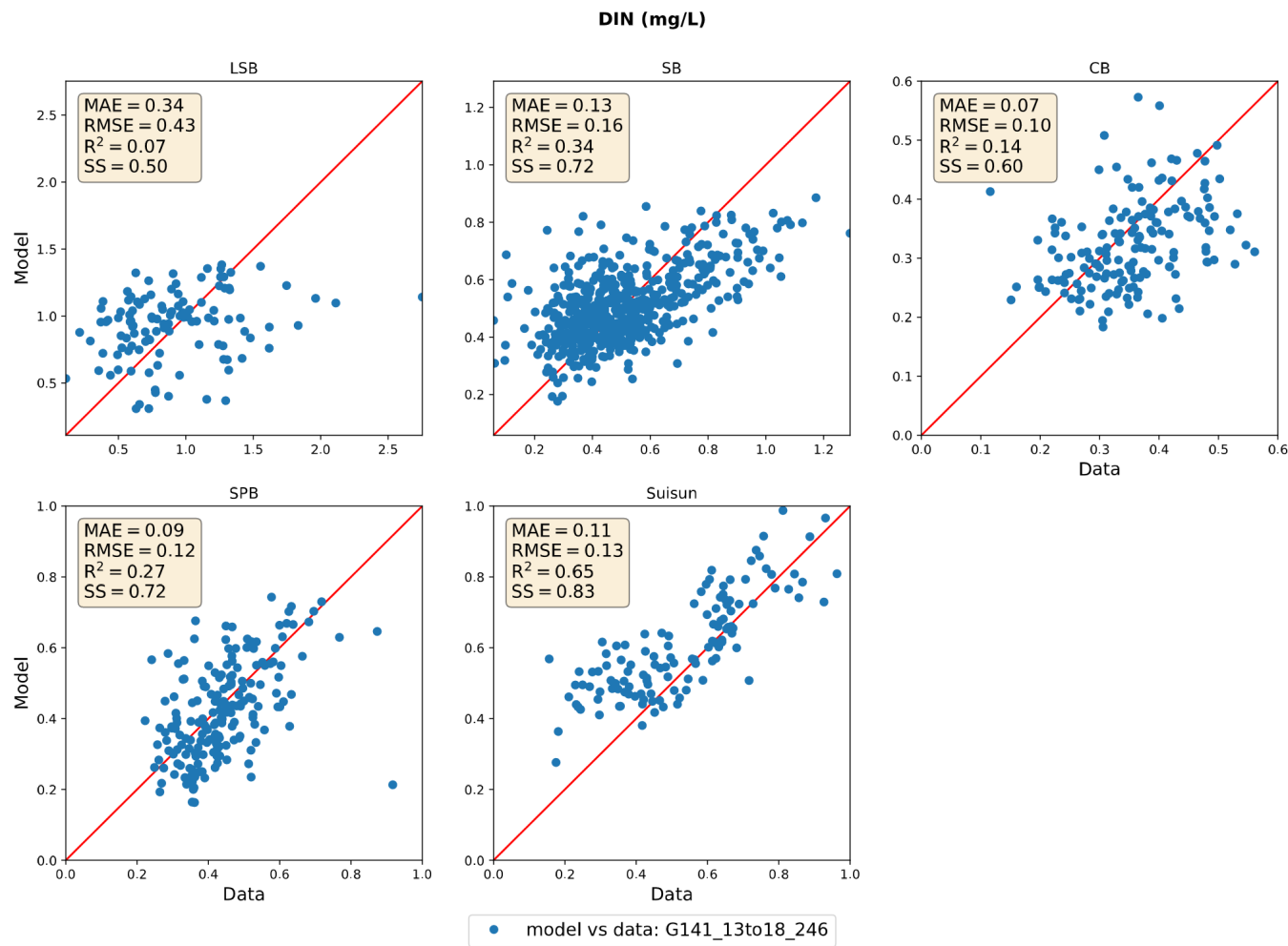


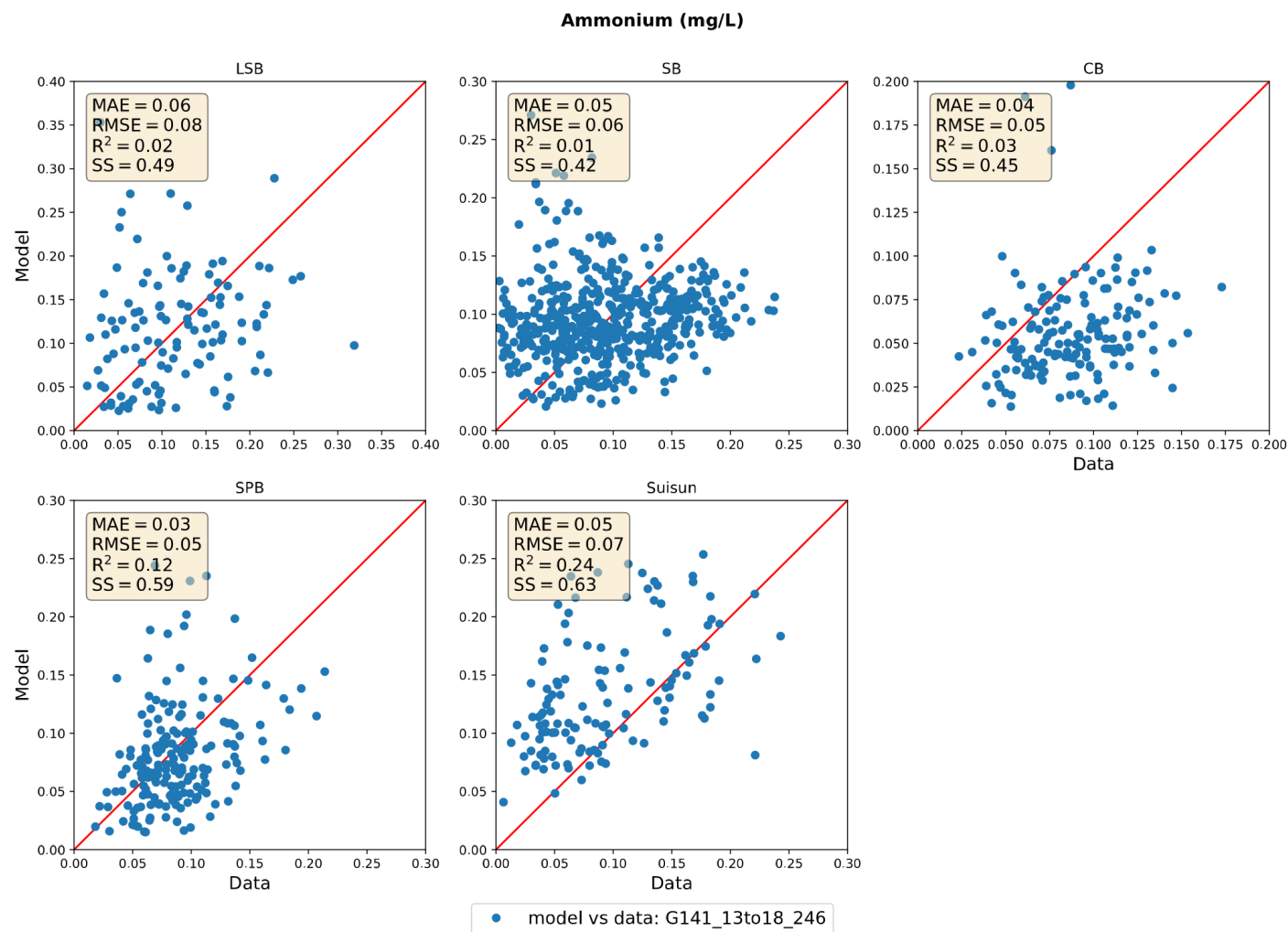
## Appendix F: Scatter Plots Showing Comparisons for Model State Variables and Derived Metrics

## Appendix F1: Aggregated Model Paired with Data



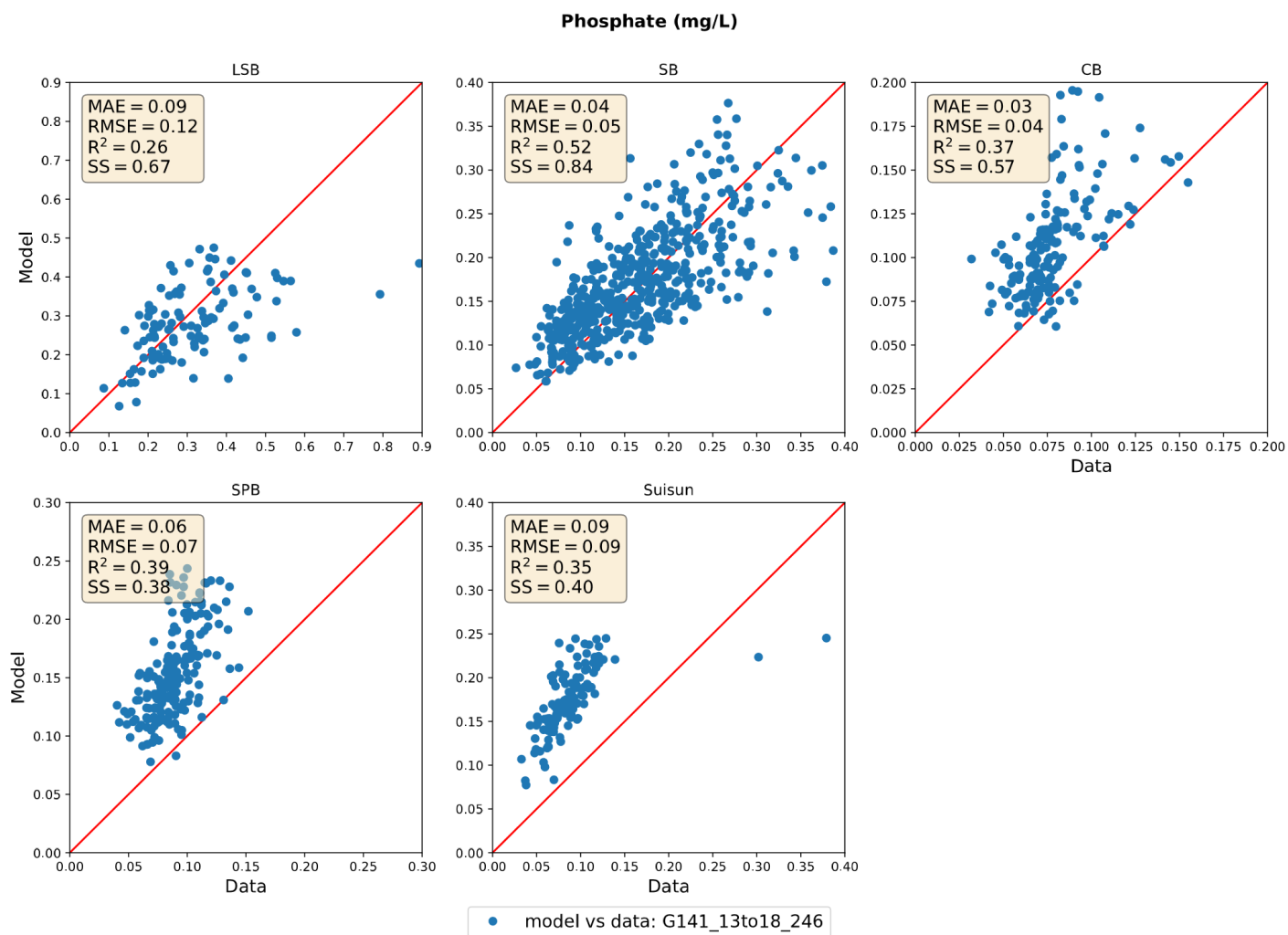
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay

**Figure F1.1. Predicted DIN concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



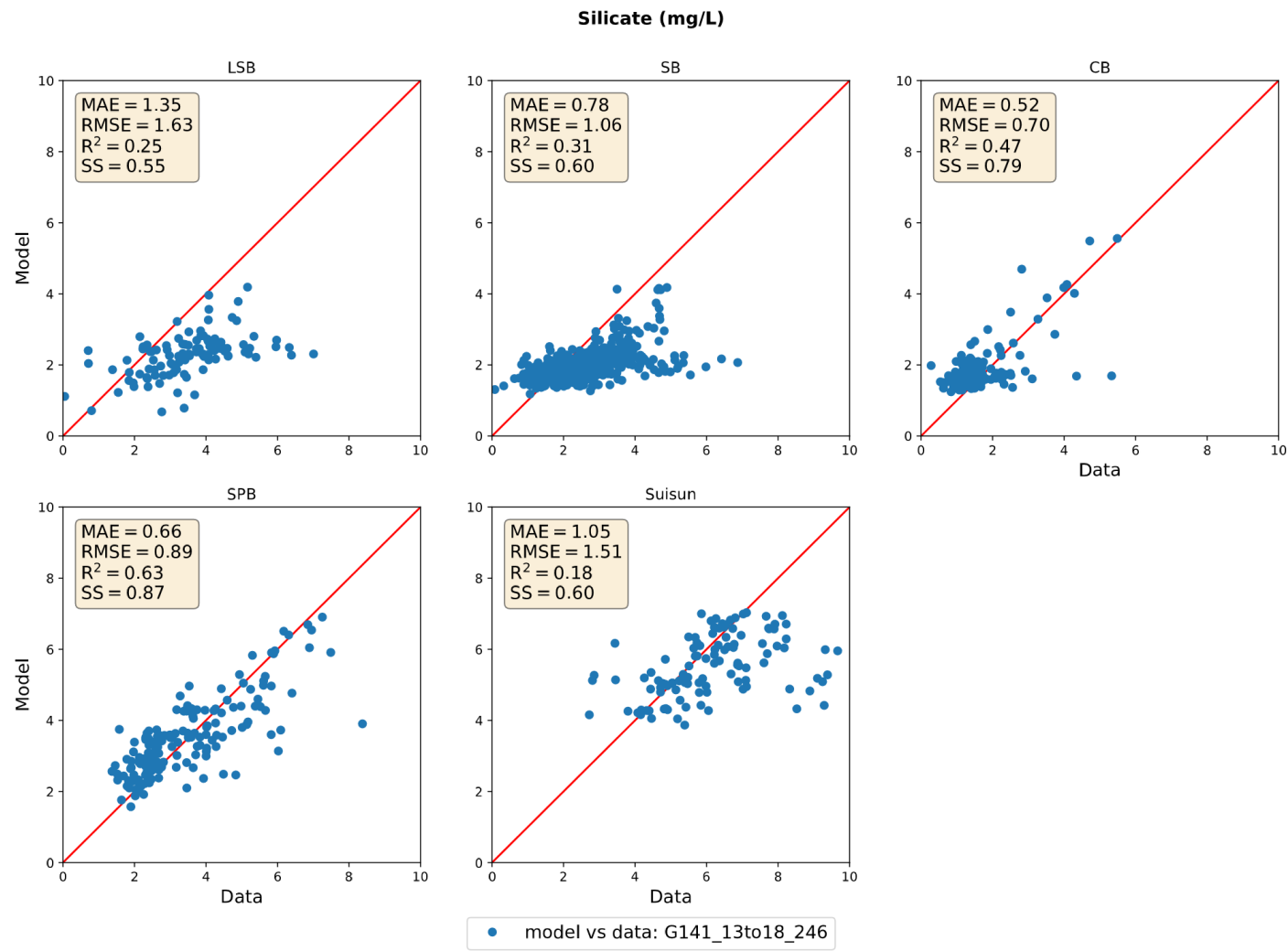
Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F1.2. Predicted ammonium concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



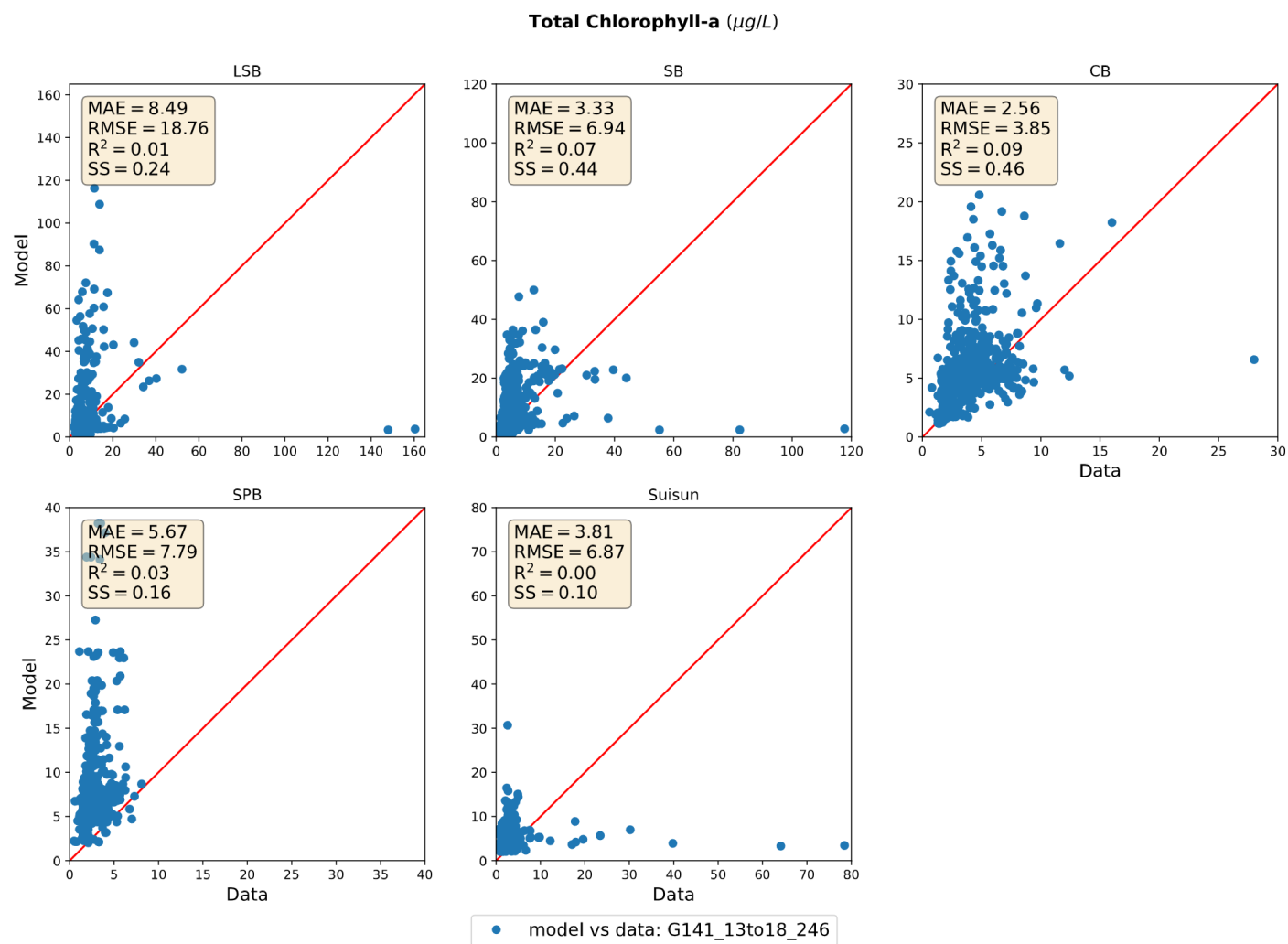
Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F1.3. Predicted dissolved orthophosphate concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



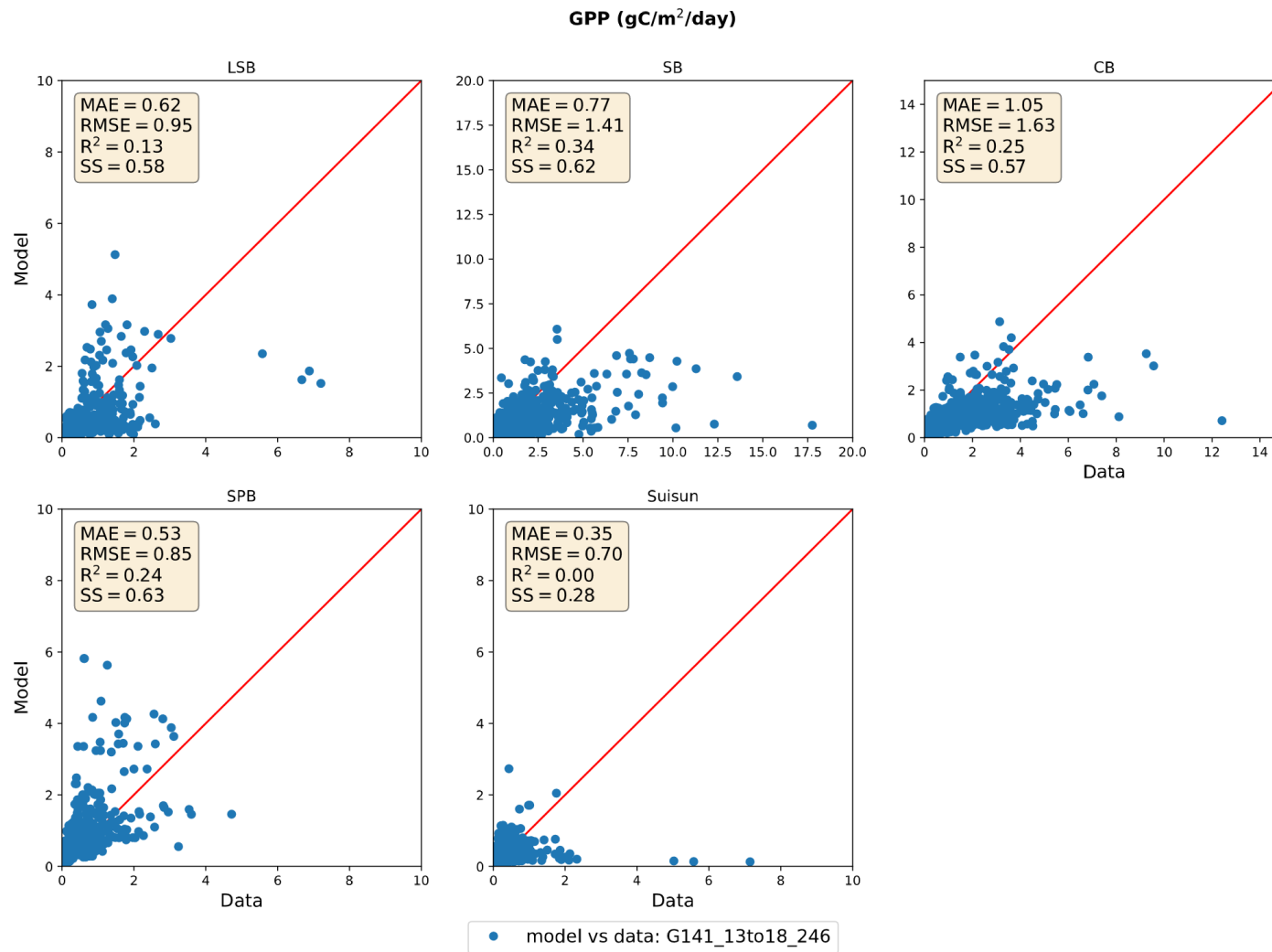
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F1.4. Predicted dissolved silicate (as silicon) concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



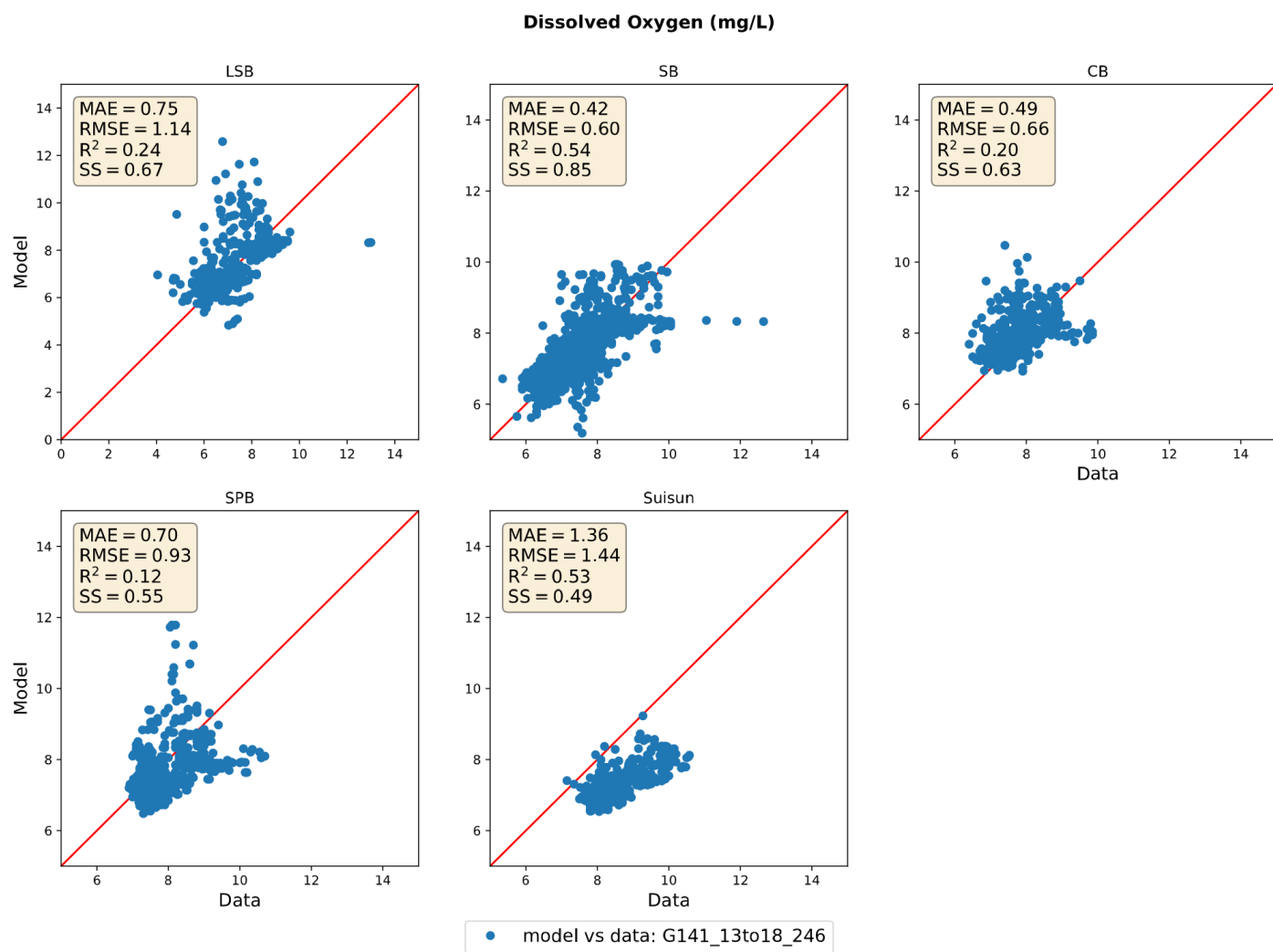
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F1.5. Predicted chlorophyll-a concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



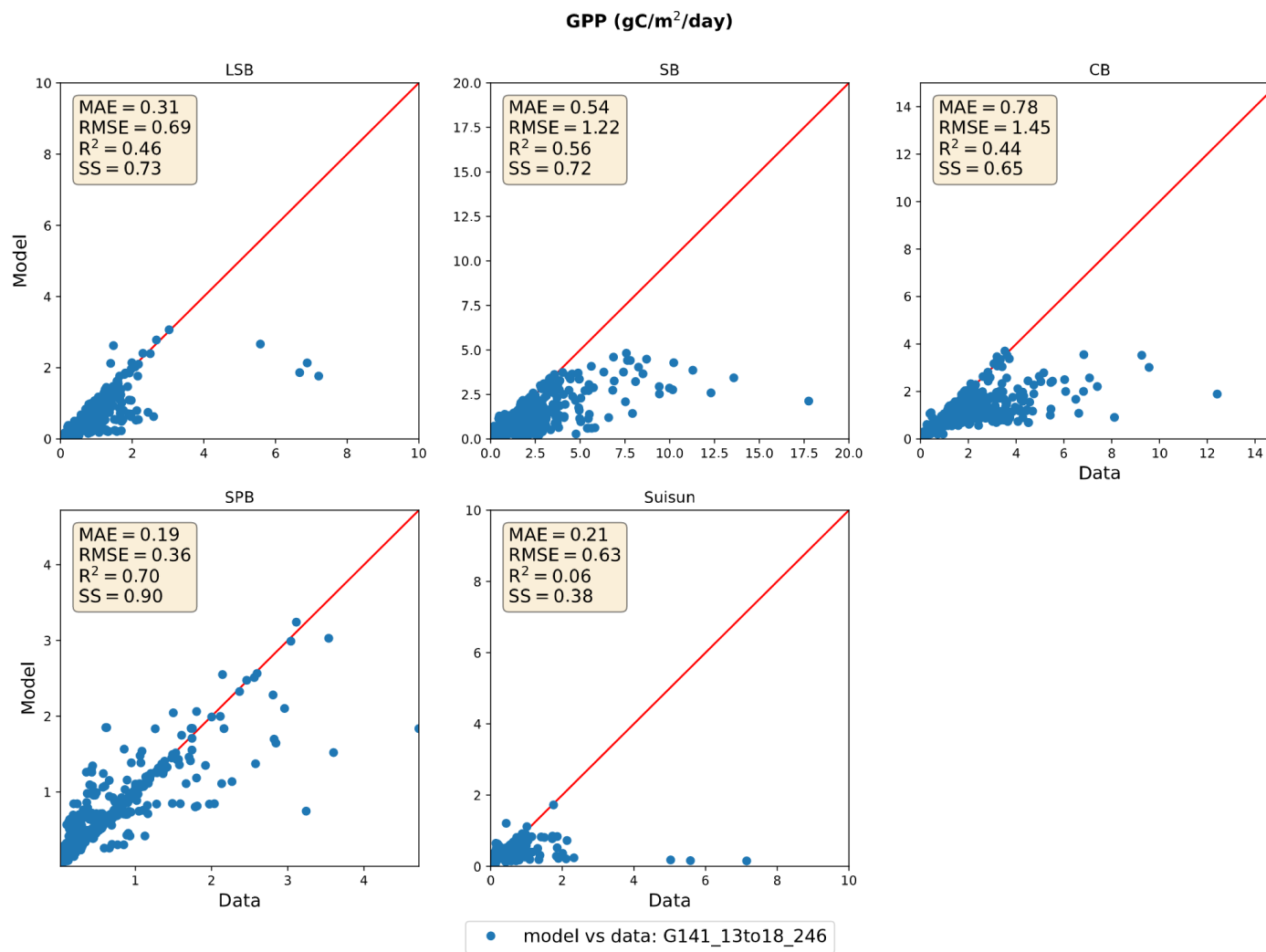
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F1.6. Predicted GPP paired with data at different subembayments for the aggregated WY2013-2018 simulation**



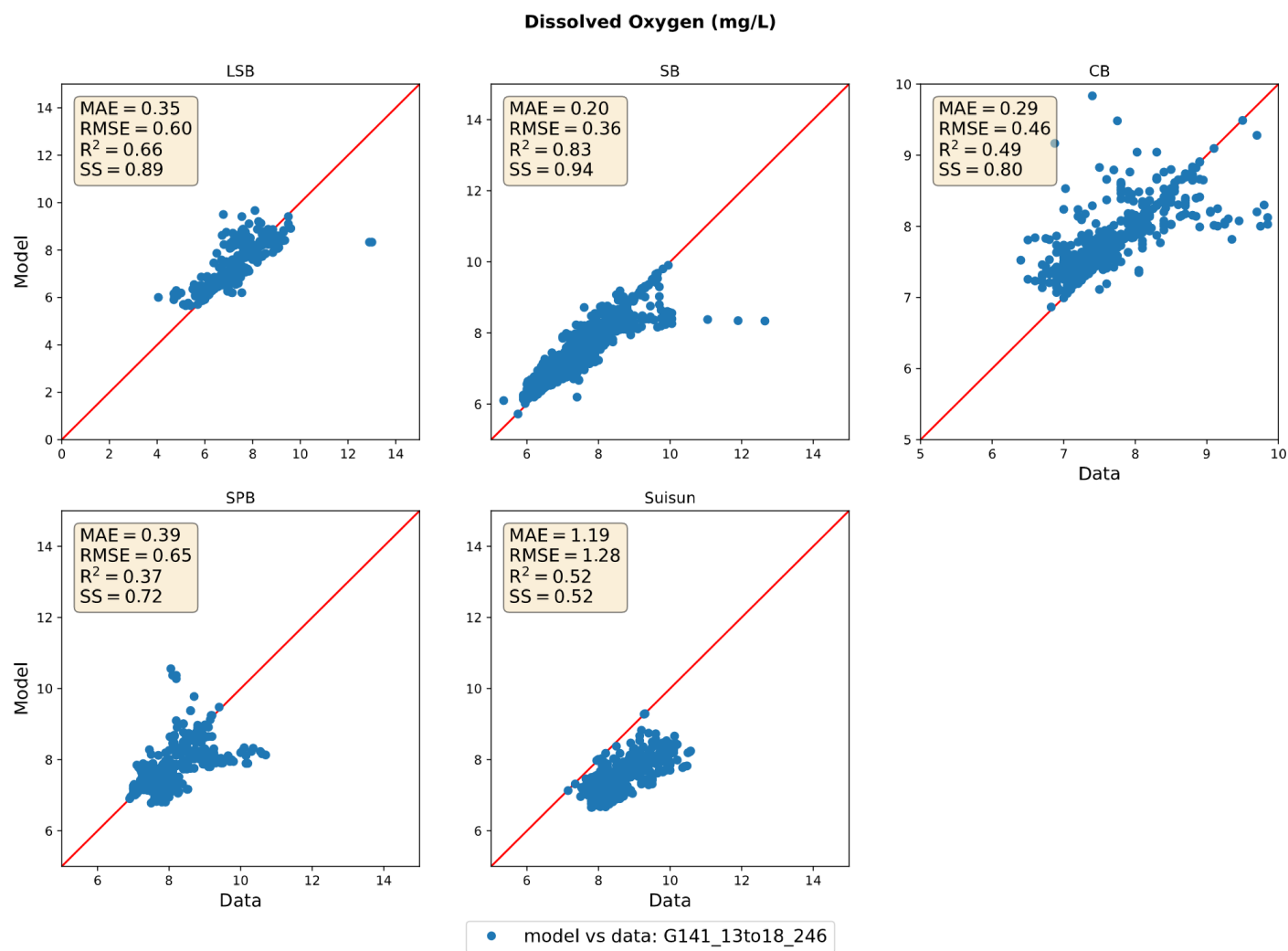
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F1.7. Predicted dissolved oxygen concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

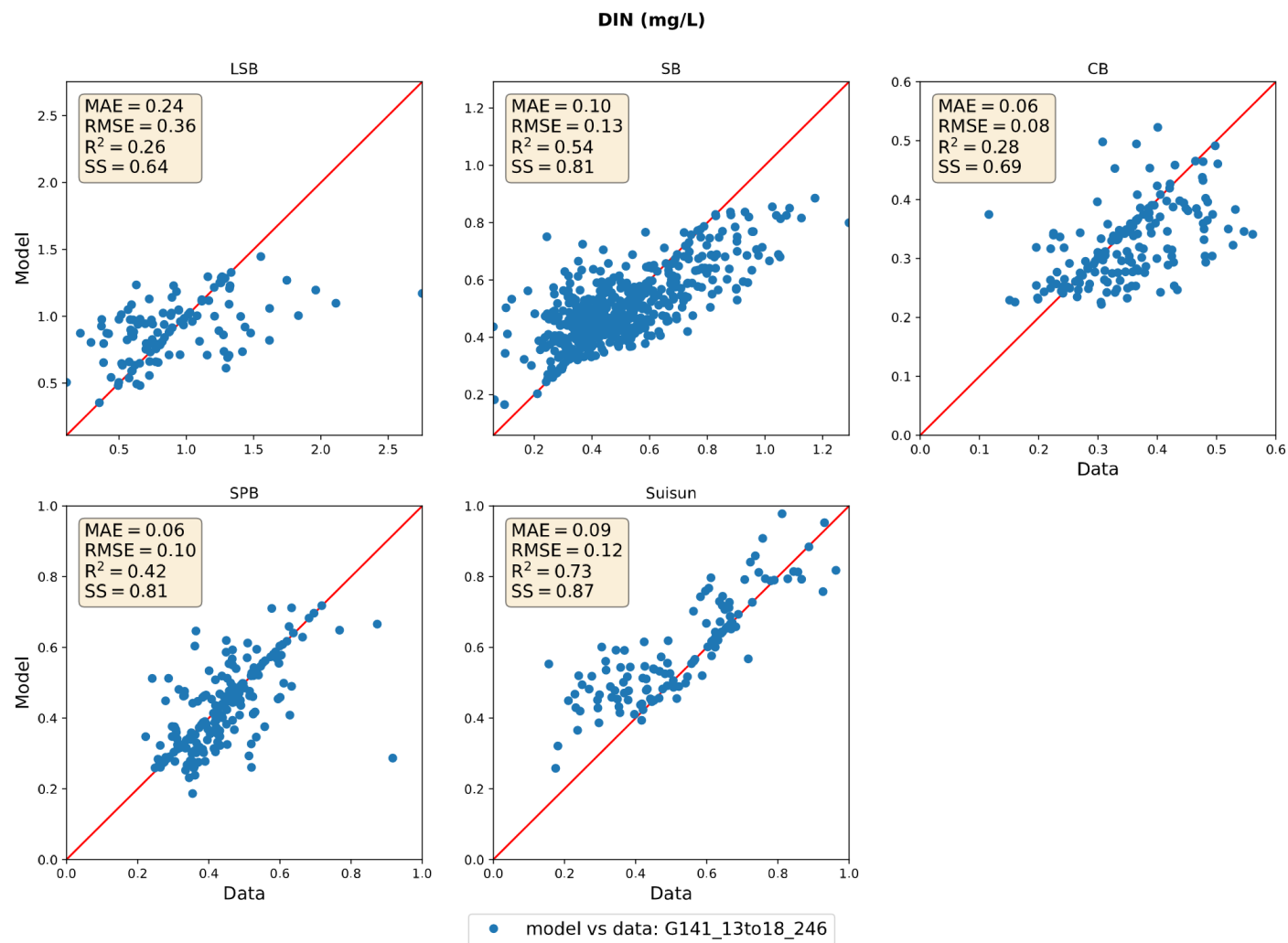
**Figure F1.8. Predicted GPP concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**



Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

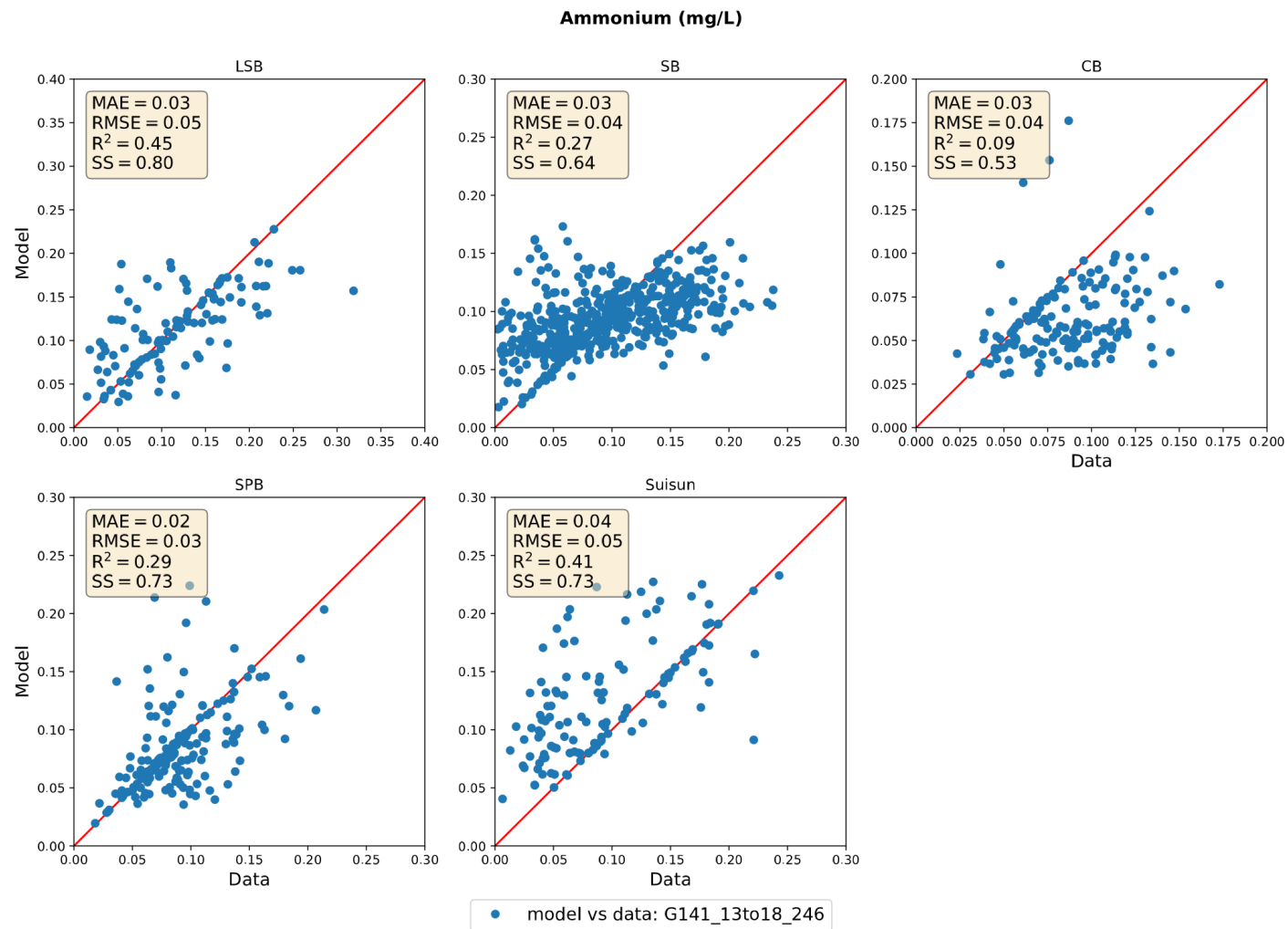
**Figure F1.9. Predicted dissolved oxygen concentrations paired with data at different subembayments for the aggregated WY2013-2018 simulation**

## Appendix F2: Aggregated Model Run Best Fit within +/- 7 Days of Measurements



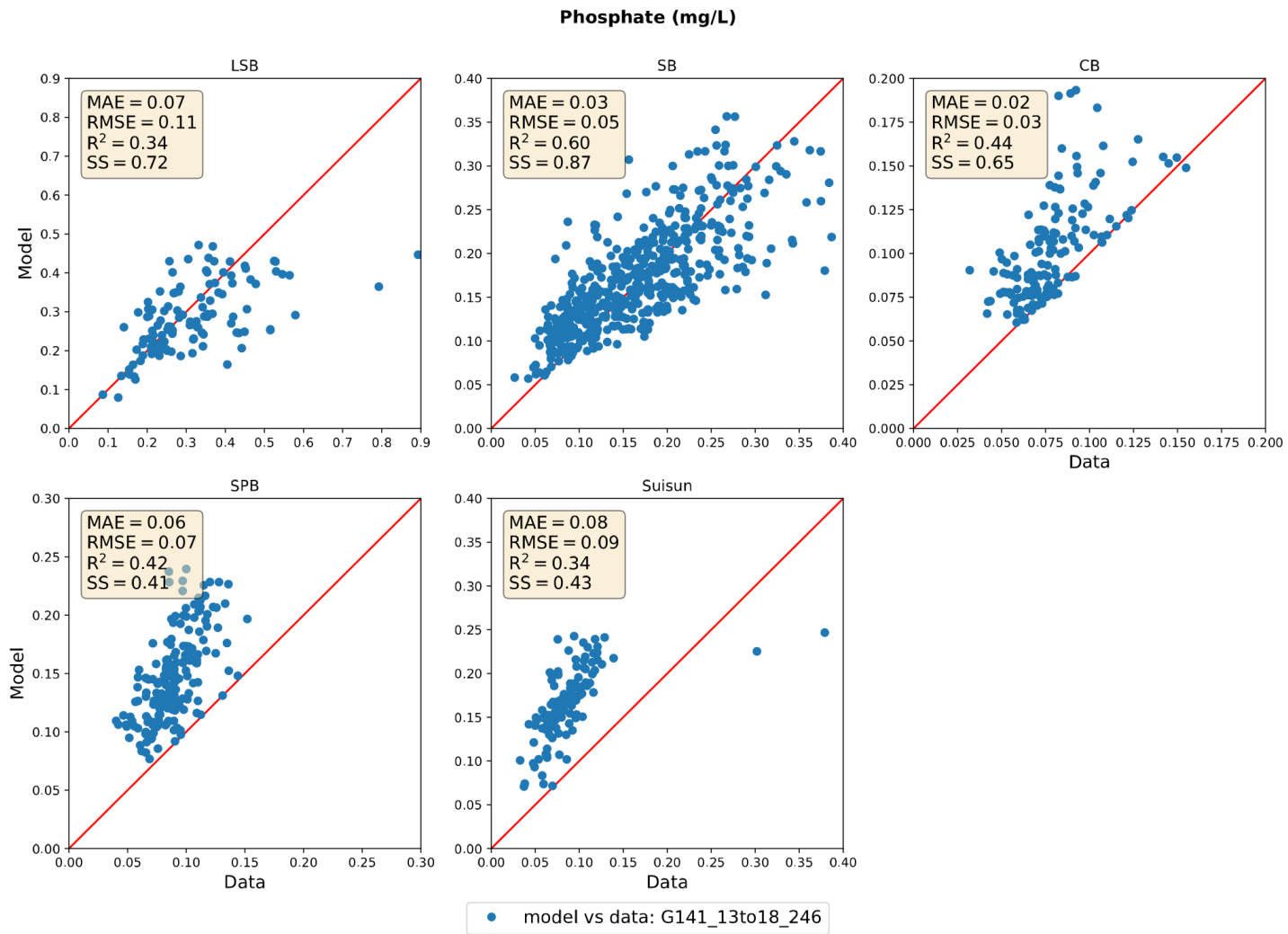
Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F2.1. Best fit of predicted DIN concentrations with data within +/-7 days at different subembayments for the aggregated WY2013-2018 simulation**



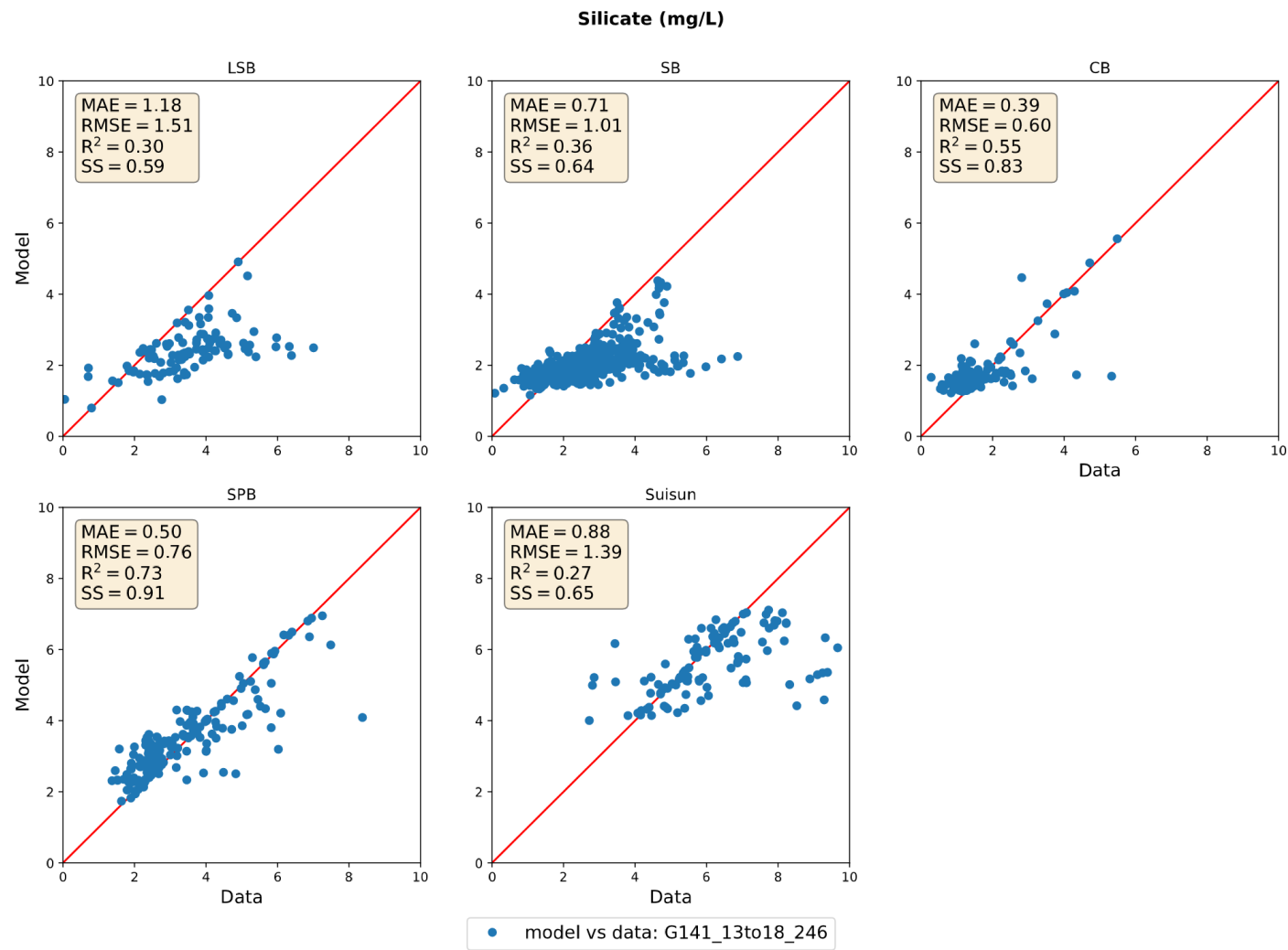
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F2.2. Best fit of predicted ammonium concentrations with data within +/- 7 days at different subembayments for the aggregated WY2013-2018 simulation**



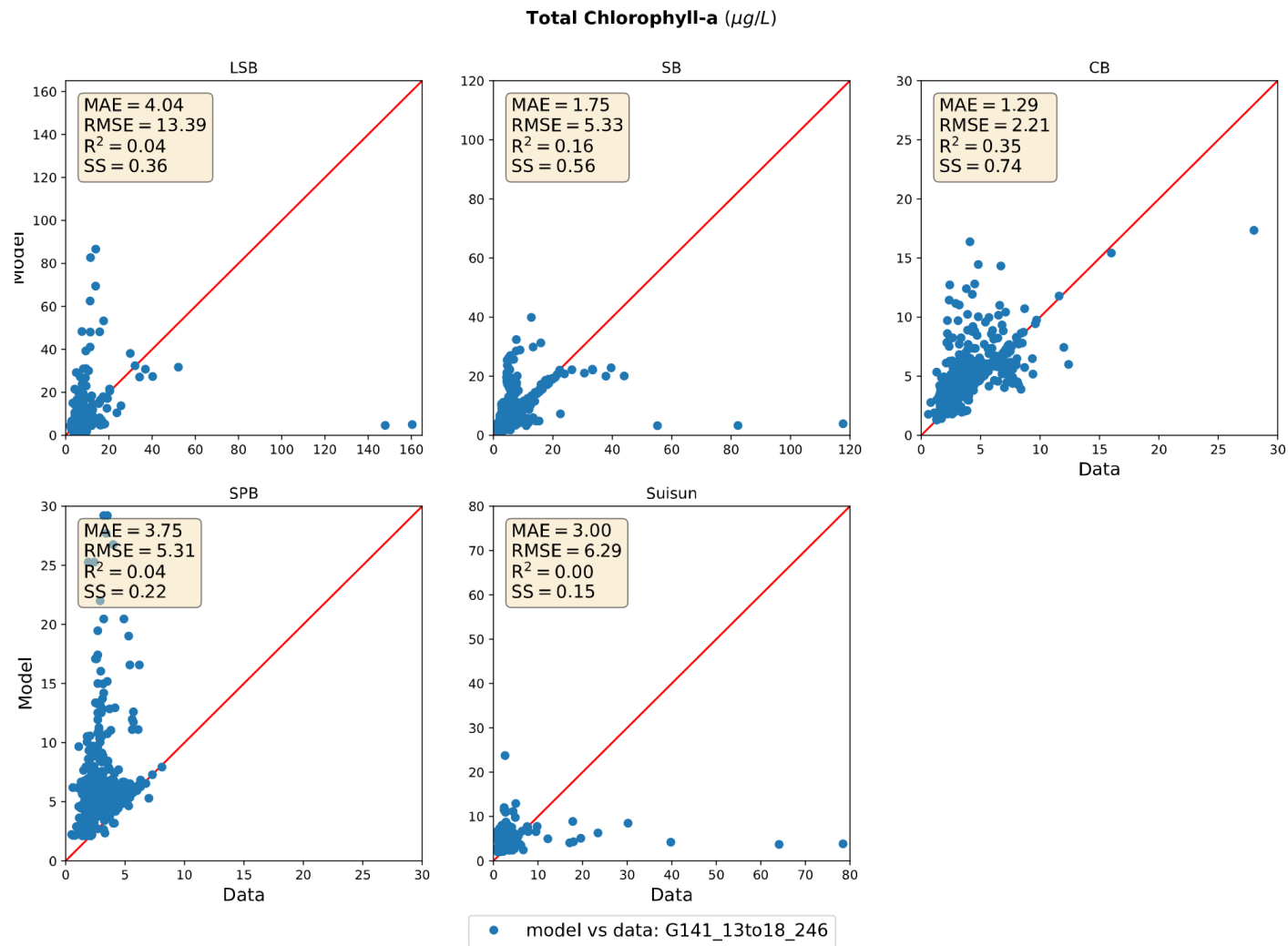
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F2.3. Best fit of predicted dissolved orthophosphate concentrations with data within +/-7 days at different subembayments for the aggregated WY2013-2018 simulation**



Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

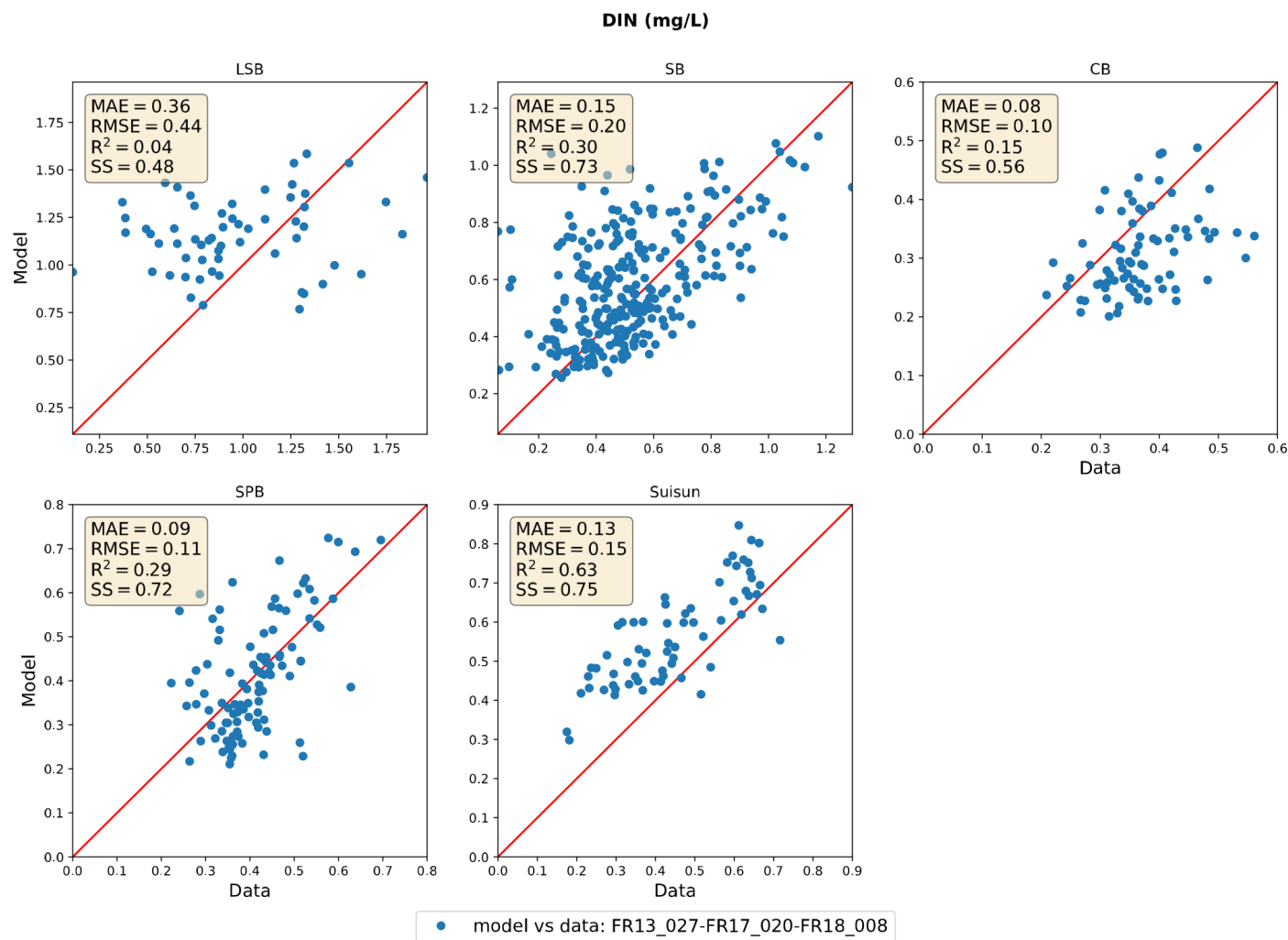
**Figure F2.4. Best fit of predicted dissolved silicate (as silicon) concentrations with data within +/-7 days at different subembayments for the aggregated WY2013-2018 simulation**



Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

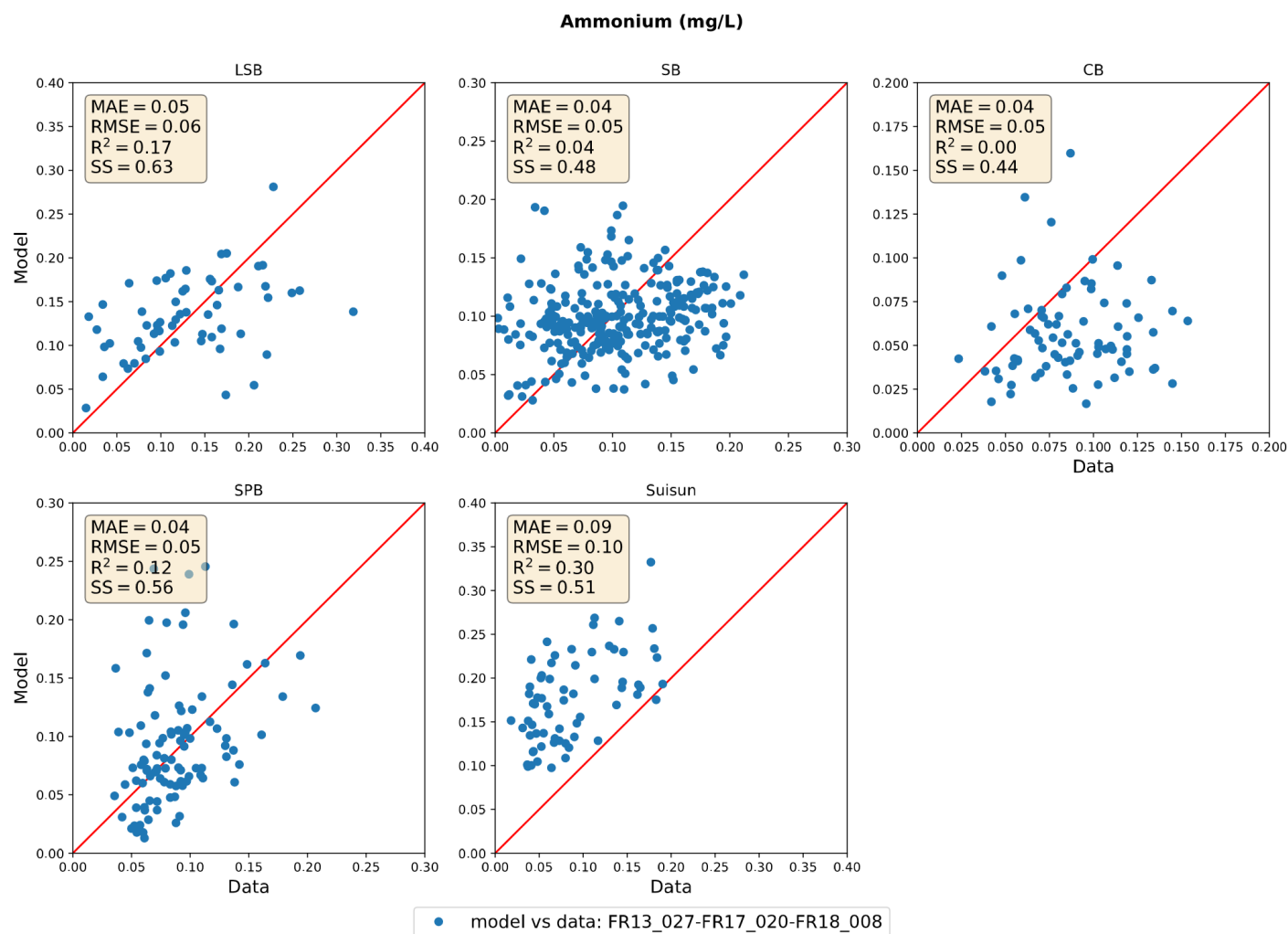
**Figure F2.5. Best fit of predicted chlorophyll-a concentrations with data within  $\pm 7$  days at different subembayments for the aggregated WY2013-2018 simulation**

## Appendix F3: Full Resolution Model Runs Paired with Data



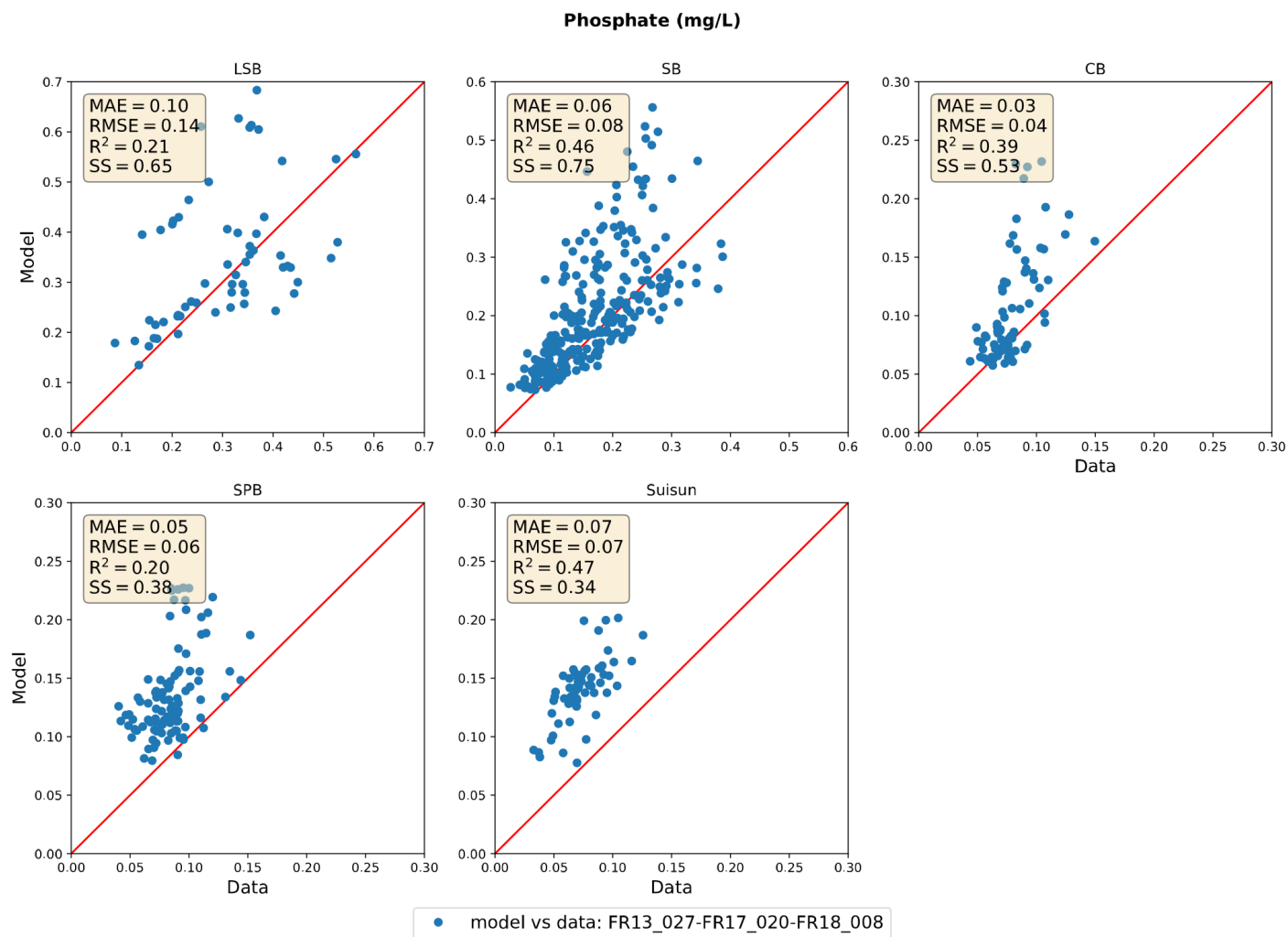
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.1. Predicted DIN concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



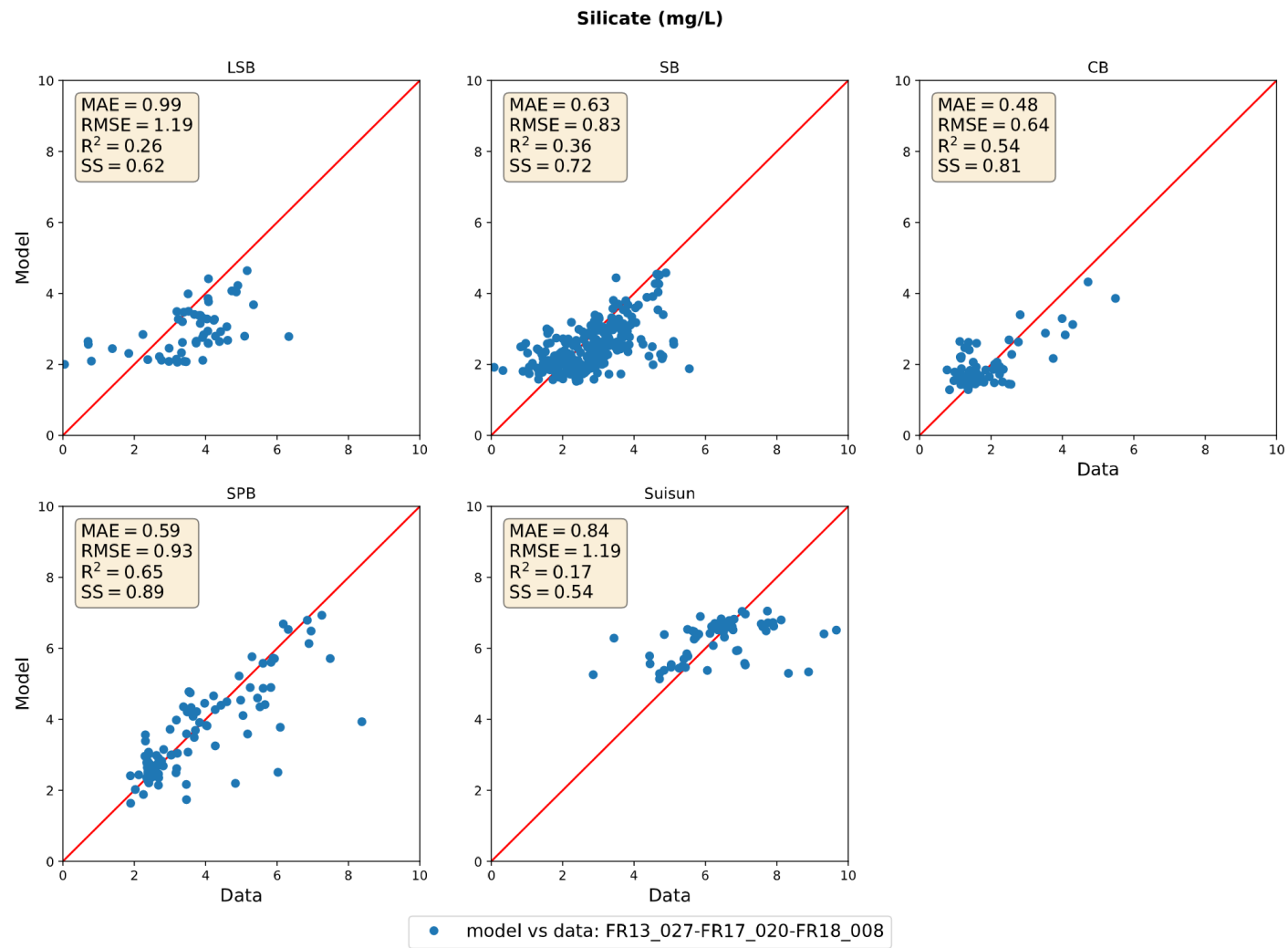
Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.2. Predicted ammonium concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



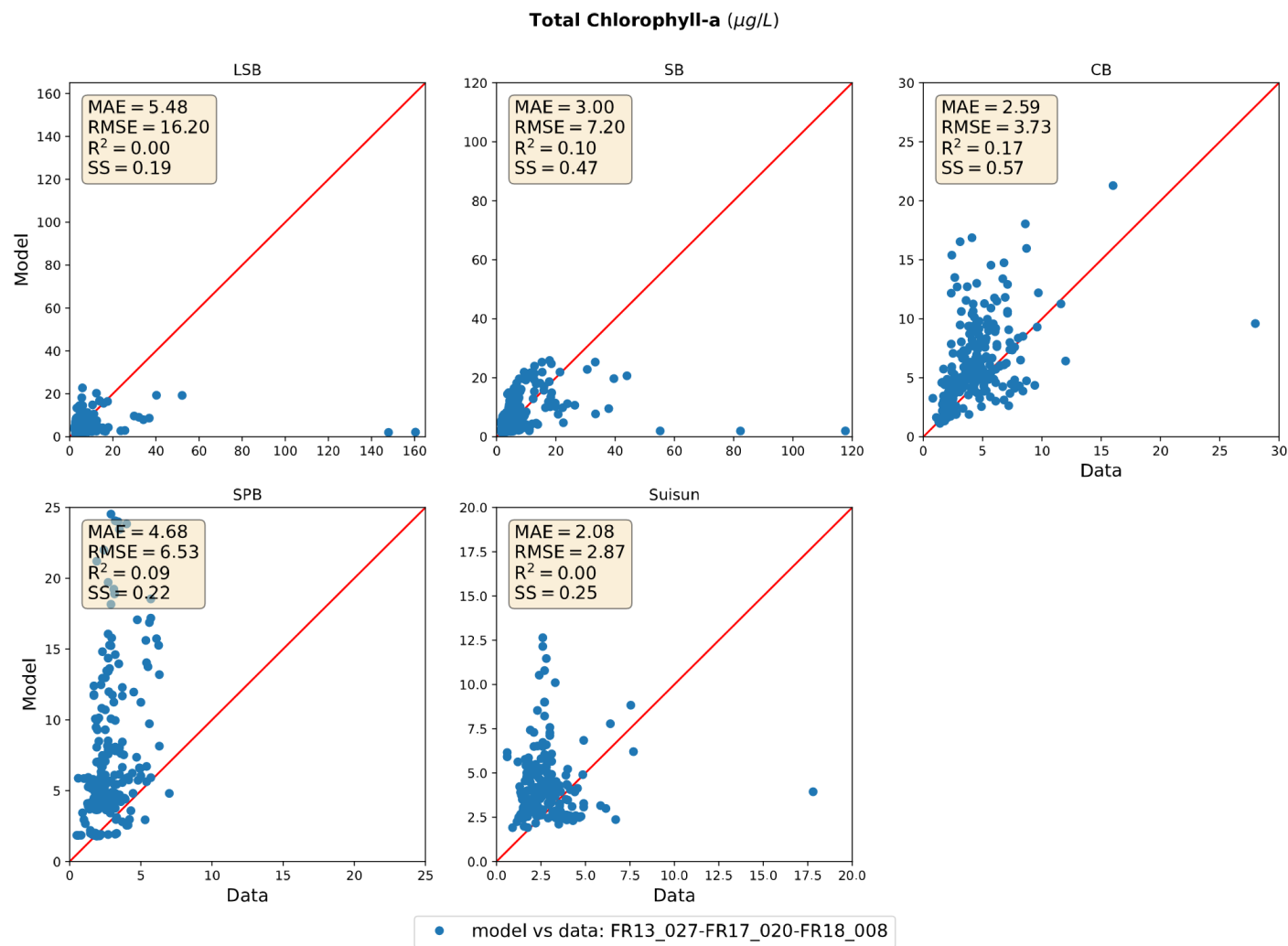
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.3. Predicted dissolved orthophosphate concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



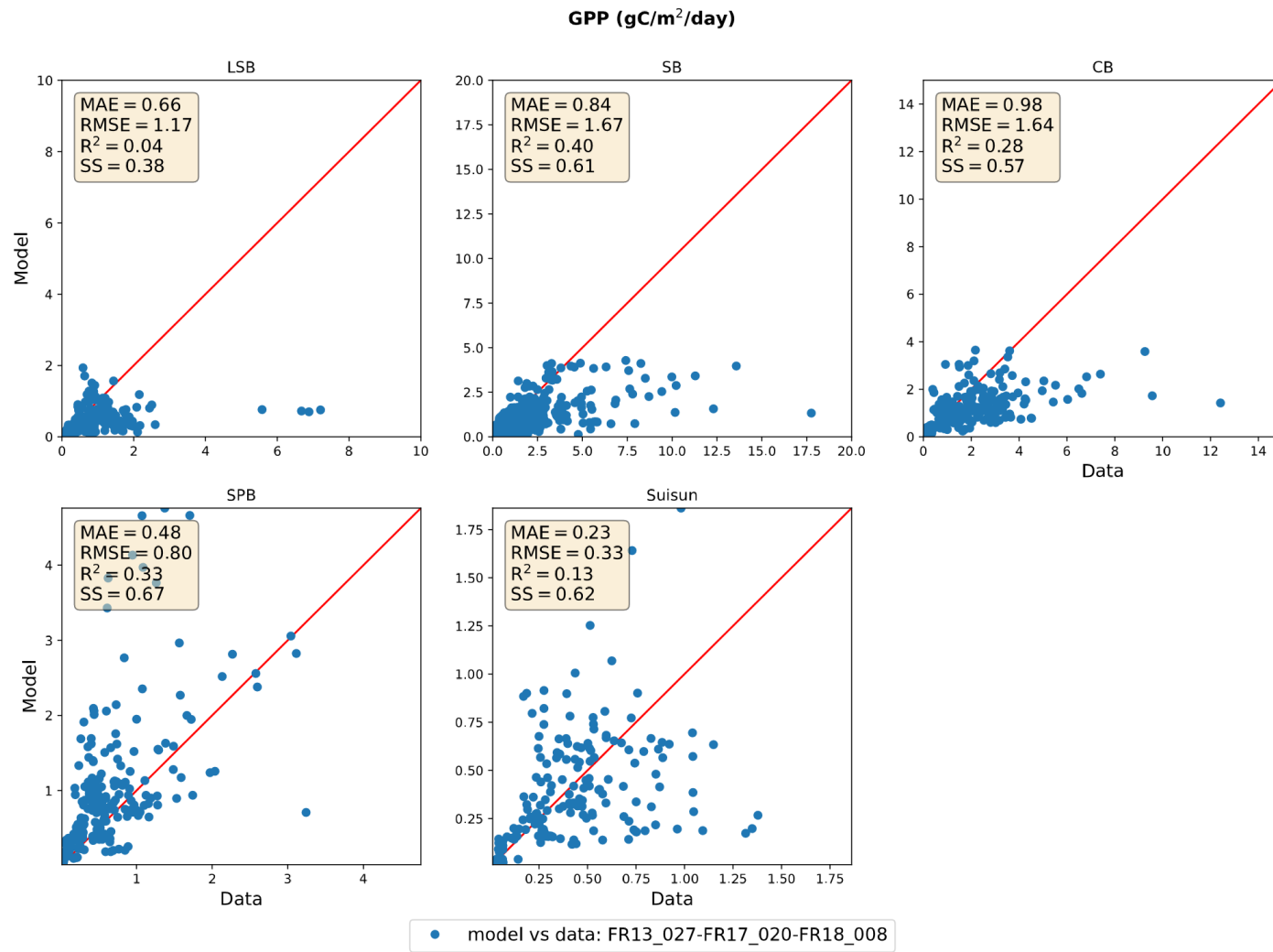
Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.4. Predicted dissolved silicate (as silicon) concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



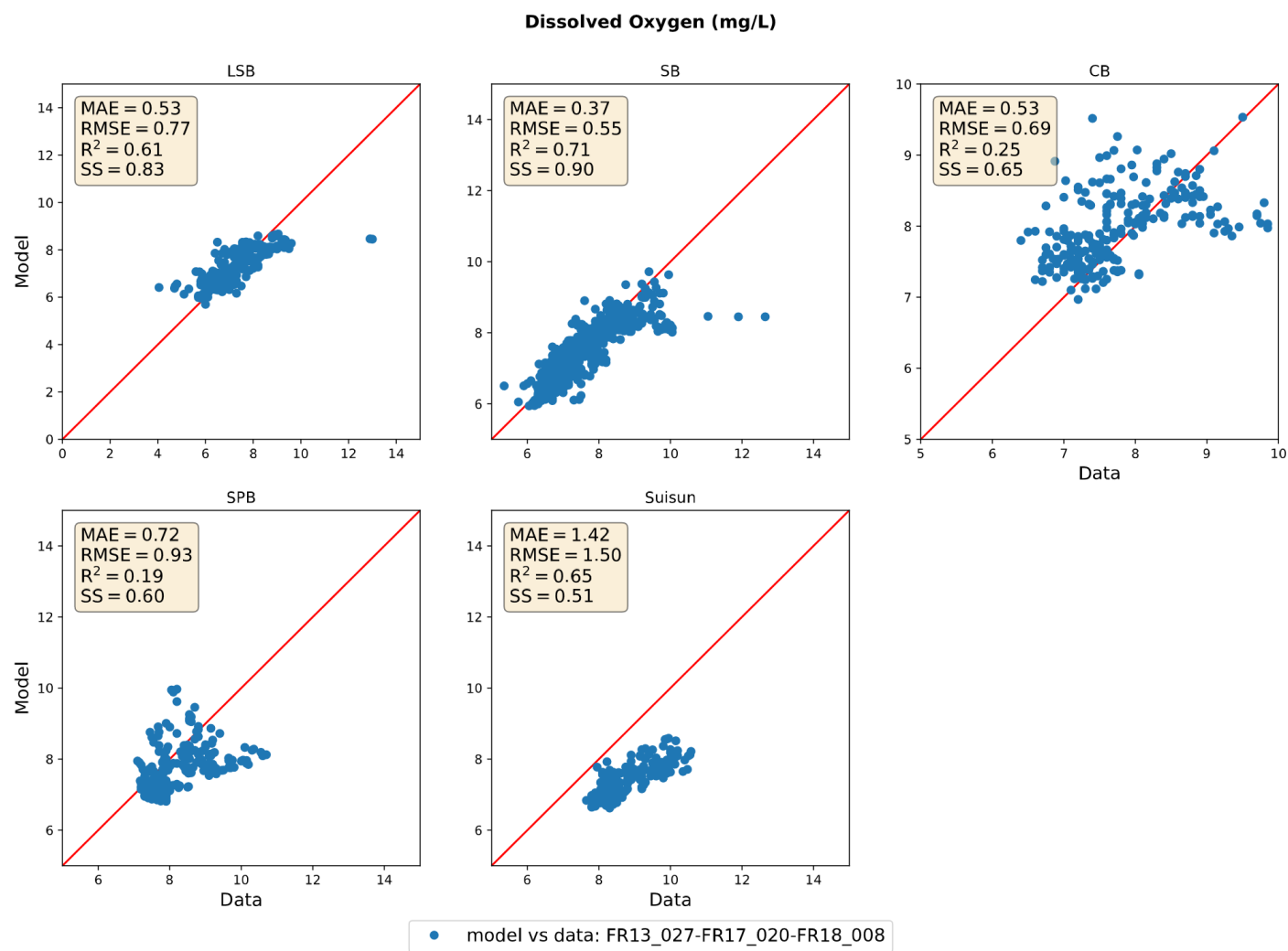
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.5. Predicted chlorophyll-a concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



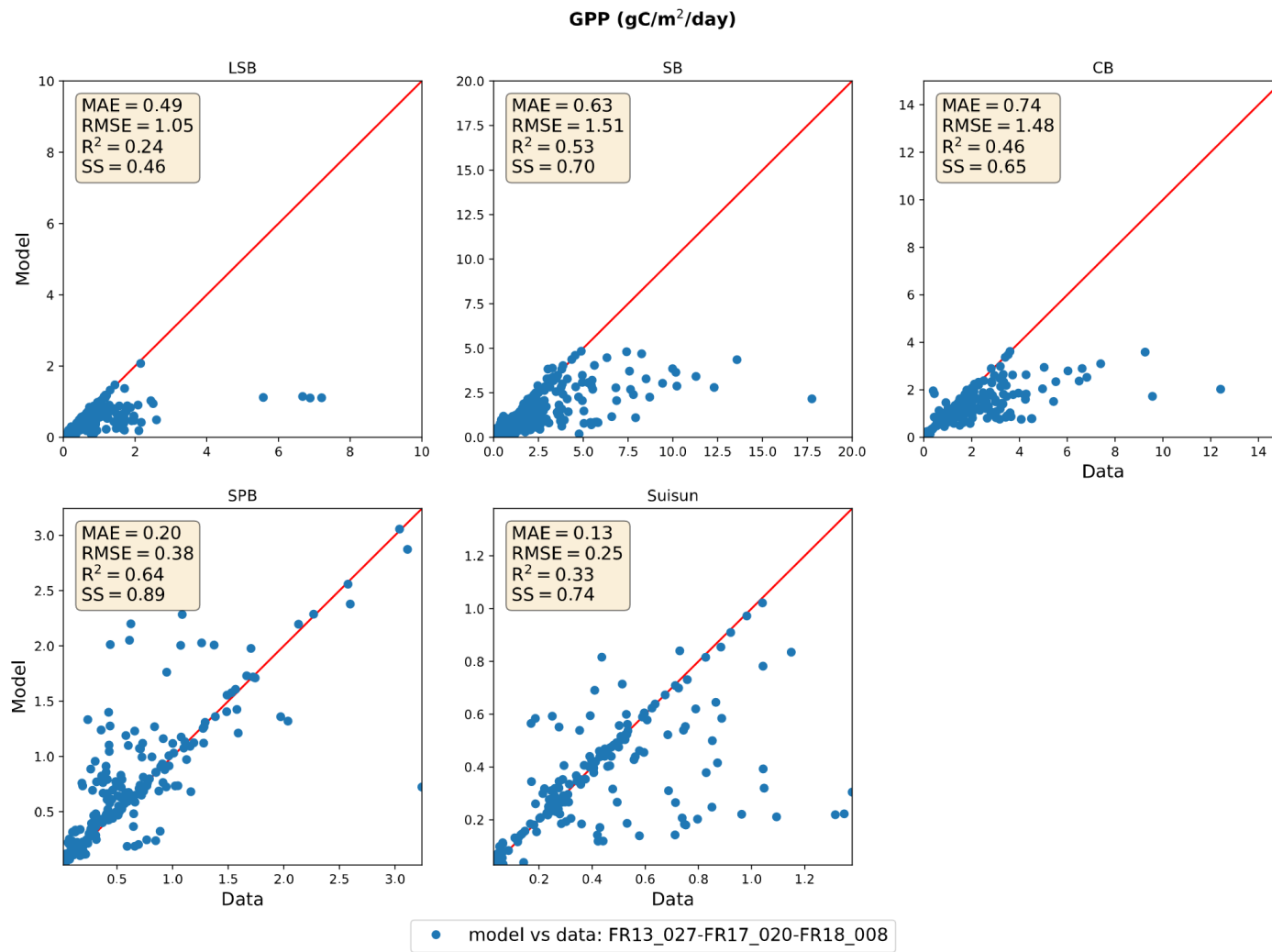
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.6. Predicted GPP paired with data at different subembayments for the FR WY2013, WY2017 and 2018 simulations**



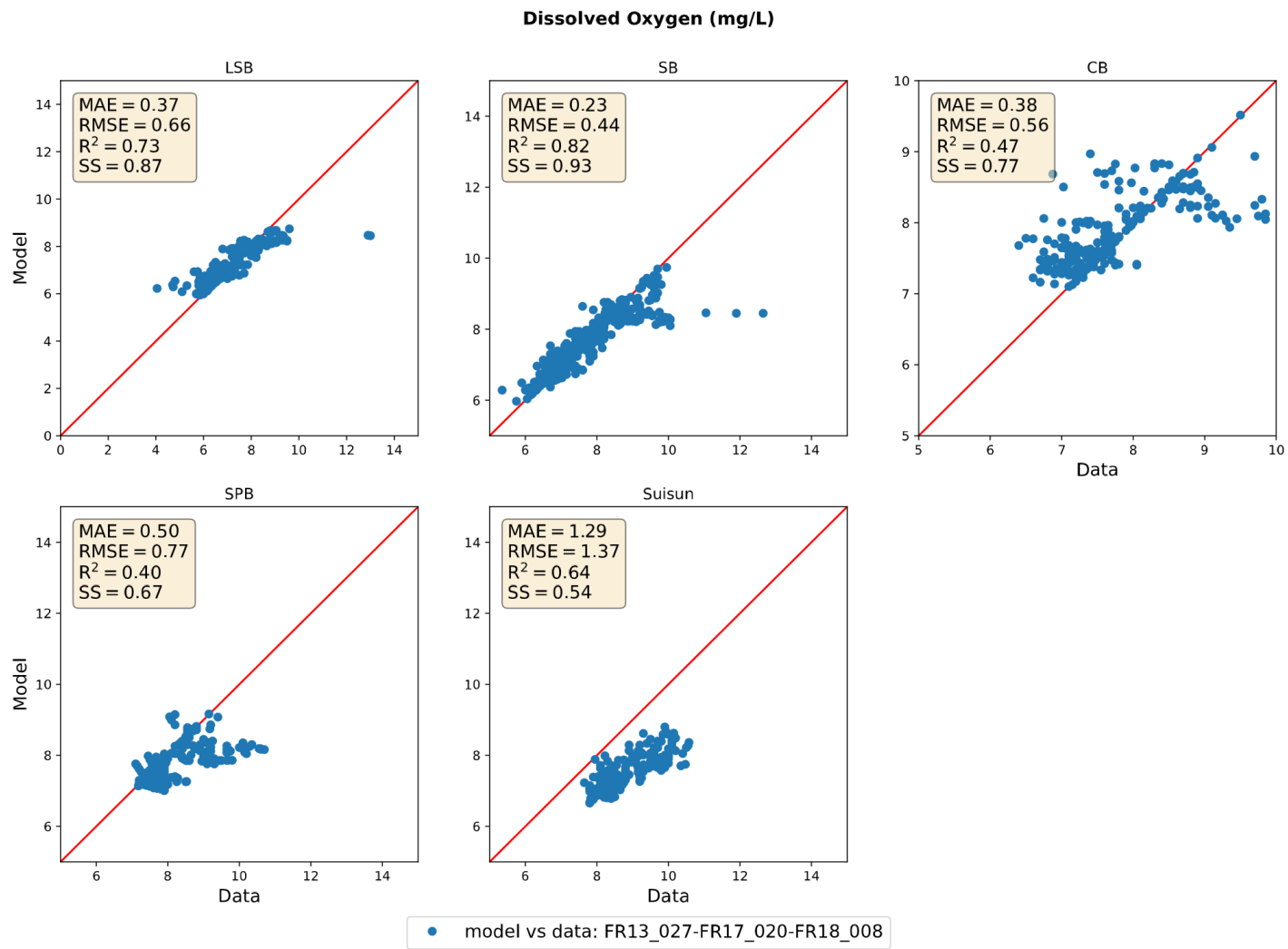
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F3.7. Predicted dissolved oxygen concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

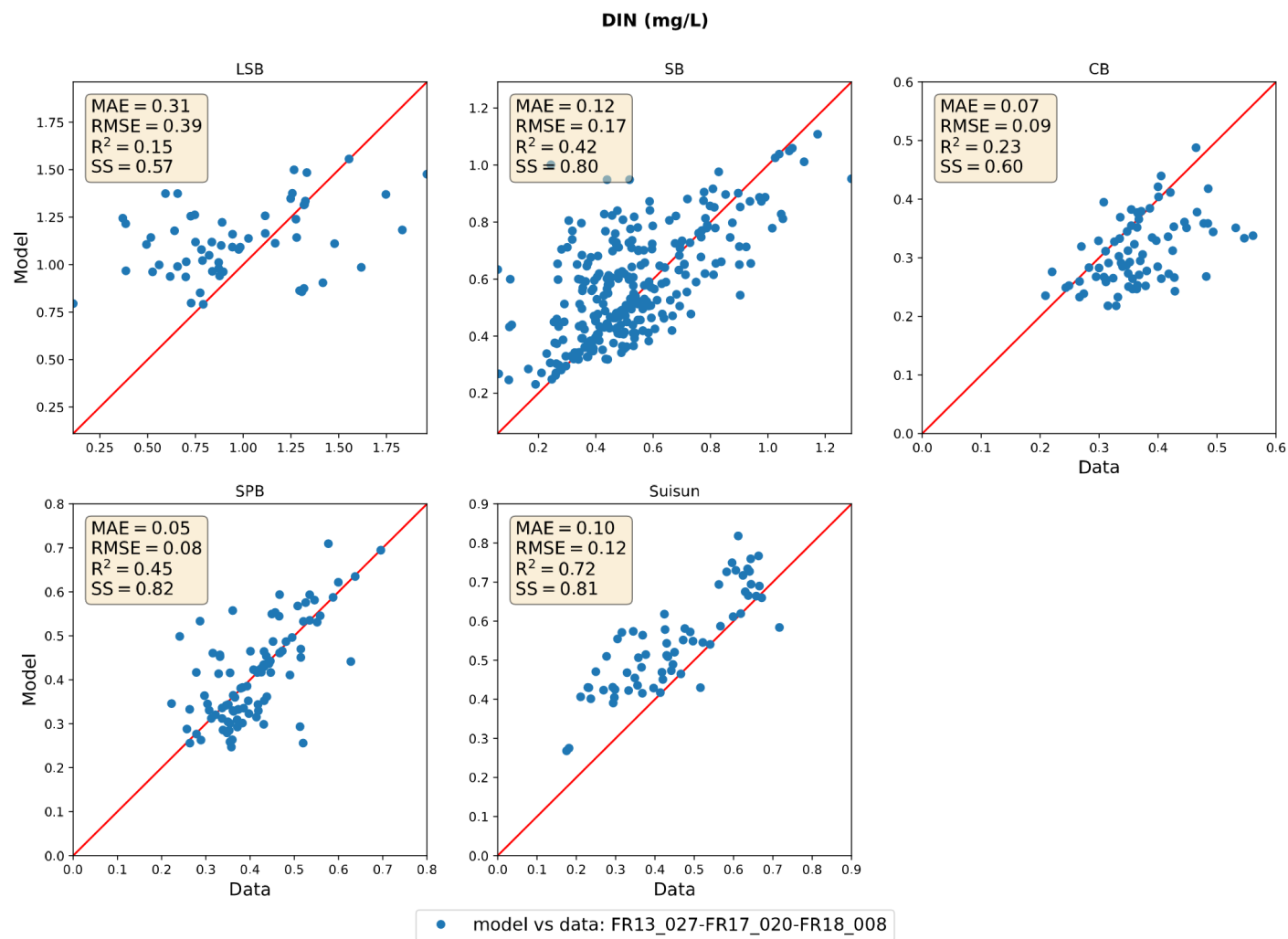
**Figure F3.8. Predicted GPP concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**



Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

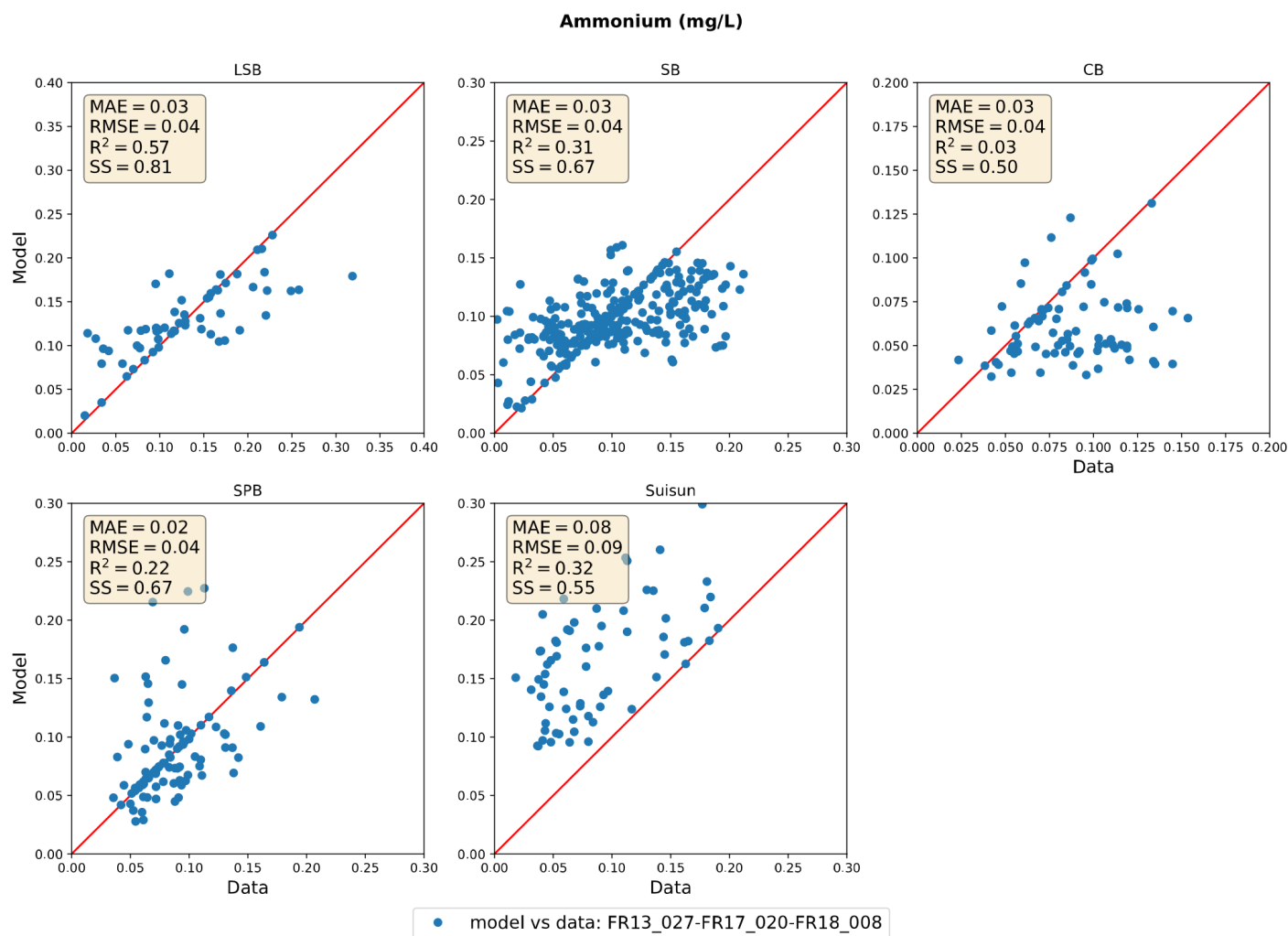
**Figure F3.9. Predicted dissolved oxygen concentrations paired with data at different subembayments for FR WY2013, WY2017 and 2018 simulations**

## Appendix F4: Full Resolution Runs Best Fit within +/- 7 Days of Measurements



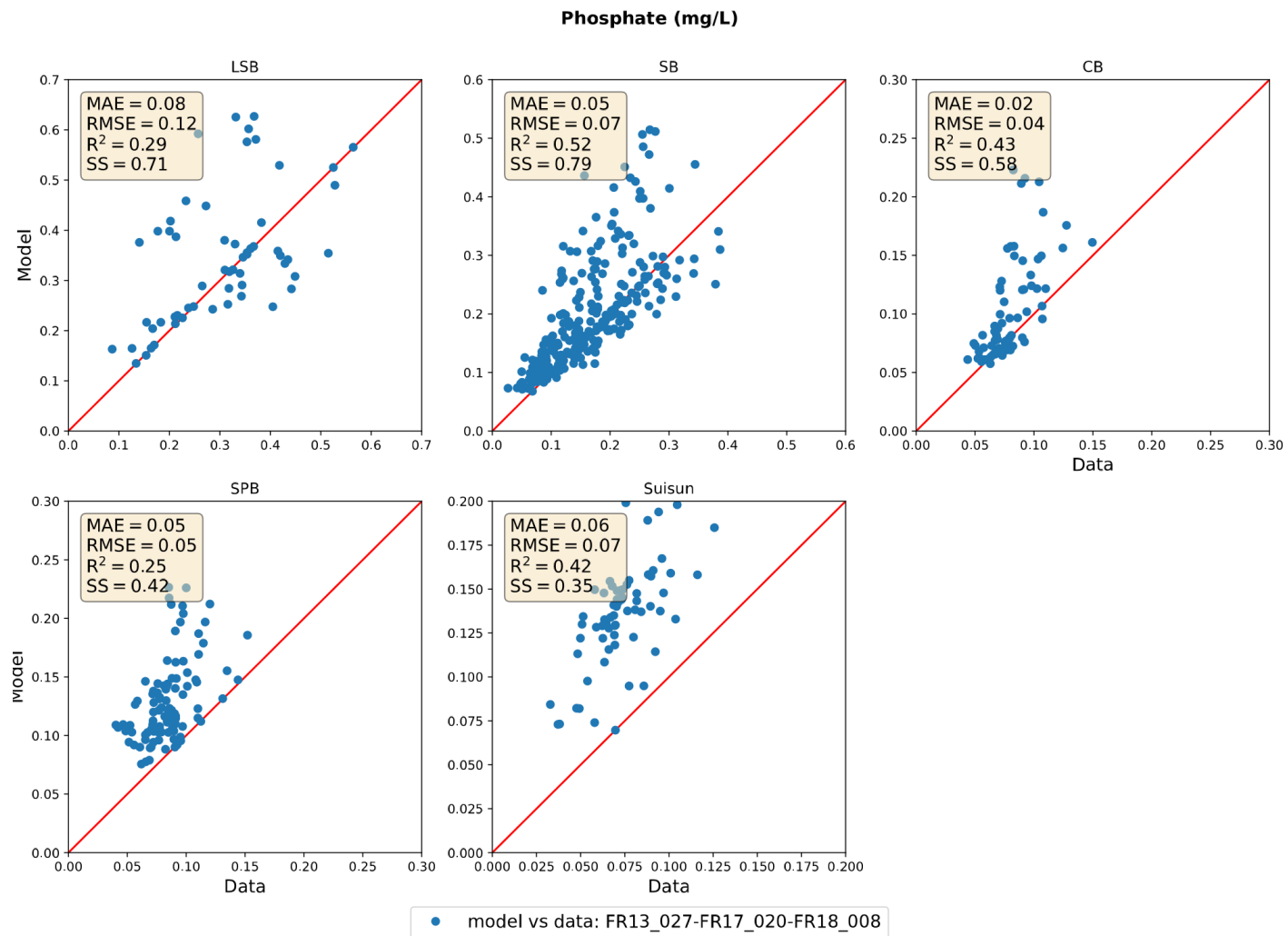
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F4.1. Best fit of predicted DIN concentrations with data within +/-7 days at different subembayments for FR WY2013, WY2017 and 2018 simulations**



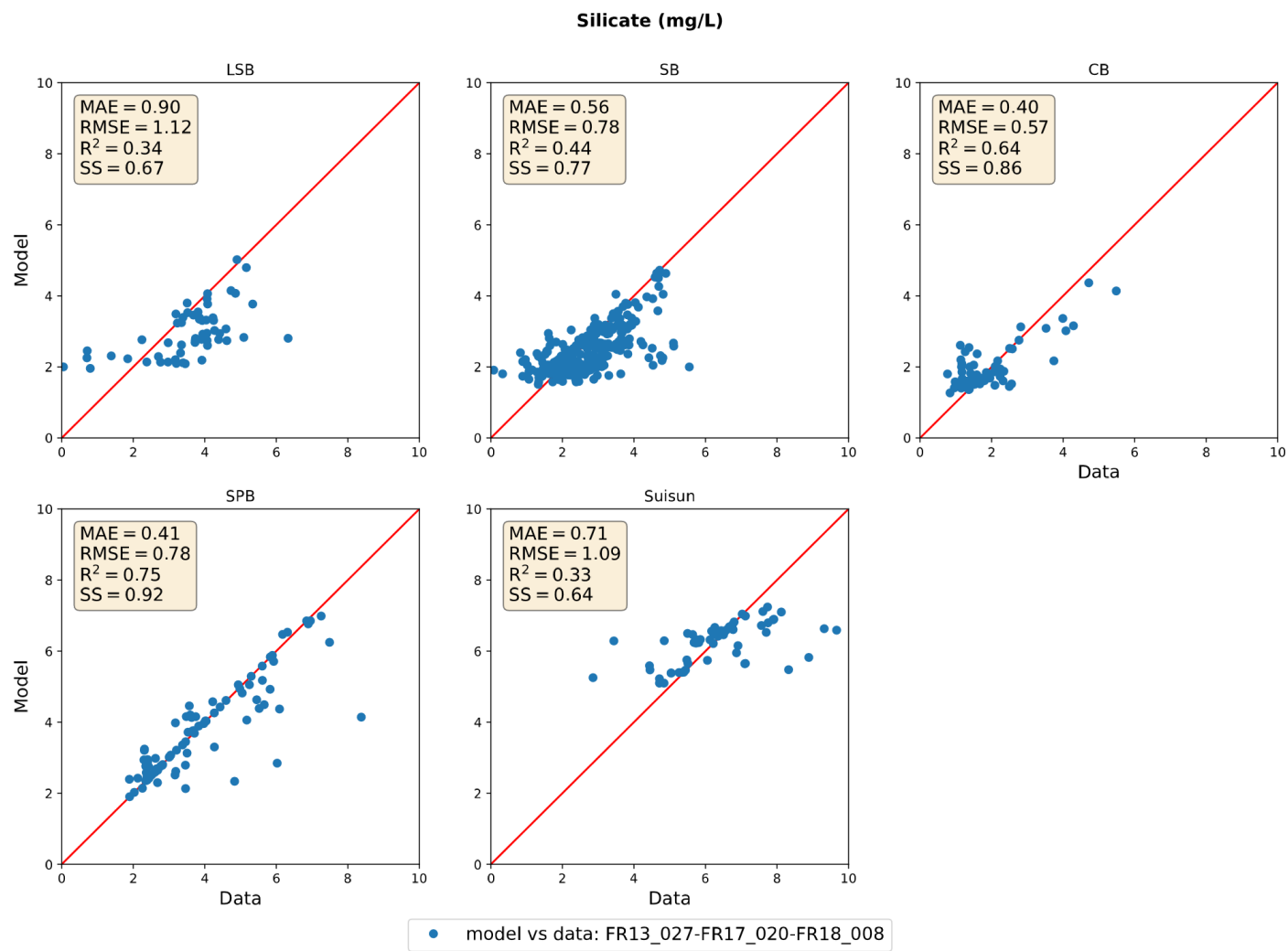
Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F4.2. Best fit of predicted ammonium concentrations with data within +/-7 days at different subembayments for FR WY2013, WY2017 and 2018 simulations**



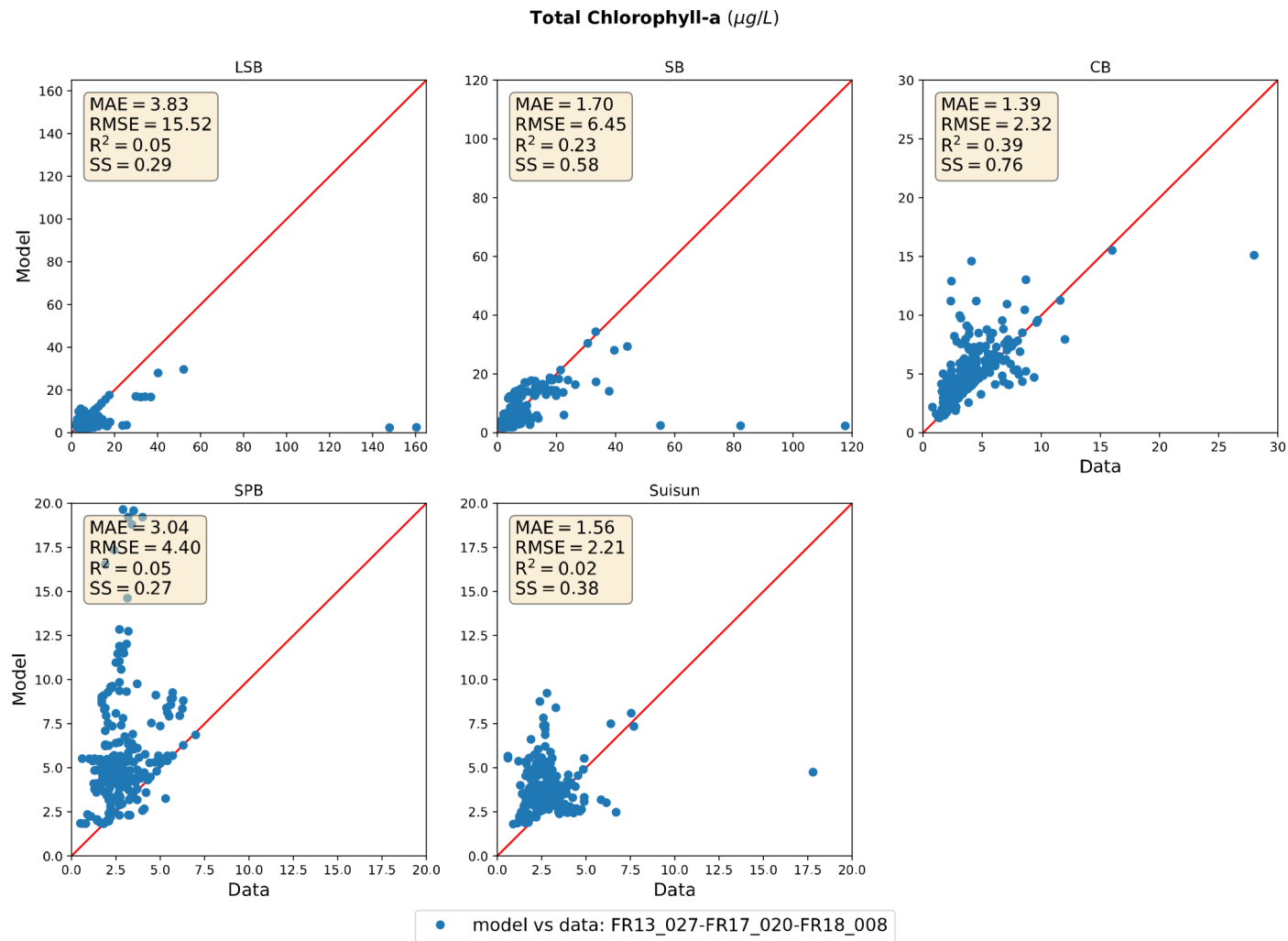
Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F4.3. Best fit of predicted dissolved orthophosphate concentrations with data within +/-7 days at different subembayments for FR WY2013, WY2017 and 2018 simulations**



Note: LSB: Lower South Bay; SB: South Bay, CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F4.4. Best fit of predicted dissolved silicate (as silicon) concentrations with data within +/-7 days at different subembayments for FR WY2013, WY2017 and 2018 simulations**



Note: LSB: Lower South Bay; SB: South Bay; CB: Central Bay; SPB: San Pablo Bay; Suisun: Suisun Bay.

**Figure F4.5. Best fit of predicted chlorophyll-a concentrations with data within +/-7 days at different subembayments for FR WY2013, WY2017 and 2018 simulations**