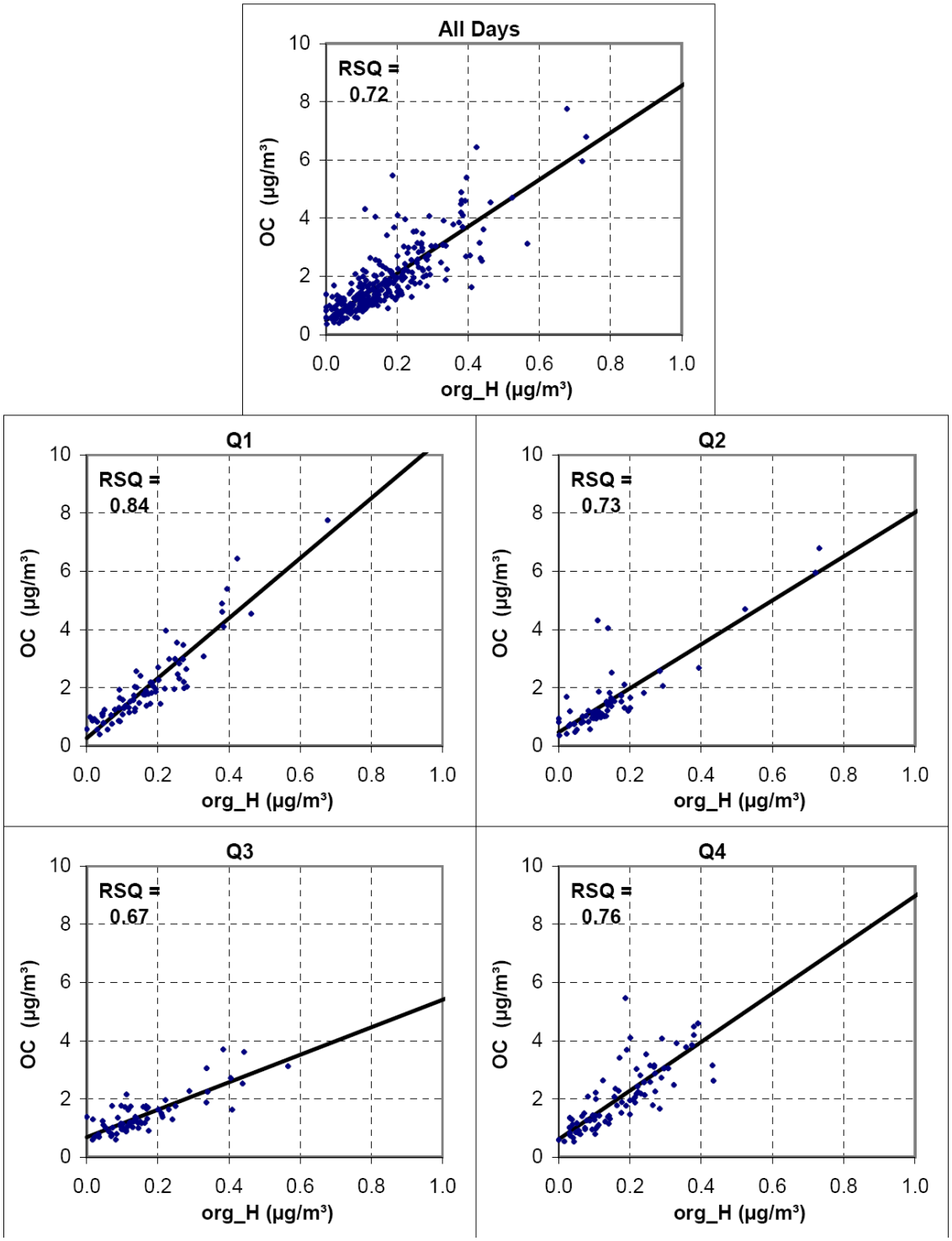
## Chassahowitzka NWR, FL
## Statistics for Substitutions

| CHAS1 | | | | | | |
|---|---|---|---|---|---|---|
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| OC vs. org_H | Slope | 8.06 | 10.30 | 7.55 | 4.72 | 8.36 |
| | Intercept | 0.49 | 0.27 | 0.47 | 0.68 | 0.61 |
| | R2 | 0.72 | 0.84 | 0.73 | 0.67 | 0.76 |
| EC vs. OC | Slope | 0.16 | 0.13 | 0.11 | 0.12 | 0.20 |
| | Intercept | 0.17 | 0.26 | 0.17 | 0.18 | 0.16 |
| | R2 | 0.47 | 0.34 | 0.41 | 0.26 | 0.66 |
| **CHAS1 v. SAMA1** | | | | | | |
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| SO4 | Slope | 0.58 | 0.66 | 0.47 | 0.53 | 0.68 |
| | Intercept | 1.58 | 1.57 | 2.26 | 1.60 | 0.93 |
| | R2 | 0.42 | 0.37 | 0.30 | 0.41 | 0.57 |
| NO3 | Slope | 0.53 | 0.35 | 0.92 | 0.75 | 0.71 |
| | Intercept | 0.26 | 0.40 | 0.13 | 0.16 | 0.19 |
| | R2 | 0.38 | 0.27 | 0.39 | 0.44 | 0.42 |
| OC | Slope | 0.54 | 0.46 | 0.25 | 0.45 | 0.76 |
| | Intercept | 0.26 | 0.29 | 0.26 | 0.26 | 0.26 |
| | R2 | 0.29 | 0.27 | 0.12 | 0.18 | 0.33 |
| LAC | Slope | 0.33 | 0.40 | 0.12 | 0.45 | 0.62 |
| | Intercept | 1.22 | 1.19 | 1.33 | 0.82 | 0.92 |
| | R2 | 0.21 | 0.29 | 0.08 | 0.33 | 0.29 |
| Soil | Slope | 1.03 | 0.58 | 1.07 | 0.96 | 0.57 |
| | Intercept | 0.08 | 0.16 | 0.01 | 0.38 | 0.14 |
| | R2 | 0.45 | 0.44 | 0.45 | 0.35 | 0.42 |
| CM | Slope | 0.54 | 0.18 | 1.04 | 0.32 | 0.52 |
| | Intercept | 2.95 | 3.46 | 1.42 | 4.92 | 2.41 |
| | R2 | 0.19 | 0.05 | 0.28 | 0.07 | 0.21 |
| Sea Salt | Slope | 0.00 | 0.01 | 0.00 | -0.02 | 0.00 |
| | Intercept | 0.01 | 0.00 | 0.03 | 0.02 | 0.00 |
| | R2 | 0.00 | 0.10 | 0.00 | 0.00 | 0.00 |

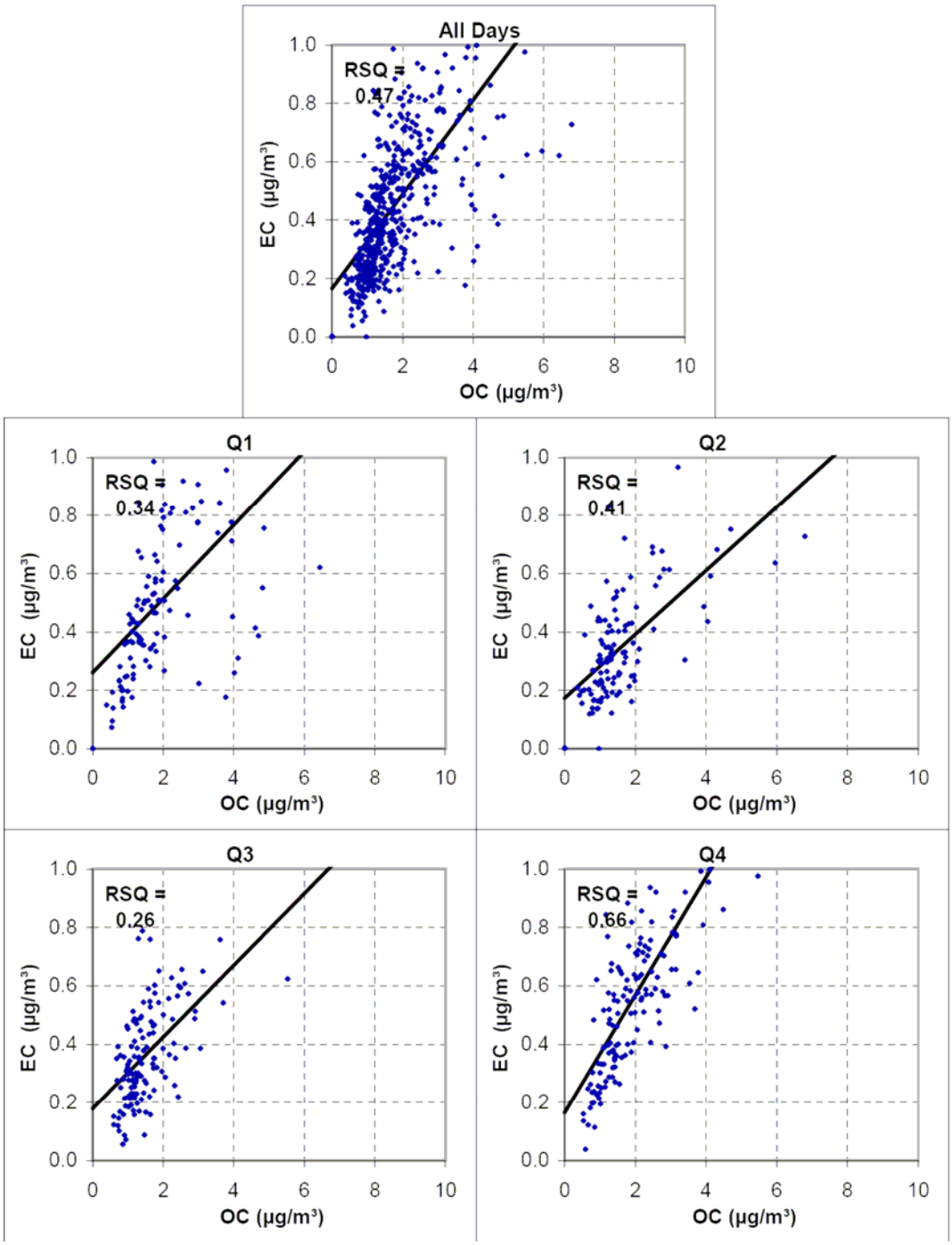

CHAS1 (SAMA1 donor)
Baseline Extinction, nia
Extinction (Mm-1)
20% W > 113
20% W > 99
20% W > 102
20% W > 98
20% W > 104
J-00 F-00 M-00 A-00 M-00 J-00 J-00 A-00 S-00 O-00 N-00 D-00
J-01 F-01 M-01 A-01 M-01 J-01 J-01 A-01 S-01 O-01 N-01 D-01
J-02 F-02 M-02 A-02 M-02 J-02 J-02 A-02 S-02 O-02 N-02 D-02
J-03 F-03 M-03 A-03 M-03 J-03 J-03 A-03 S-03 O-03 N-03 D-03
J-04 F-04 M-04 A-04 M-04 J-04 J-04 A-04 S-04 O-04 N-04 D-04
RHR Rayleigh Amm Sulf Amm NO3 POM LAC Soil CM Sea Salt

**CHAS1 (SAMA1 donor)**
**Baseline Extinction, nia**

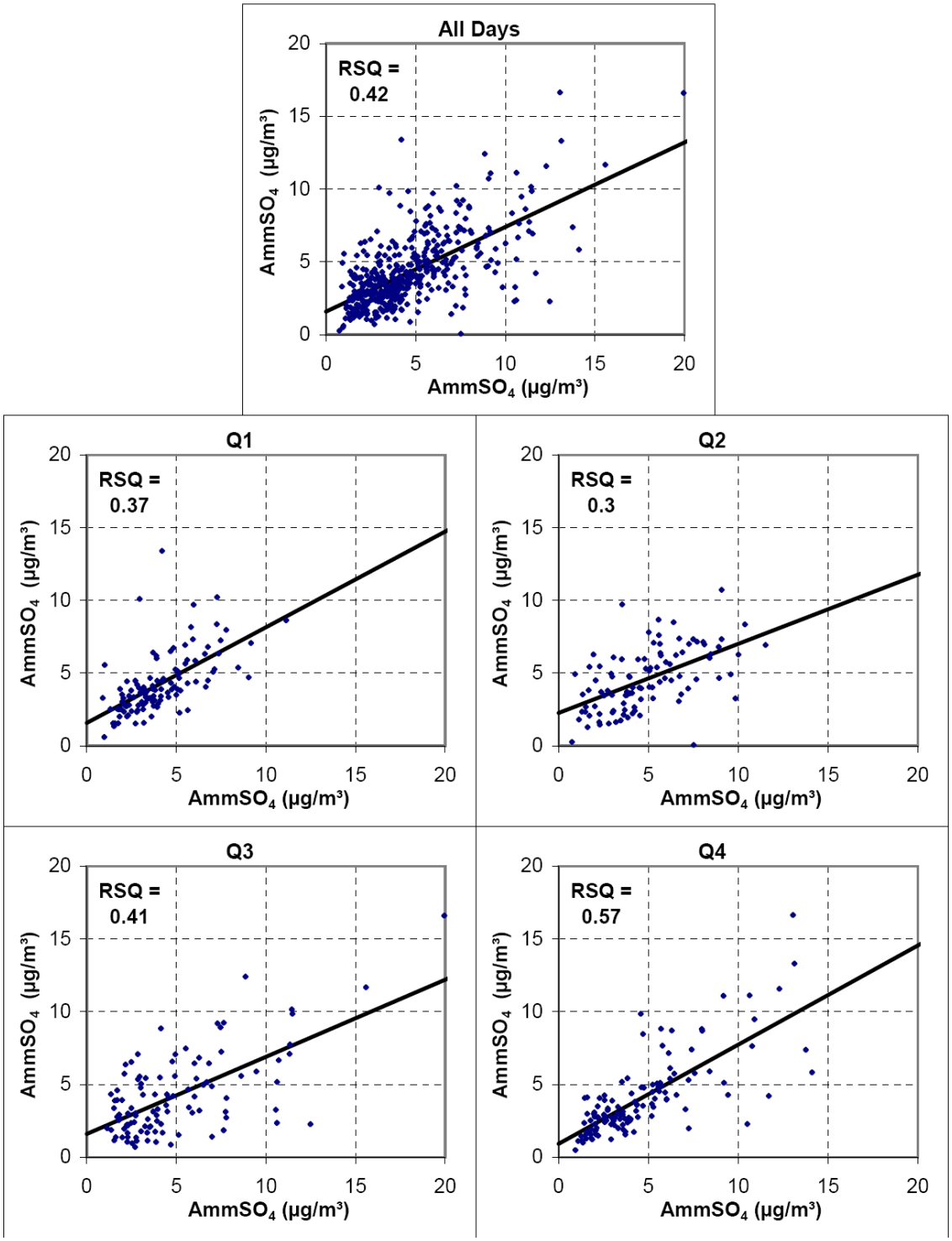
# CHAS1
# OC vs. org_H



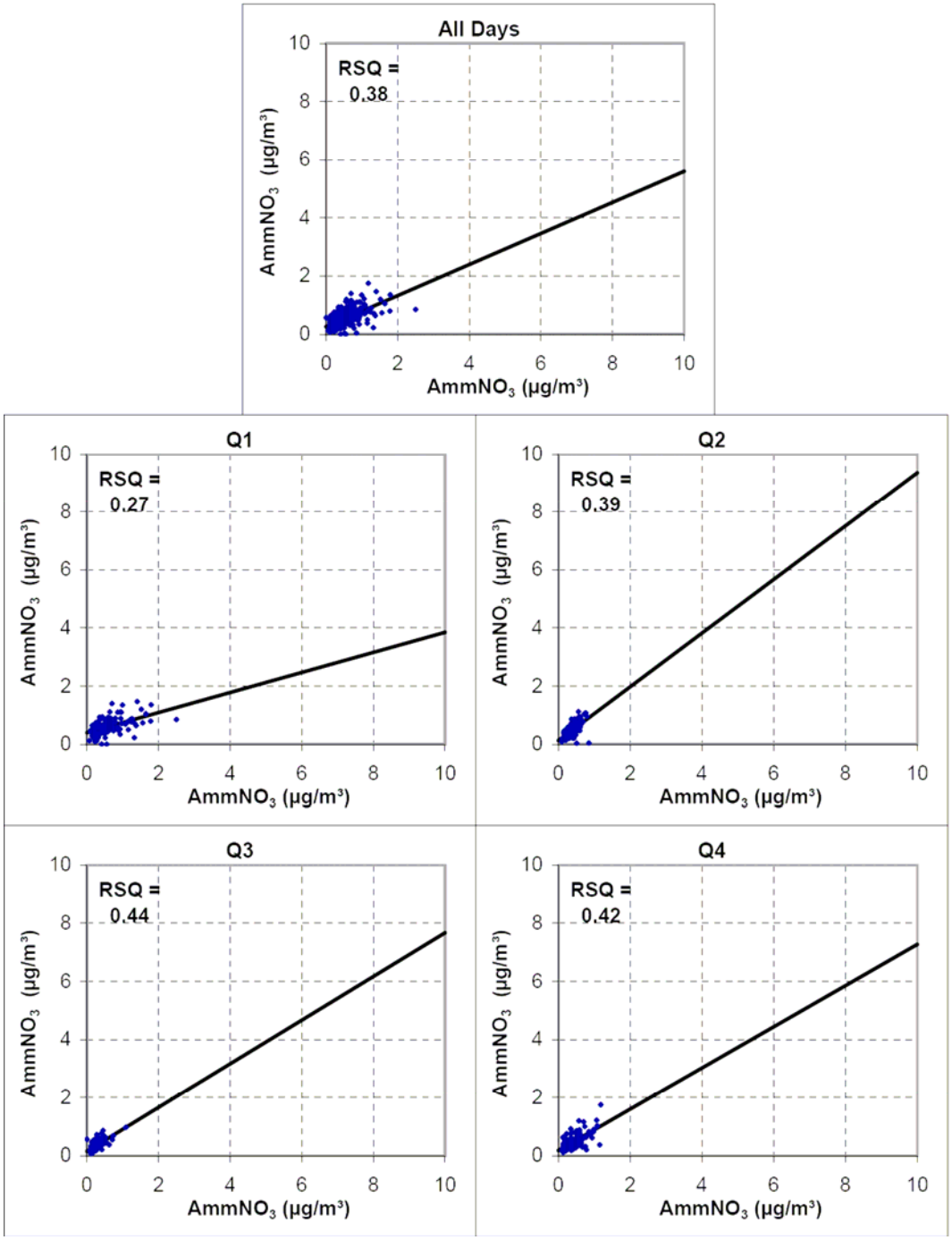
## CHAS1
## EC vs. OC



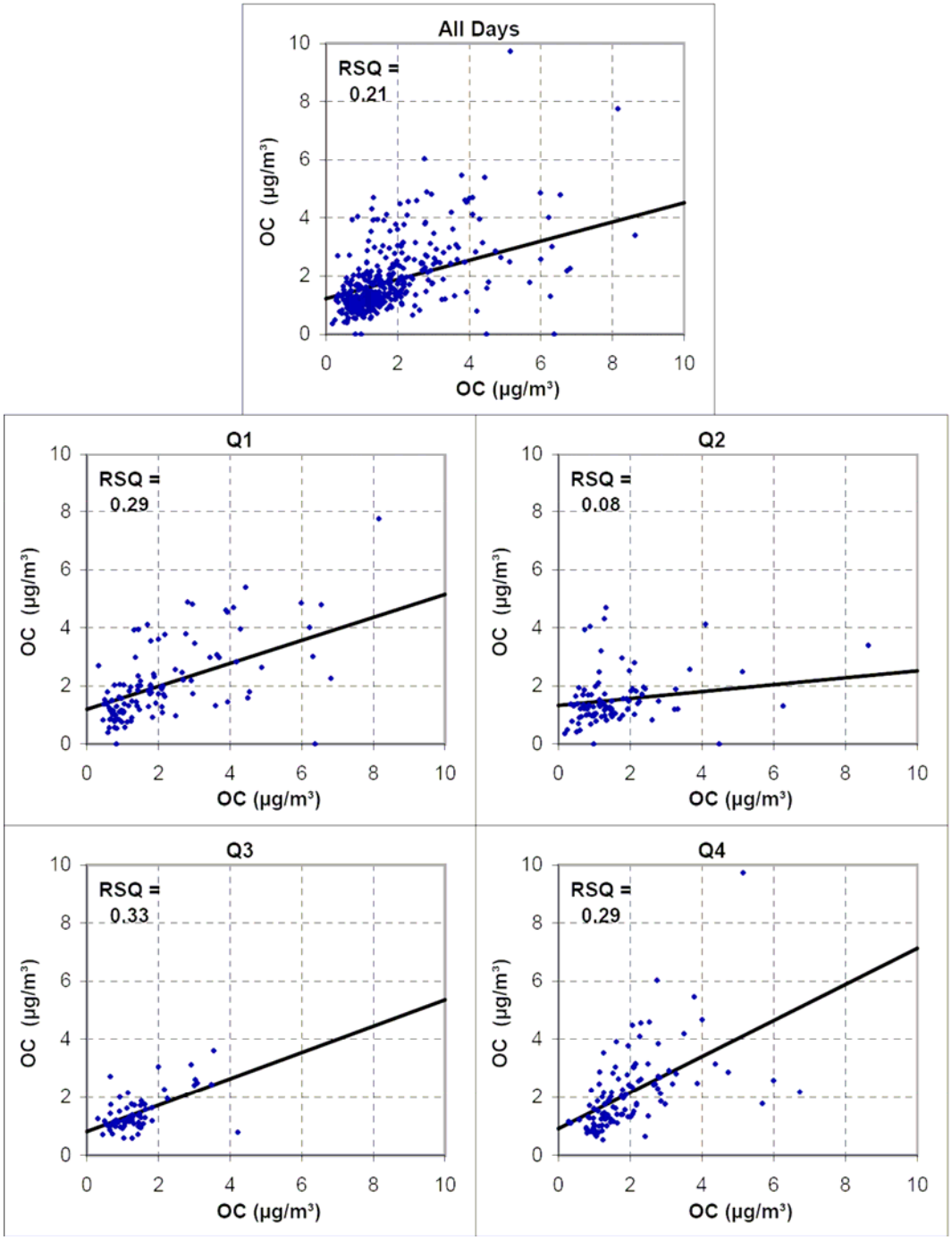
## CHAS1 vs. SAMA1
## Ammonium Sulfate



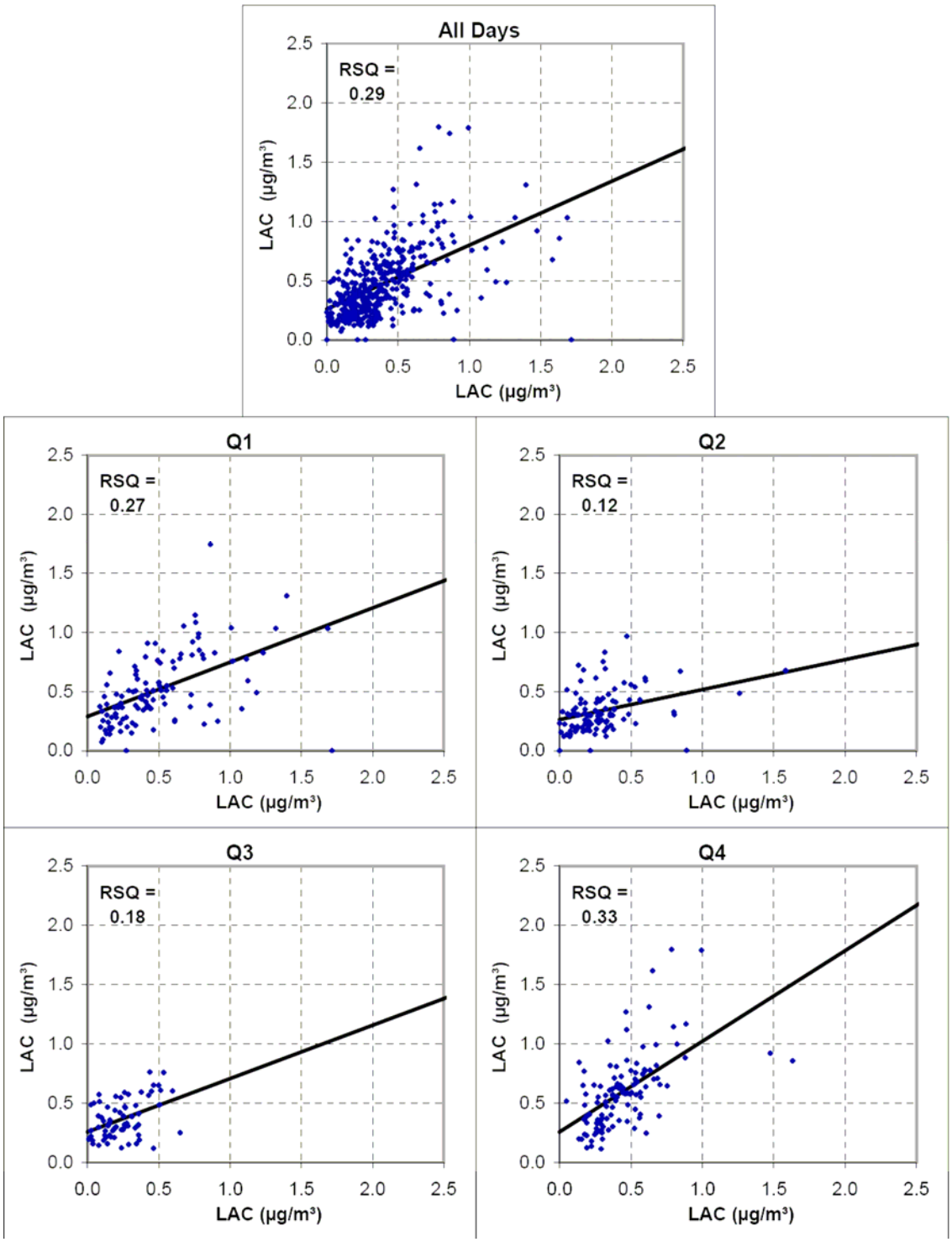
## CHAS1 vs. SAMA1
## Ammonium Nitrate



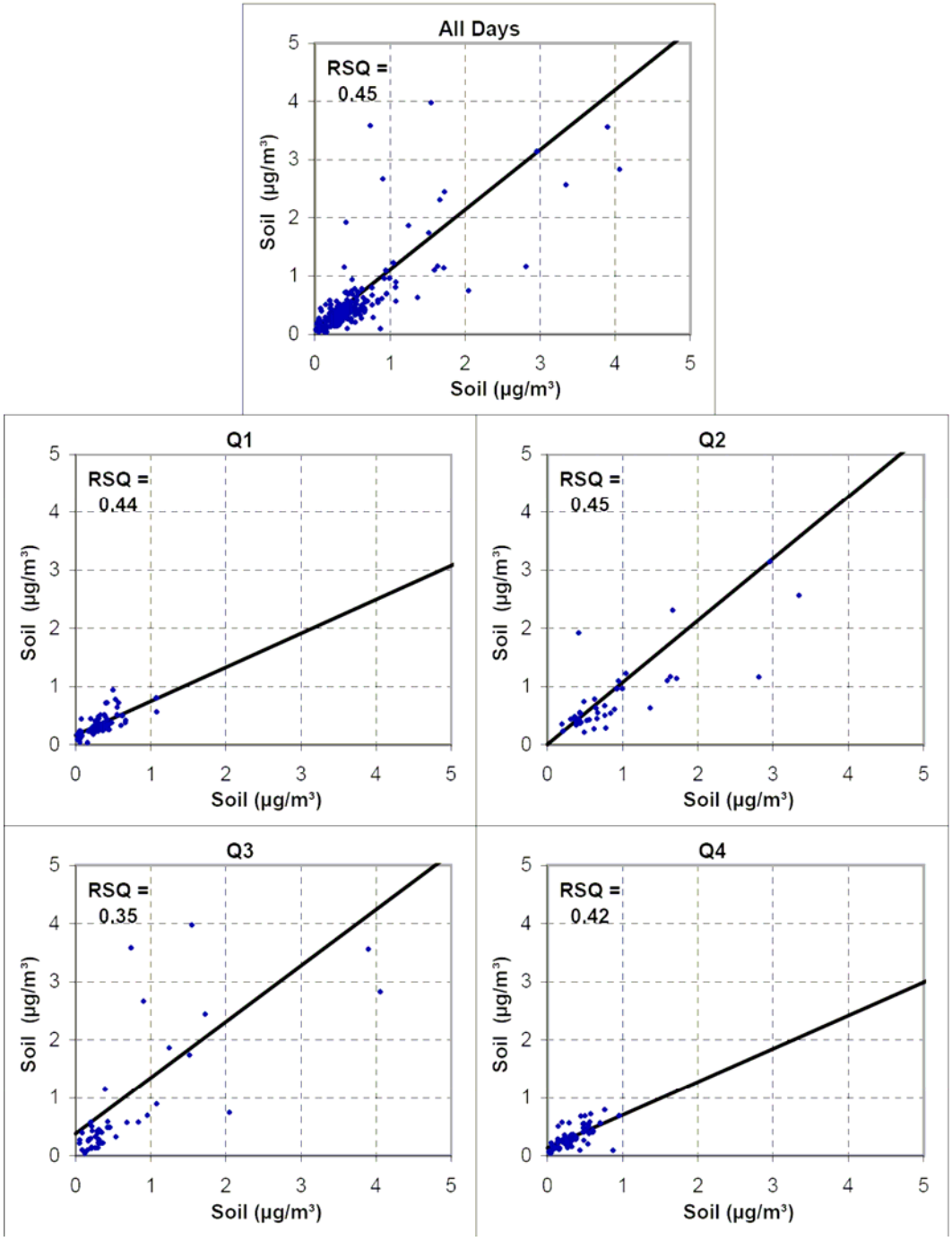
## CHAS1 vs. SAMA1
## Organic Carbon



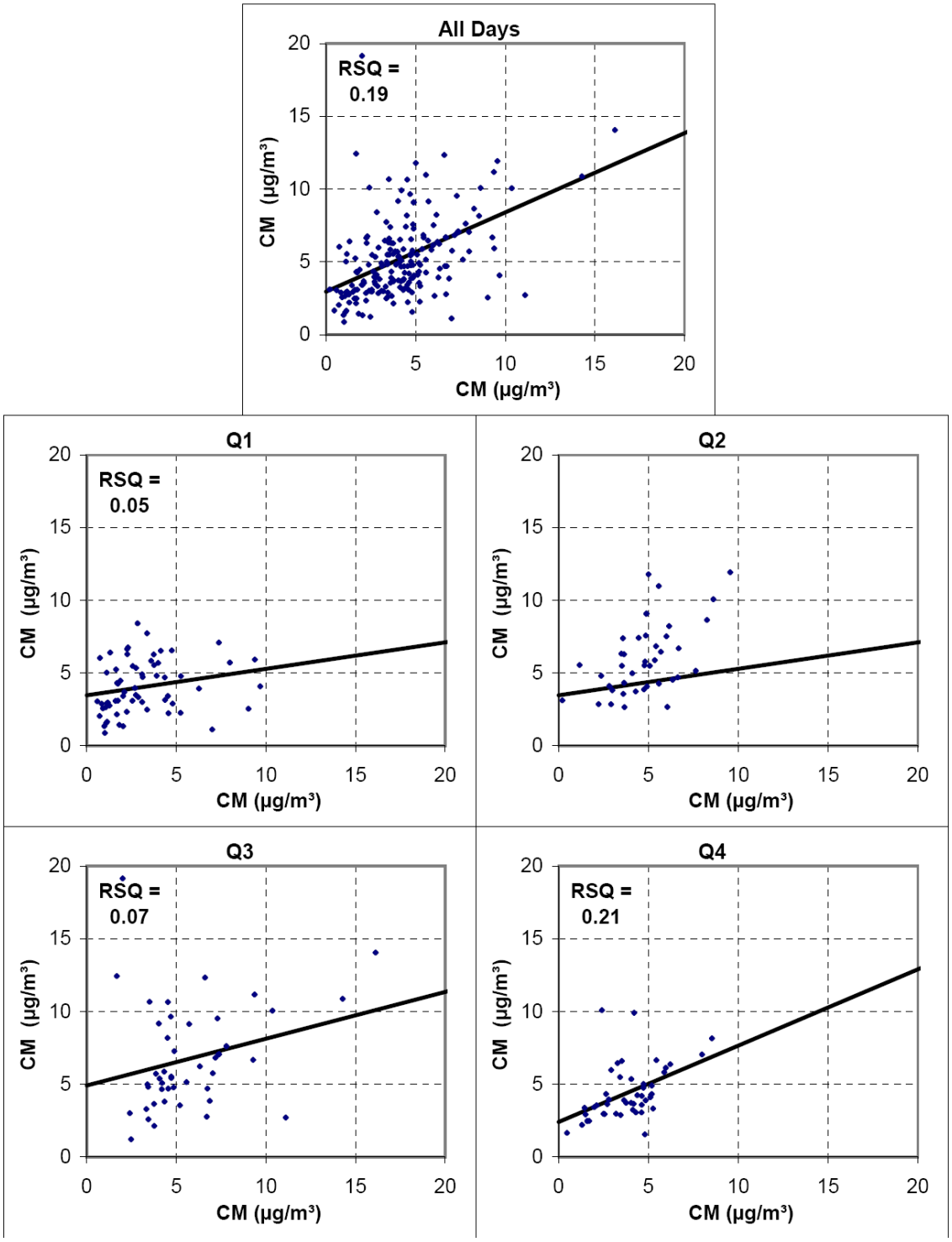
## CHAS1 vs. SAMA1
## Light Absorbing Carbon



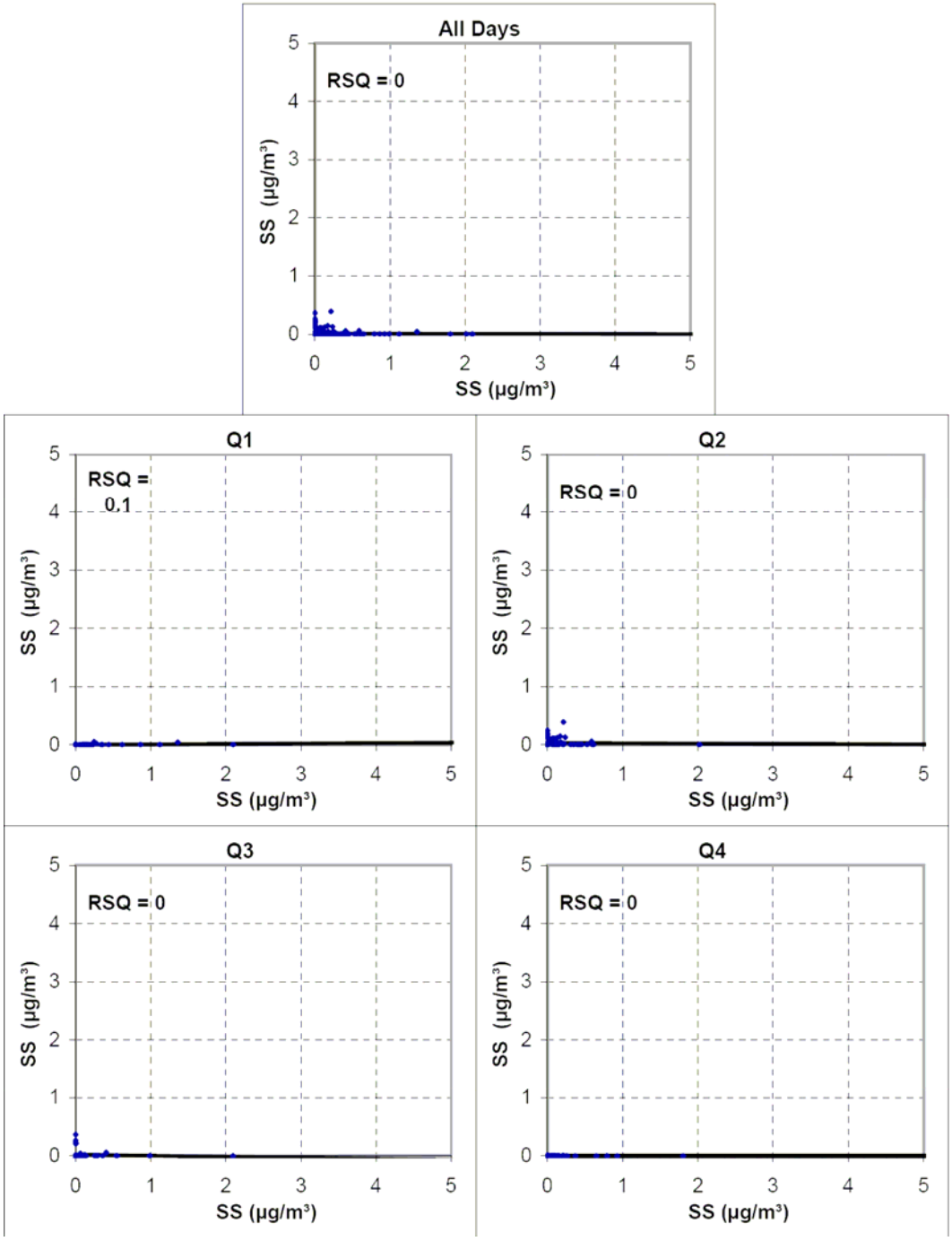
## CHAS1 vs. SAMA1
## Soil



## CHAS1 vs. SAMA1
## Coarse Mass

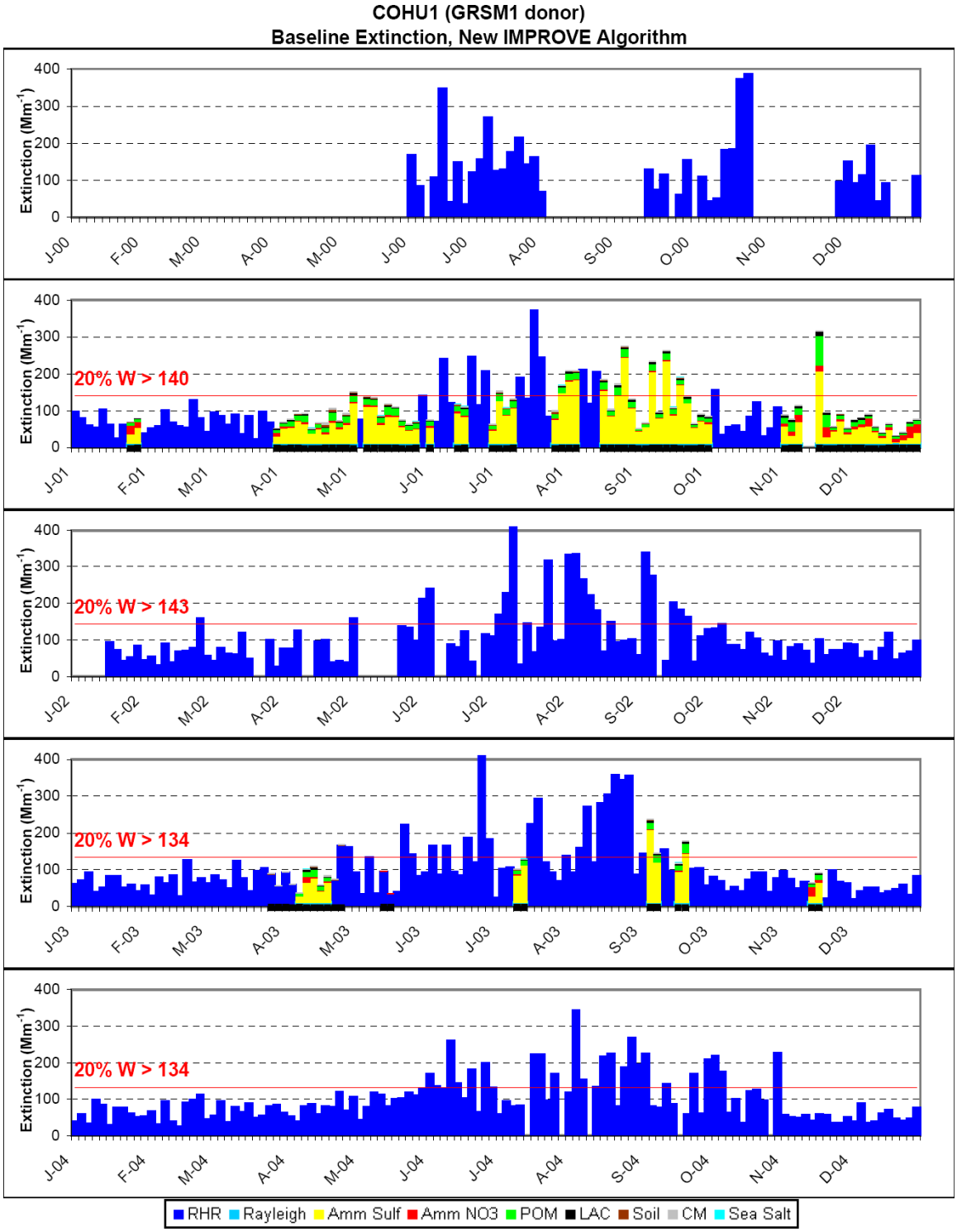


## CHAS1 vs. SAMA1
## Sea Salt

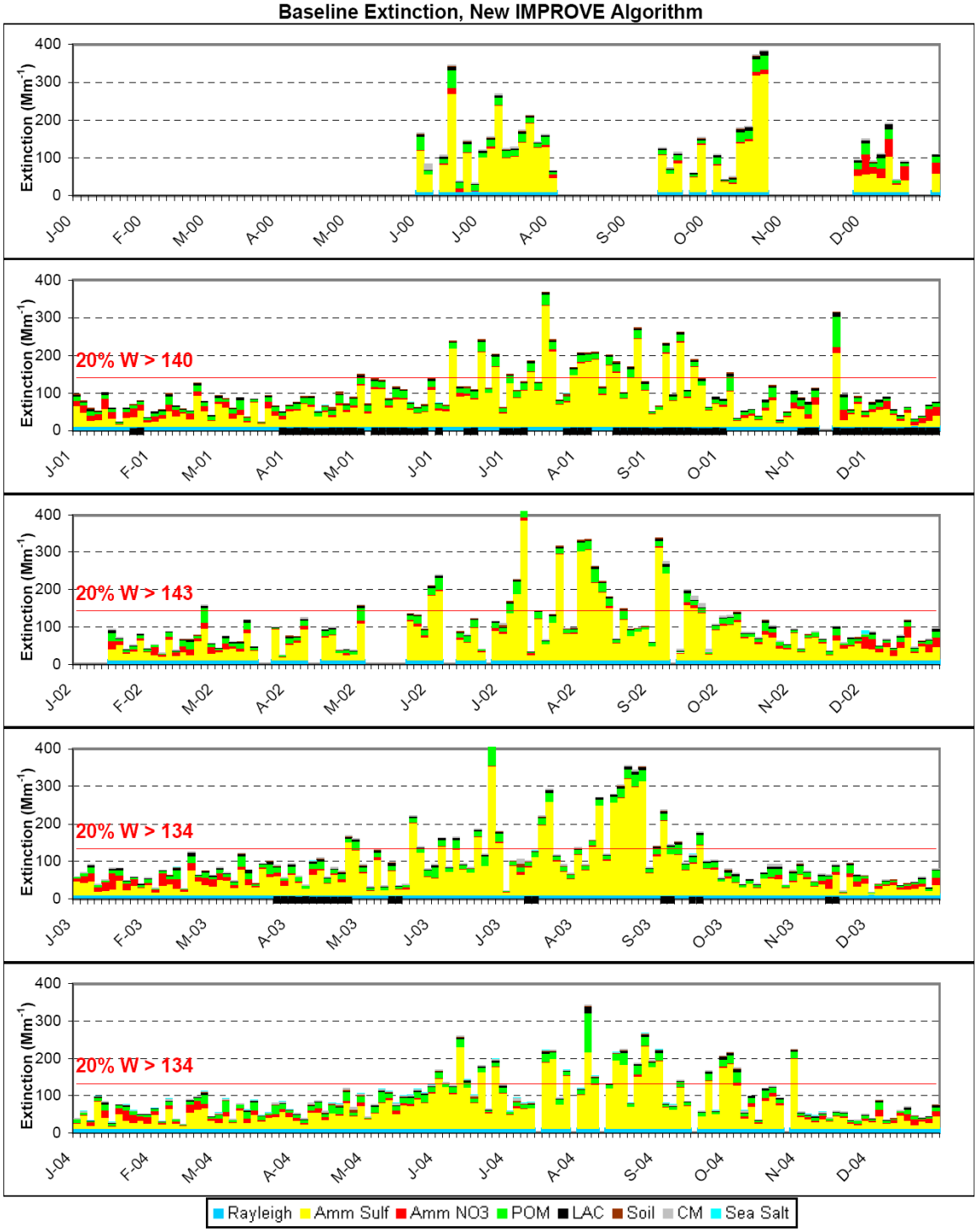


## Cohutta, GA
## Statistics for Substitutions

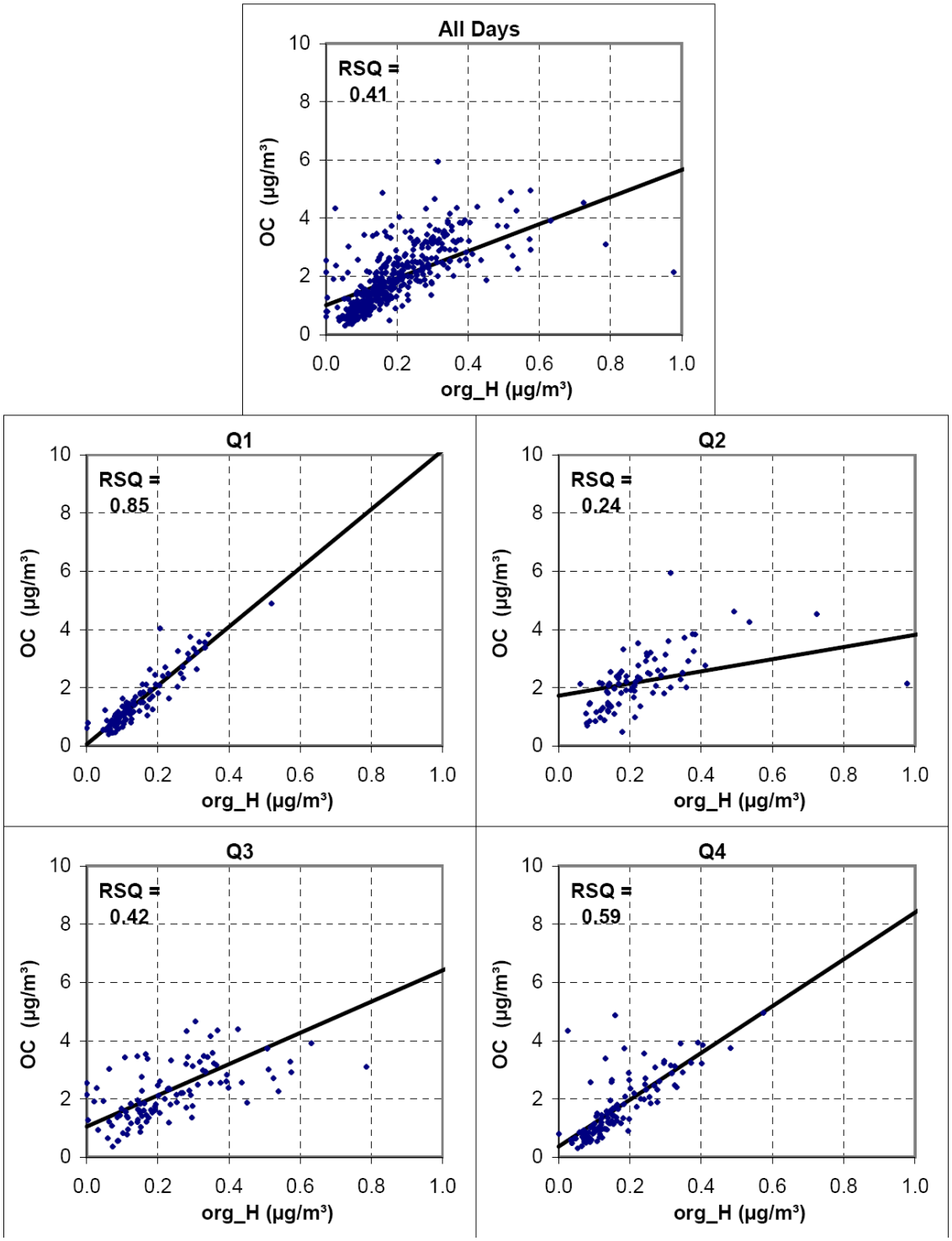
| COHU1 | | | | | | |
|---|---|---|---|---|---|---|
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| OC vs. org_H | Slope | 4.65 | 10.09 | 2.09 | 5.36 | 8.04 |
| | Intercept | 1.01 | 0.06 | 1.72 | 1.05 | 0.36 |
| | R2 | 0.41 | 0.85 | 0.24 | 0.42 | 0.59 |
| EC vs. OC | Slope | 0.14 | 0.15 | 0.12 | 0.14 | 0.19 |
| | Intercept | 0.09 | 0.09 | 0.09 | 0.06 | 0.06 |
| | R2 | 0.65 | 0.62 | 0.63 | 0.71 | 0.77 |
| **COHU1 v. GRSM1** | | | | | | |
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| SO4 | Slope | 0.87 | 0.89 | 0.77 | 0.77 | 1.11 |
| | Intercept | 0.89 | 0.49 | 1.93 | 2.18 | -0.08 |
| | R2 | 0.76 | 0.71 | 0.54 | 0.61 | 0.91 |
| NO3 | Slope | 0.73 | 0.50 | 0.47 | 0.30 | 0.94 |
| | Intercept | 0.31 | 0.70 | 0.30 | 0.22 | 0.33 |
| | R2 | 0.55 | 0.43 | 0.25 | 0.09 | 0.55 |
| OC | Slope | 0.81 | 0.86 | 0.60 | 0.82 | 0.88 |
| | Intercept | 0.07 | 0.03 | 0.15 | 0.05 | 0.07 |
| | R2 | 0.50 | 0.63 | 0.39 | 0.39 | 0.59 |
| LAC | Slope | 0.92 | 0.88 | 0.67 | 1.03 | 0.96 |
| | Intercept | 0.35 | 0.26 | 0.91 | 0.30 | 0.24 |
| | R2 | 0.56 | 0.71 | 0.38 | 0.36 | 0.79 |
| Soil | Slope | 1.23 | 0.92 | 1.02 | 1.27 | 0.97 |
| | Intercept | 0.03 | 0.06 | 0.31 | 0.01 | 0.05 |
| | R2 | 0.54 | 0.64 | 0.26 | 0.62 | 0.59 |
| CM | Slope | 0.53 | 0.76 | 0.24 | 0.74 | 0.44 |
| | Intercept | 0.93 | 0.05 | 2.18 | 1.07 | 0.94 |
| | R2 | 0.22 | 0.55 | 0.04 | 0.27 | 0.29 |
| Sea Salt | Slope | 0.00 | 0.02 | 0.37 | -0.03 | 0.00 |
| | Intercept | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 |
| | R2 | 0.00 | 0.04 | 0.05 | 0.00 | 0.00 |


COHU1 (GRSM1 donor)
Baseline Extinction, New IMPROVE Algorithm
Extinction (Mm-1)
20% W > 140
20% W > 143
20% W > 134
20% W > 134
J-00 F-00 M-00 A-00 M-00 J-00 J-00 A-00 S-00 O-00 N-00 D-00
J-01 F-01 M-01 A-01 M-01 J-01 J-01 A-01 S-01 O-01 N-01 D-01
J-02 F-02 M-02 A-02 M-02 J-02 J-02 A-02 S-02 O-02 N-02 D-02
J-03 F-03 M-03 A-03 M-03 J-03 J-03 A-03 S-03 O-03 N-03 D-03
J-04 F-04 M-04 A-04 M-04 J-04 J-04 A-04 S-04 O-04 N-04 D-04
RHR Rayleigh Amm Sulf Amm NO3 POM LAC Soil CM Sea Salt

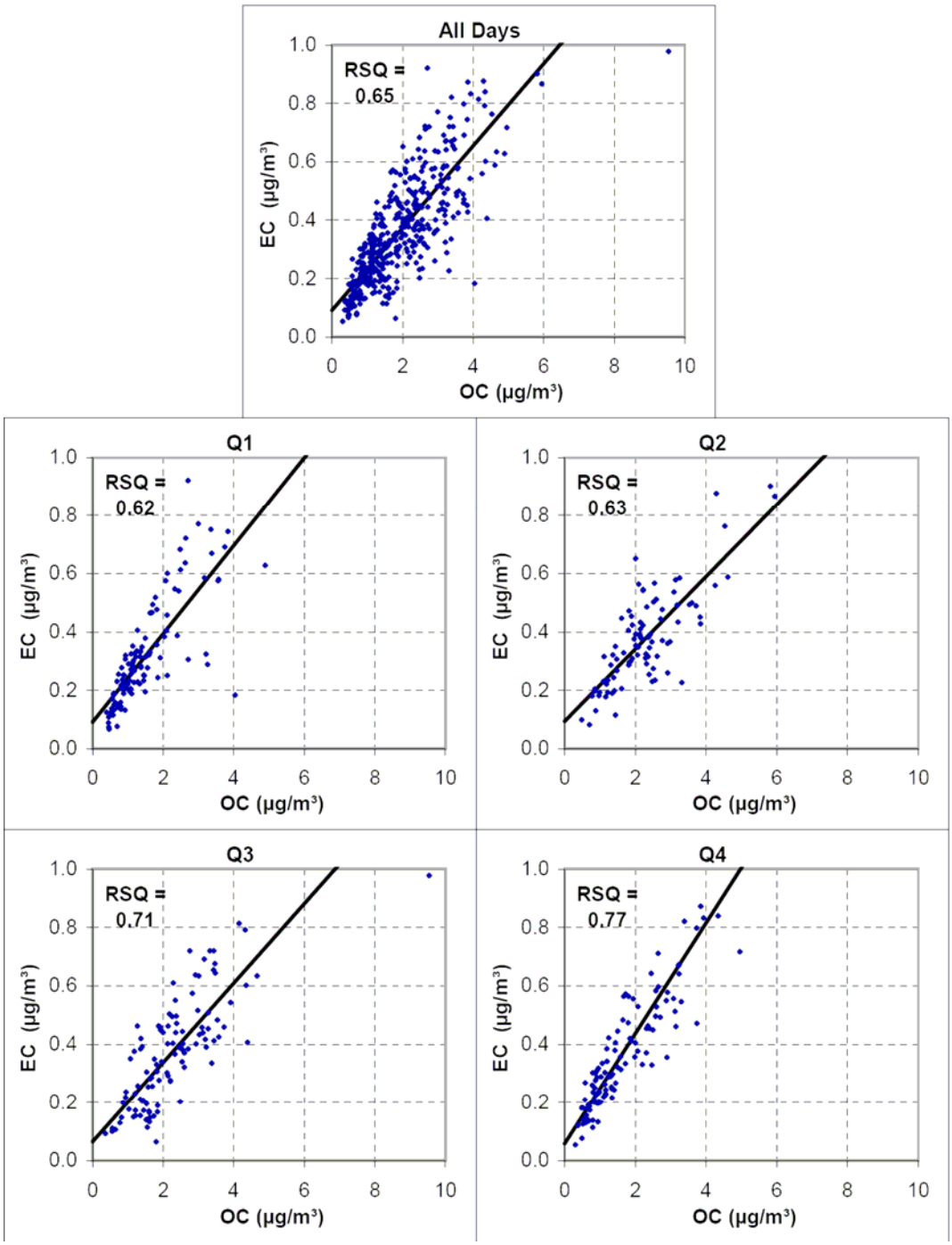
**COHU1 (GRSM1 donor)**
**Baseline Extinction, New IMPROVE Algorithm**



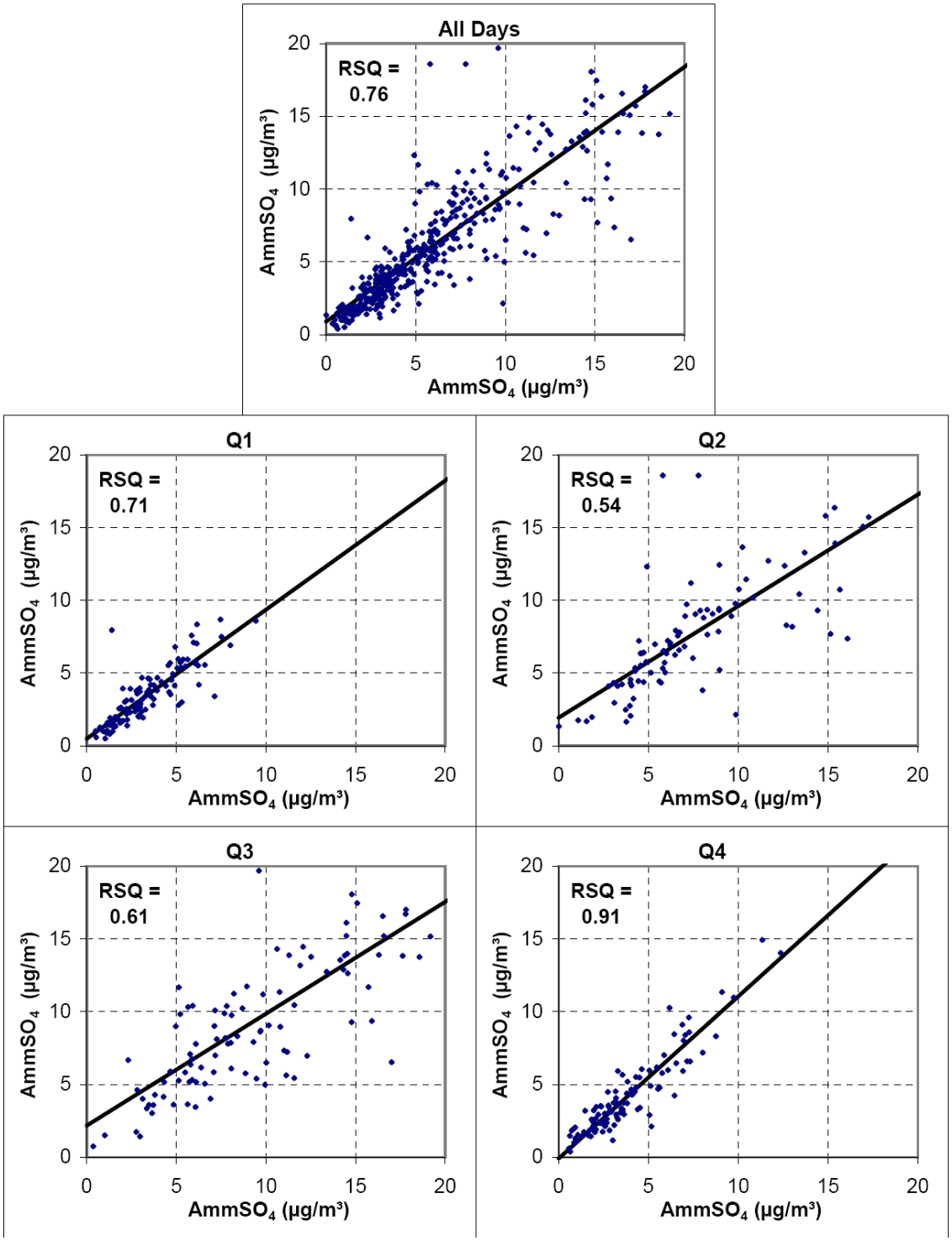
# COHU1
# OC vs. org_H



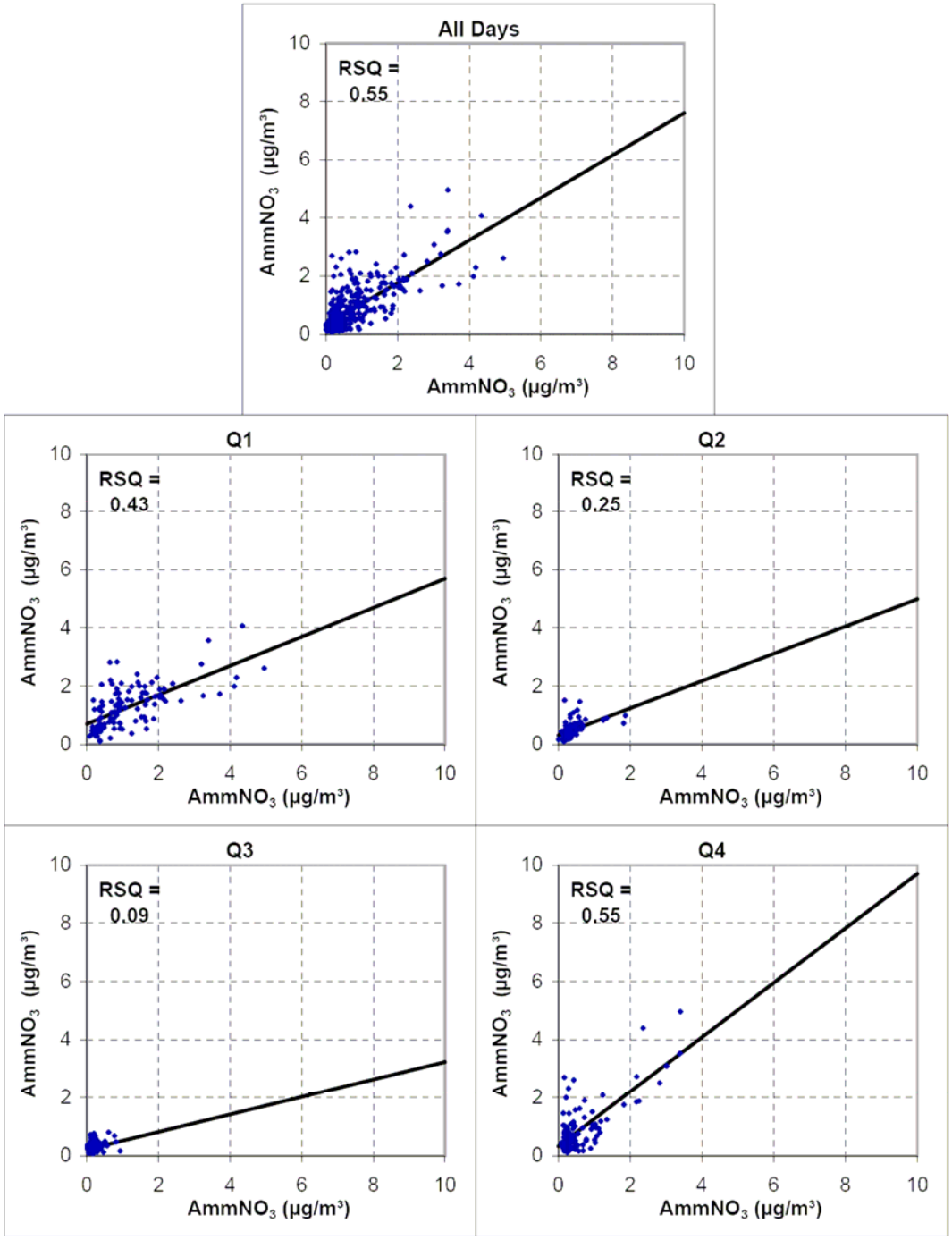
## COHU1
## EC vs. OC



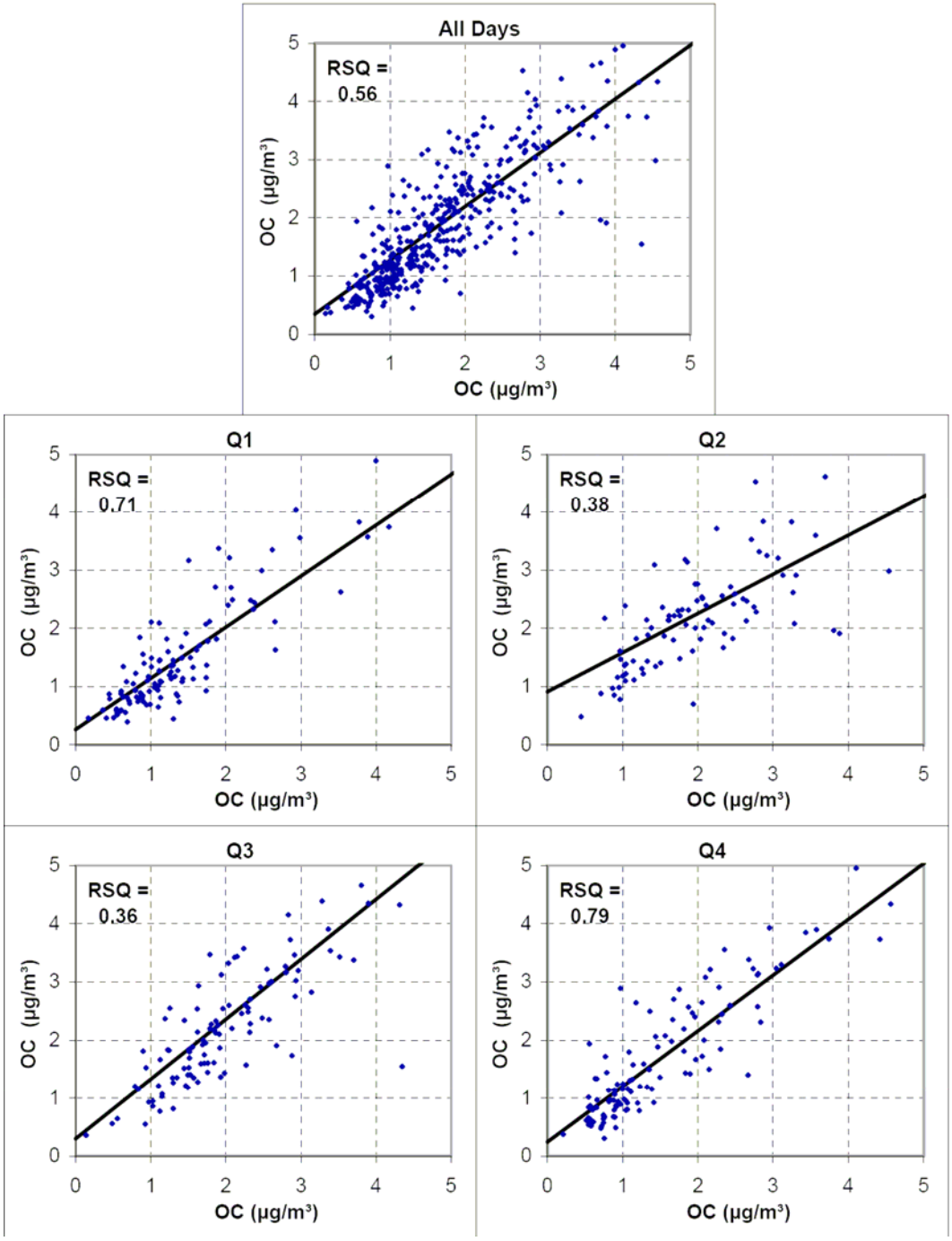
## COHU1 vs. GRSM1
## Ammonium Sulfate



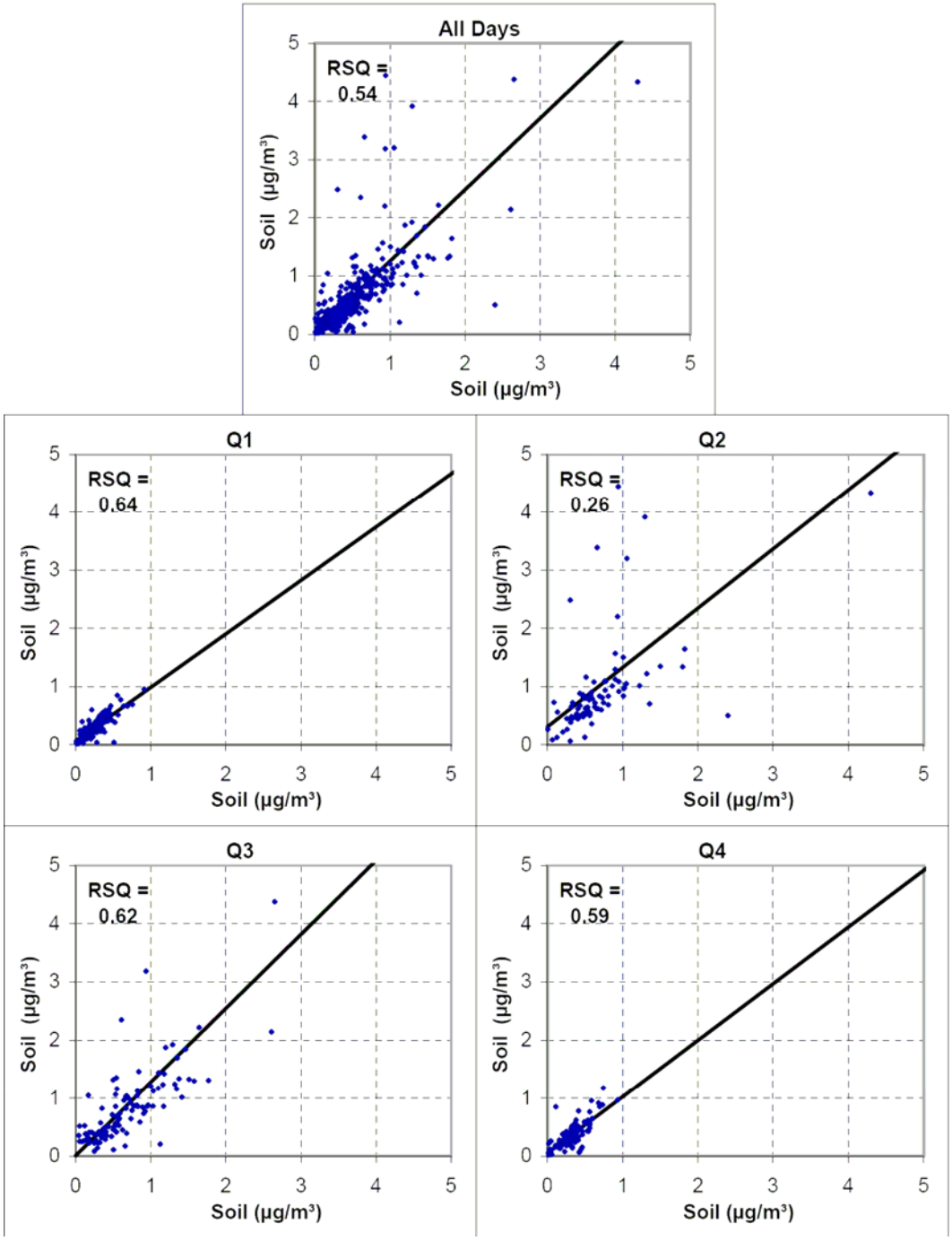
## COHU1 vs. GRSM1
## Ammonium Nitrate



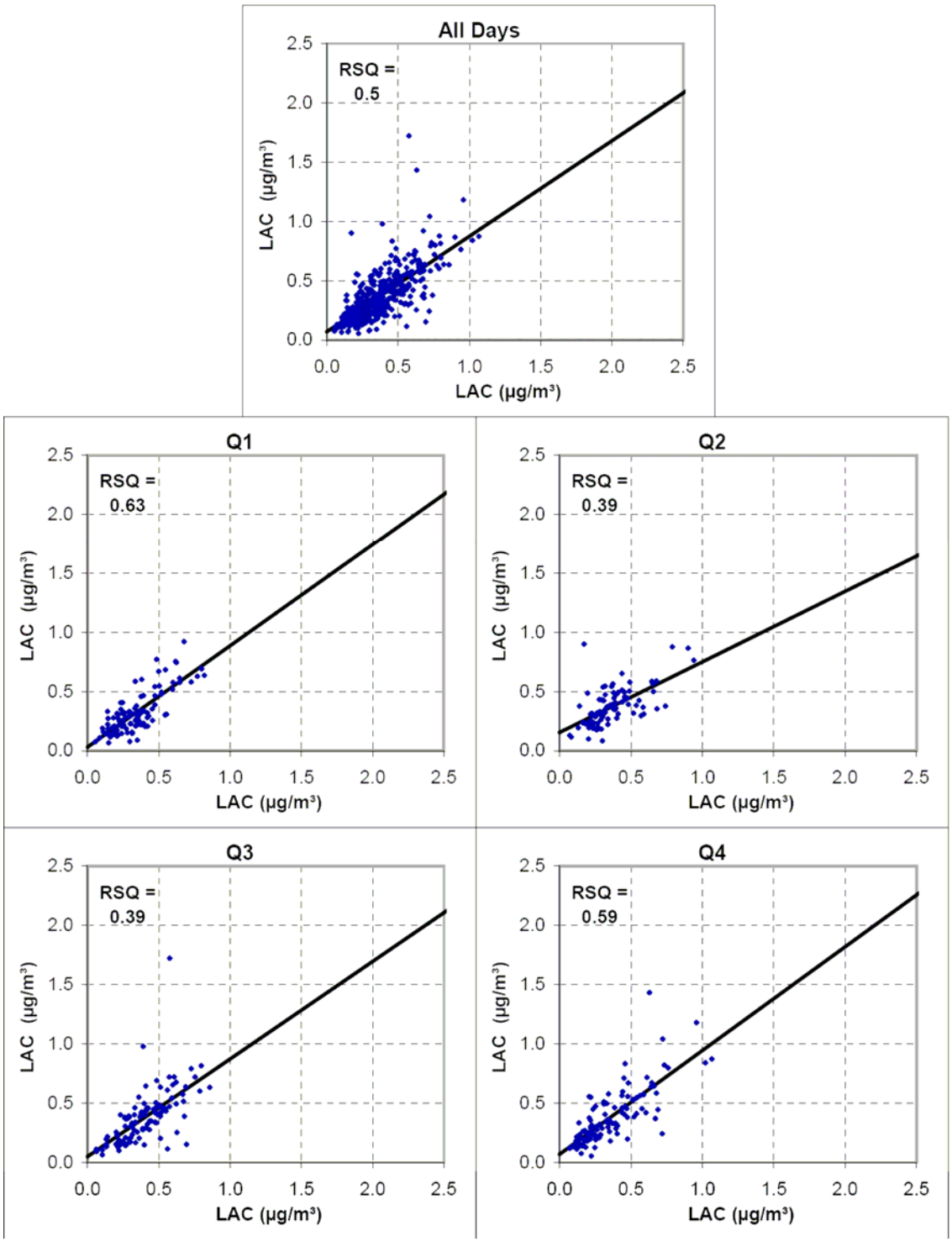
## COHU1 vs. GRSM1
## Organic Carbon



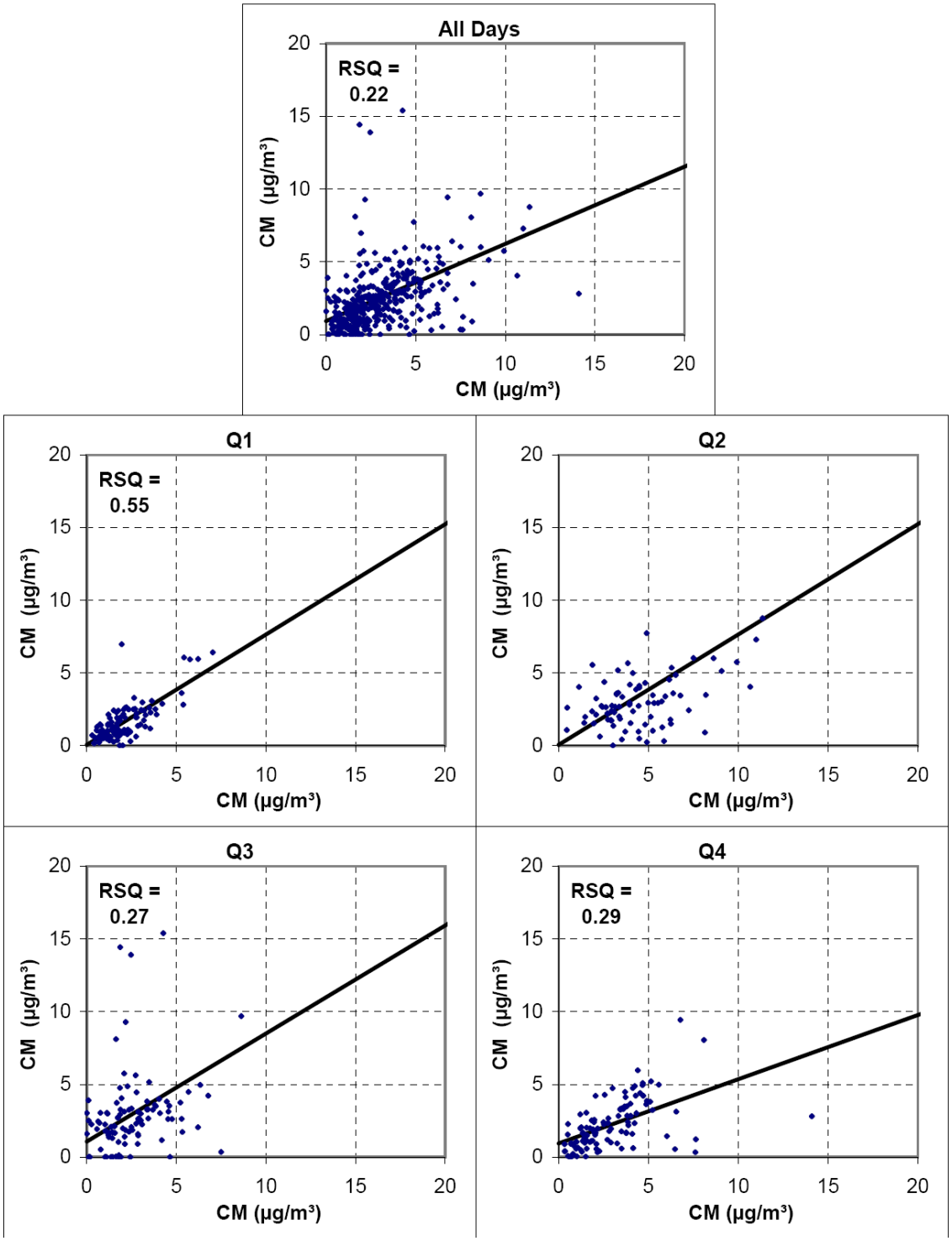
## COHU1 vs. GRSM1
## Soil



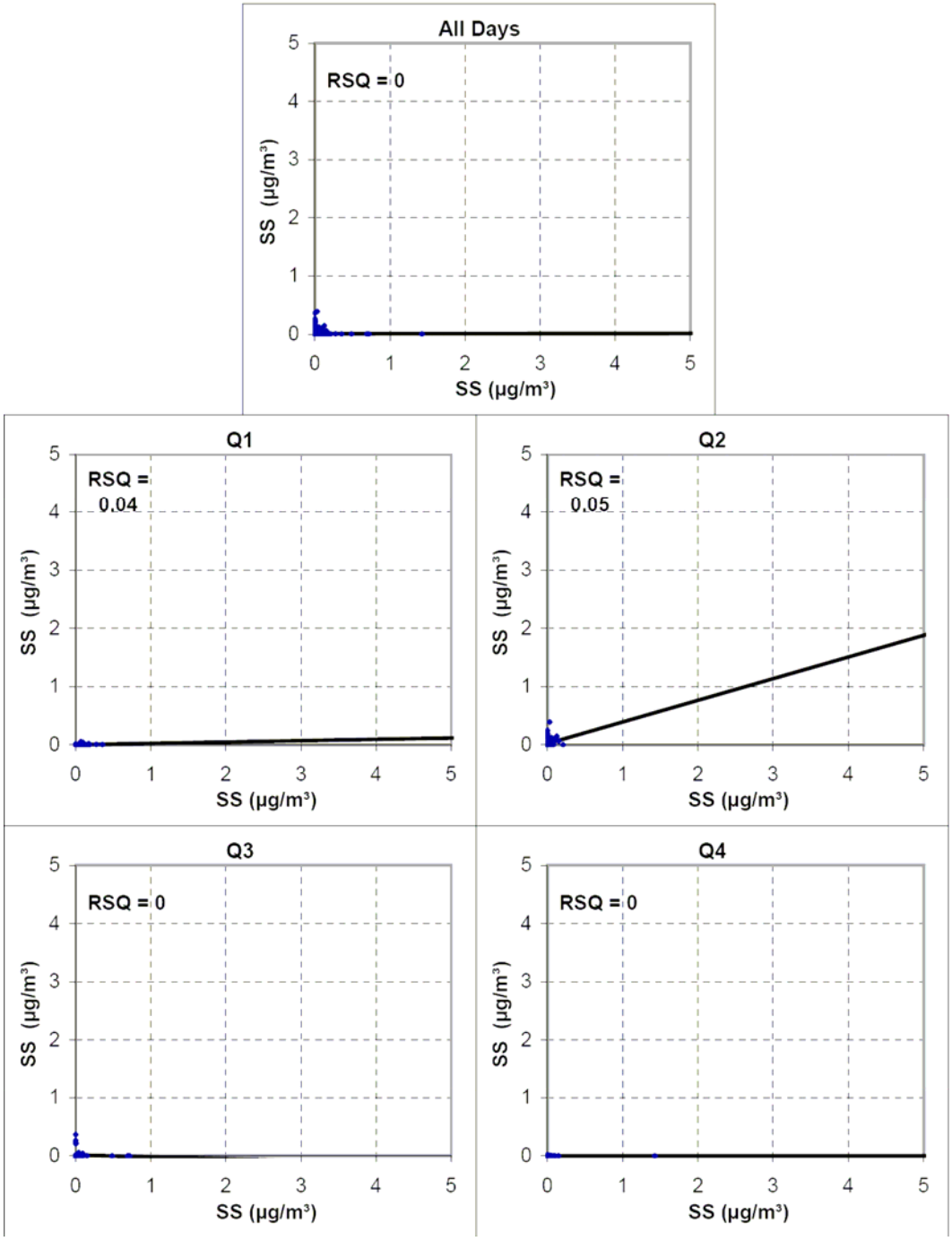
## COHU1 vs. GRSM1
## Light Absorbing Carbon



## COHU1 vs. GRSM1
## Coarse Mass



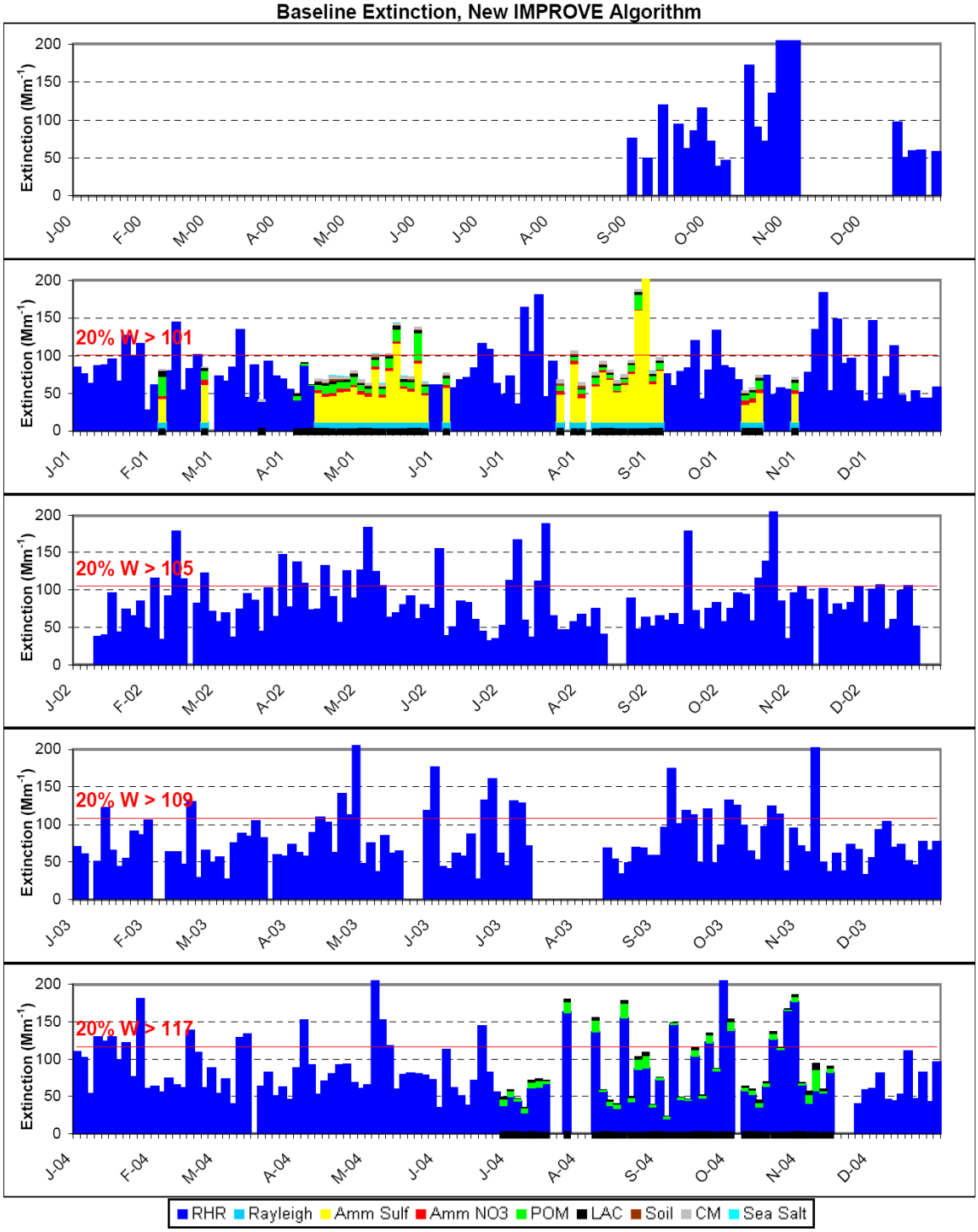
## COHU1 vs. GRSM1
## Sea Salt



## St. Marks, FL
## Statistics for Substitutions

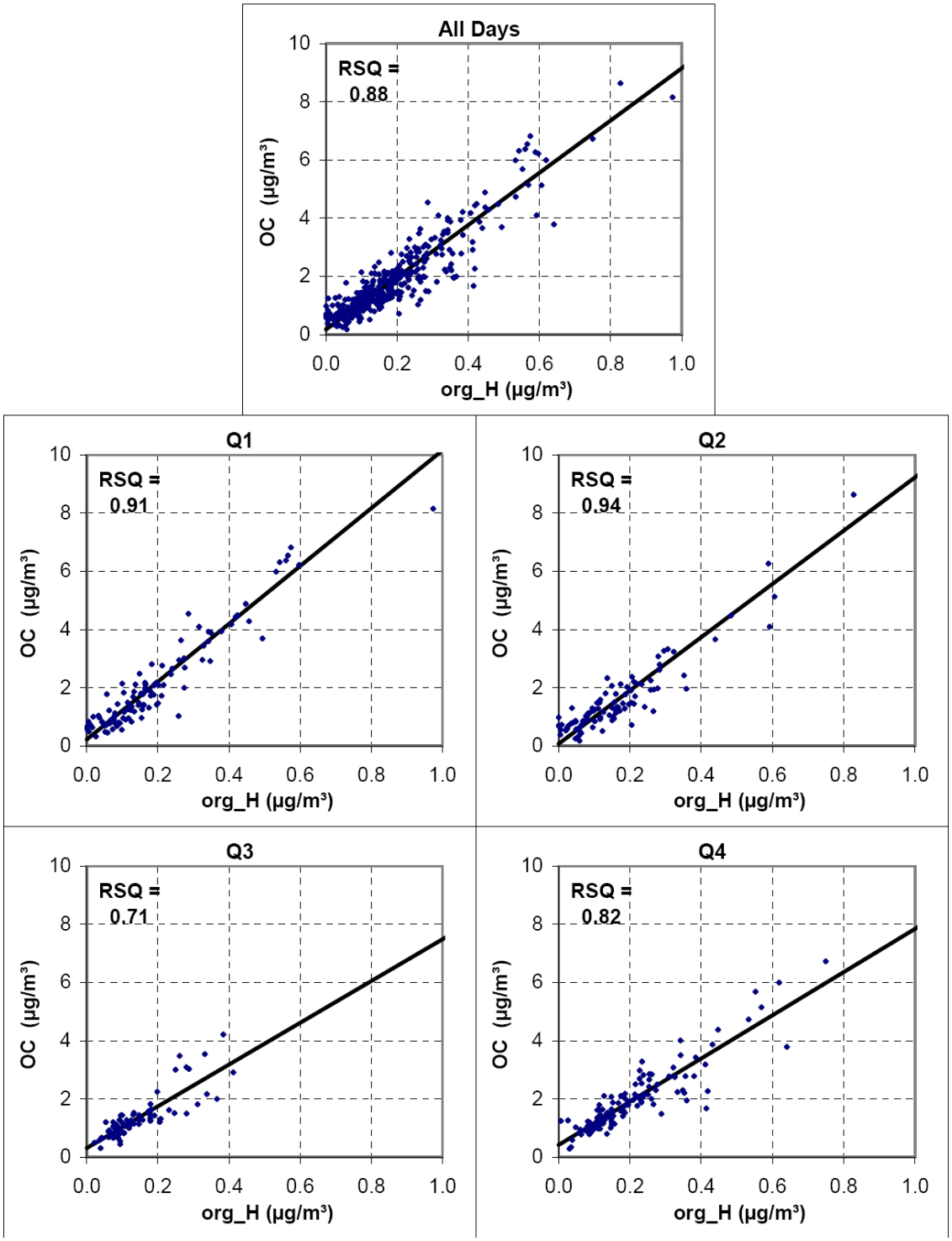
| SAMA1 | | | | | | |
|---|---|---|---|---|---|---|
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| OC vs. org_H | Slope | 8.97 | 9.93 | 9.16 | 7.18 | 7.43 |
| | Intercept | 0.18 | 0.22 | 0.07 | 0.31 | 0.42 |
| | R2 | 0.88 | 0.91 | 0.94 | 0.71 | 0.82 |
| EC vs. OC | Slope | 0.15 | 0.16 | 0.11 | 0.16 | 0.18 |
| | Intercept | 0.11 | 0.16 | 0.10 | 0.02 | 0.08 |
| | R2 | 0.68 | 0.68 | 0.80 | 0.65 | 0.77 |
| **SAMA1 vs. CHAS1** | | | | | | |
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| SO4 | Slope | 0.73 | 0.57 | 0.63 | 0.76 | 0.83 |
| | Intercept | 1.48 | 1.65 | 1.95 | 1.69 | 1.19 |
| | R2 | 0.42 | 0.37 | 0.30 | 0.41 | 0.57 |
| NO3 | Slope | 0.71 | 0.78 | 0.42 | 0.59 | 0.59 |
| | Intercept | 0.08 | 0.13 | 0.17 | 0.05 | 0.13 |
| | R2 | 0.38 | 0.27 | 0.39 | 0.44 | 0.42 |
| OC | Slope | 0.54 | 0.59 | 0.46 | 0.39 | 0.43 |
| | Intercept | 0.13 | 0.19 | 0.14 | 0.10 | 0.18 |
| | R2 | 0.29 | 0.27 | 0.12 | 0.18 | 0.33 |
| LAC | Slope | 0.63 | 0.74 | 0.66 | 0.72 | 0.47 |
| | Intercept | 0.72 | 0.64 | 0.79 | 0.34 | 0.95 |
| | R2 | 0.21 | 0.29 | 0.08 | 0.33 | 0.29 |
| Soil | Slope | 0.44 | 0.75 | 0.42 | 0.36 | 0.74 |
| | Intercept | 0.27 | 0.07 | 0.58 | 0.33 | 0.10 |
| | R2 | 0.45 | 0.44 | 0.45 | 0.35 | 0.42 |
| CM | Slope | 0.35 | 0.27 | 0.27 | 0.22 | 0.41 |
| | Intercept | 2.43 | 2.04 | 3.14 | 4.27 | 2.06 |
| | R2 | 0.19 | 0.05 | 0.28 | 0.07 | 0.21 |
| Sea Salt | Slope | 0.00 | 0.00 | -0.02 | -0.01 | 0.00 |
| | Intercept | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 |
| | R2 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 |

**SAMA1 (CHAS1 donor)**
**Baseline Extinction, New IMPROVE Algorithm**

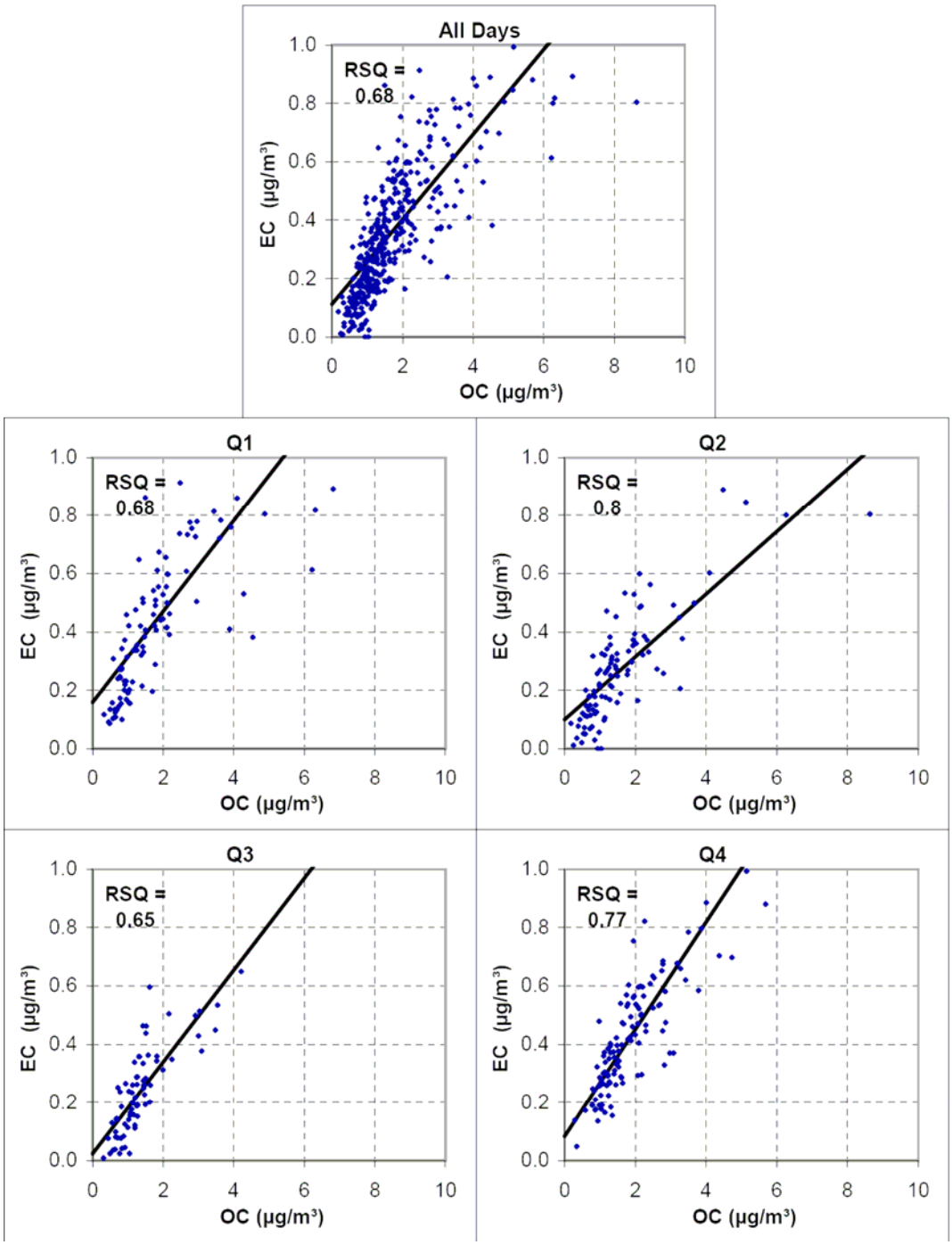


SAMA1 (CHAS1 donor)
Baseline Extinction, New IMPROVE Algorithm
Extinction (Mm-1)
20% W > 101
20% W > 105
20% W > 109
20% W > 117
J-00 F-00 M-00 A-00 M-00 J-00 J-00 A-00 S-00 O-00 N-00 D-00
J-01 F-01 M-01 A-01 M-01 J-01 J-01 A-01 S-01 O-01 N-01 D-01
J-02 F-02 M-02 A-02 M-02 J-02 J-02 A-02 S-02 O-02 N-02 D-02
J-03 F-03 M-03 A-03 M-03 J-03 J-03 A-03 S-03 O-03 N-03 D-03
J-04 F-04 M-04 A-04 M-04 J-04 J-04 A-04 S-04 O-04 N-04 D-04
Rayleigh
Amm Sulf
Amm NO3
POM
LAC
Soil
CM
Sea Salt

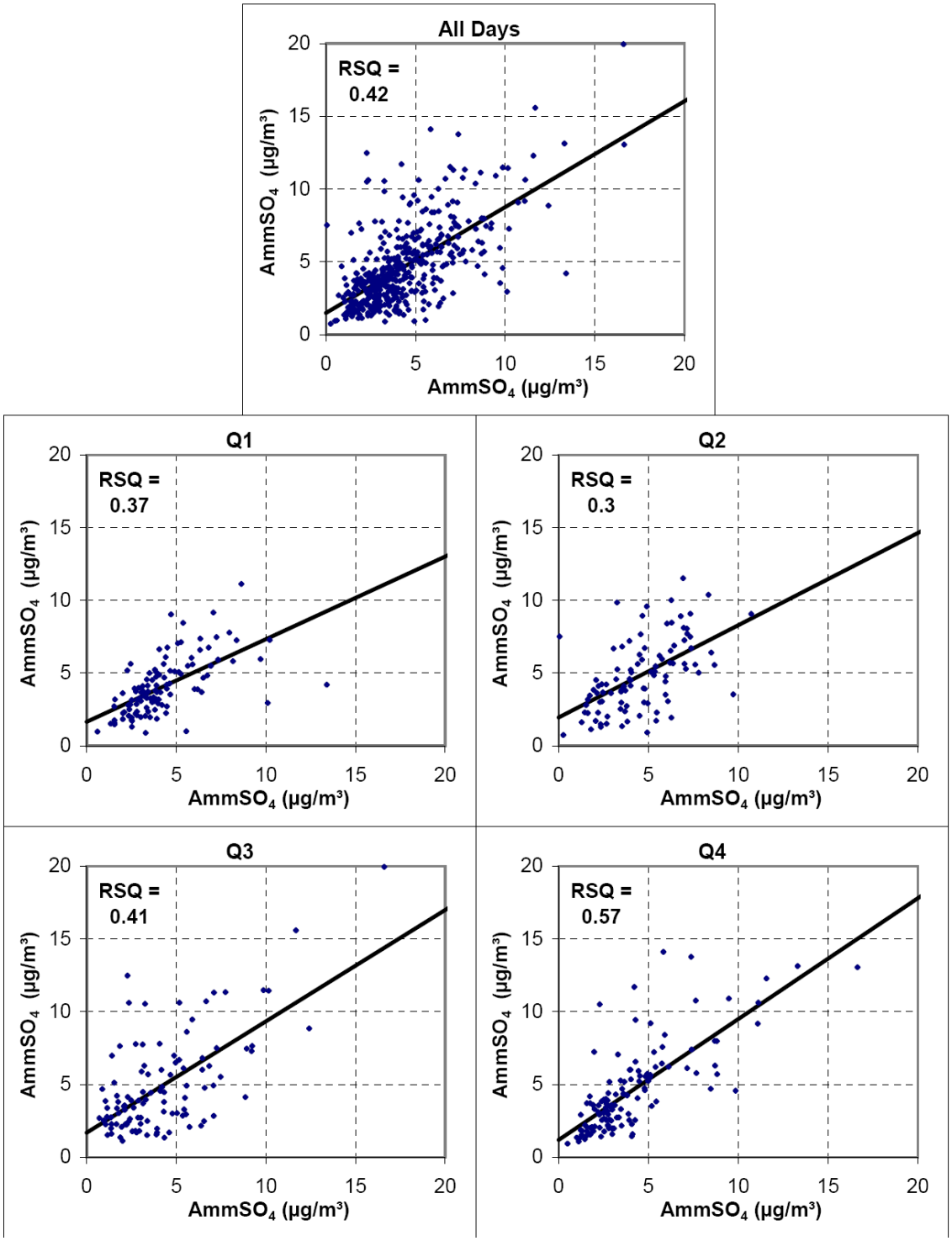
## SAMA1
## OC vs. org_H



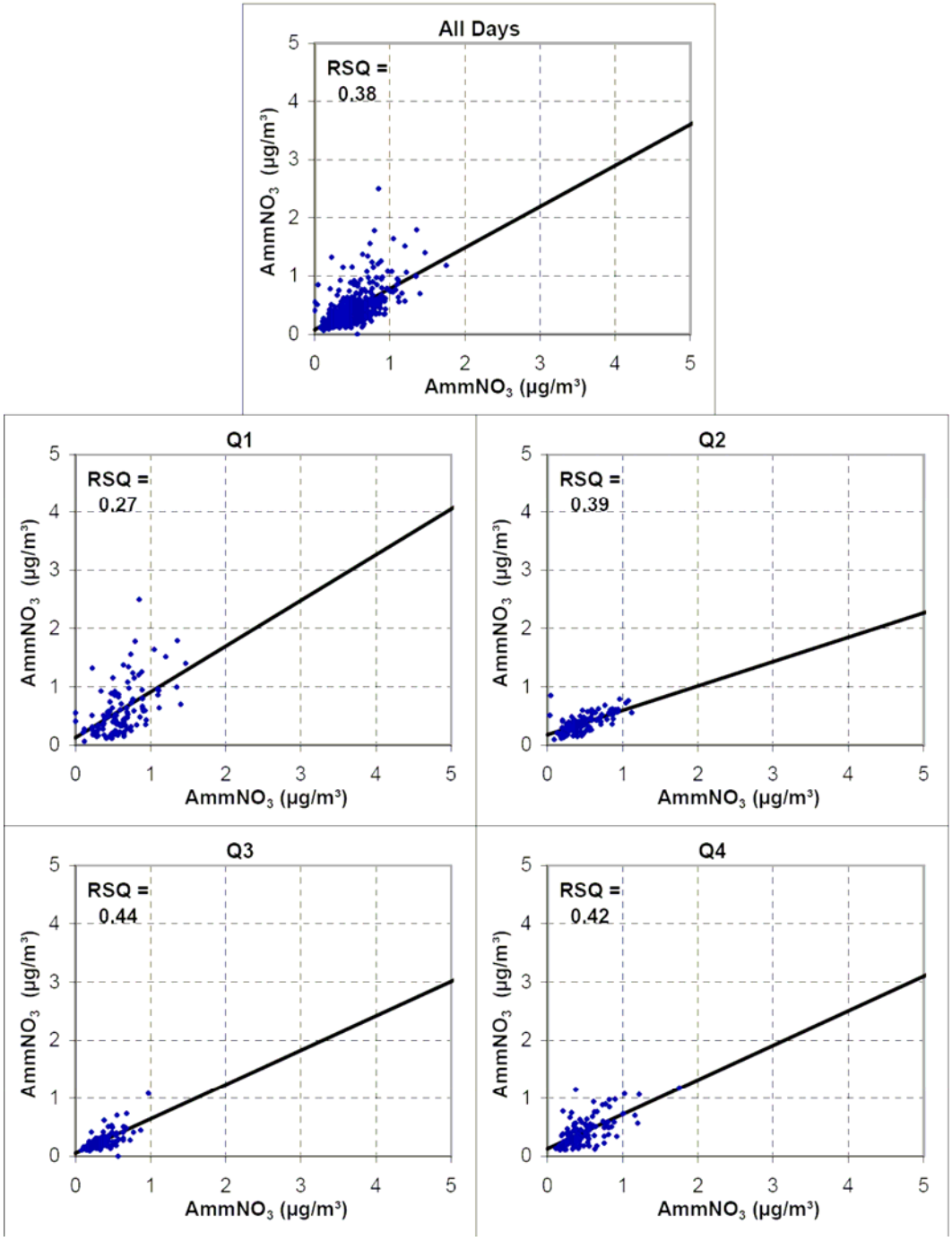
## SAMA1
## EC vs. OC

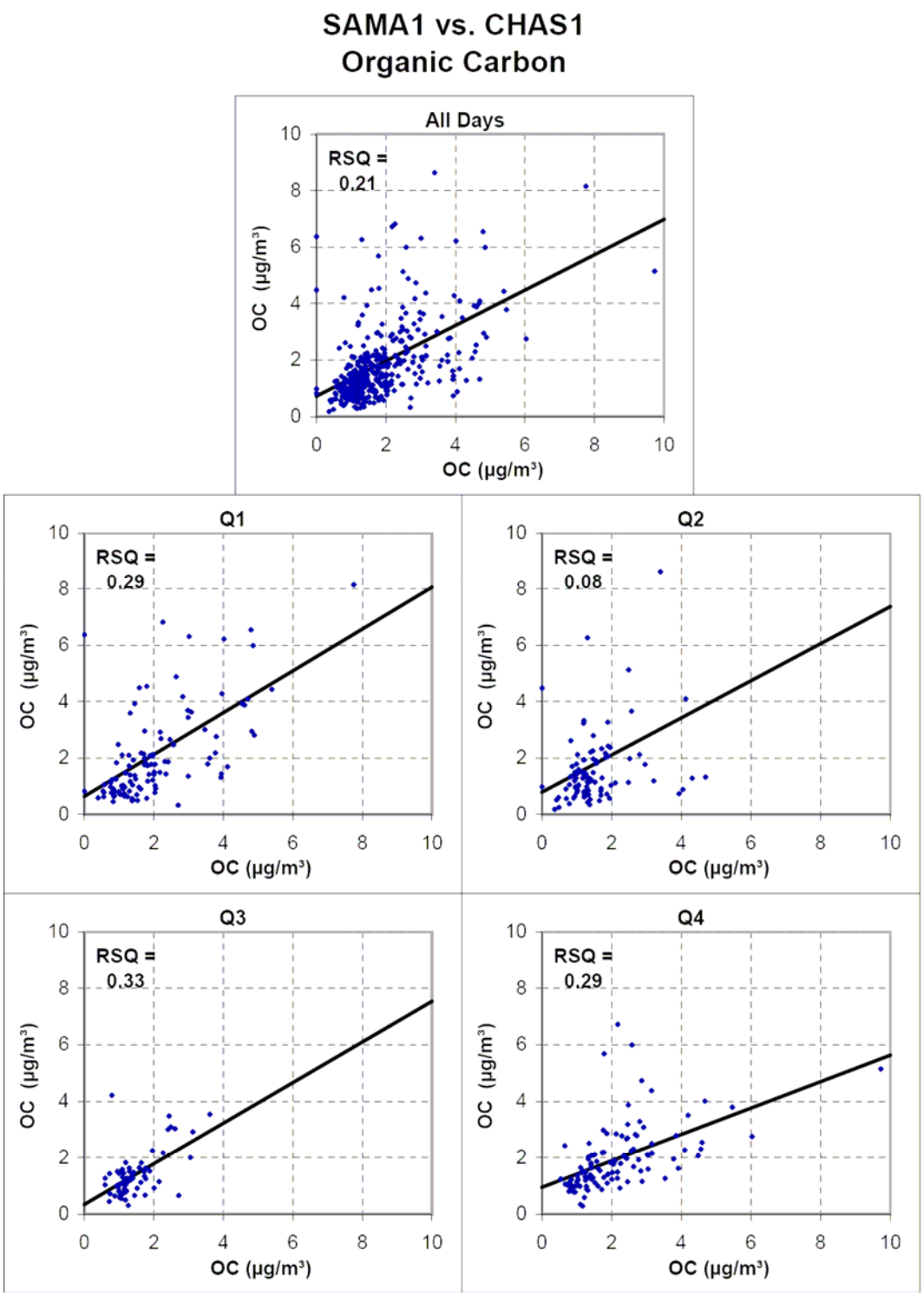


## SAMA1 vs. CHAS1
## Ammonium Sulfate

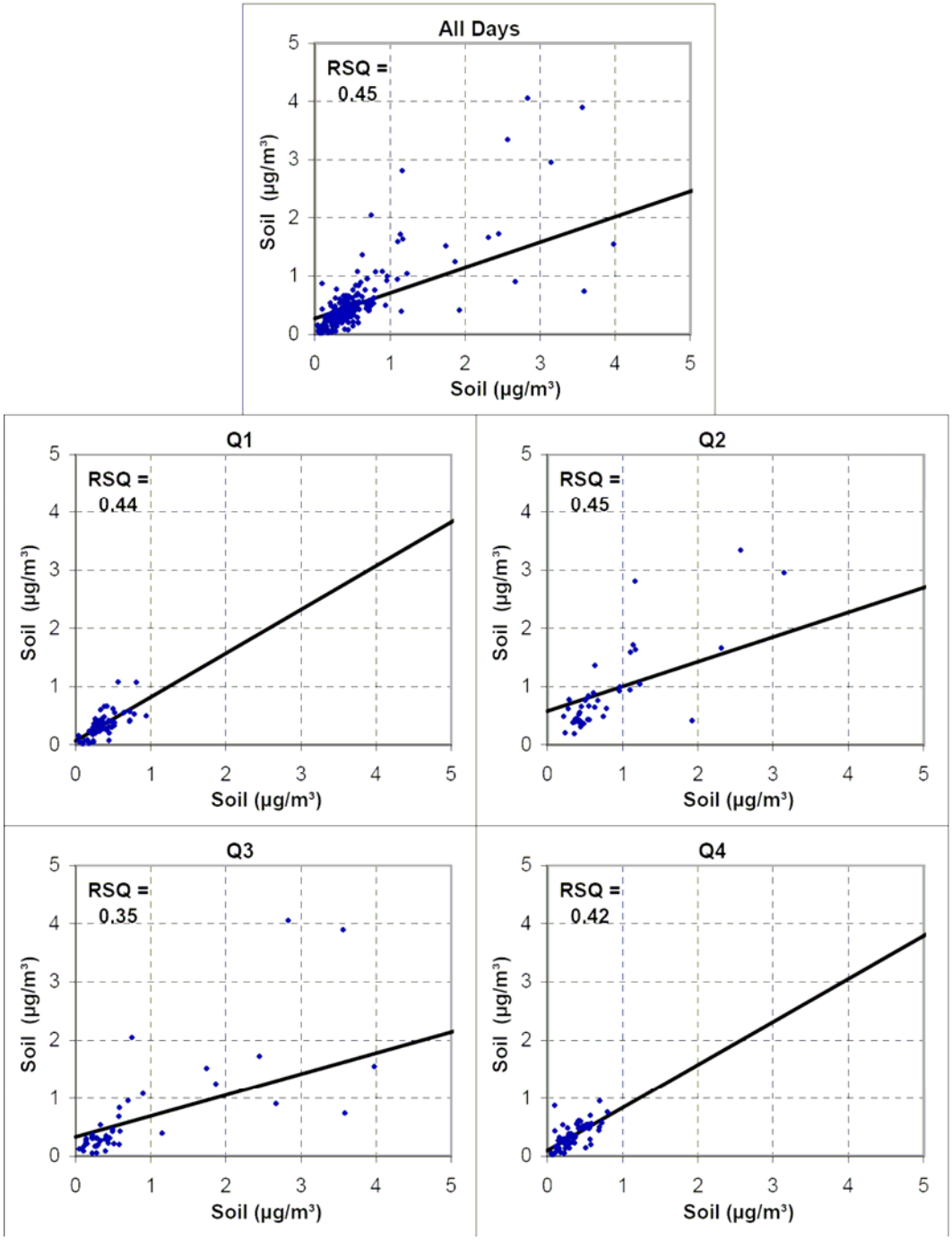


## SAMA1 vs. CHAS1
## Ammonium Nitrate

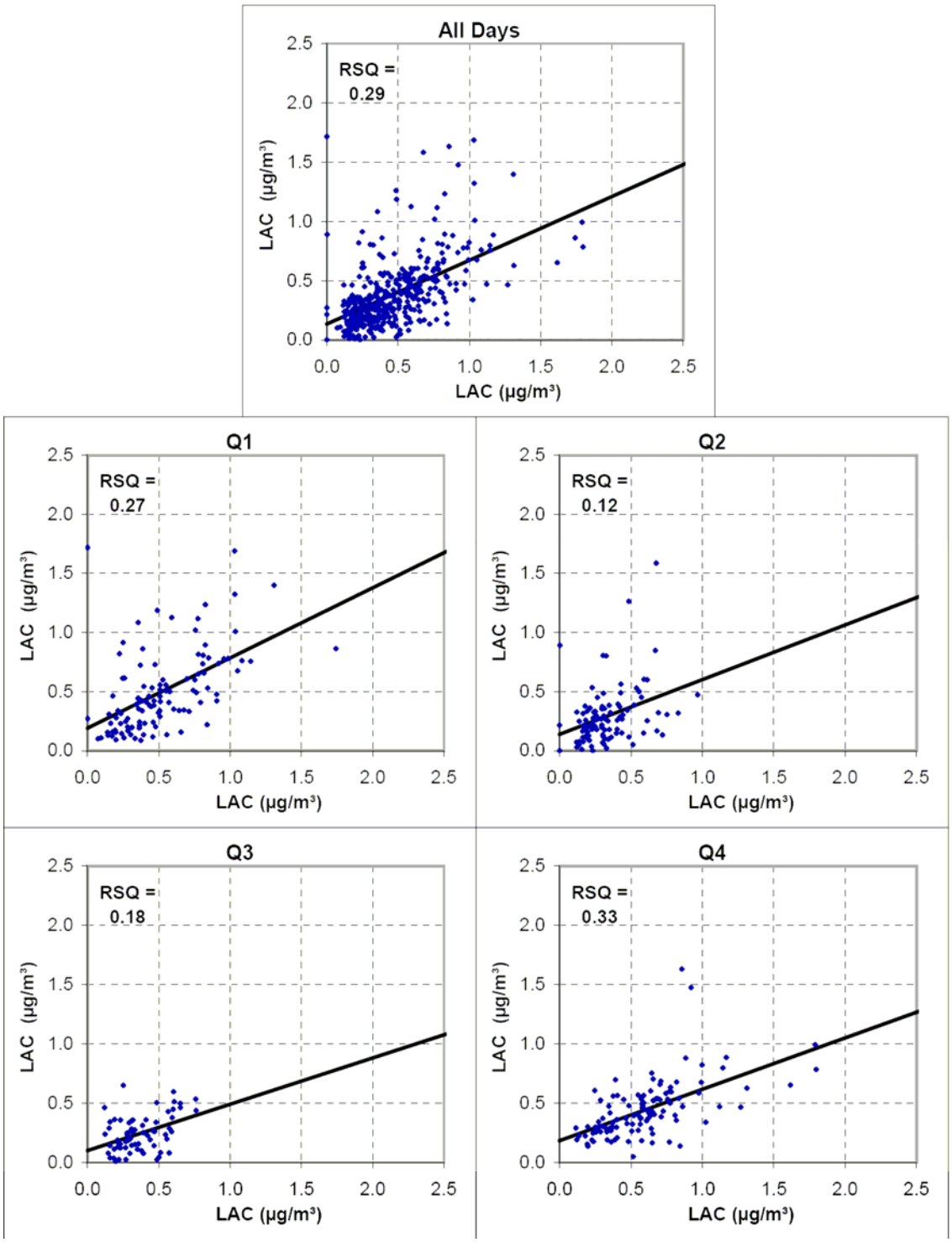



SAMA1 vs. CHAS1
Organic Carbon
All Days
RSQ =
0.21
Q1
RSQ =
0.29
Q2
RSQ =
0.08
Q3
RSQ =
0.33
Q4
RSQ =
0.29
OC (µg/m³)
OC (µg/m³)

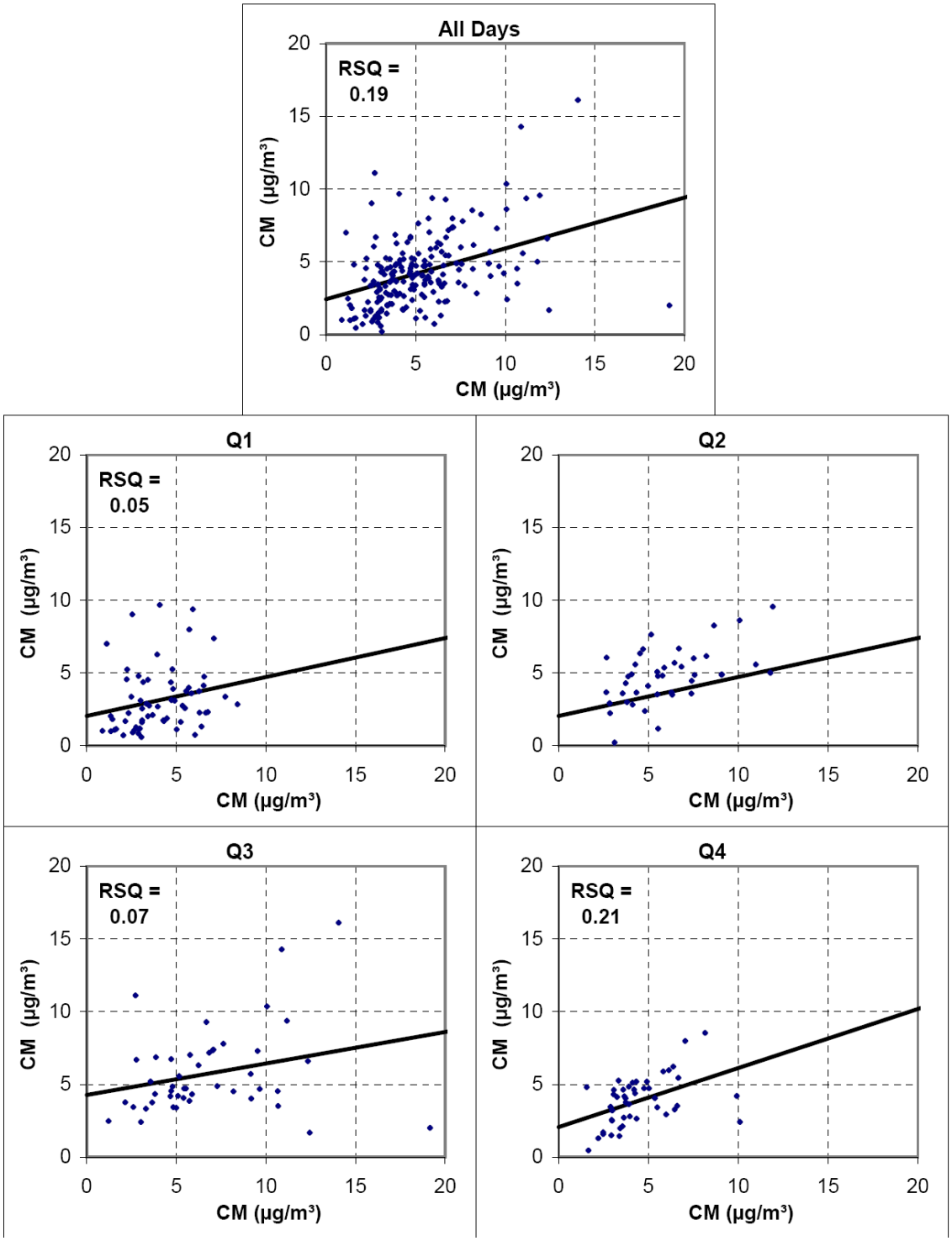
## SAMA1 vs. CHAS1
## Soil



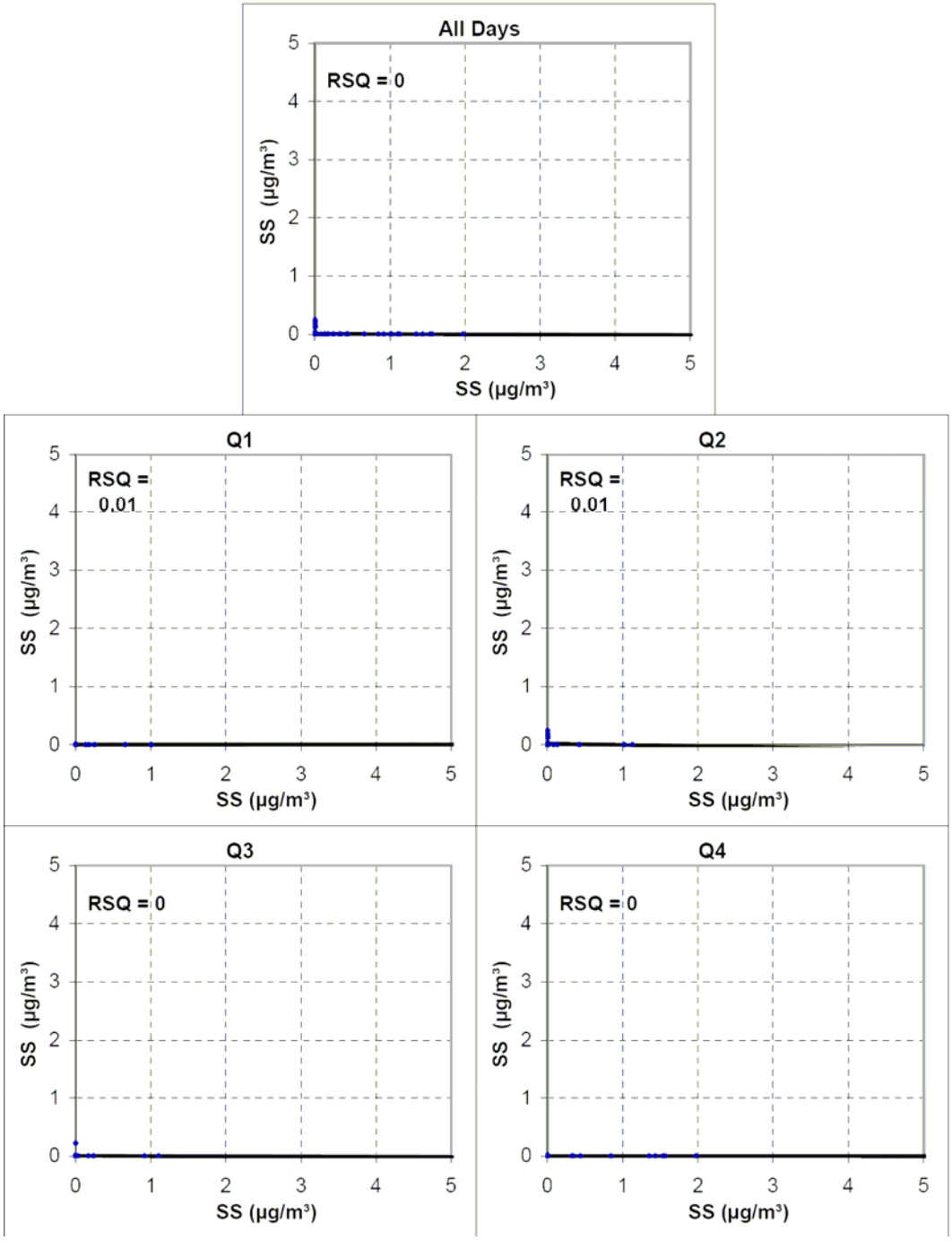
## SAMA1 vs. CHAS1
## Light Absorbing Carbon



## SAMA1 vs. CHAS1
## Coarse Mass



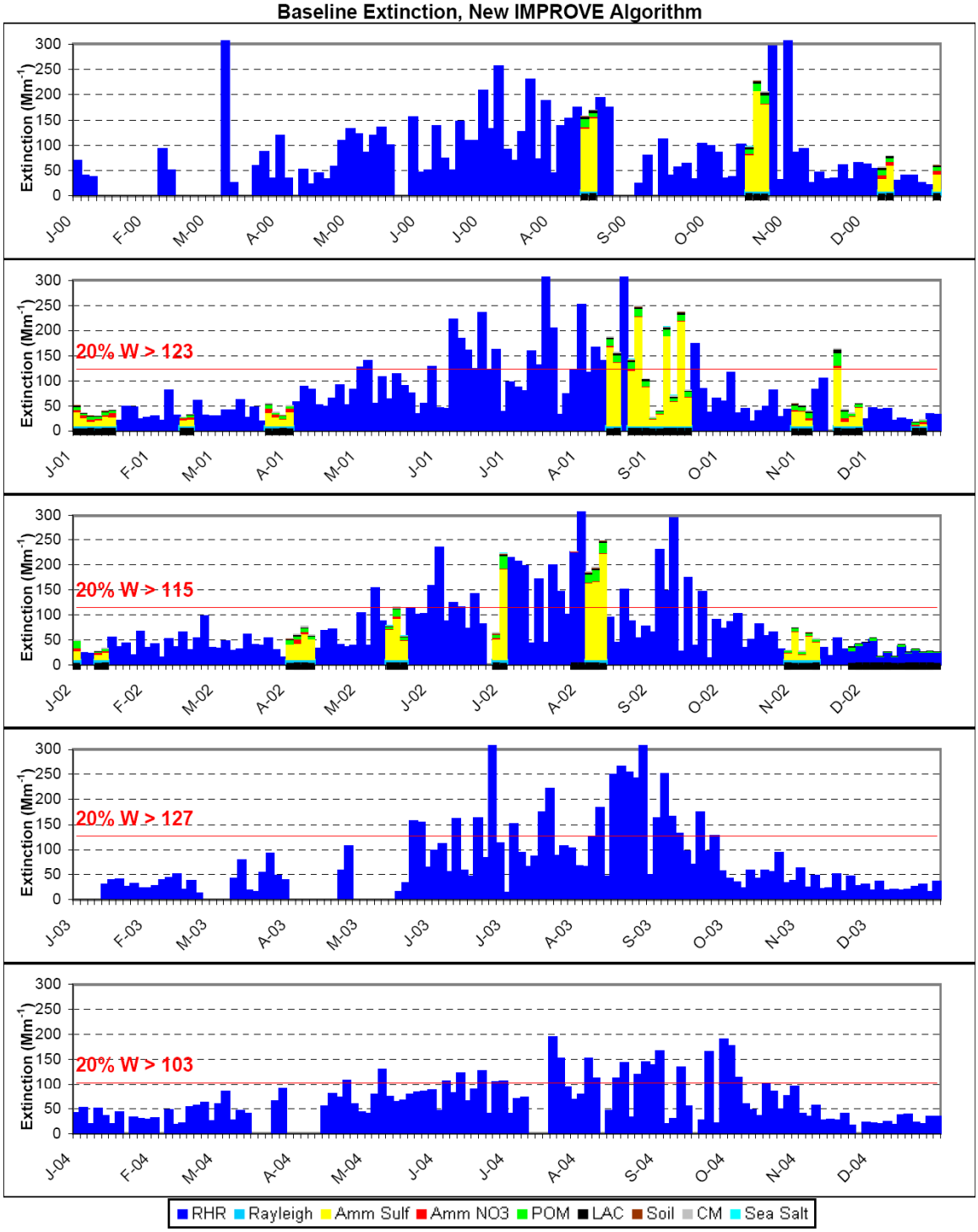
## SAMA1 vs. CHAS1
## Sea Salt



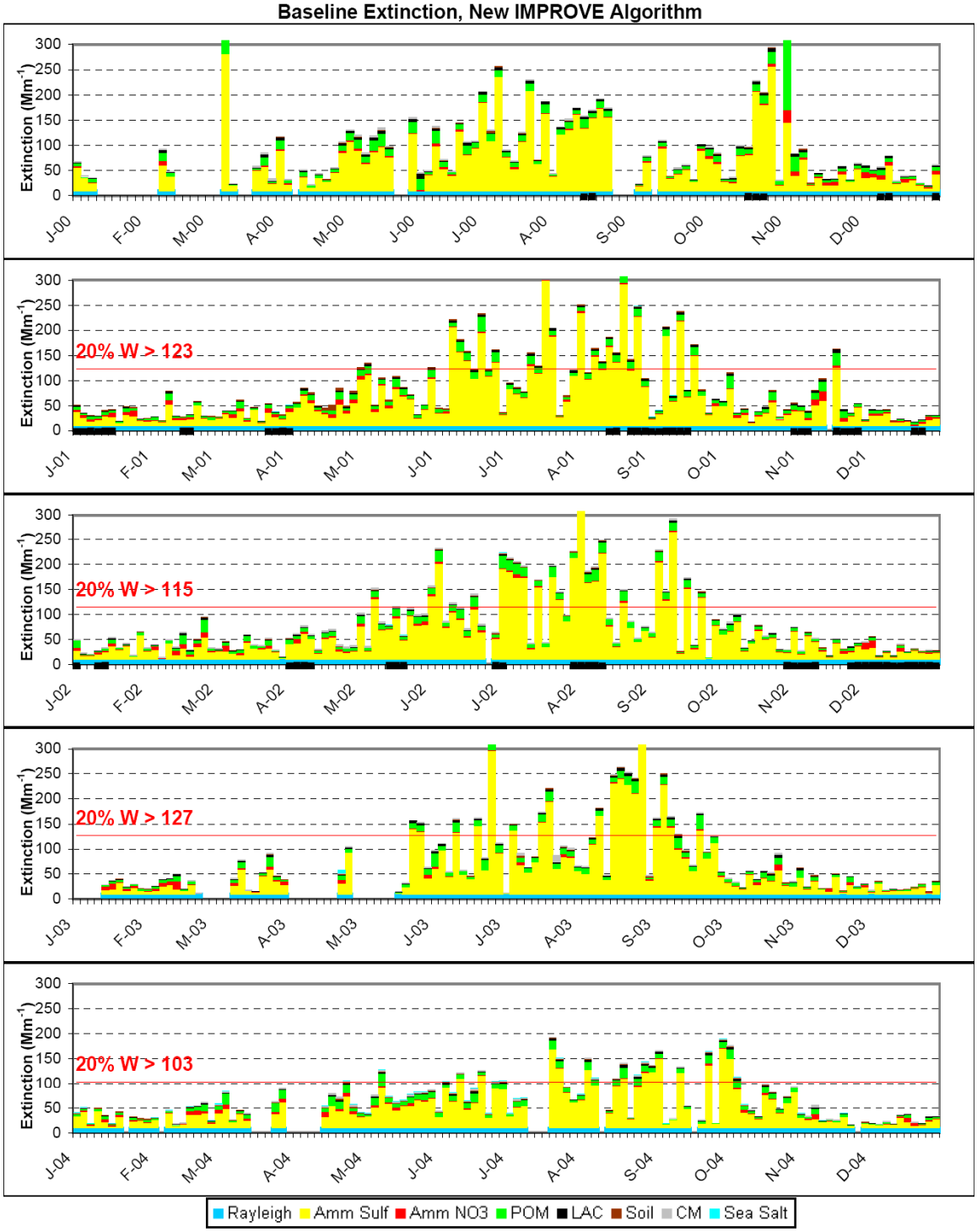
## Shining Rock Wilderness, NC
## Statistics for Substitutions

| SHRO1 | | | | | | |
|---|---|---|---|---|---|---|
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| OC vs. org_H | Slope | 7.22 | 9.38 | 5.28 | 3.77 | 7.74 |
| | Intercept | 0.29 | 0.06 | 0.72 | 0.94 | 0.13 |
| | R2 | 0.86 | 0.92 | 0.55 | 0.36 | 0.98 |
| EC vs. OC | Slope | 0.13 | 0.15 | 0.13 | 0.13 | 0.13 |
| | Intercept | 0.06 | 0.04 | 0.05 | 0.05 | 0.07 |
| | R2 | 0.84 | 0.87 | 0.65 | 0.46 | 0.97 |
| **SHRO1 vs. GRSM1** | | | | | | |
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| SO4 | Slope | 0.81 | 0.47 | 0.69 | 0.80 | 0.77 |
| | Intercept | -0.28 | 0.48 | 0.85 | 0.25 | -0.36 |
| | R2 | 0.75 | 0.42 | 0.68 | 0.61 | 0.82 |
| NO3 | Slope | 0.23 | 0.18 | 0.81 | 0.20 | 0.26 |
| | Intercept | 0.19 | 0.23 | 0.09 | 0.17 | 0.15 |
| | R2 | 0.33 | 0.22 | 0.62 | 0.09 | 0.39 |
| OC | Slope | 0.53 | 0.34 | 0.55 | 0.68 | 0.52 |
| | Intercept | 0.03 | 0.05 | 0.06 | 0.00 | 0.01 |
| | R2 | 0.39 | 0.32 | 0.49 | 0.52 | 0.36 |
| LAC | Slope | 0.43 | 0.56 | 0.73 | 0.83 | 0.38 |
| | Intercept | 0.55 | 0.03 | 0.20 | 0.04 | 0.42 |
| | R2 | 0.32 | 0.58 | 0.60 | 0.58 | 0.28 |
| Soil | Slope | 0.99 | 0.67 | 1.14 | 0.84 | 0.72 |
| | Intercept | 0.01 | 0.11 | -0.08 | 0.08 | 0.08 |
| | R2 | 0.76 | 0.22 | 0.80 | 0.71 | 0.31 |
| CM | Slope | 0.46 | 0.36 | 0.67 | 0.40 | 0.17 |
| | Intercept | -0.14 | -0.09 | -0.60 | 0.15 | 0.36 |
| | R2 | 0.53 | 0.35 | 0.73 | 0.47 | 0.23 |
| Sea Salt | Slope | 0.00 | 0.02 | 0.37 | -0.03 | 0.00 |
| | Intercept | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 |
| | R2 | 0.00 | 0.04 | 0.05 | 0.00 | 0.00 |

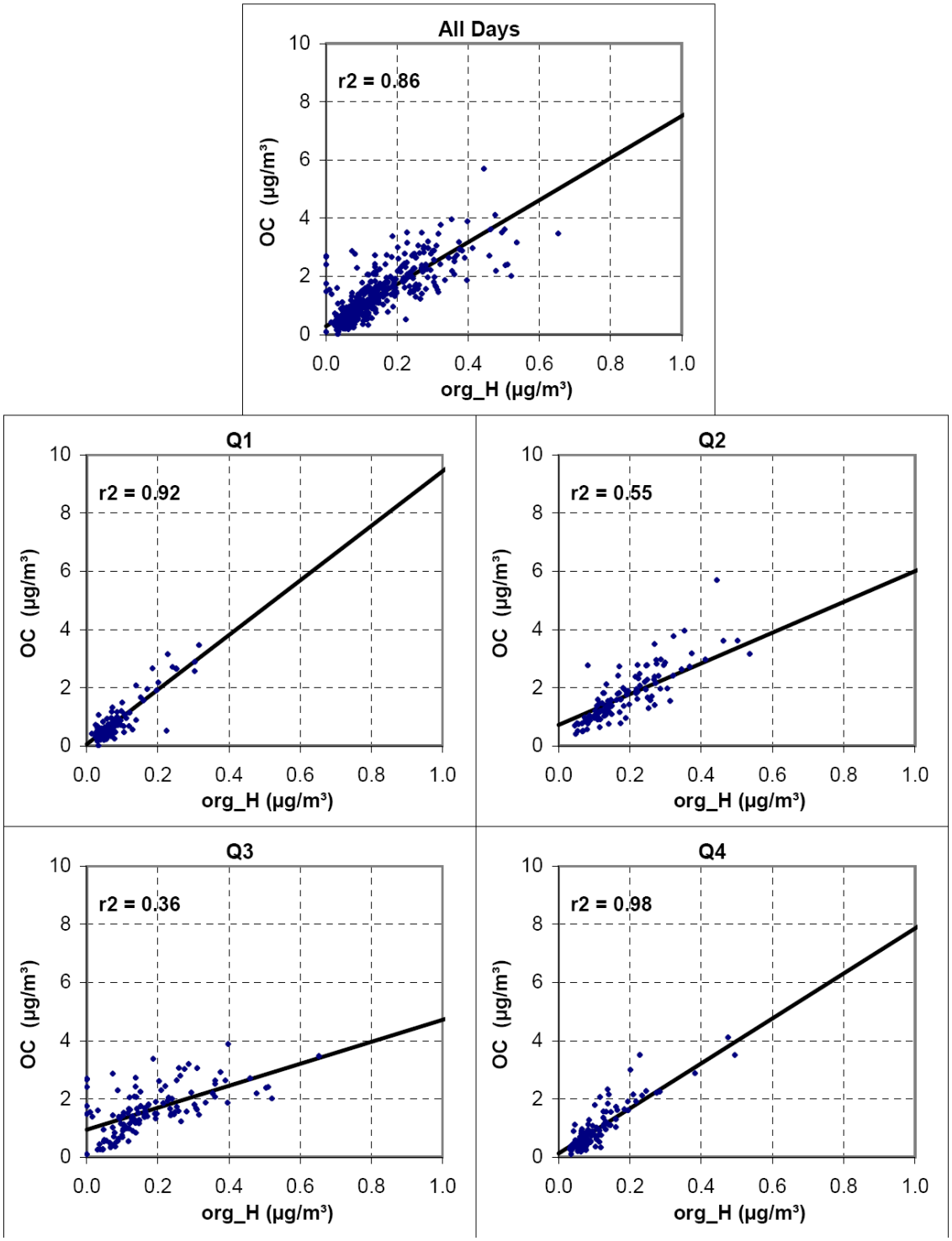
**SHRO1 (GRSM1 donor)**
**Baseline Extinction, New IMPROVE Algorithm**



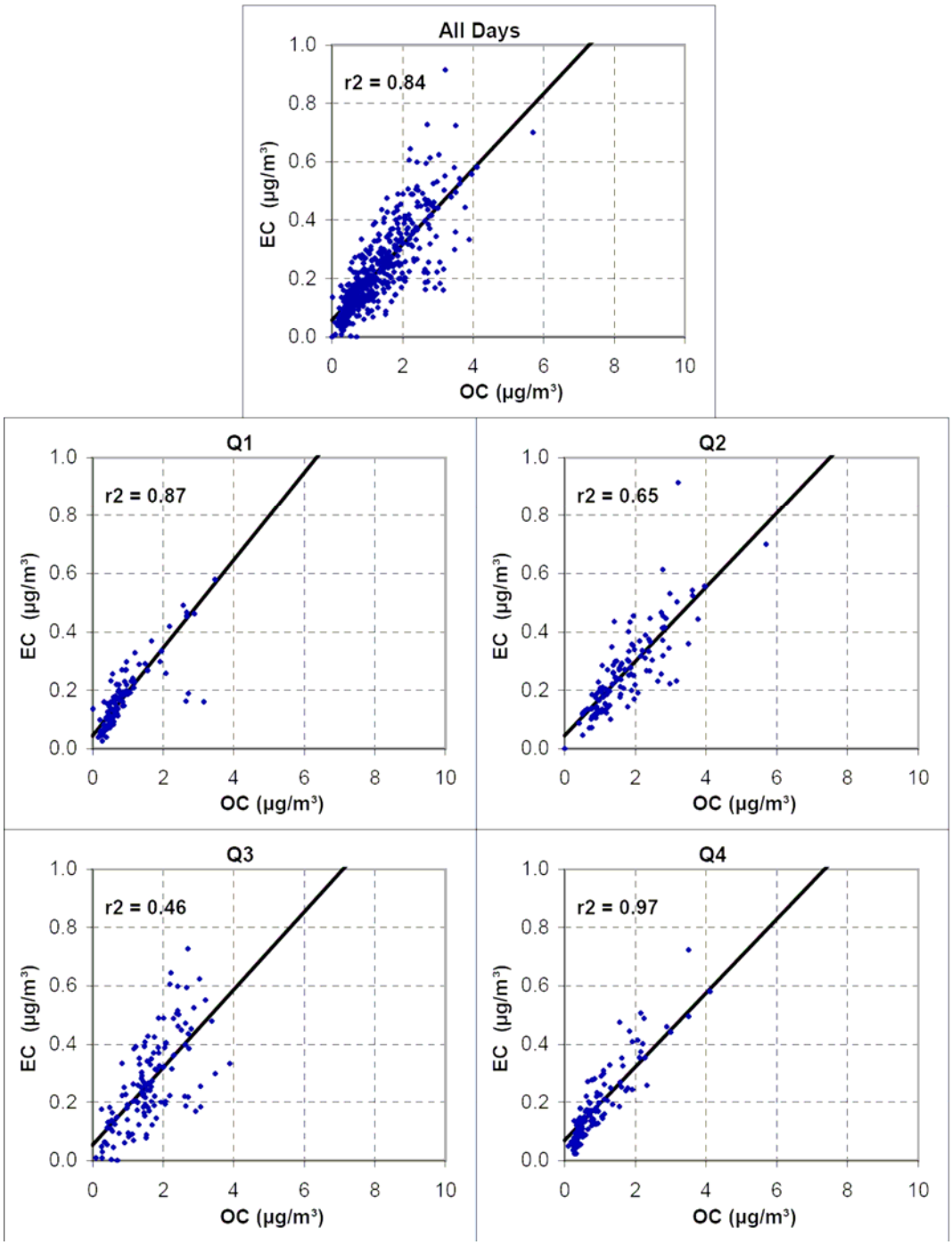
**SHRO1 (GRSM1 donor)**
**Baseline Extinction, New IMPROVE Algorithm**



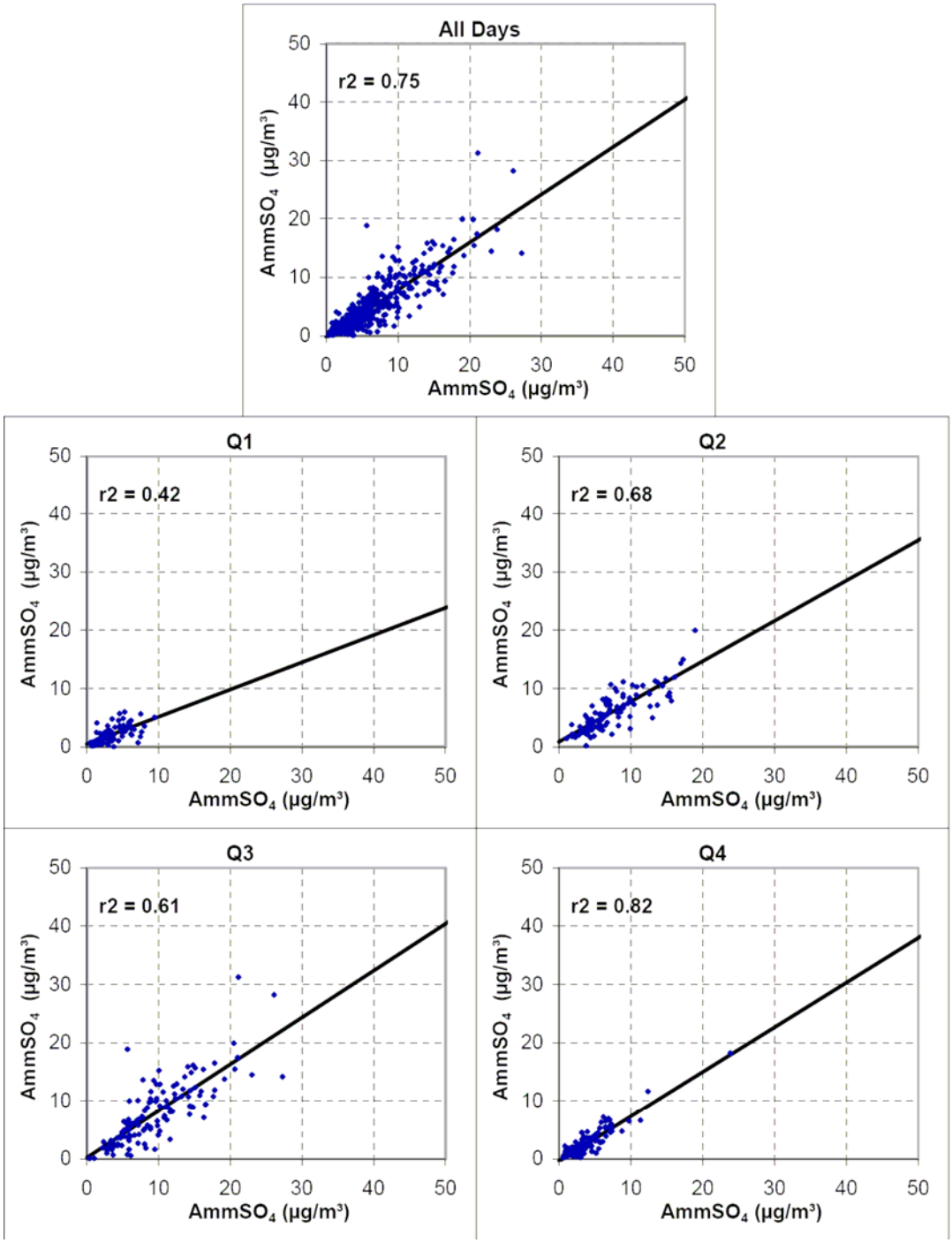
# SHRO1
# OC vs. org_H



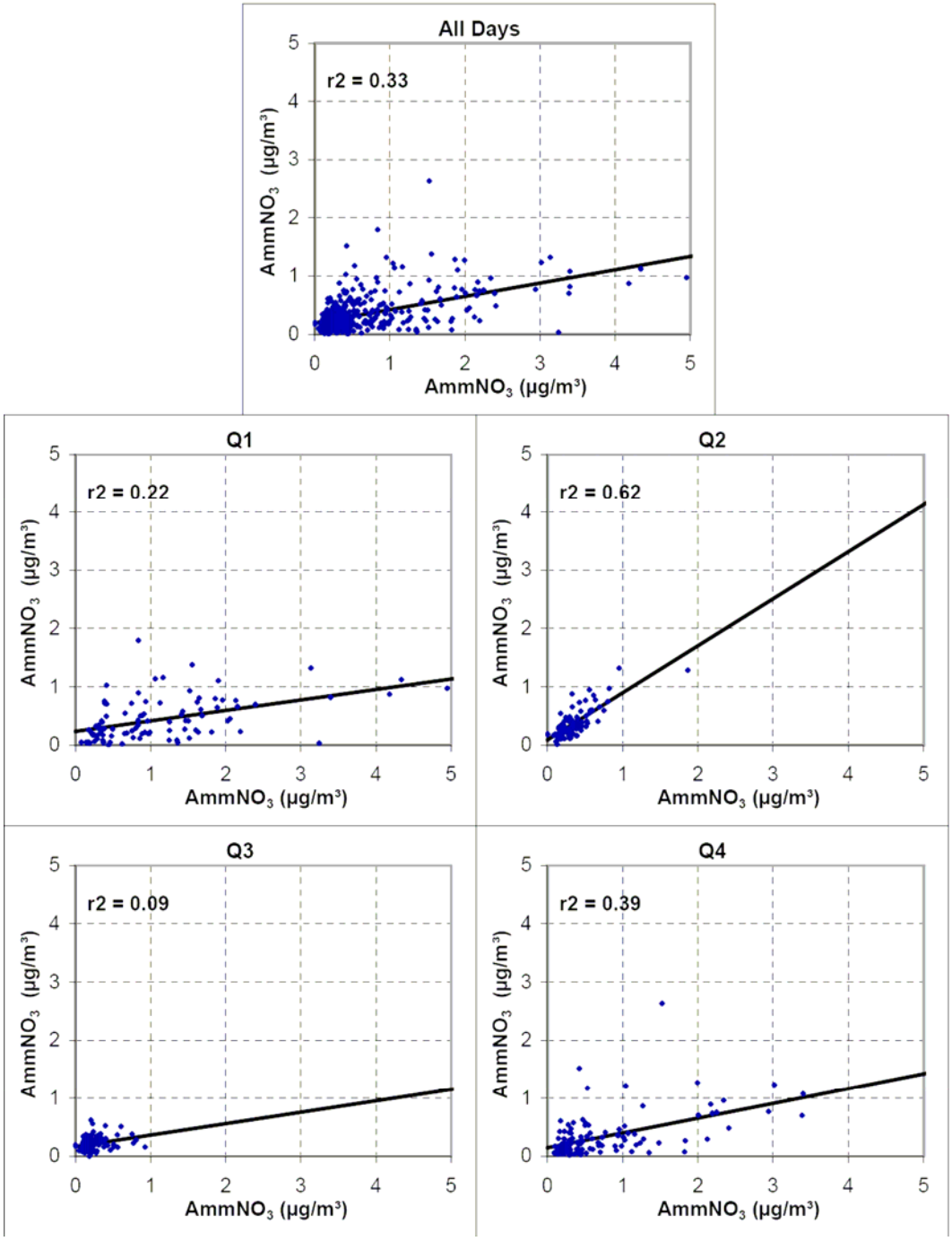
## SHRO1
## EC vs. OC



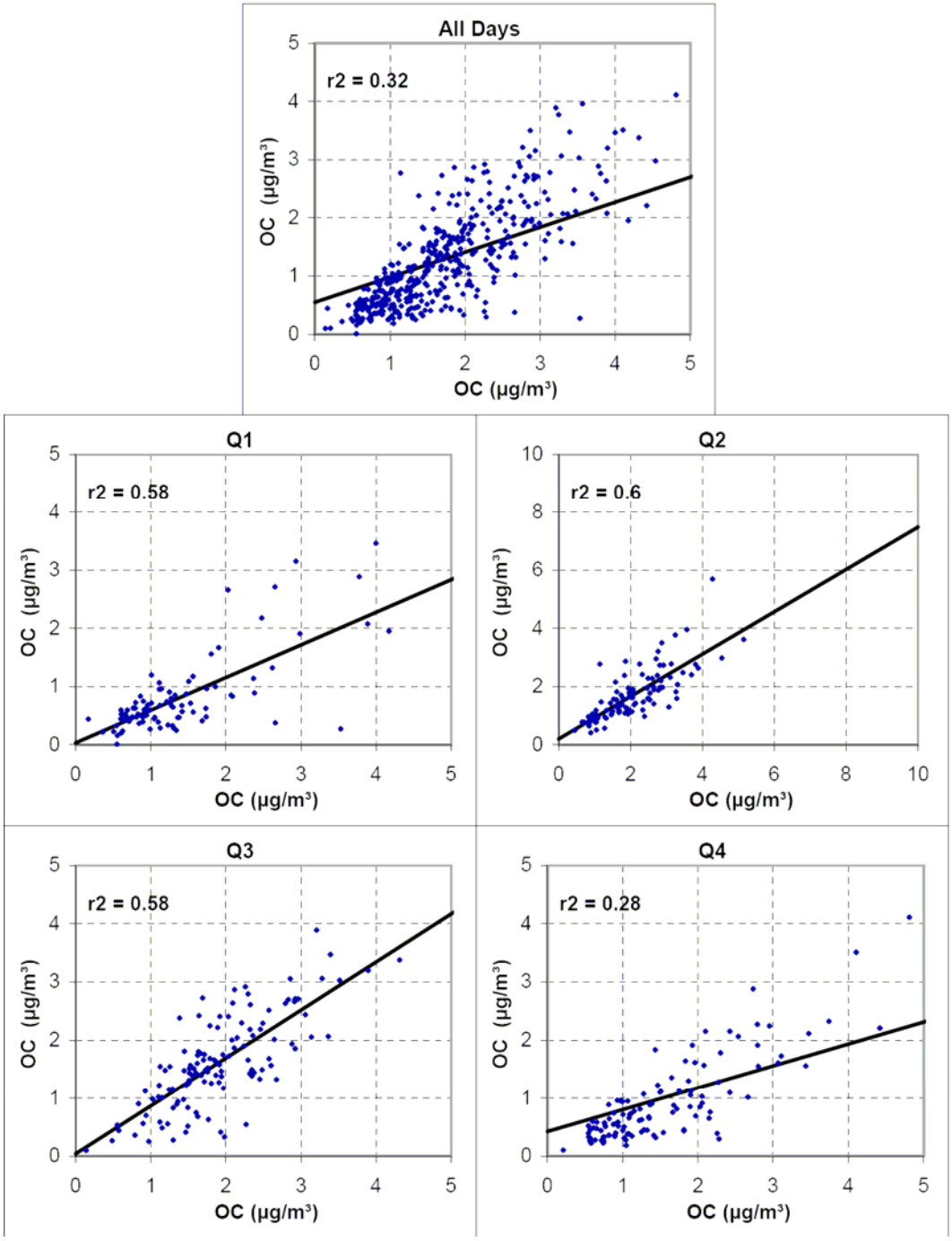
## SHRO1 vs. GRSM1
## Ammonium Sulfate



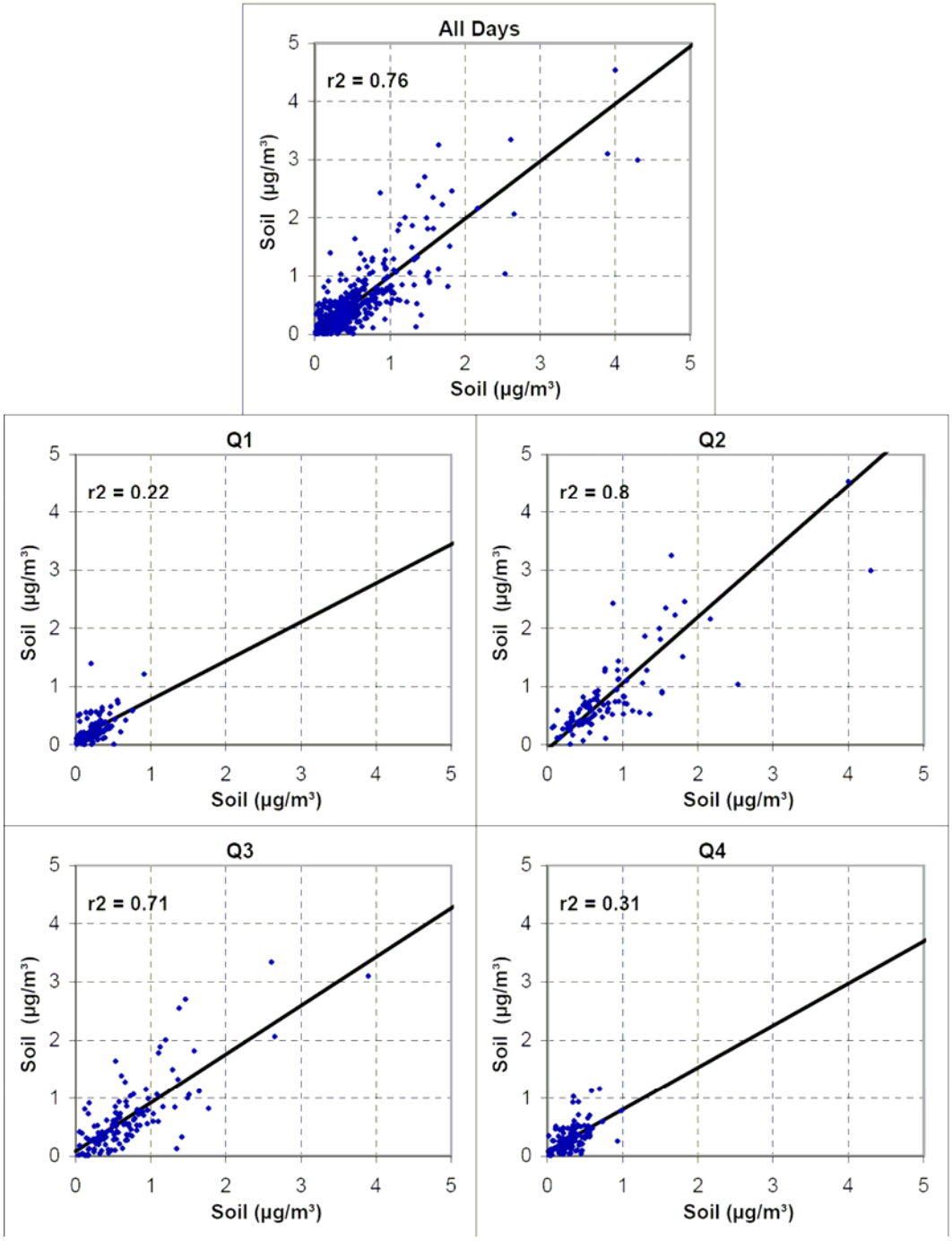
## SHRO1 vs. GRSM1
## Ammonium Nitrate



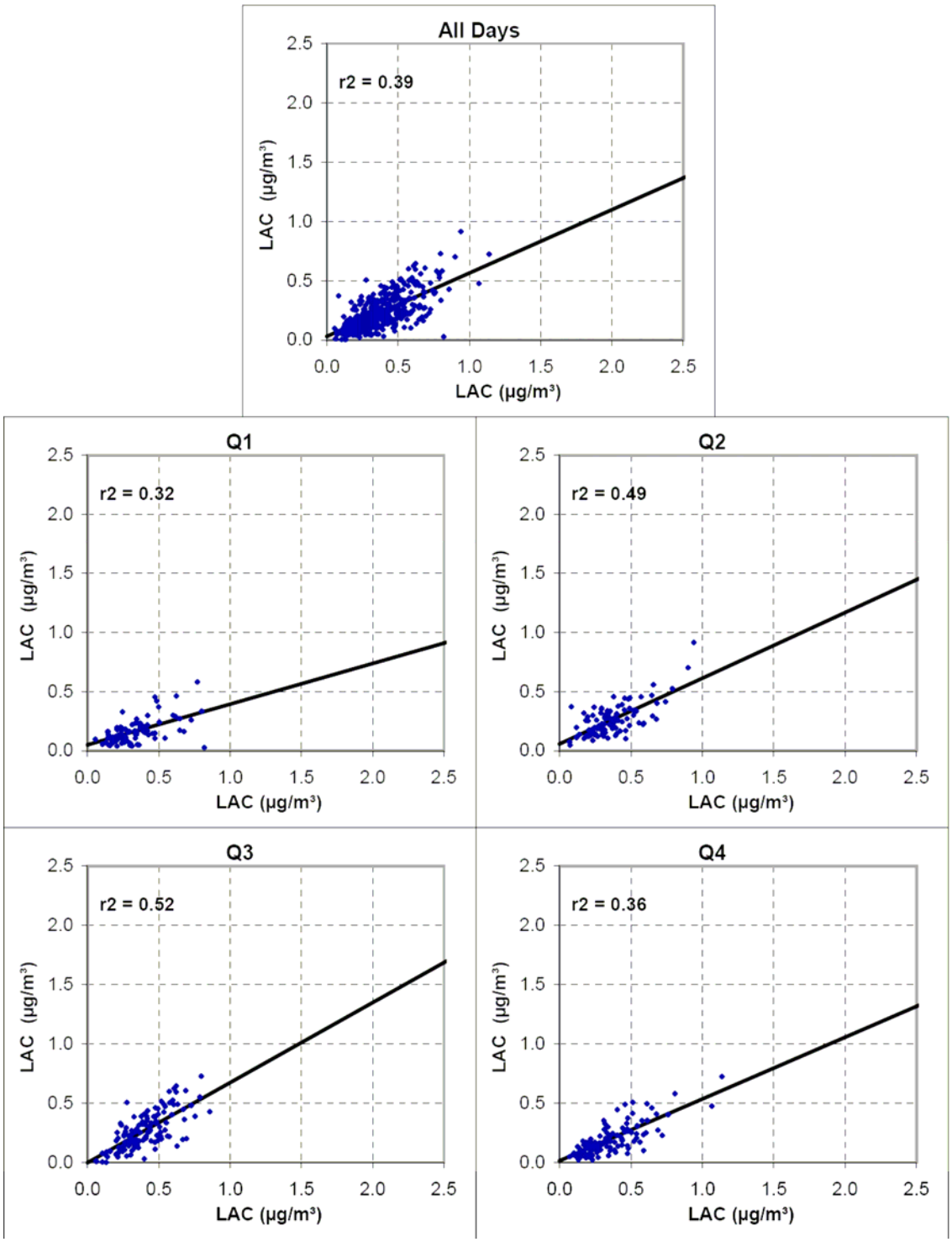
## SHRO1 vs. GRSM1
## Organic Carbon



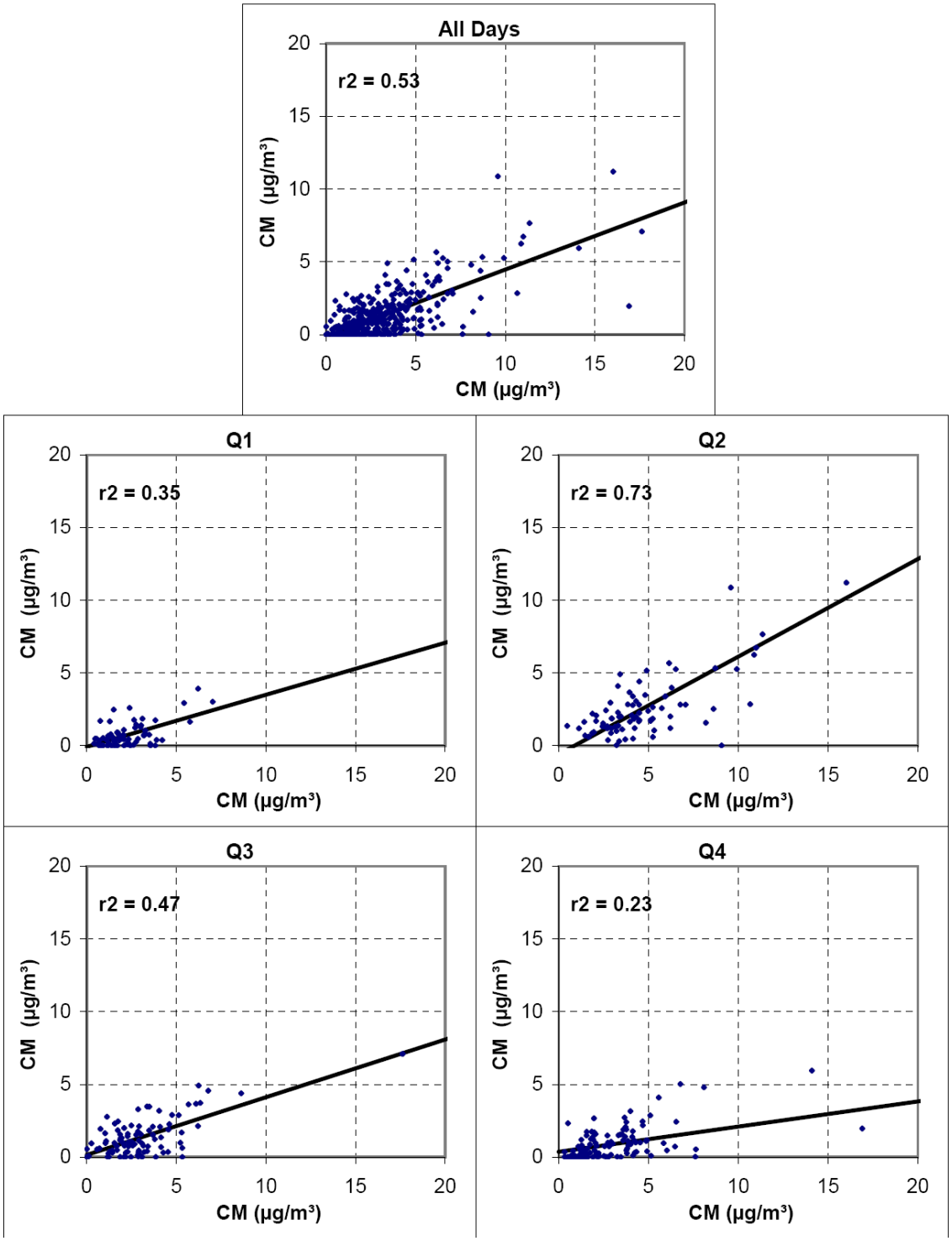
## SHRO1 vs. GRSM1
## Soil



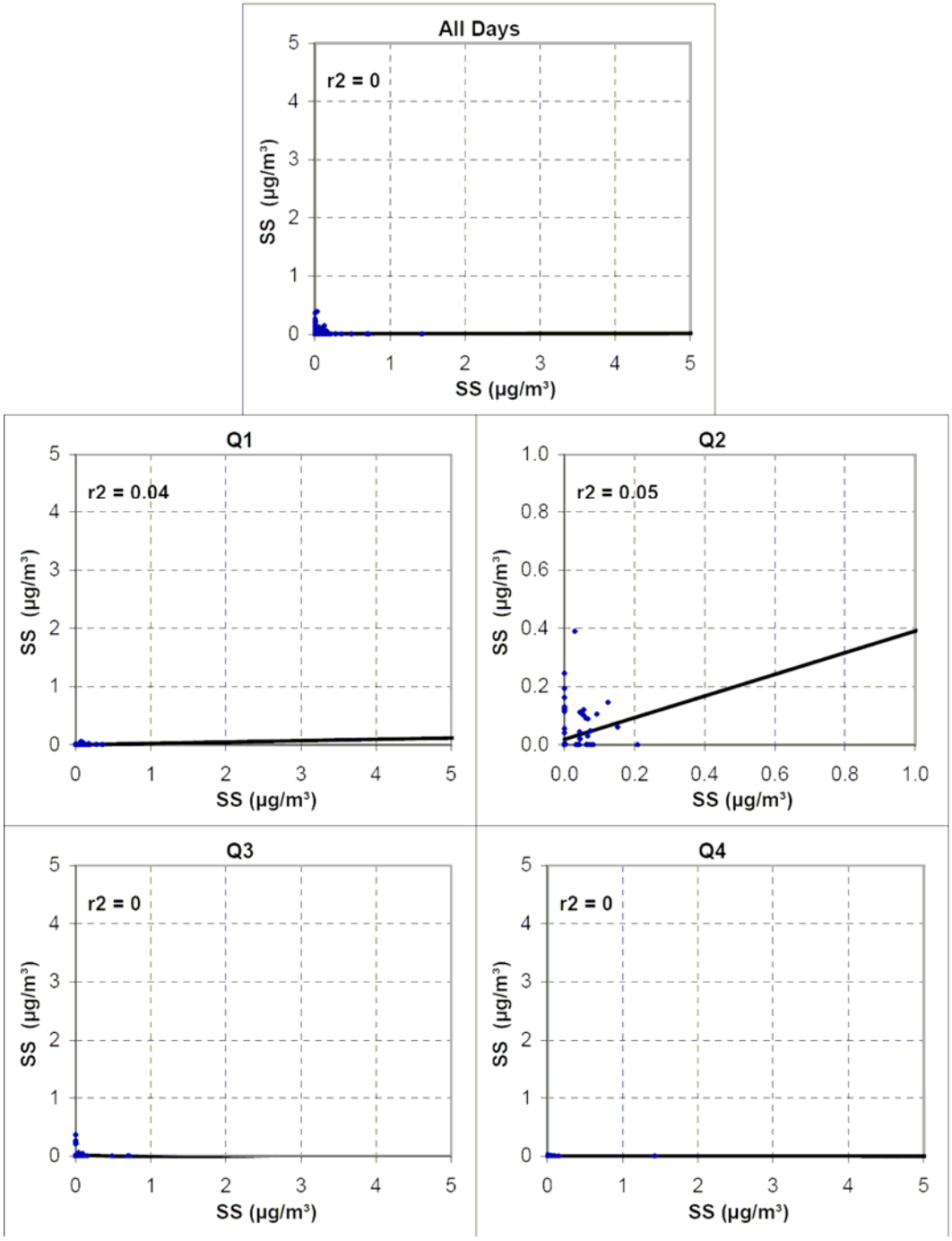
## SHRO1 vs. GRSM1
## Light Absorbing Carbon



## SHRO1 vs. GRSM1
## Coarse Mass



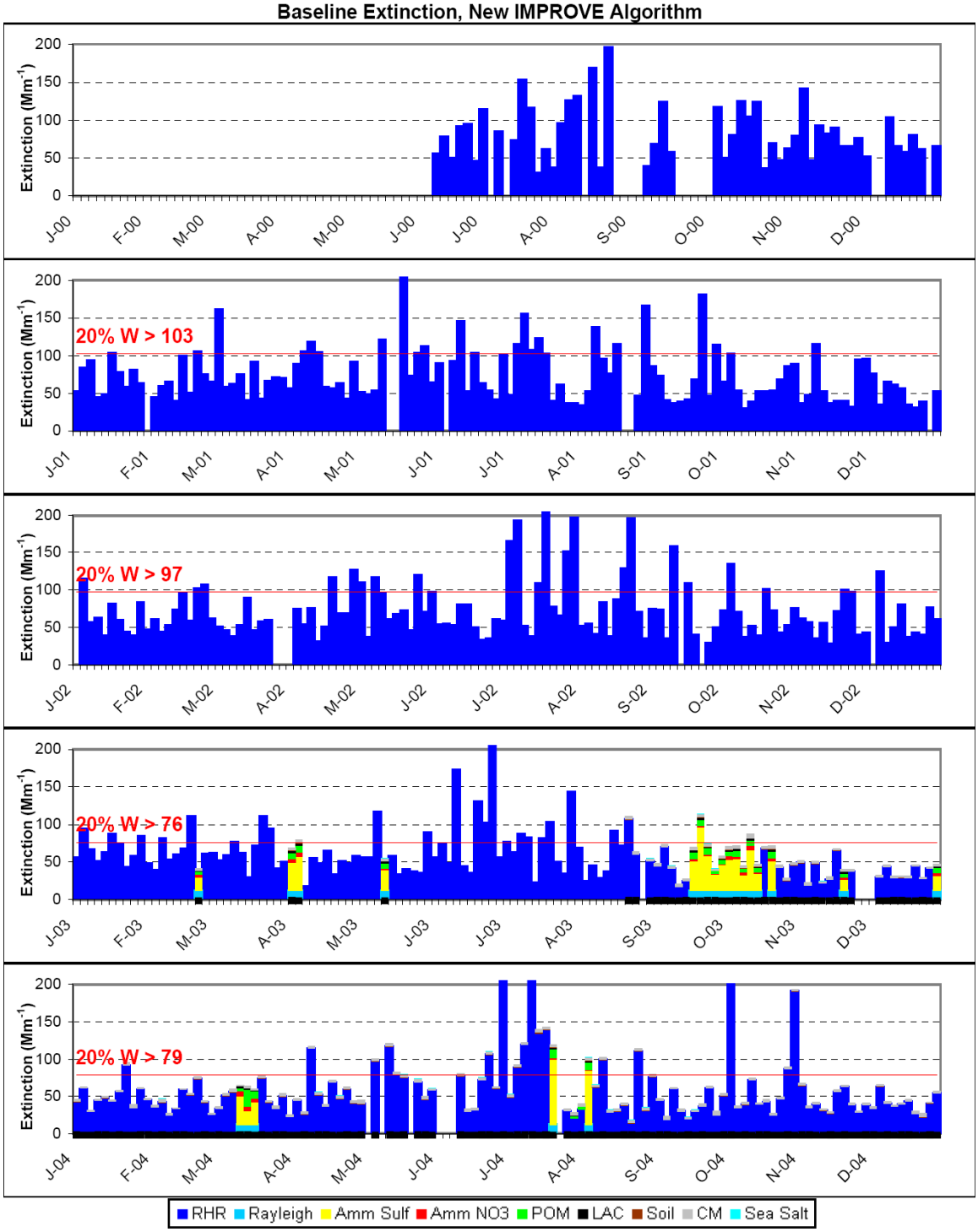
## SHRO1 vs. GRSM1
## Sea Salt



## Swanquarter, NC
## Statistics for Substitutions

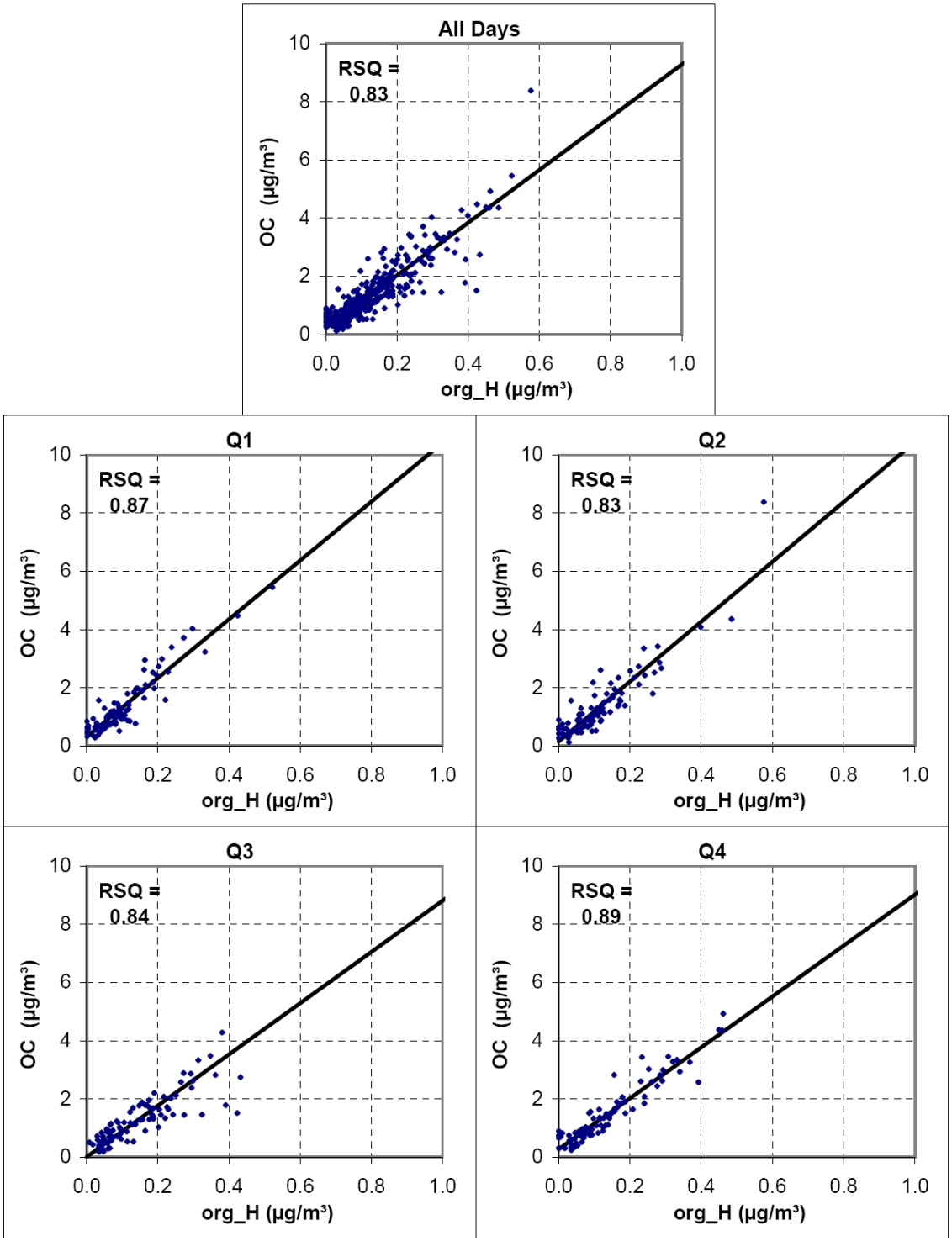
| SWAN1 | | | | | | |
|---|---|---|---|---|---|---|
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| OC vs. org_H | Slope | 9.05 | 10.09 | 10.29 | 8.80 | 8.76 |
| | Intercept | 0.23 | 0.32 | 0.16 | 0.01 | 0.26 |
| | R2 | 0.83 | 0.87 | 0.83 | 0.84 | 0.89 |
| EC vs. OC | Slope | 0.13 | 0.17 | 0.11 | 0.09 | 0.19 |
| | Intercept | 0.08 | 0.09 | 0.08 | 0.09 | 0.03 |
| | R2 | 0.58 | 0.69 | 0.69 | 0.48 | 0.76 |
| **SWAN1 v. ROMA1** | | | | | | |
| Components | KT Stats | All | 1 | 2 | 3 | 4 |
| SO4 | Slope | 0.66 | 0.61 | 0.66 | 0.65 | 0.62 |
| | Intercept | 1.36 | 1.33 | 2.11 | 1.52 | 1.01 |
| | R2 | 0.40 | 0.35 | 0.29 | 0.43 | 0.39 |
| NO3 | Slope | 0.82 | 0.70 | 0.79 | 0.59 | 0.69 |
| | Intercept | 0.13 | 0.34 | 0.09 | 0.11 | 0.23 |
| | R2 | 0.34 | 0.23 | 0.44 | 0.26 | 0.21 |
| OC | Slope | 0.45 | 0.44 | 0.47 | 0.54 | 0.45 |
| | Intercept | 0.07 | 0.09 | 0.09 | 0.04 | 0.05 |
| | R2 | 0.38 | 0.39 | 0.37 | 0.32 | 0.35 |
| LAC | Slope | 0.35 | 0.35 | 0.35 | 0.60 | 0.30 |
| | Intercept | 0.52 | 0.46 | 0.63 | 0.21 | 0.55 |
| | R2 | 0.19 | 0.31 | 0.21 | 0.17 | 0.18 |
| Soil | Slope | 0.66 | 0.62 | 0.47 | 0.92 | 0.47 |
| | Intercept | 0.10 | 0.06 | 0.28 | 0.01 | 0.11 |
| | R2 | 0.62 | 0.43 | 0.49 | 0.79 | 0.39 |
| CM | Slope | 0.40 | 0.58 | 0.29 | 0.40 | 0.51 |
| | Intercept | 3.28 | 2.36 | 3.88 | 3.71 | 2.96 |
| | R2 | 0.31 | 0.39 | 0.18 | 0.34 | 0.25 |
| Sea Salt | Slope | 0.00 | 0.00 | 0.00 | -0.01 | 0.00 |
| | Intercept | 0.01 | 0.00 | 0.02 | 0.02 | 0.00 |
| | R2 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 |

**SWAN1 (ROMA1 donor)**
**Baseline Extinction, New IMPROVE Algorithm**

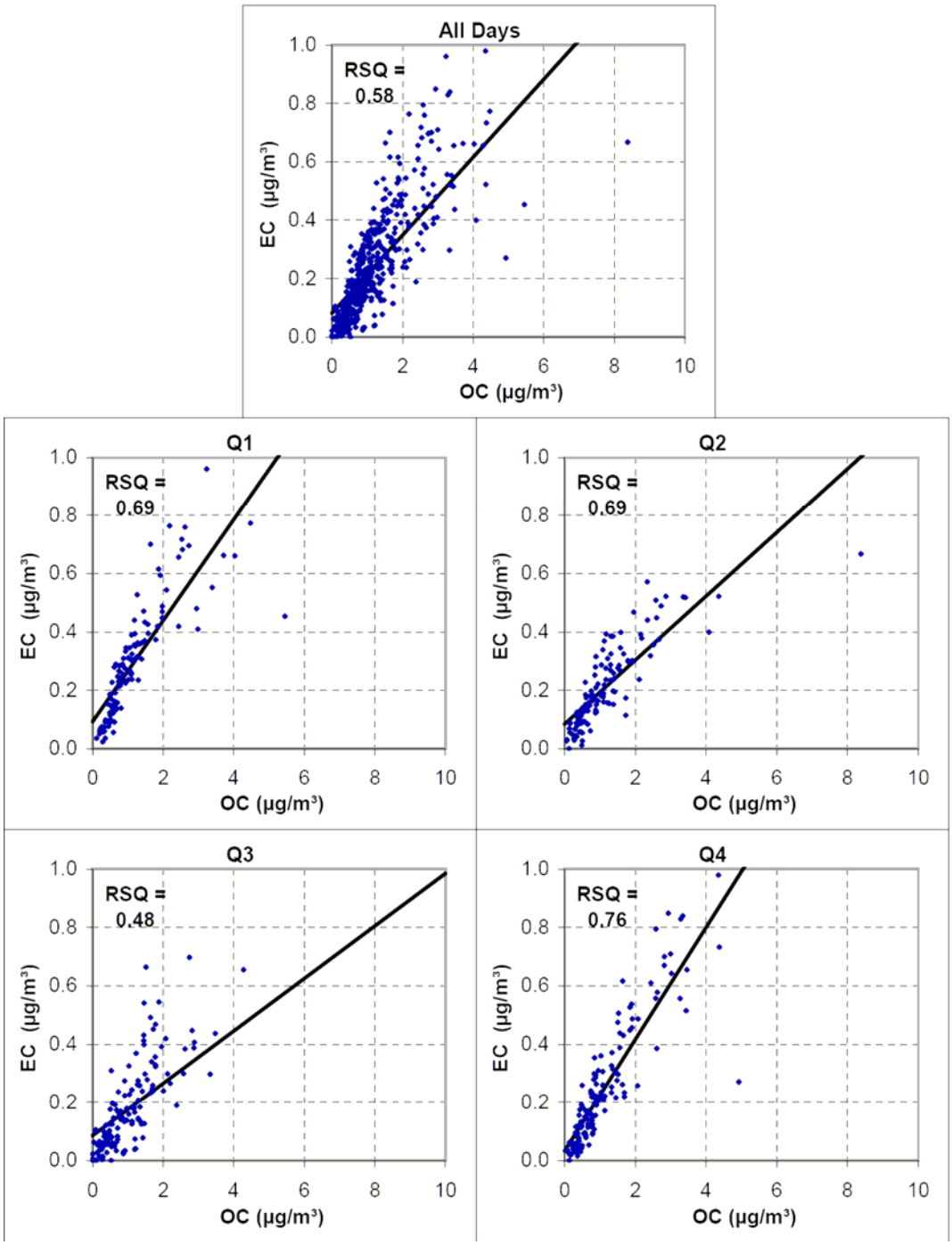


SWAN1 (ROMA1 donor)
Baseline Extinction, New IMPROVE Algorithm
Extinction (Mm-1)
20% W > 103
20% W > 97
20% W > 76
20% W > 79
J-00 F-00 M-00 A-00 M-00 J-00 J-00 A-00 S-00 O-00 N-00 D-00
J-01 F-01 M-01 A-01 M-01 J-01 J-01 A-01 S-01 O-01 N-01 D-01
J-02 F-02 M-02 A-02 M-02 J-02 J-02 A-02 S-02 O-02 N-02 D-02
J-03 F-03 M-03 A-03 M-03 J-03 J-03 A-03 S-03 O-03 N-03 D-03
J-04 F-04 M-04 A-04 M-04 J-04 J-04 A-04 S-04 O-04 N-04 D-04
Rayleigh
Amm Sulf
Amm NO3
POM
LAC
Soil
CM
Sea Salt

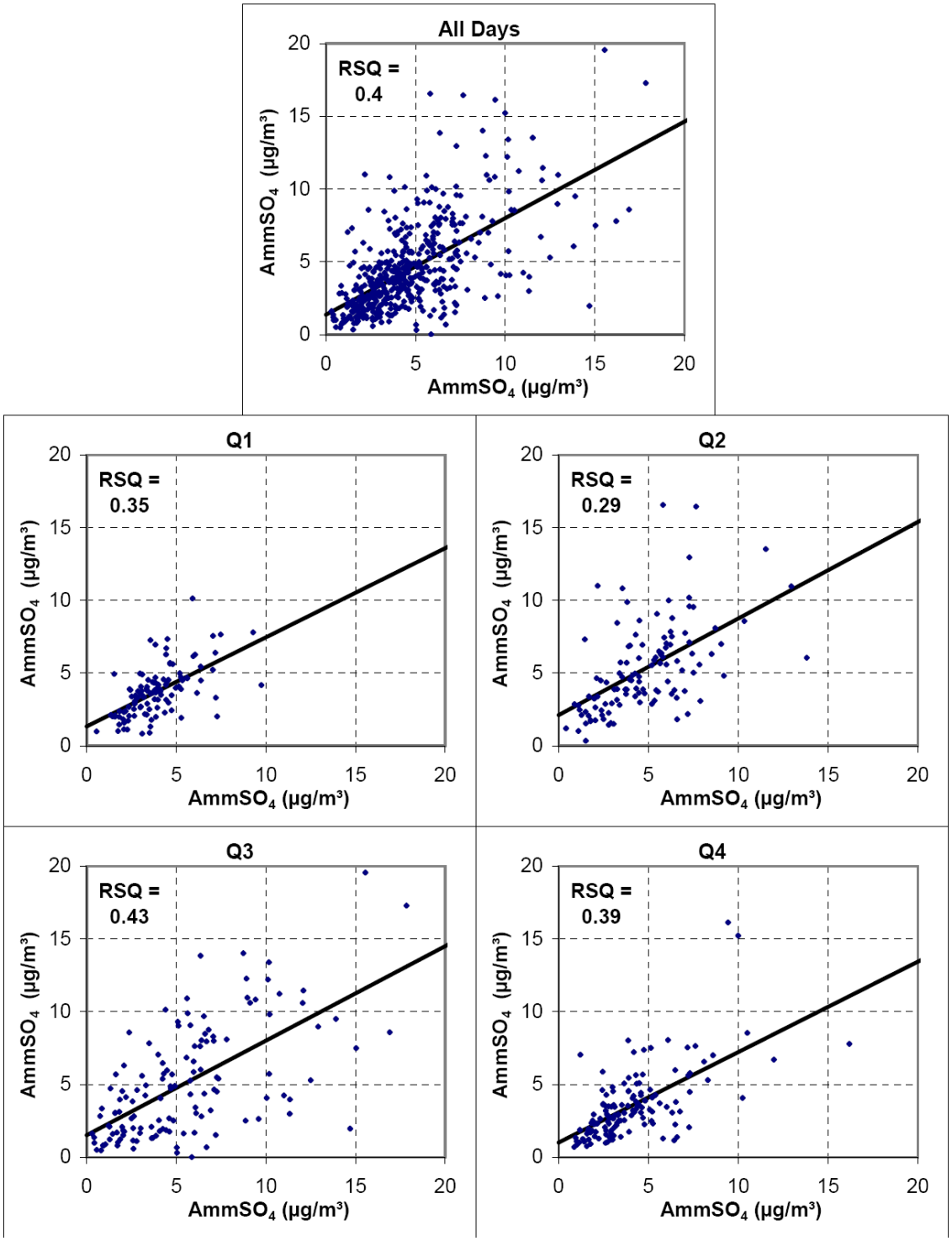
## SWAN1
## OC vs. org_H



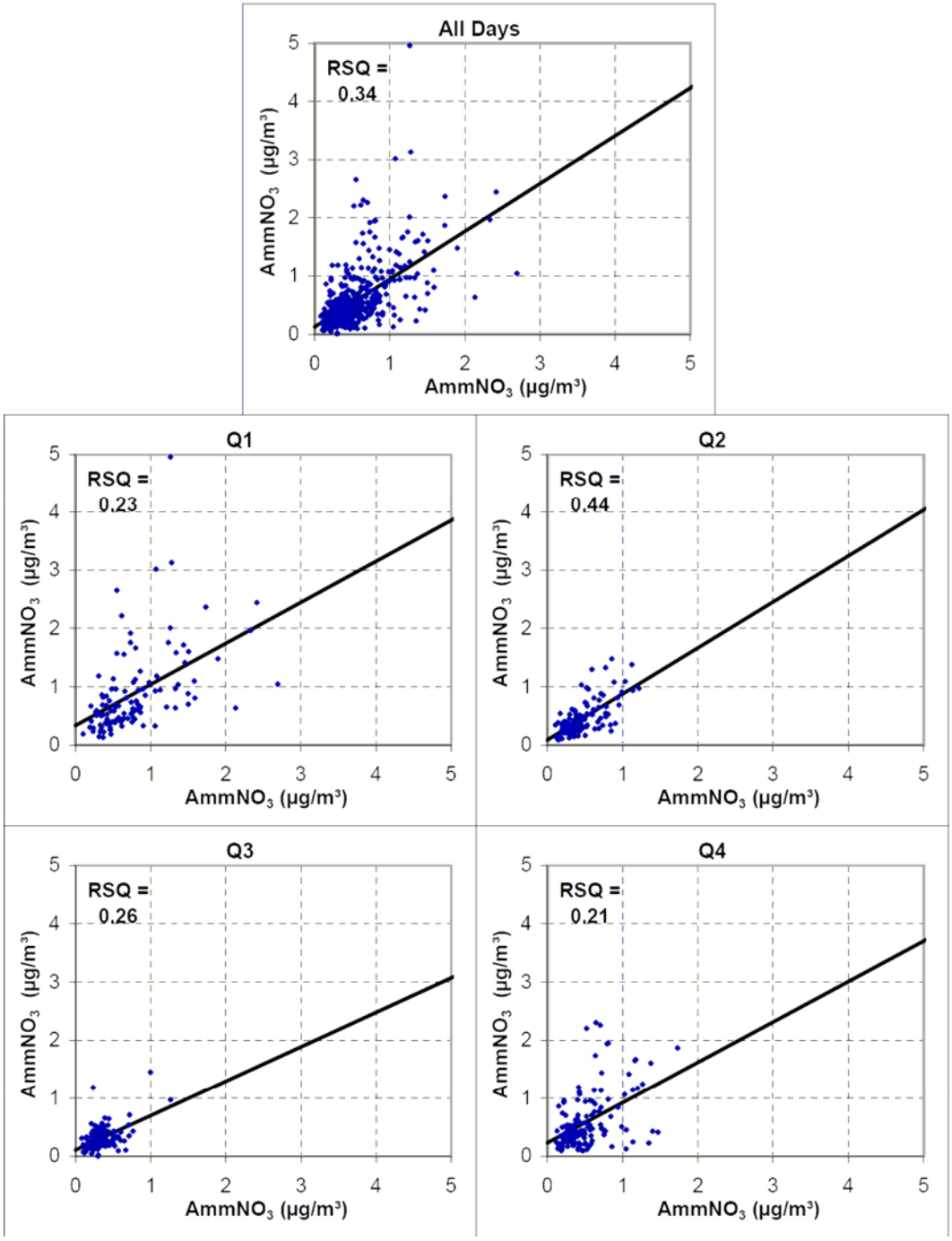
## SWAN1
## EC vs. OC

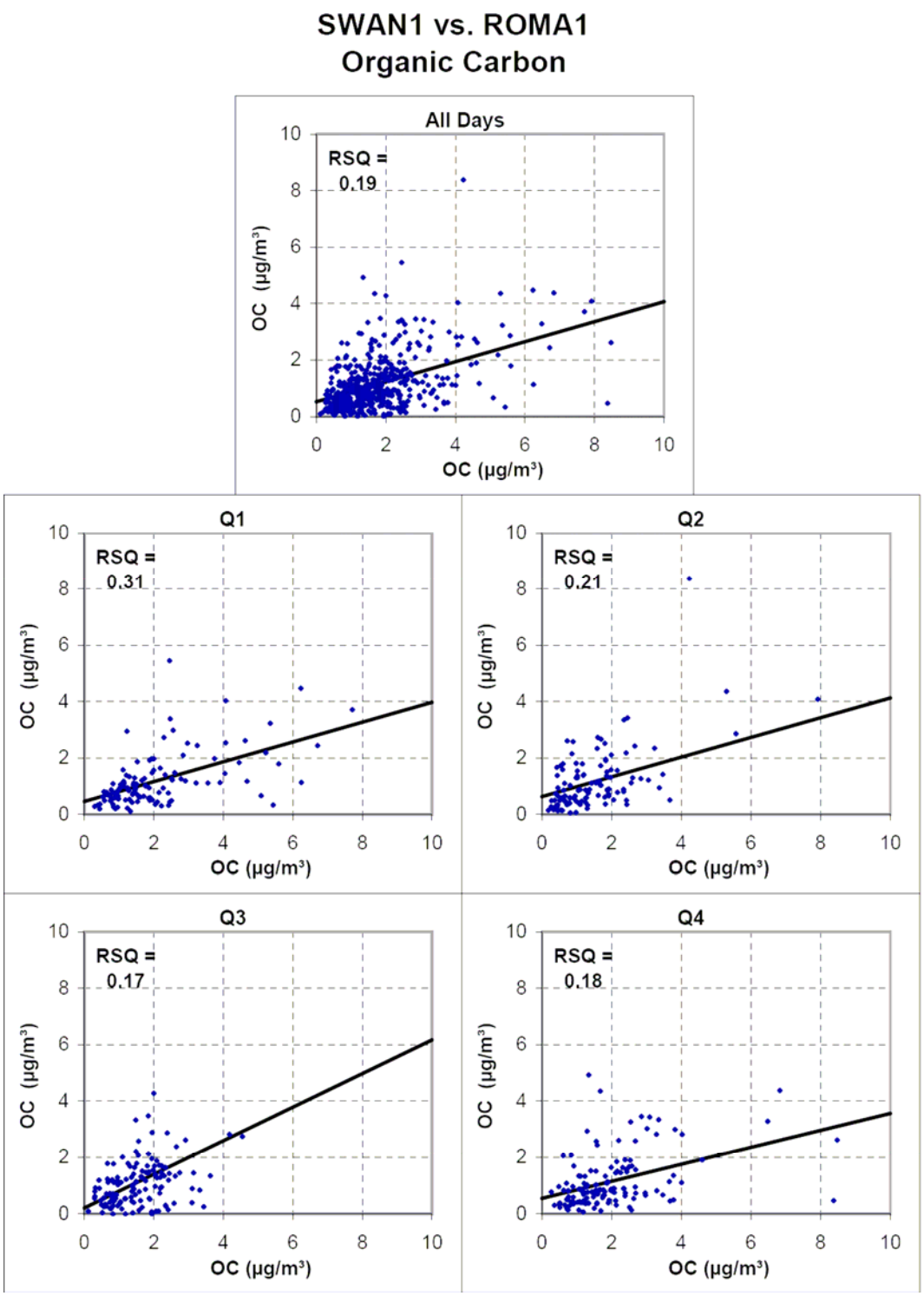


## SWAN1 vs. ROMA1
## Ammonium Sulfate

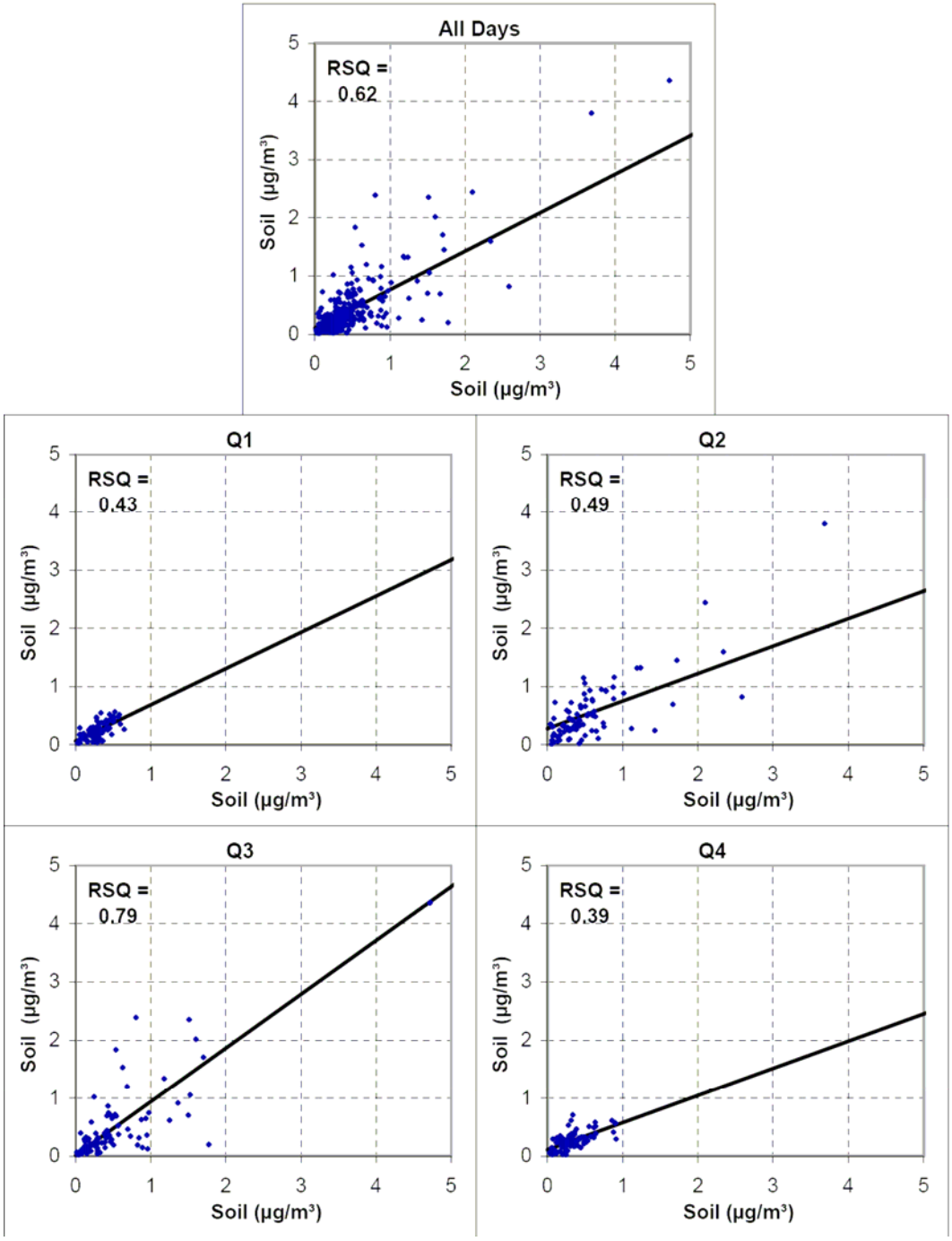


## SWAN1 vs. ROMA1
## Ammonium Nitrate

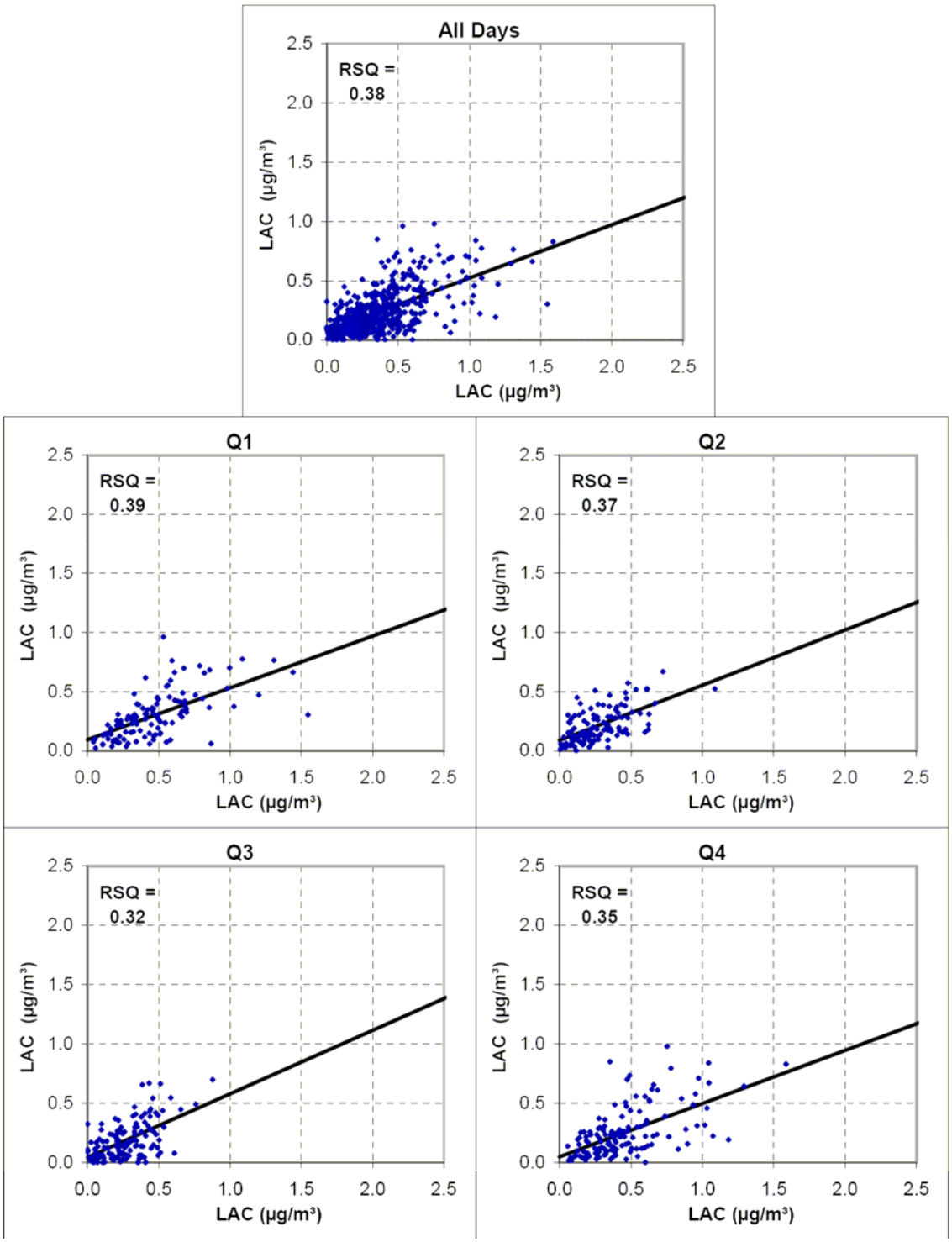



SWAN1 vs. ROMA1
Organic Carbon
All Days
RSQ =
0.19
Q1
RSQ =
0.31
Q2
RSQ =
0.21
Q3
RSQ =
0.17
Q4
RSQ =
0.18
OC (µg/m³)
OC (µg/m³)

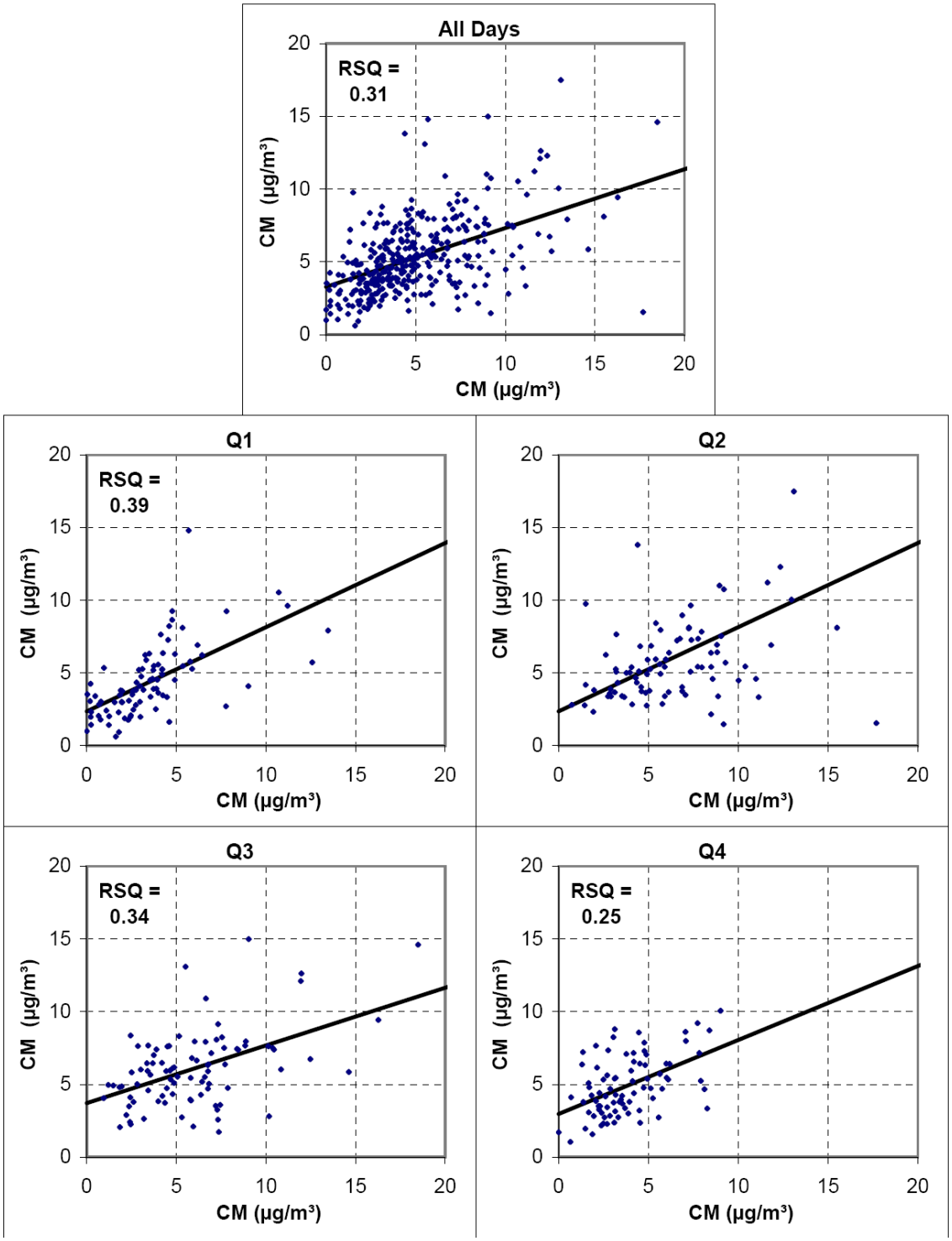
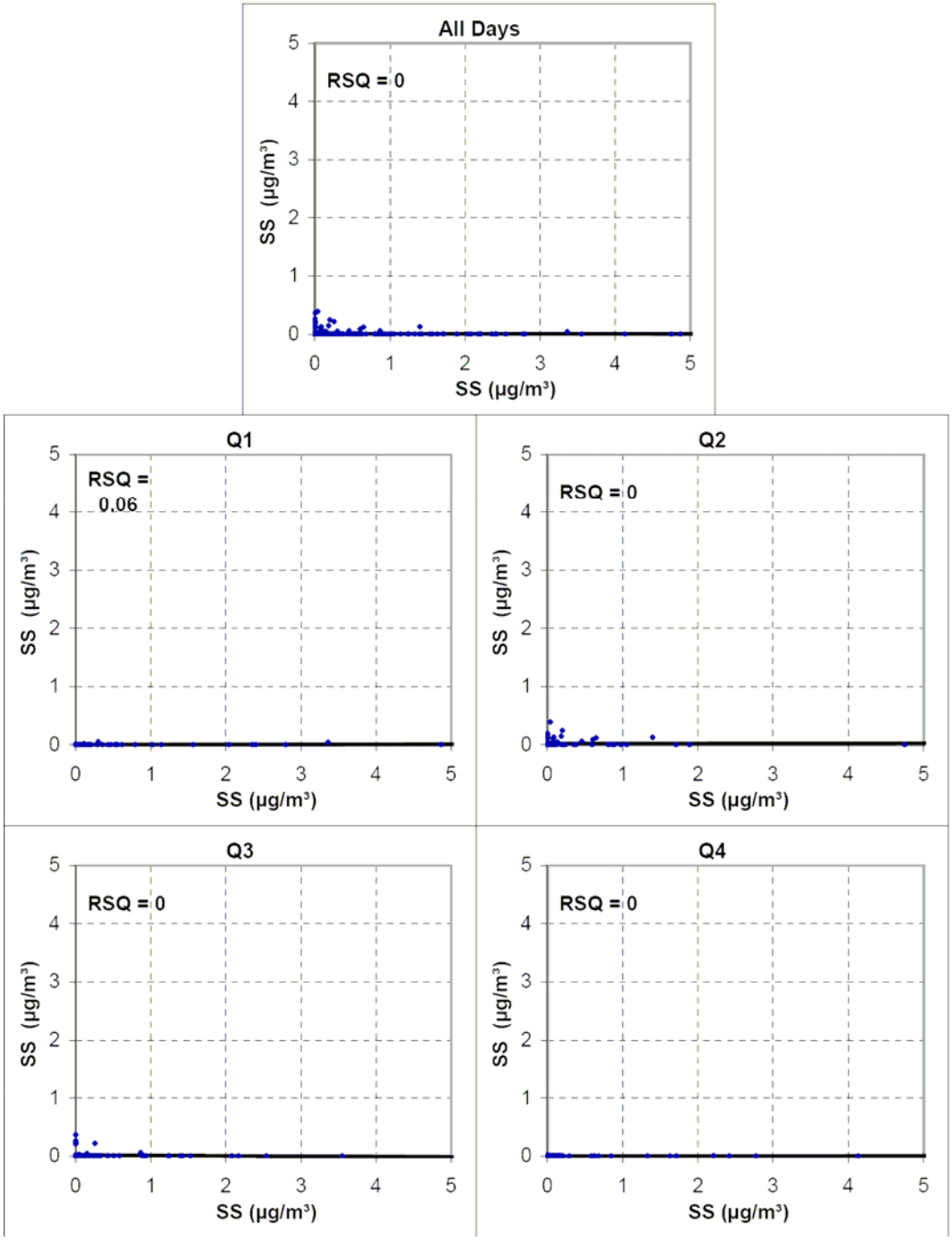
## SWAN1 vs. ROMA1
## Soil



## SWAN1 vs. ROMA1
## Light Absorbing Carbon



## SWAN1 vs. ROMA1
## Coarse Mass



## SWAN1 vs. ROMA1
## Sea Salt