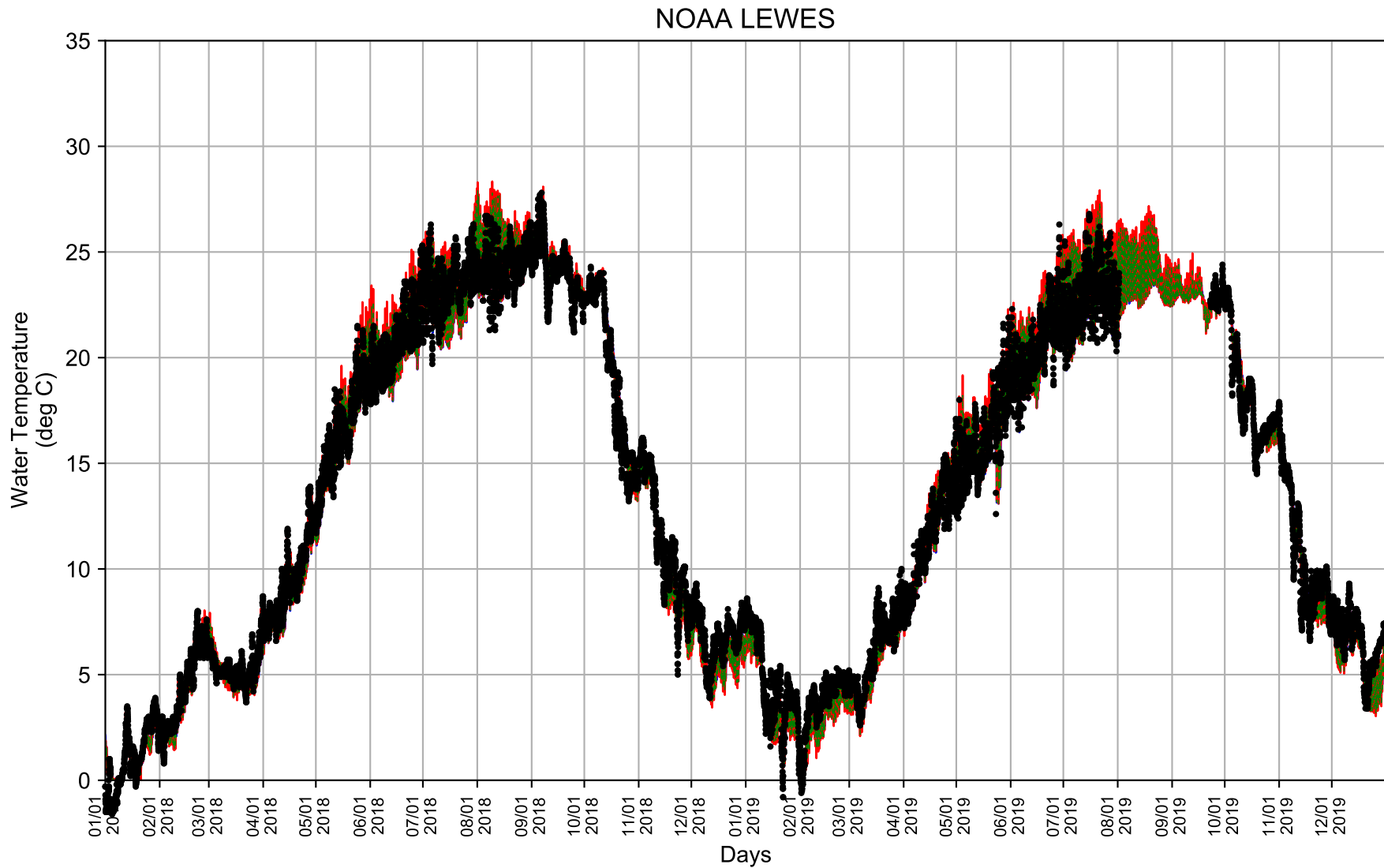


Appendix J: Observed and predicted water temperature

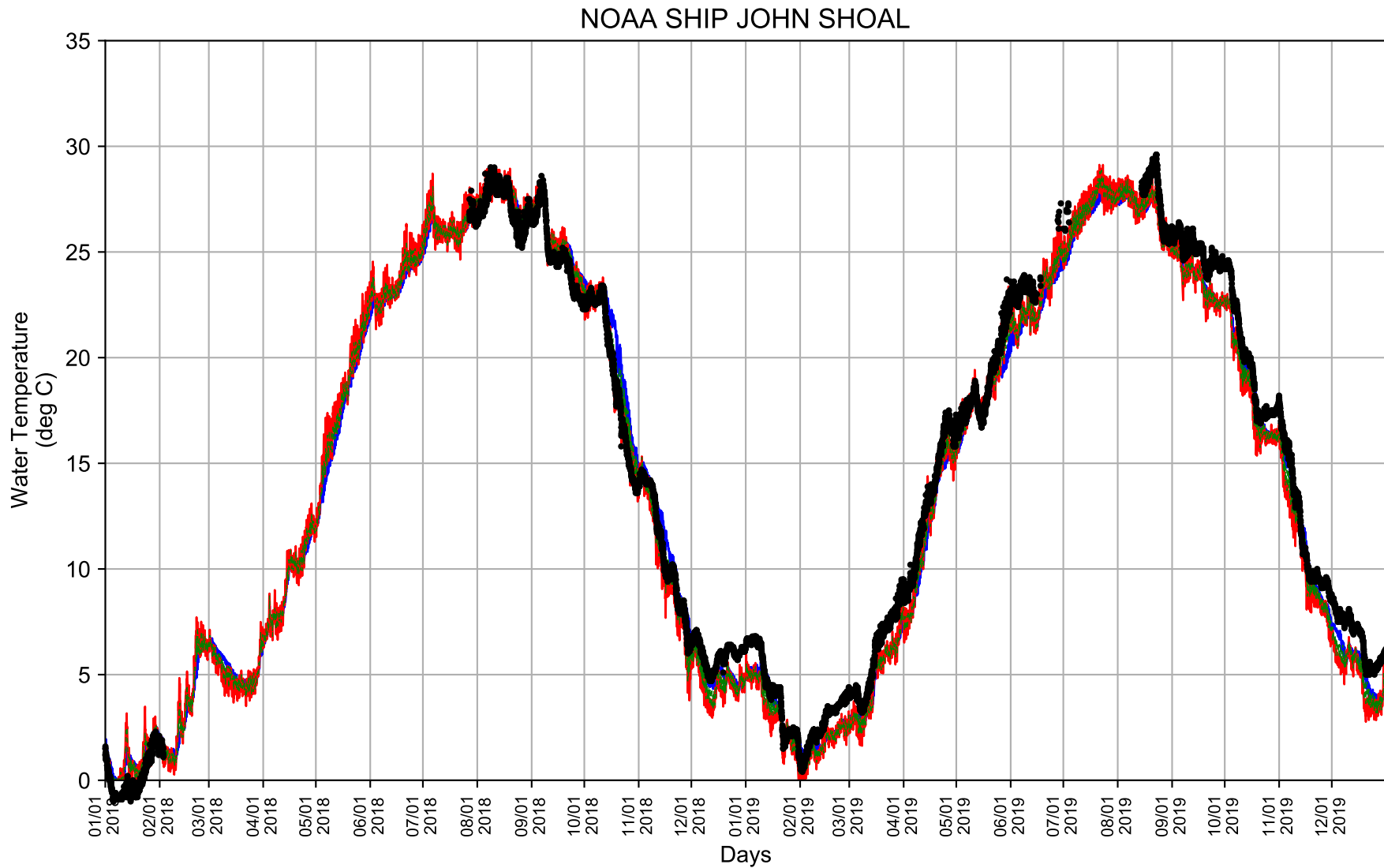


- Model Prediction (bottom)
- Model Prediction (surface)
- - - Model Prediction (second to surface)
- Data

Figure 3.3-11 (1)

Observed and Predicted Water Temperature at NOAA LEWES

Station ID: 8557380, NOAA LEWES
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

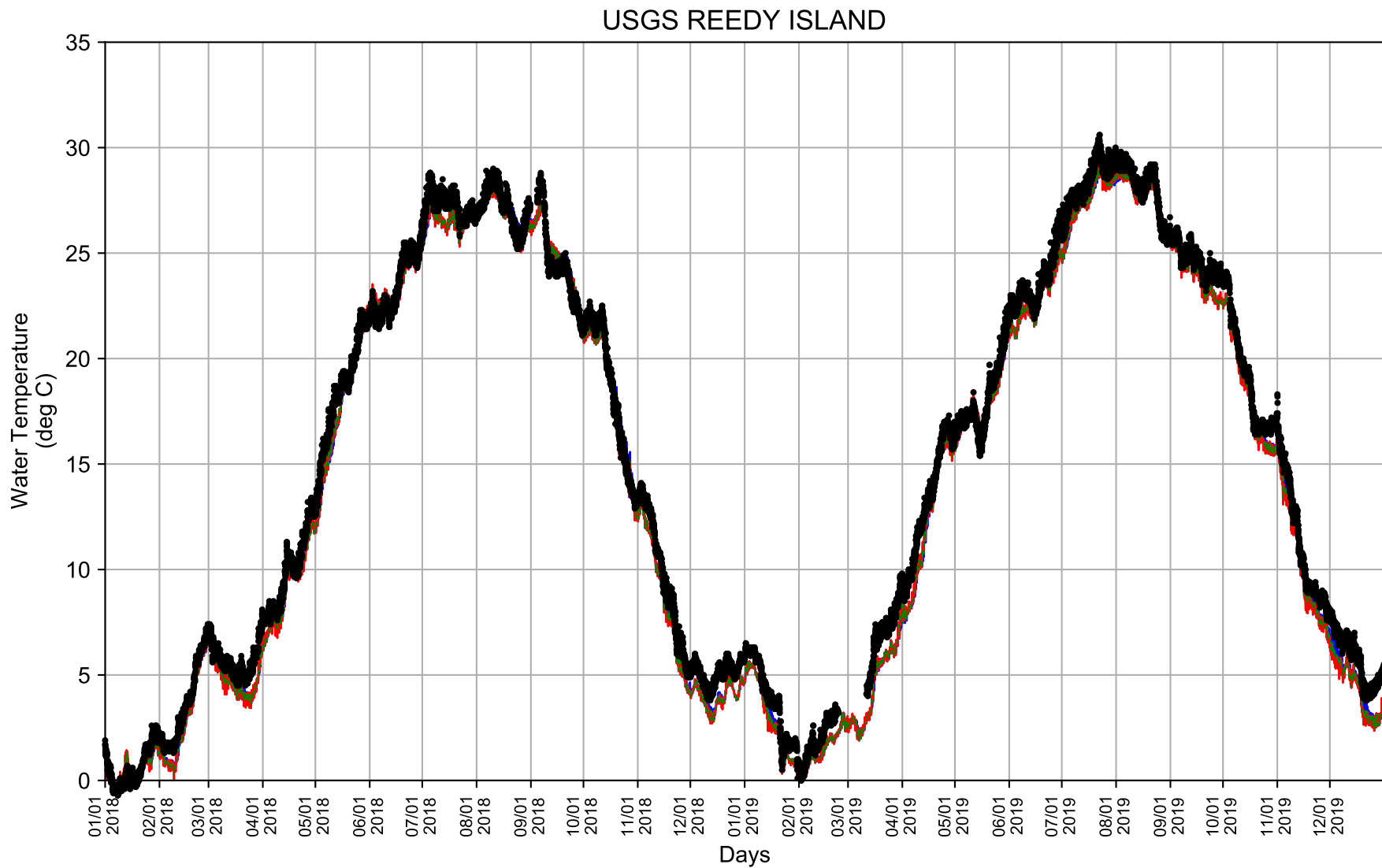


- Model Prediction (bottom)
- Model Prediction (surface)
- - - Model Prediction (second to surface)
- Data

Figure 3.3-11 (2)

Observed and Predicted Water Temperature at NOAA SHIP JOHN SHOAL

Station ID: 8537121, NOAA SHIP JOHN SHOAL
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

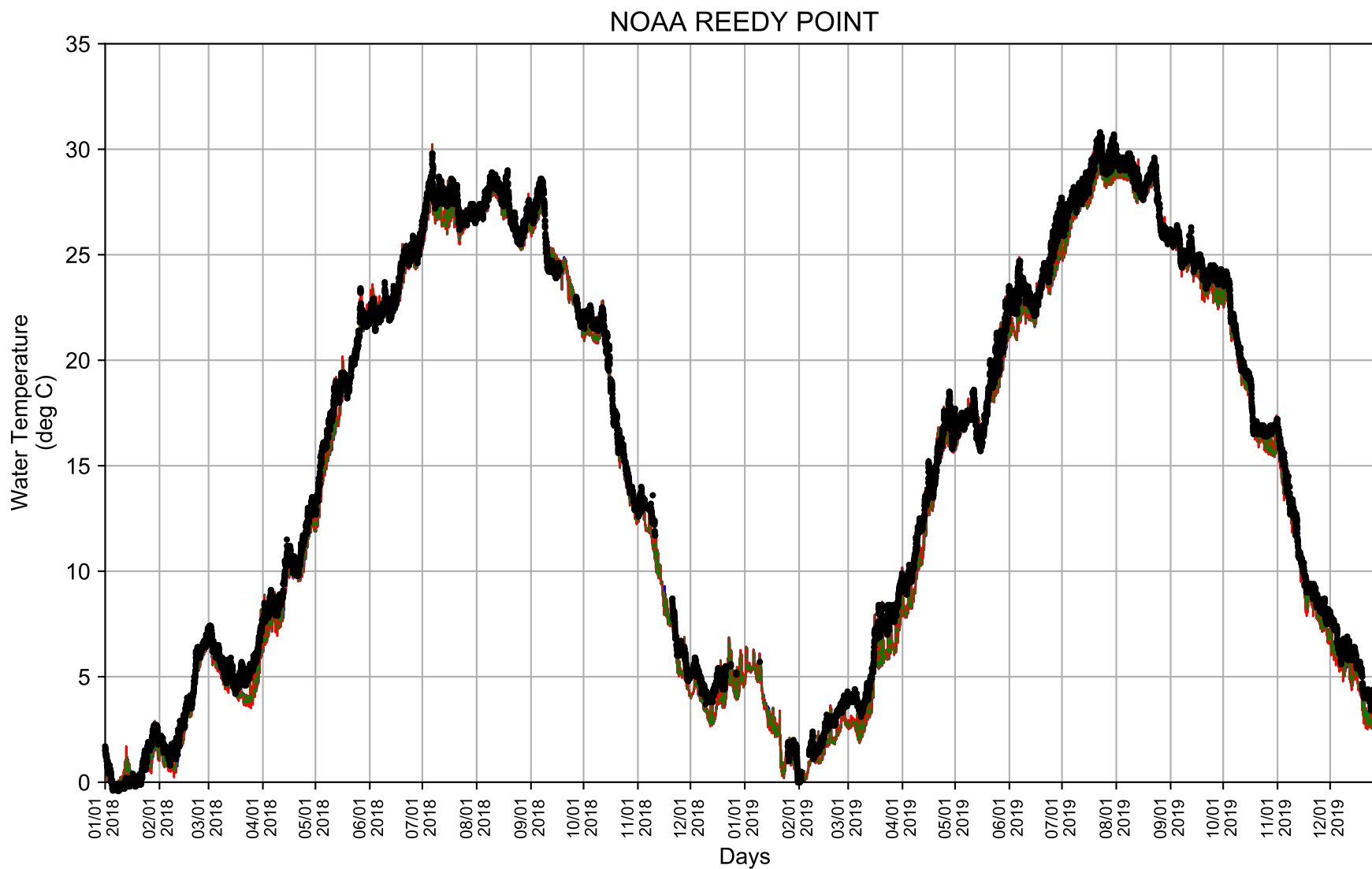


- Model Prediction (bottom)
- Model Prediction (surface)
- Model Prediction (second to surface)
- Data

Figure 3.3-11 (3)

Observed and Predicted Water Temperature at USGS REEDY ISLAND

Station ID: 01482800, USGS REEDY ISLAND
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

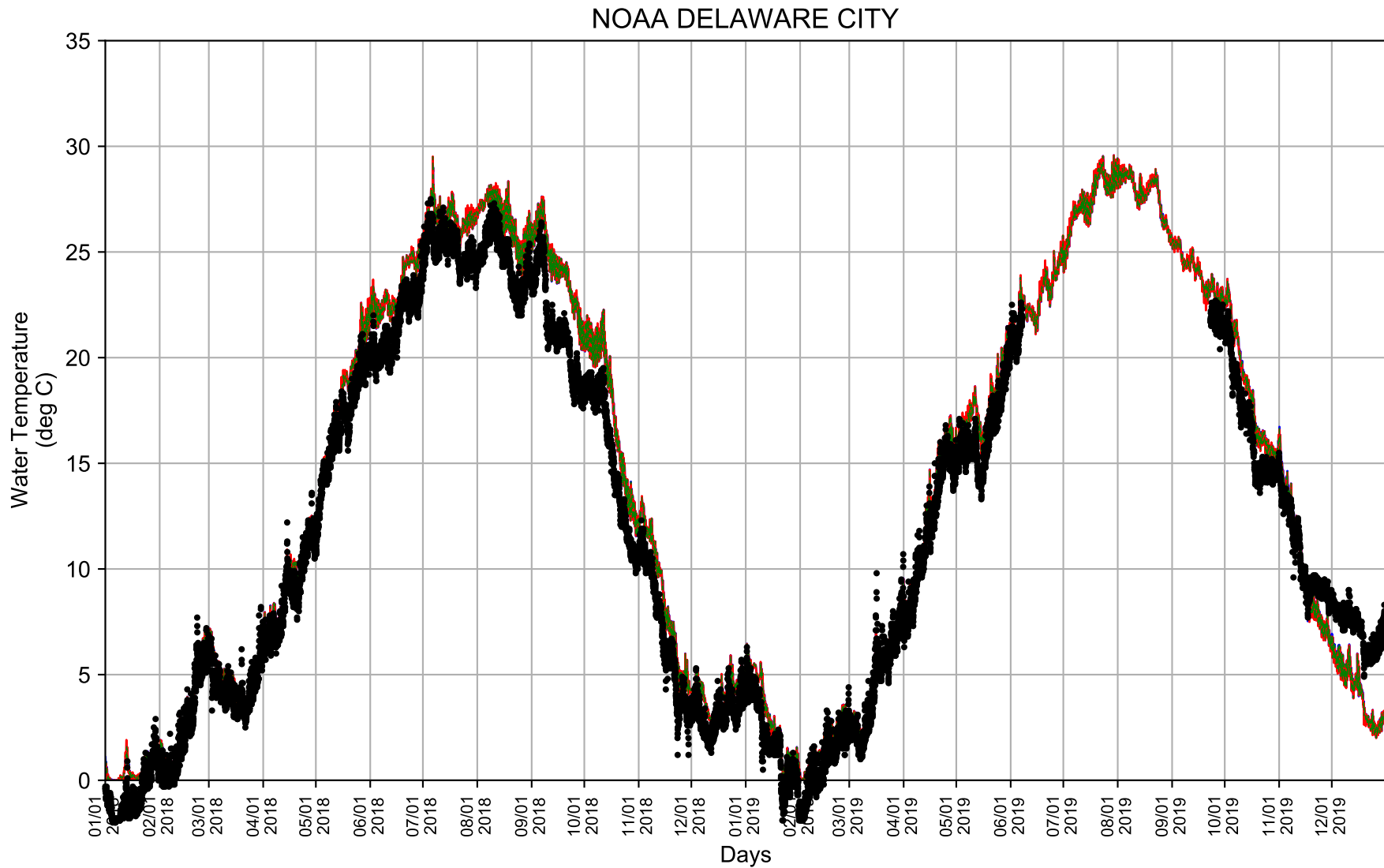


- Model Prediction (bottom)
- Model Prediction (surface)
- Model Prediction (second to surface)
- Data

Figure 3.3-11 (4)

Observed and Predicted Water Temperature at NOAA REEDY POINT

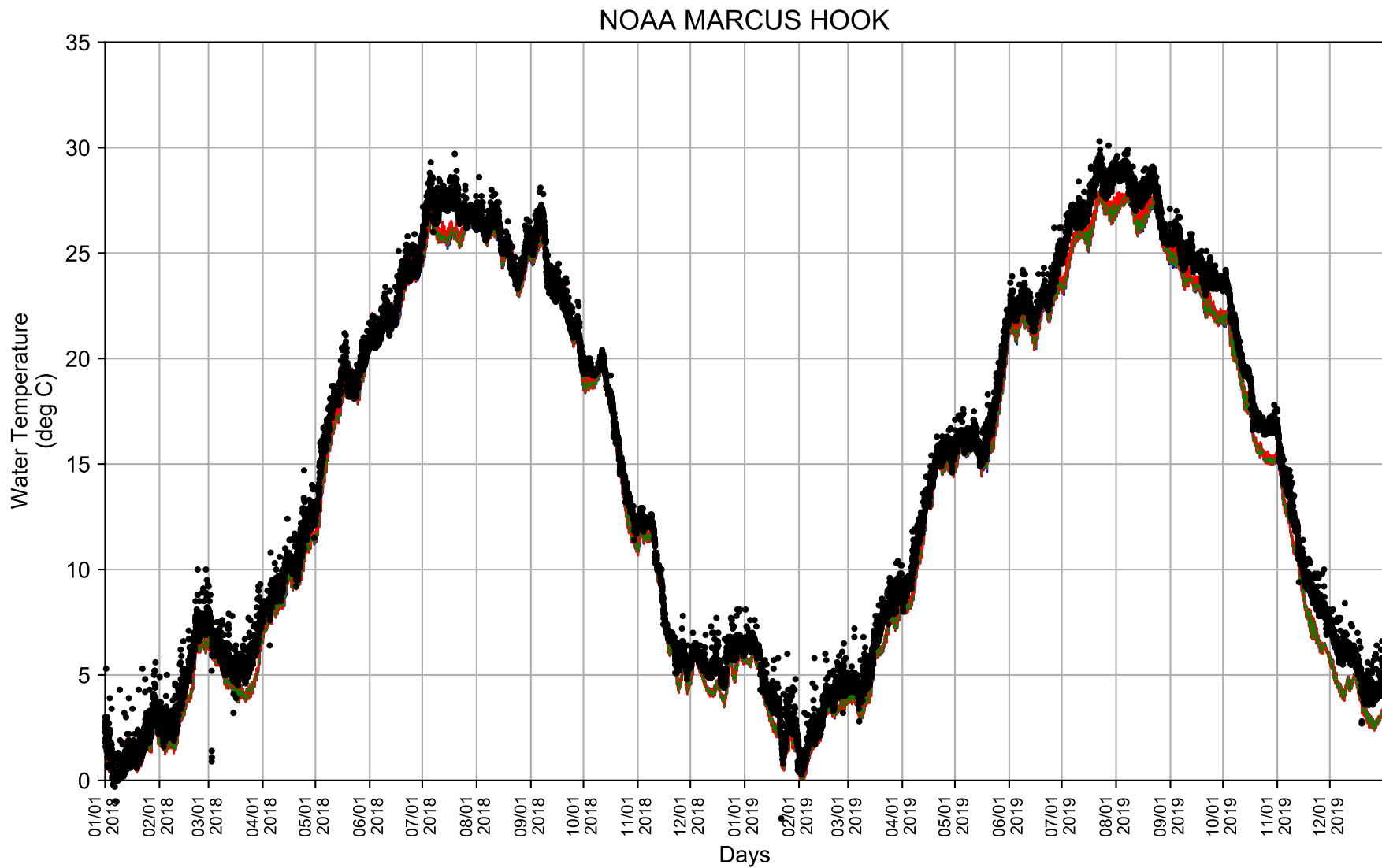
Station ID: 8551910, NOAA REEDY POINT
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.



- Model Prediction (bottom)
- Model Prediction (surface)
- Model Prediction (second to surface)
- Data

Figure 3.3-11 (5)
 Observed and Predicted Water Temperature at NOAA DELAWARE CITY

Station ID: 8551762, NOAA DELAWARE CITY
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

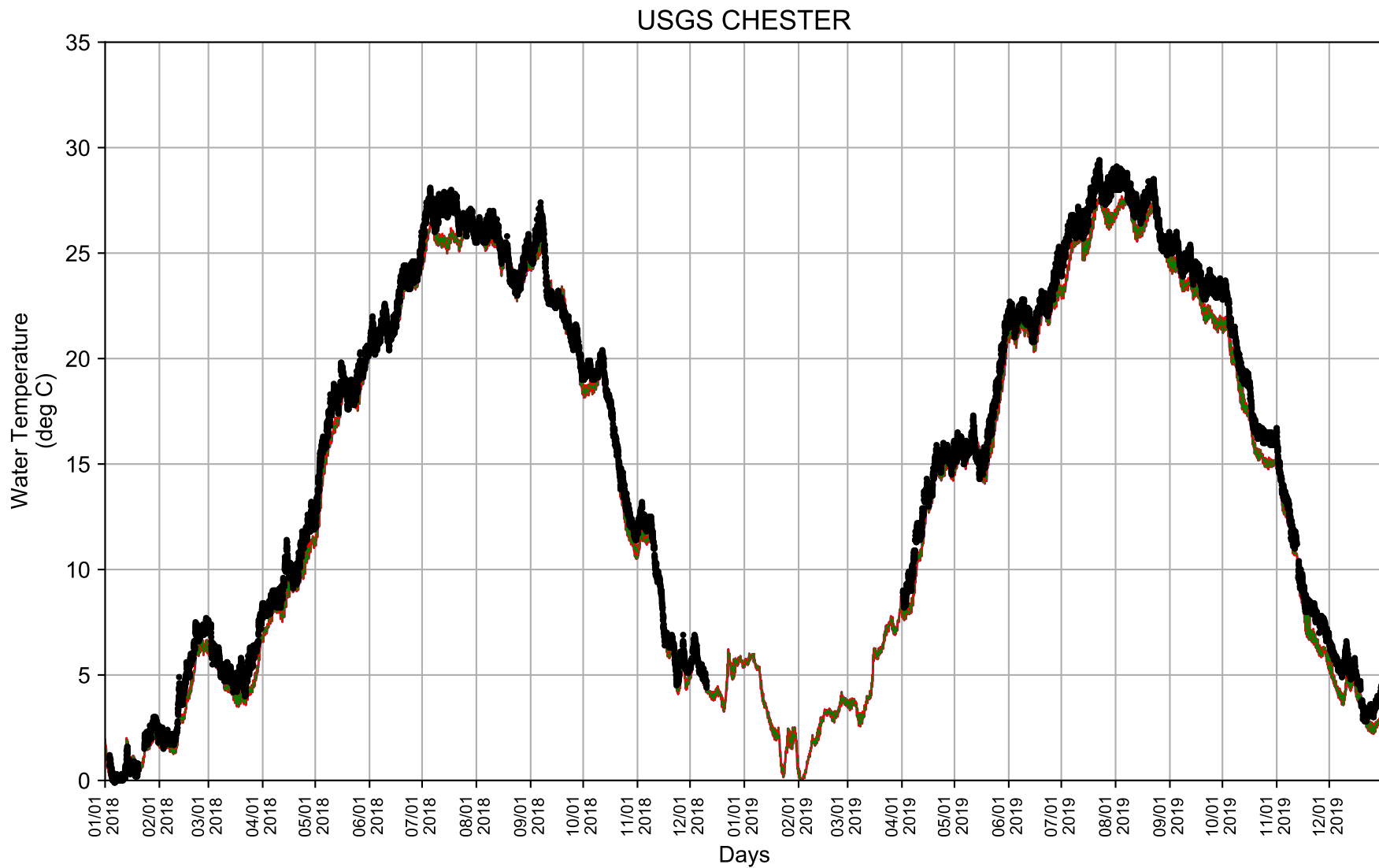


- Model Prediction (bottom)
- Model Prediction (surface)
- - - Model Prediction (second to surface)
- Data

Figure 3.3-11 (6)

Observed and Predicted Water Temperature at NOAA MARCUS HOOK

Station ID: 8540433, NOAA MARCUS HOOK
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

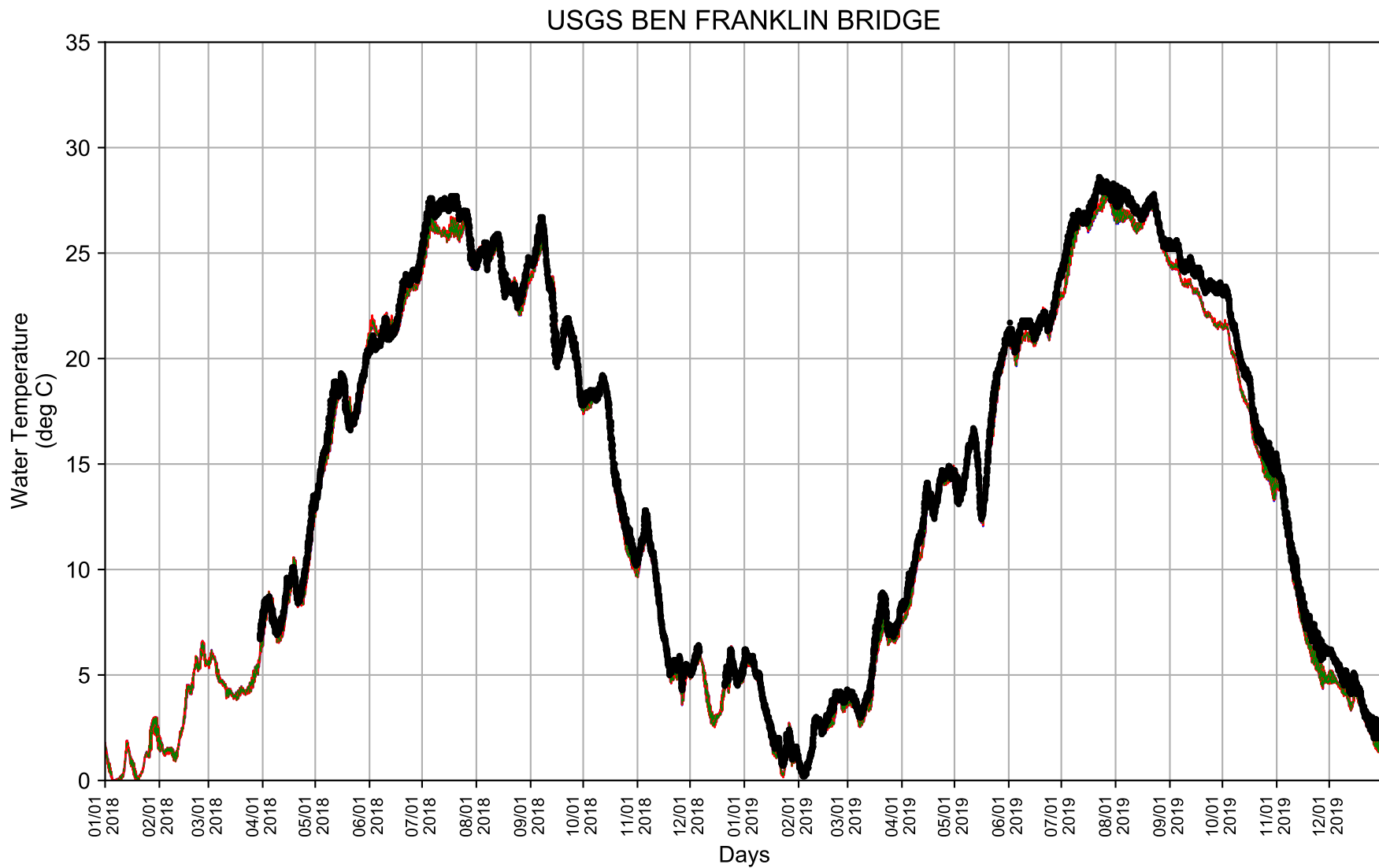


- Model Prediction (bottom)
- Model Prediction (surface)
- - - Model Prediction (second to surface)
- Data

Figure 3.3-11 (7)

Observed and Predicted Water Temperature at USGS CHESTER

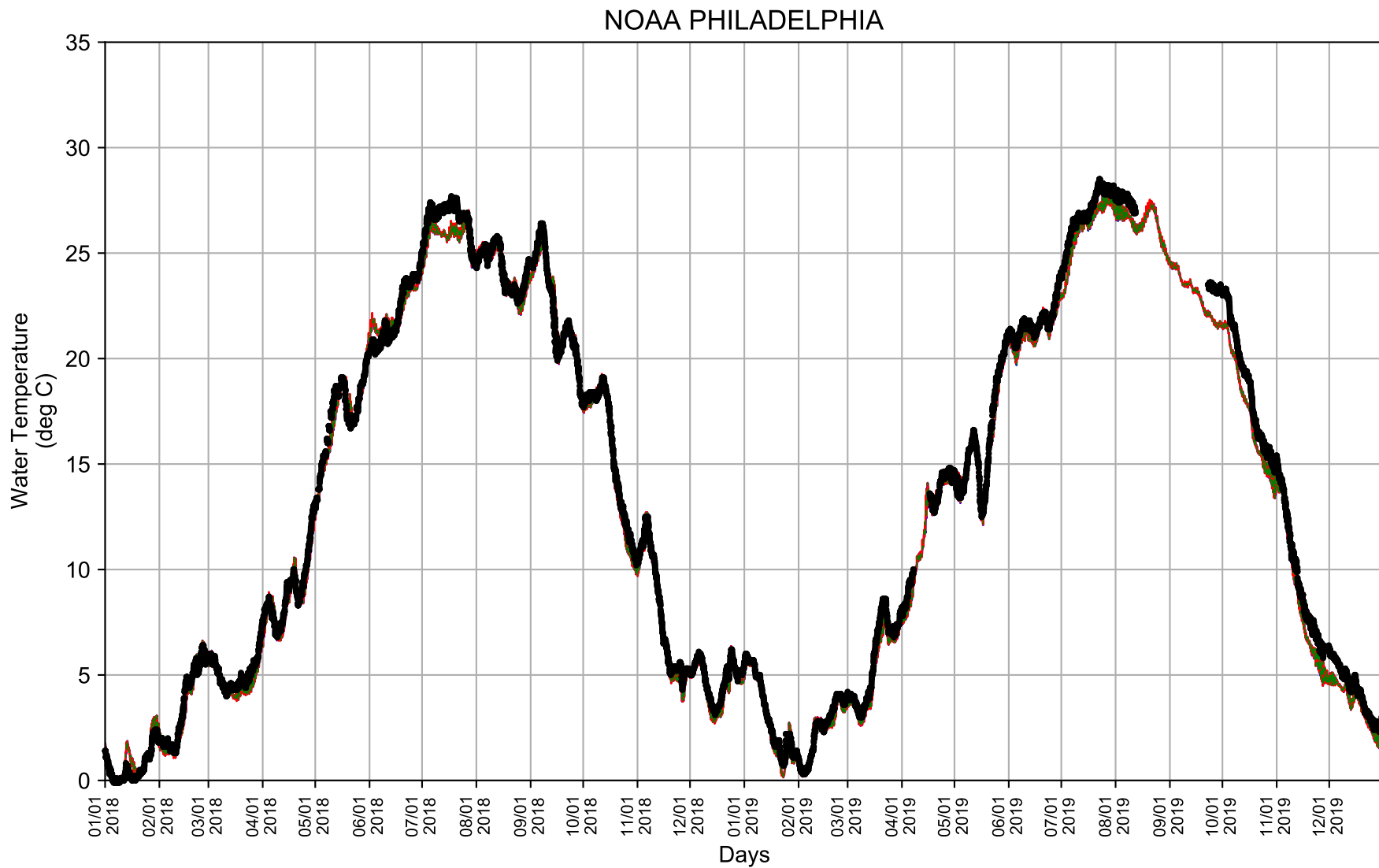
Station ID: 01477050, USGS CHESTER
Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.



- Model Prediction (bottom)
- Model Prediction (surface)
- Model Prediction (second to surface)
- Data

Figure 3.3-11 (8)
 Observed and Predicted Water Temperature at USGS BEN FRANKLIN BRIDGE

Station ID: 01467200, USGS BEN FRANKLIN BRIDGE
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

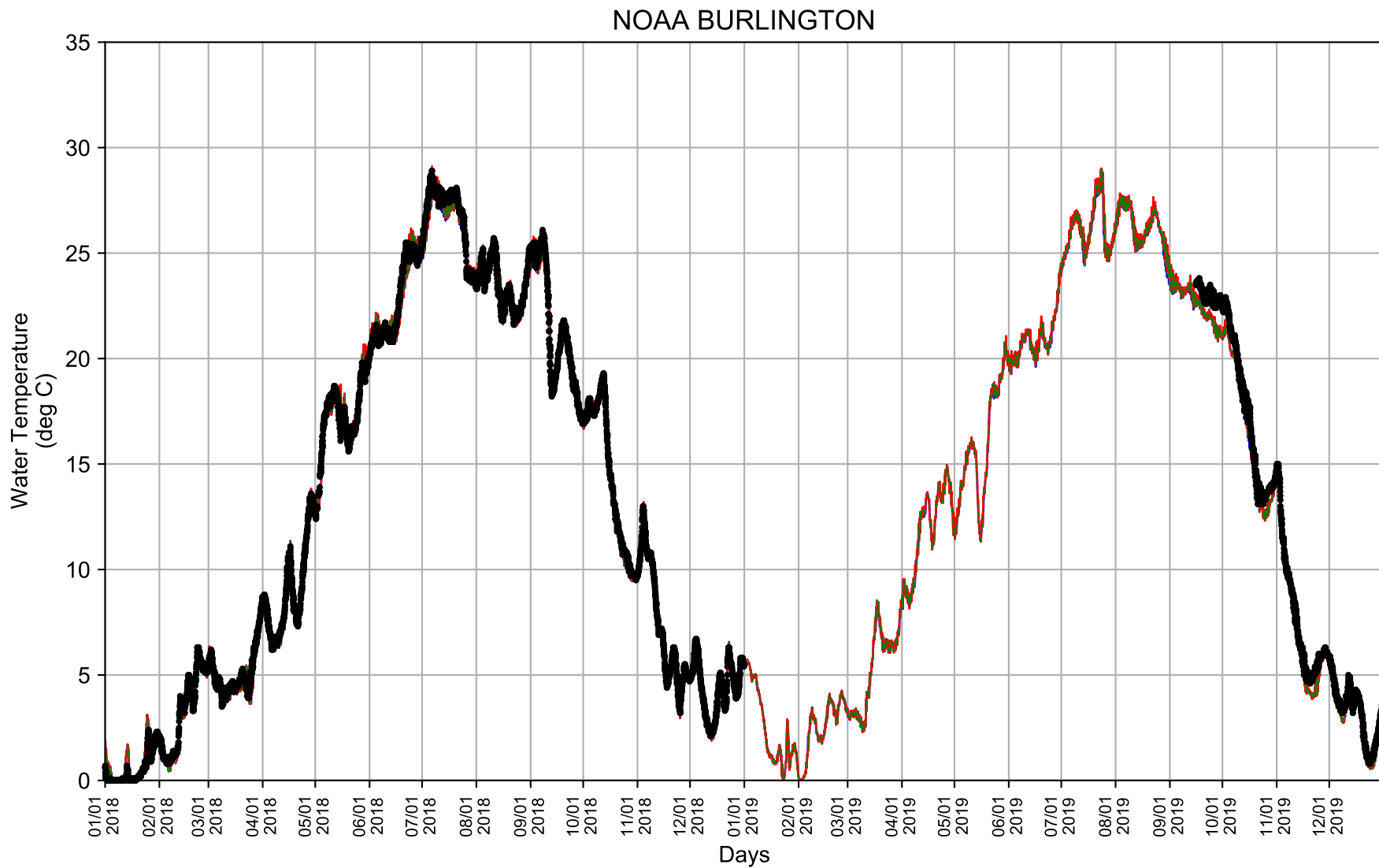


- Model Prediction (bottom)
- Model Prediction (surface)
- Model Prediction (second to surface)
- Data

Figure 3.3-11 (9)

Observed and Predicted Water Temperature at NOAA PHILADELPHIA

Station ID: 8545240, NOAA PHILADELPHIA
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

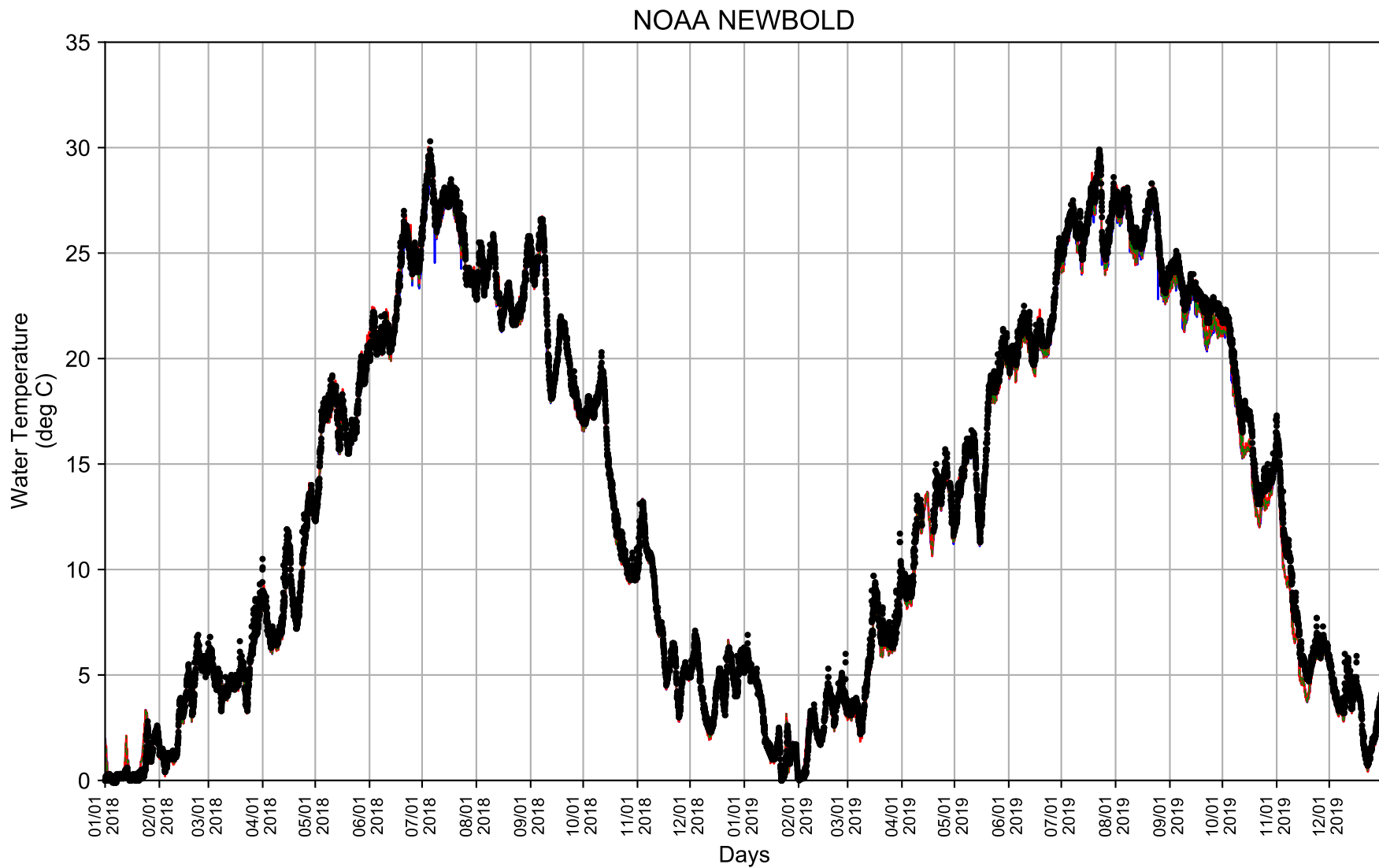


- Model Prediction (bottom)
- Model Prediction (surface)
- - - Model Prediction (second to surface)
- Data

Figure 3.3-11 (10)

Observed and Predicted Water Temperature at NOAA BURLINGTON

Station ID: 8539094, NOAA BURLINGTON
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.



- Model Prediction (bottom)
- Model Prediction (surface)
- Model Prediction (second to surface)
- Data

Figure 3.3-11 (11)

Observed and Predicted Water Temperature at NOAA NEWBOLD

Station ID: 8548989, NOAA NEWBOLD
Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

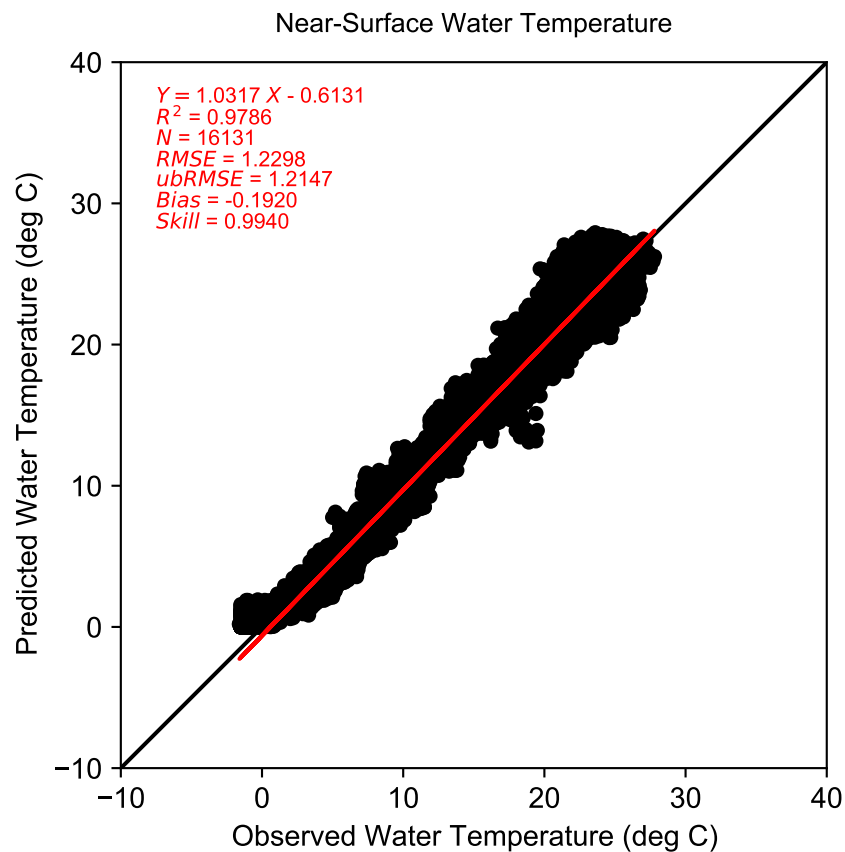
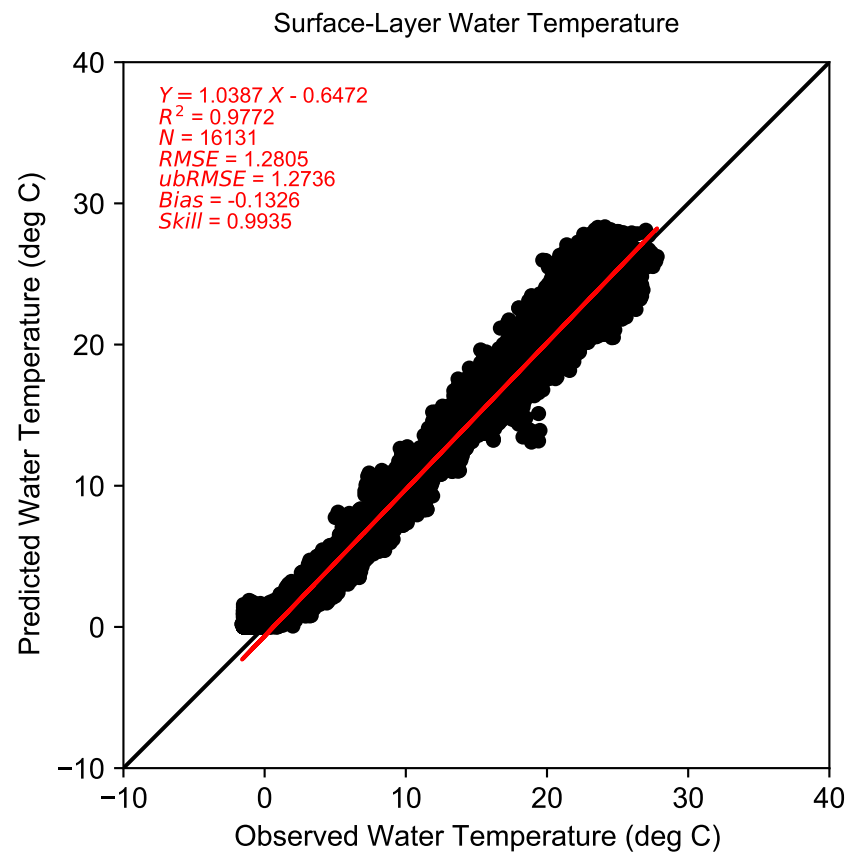


Figure 3.3-12 (1)
 Comparison of Observed and Predicted Water Temperature at
 NOAA LEWES during 01-01-2018 to 12-31-2019 period.
Station ID: 8557380
Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

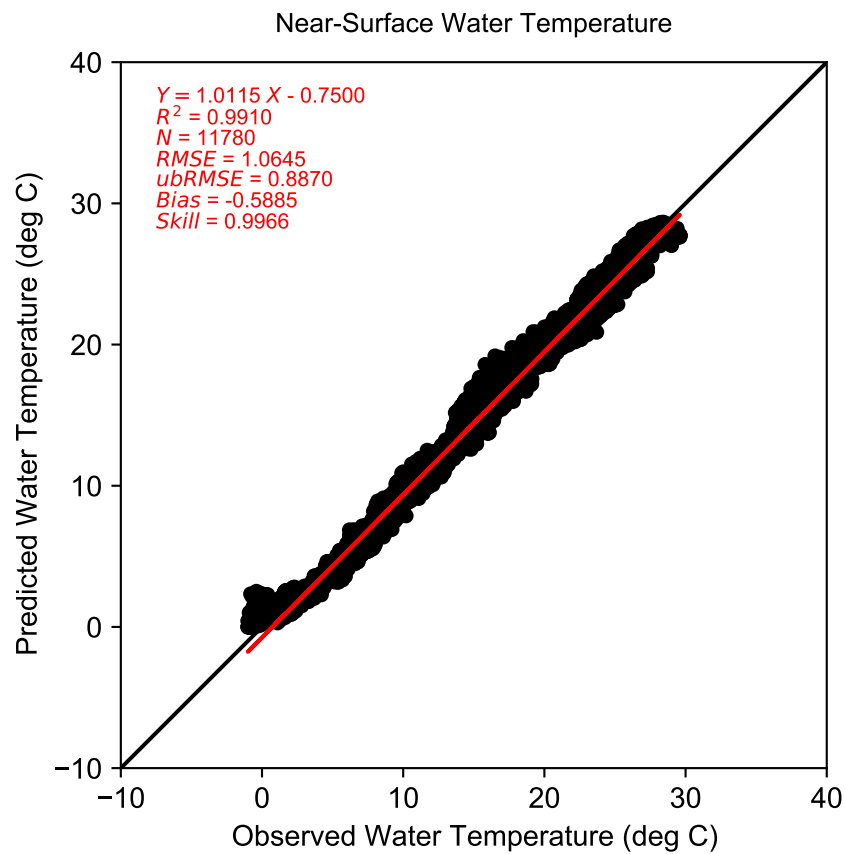
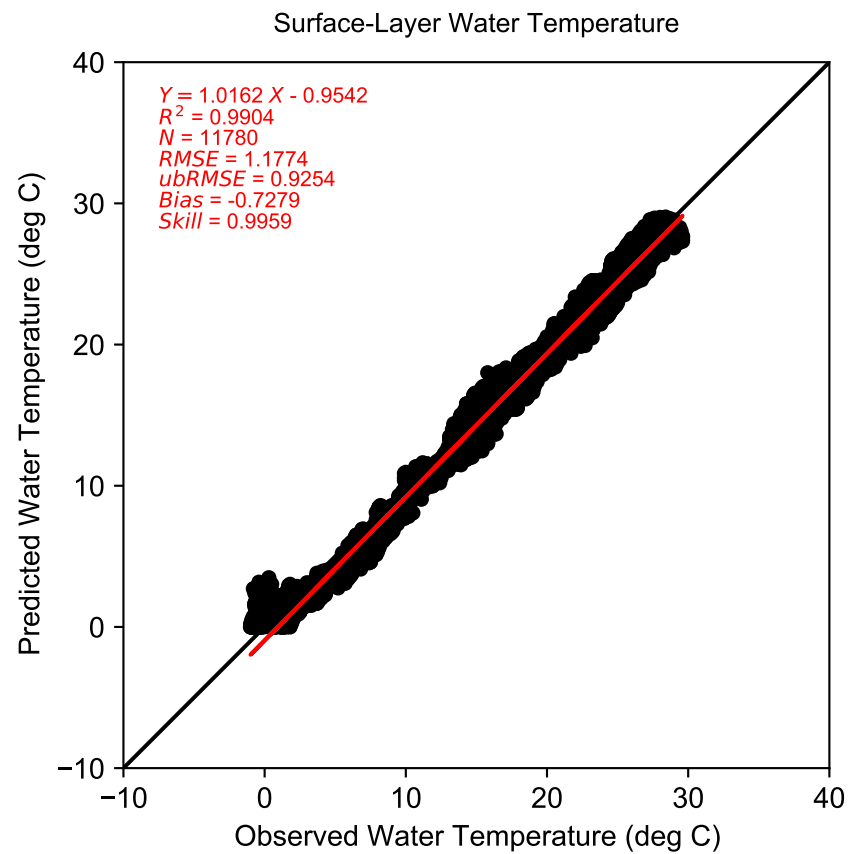


Figure 3.3-12 (2)
 Comparison of Observed and Predicted Water Temperature at
 NOAA SHIP JOHN SHOAL during 01-01-2018 to 12-31-2019 period.

Station ID: 8537121
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

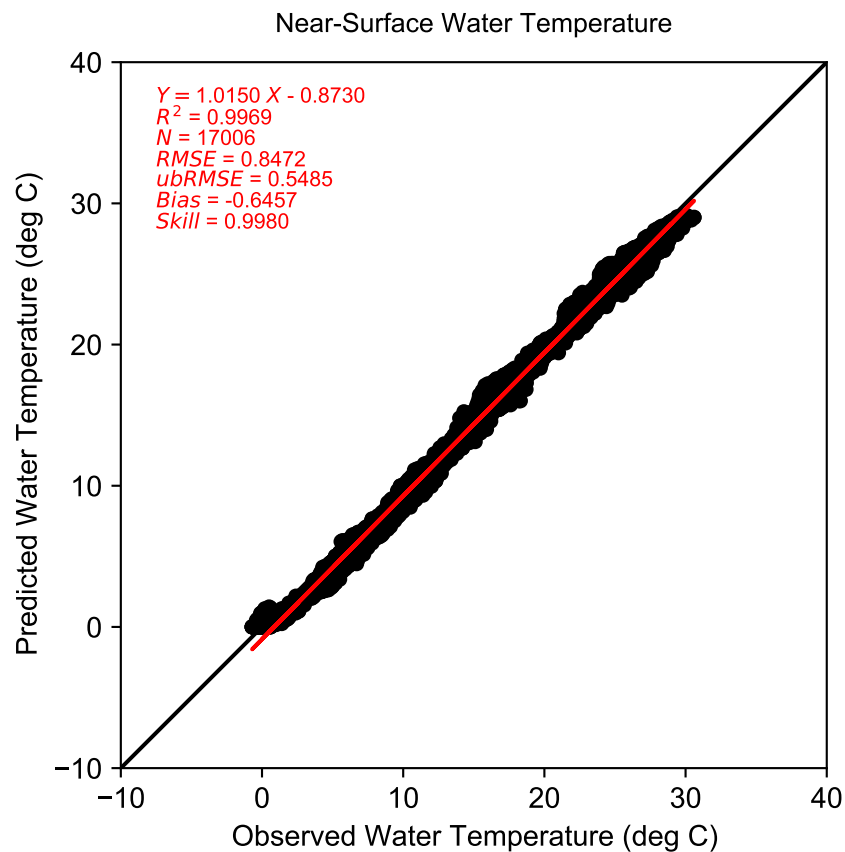
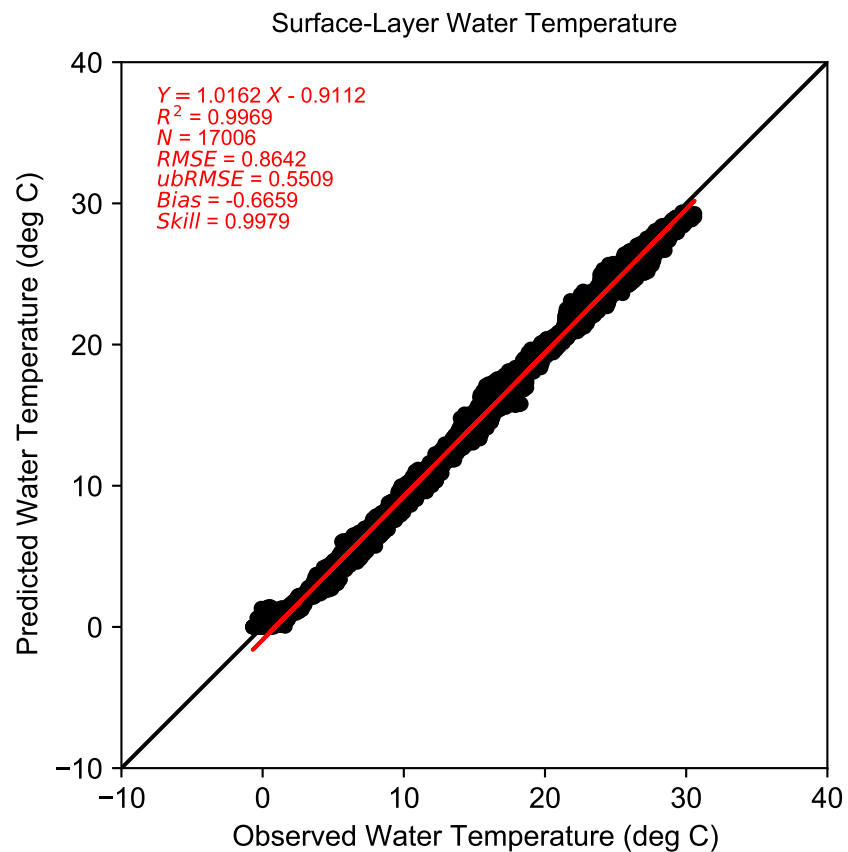


Figure 3.3-12 (3)
 Comparison of Observed and Predicted Water Temperature at
 USGS REEDY ISLAND during 01-01-2018 to 12-31-2019 period.

Station ID: 01482800
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

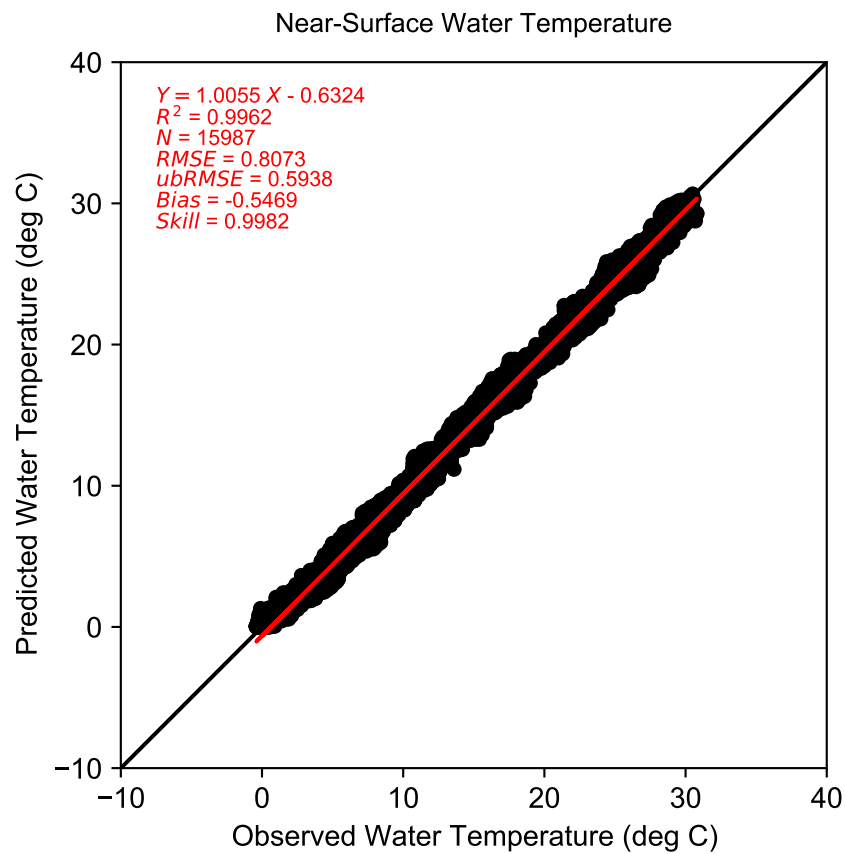
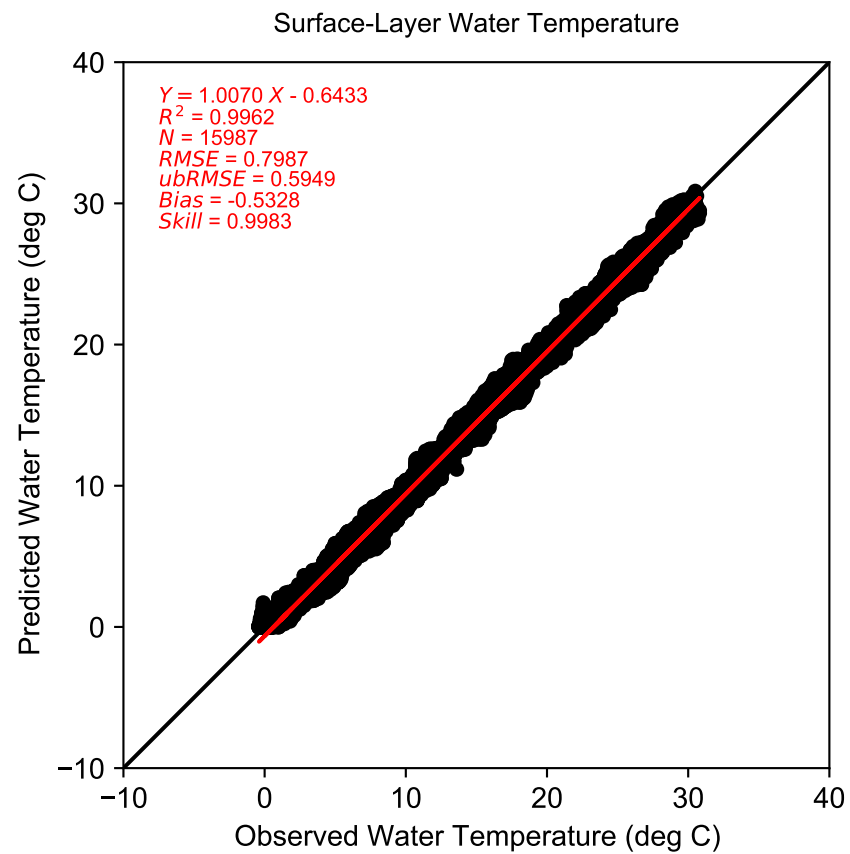


Figure 3.3-12 (4)
 Comparison of Observed and Predicted Water Temperature at
 NOAA REEDY POINT during 01-01-2018 to 12-31-2019 period.

Station ID: 8551910
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

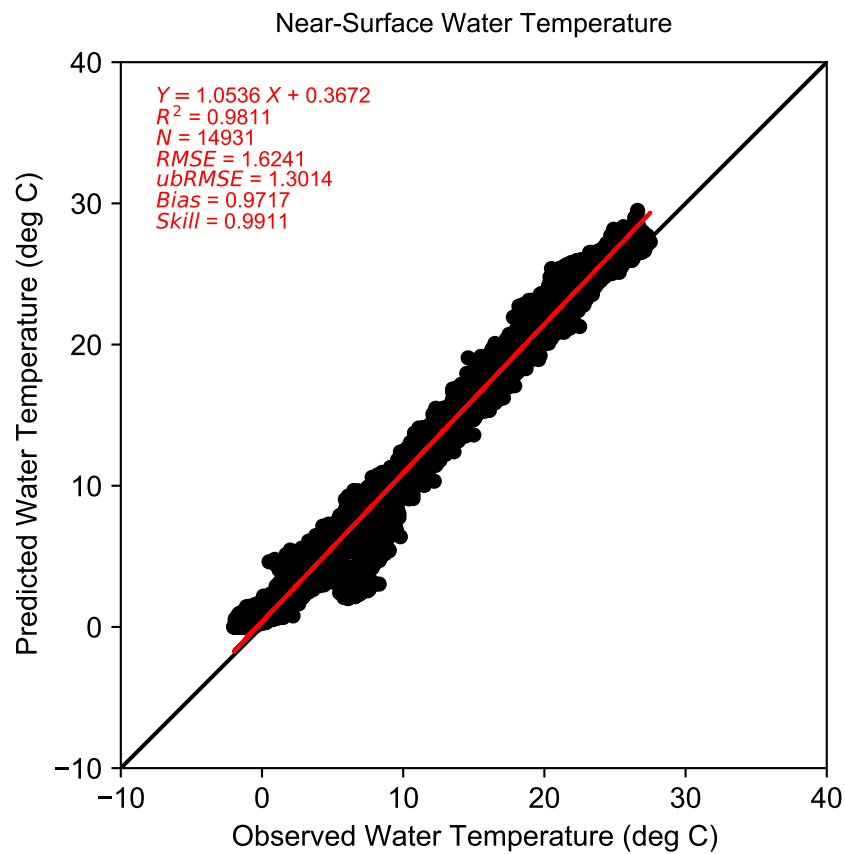
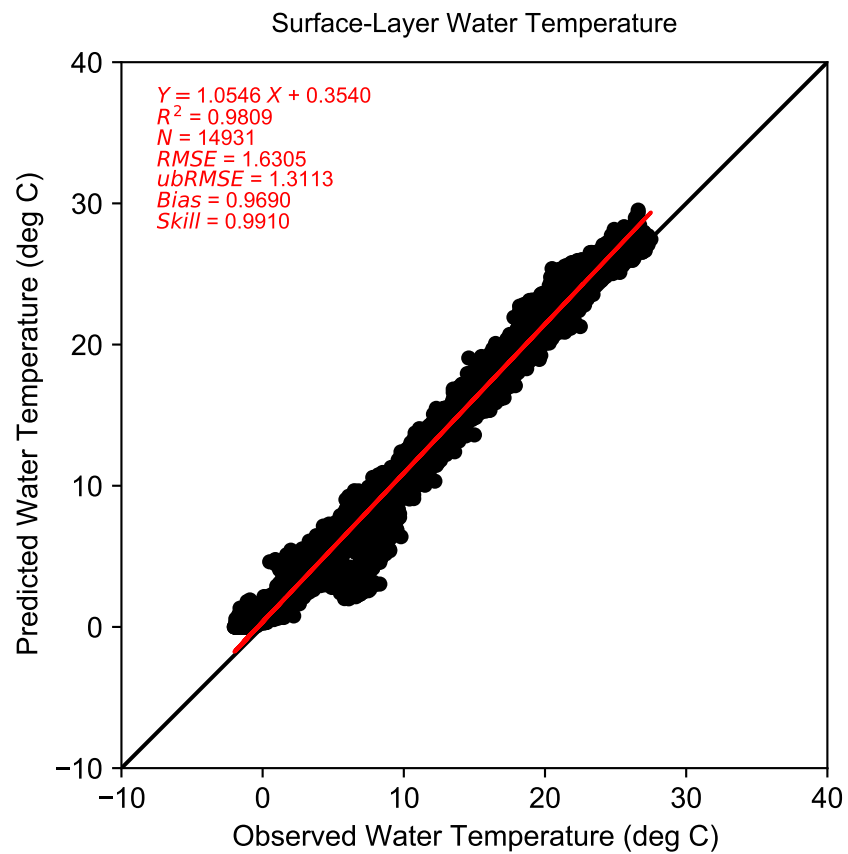


Figure 3.3-12 (5)
 Comparison of Observed and Predicted Water Temperature at
 NOAA DELAWARE CITY during 01-01-2018 to 12-31-2019 period.

Station ID: 8551762
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

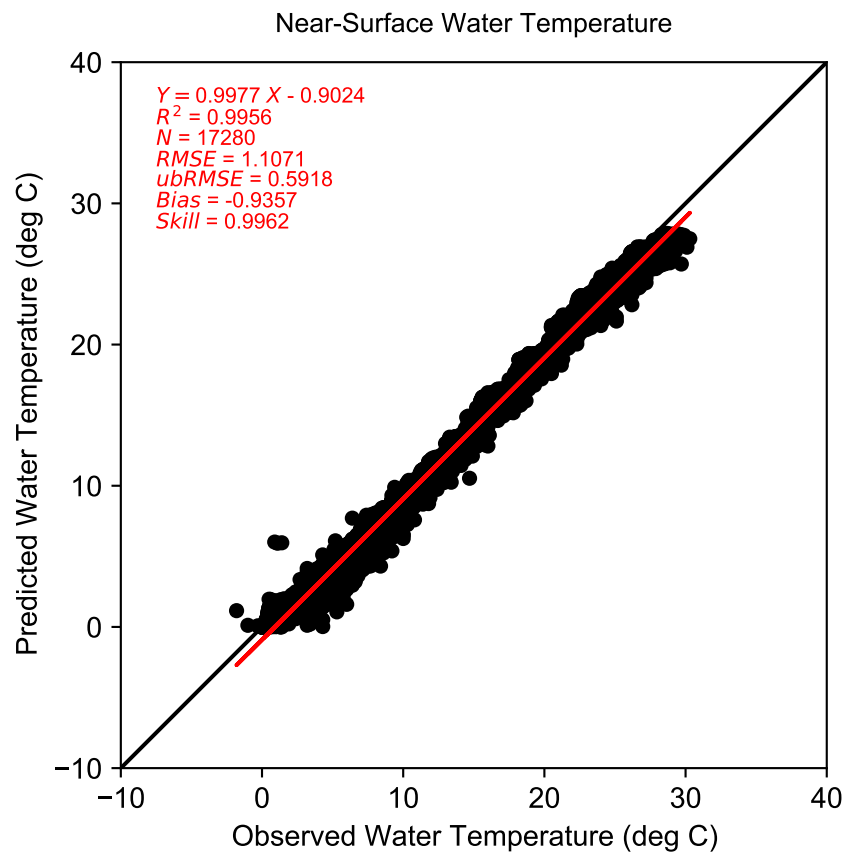
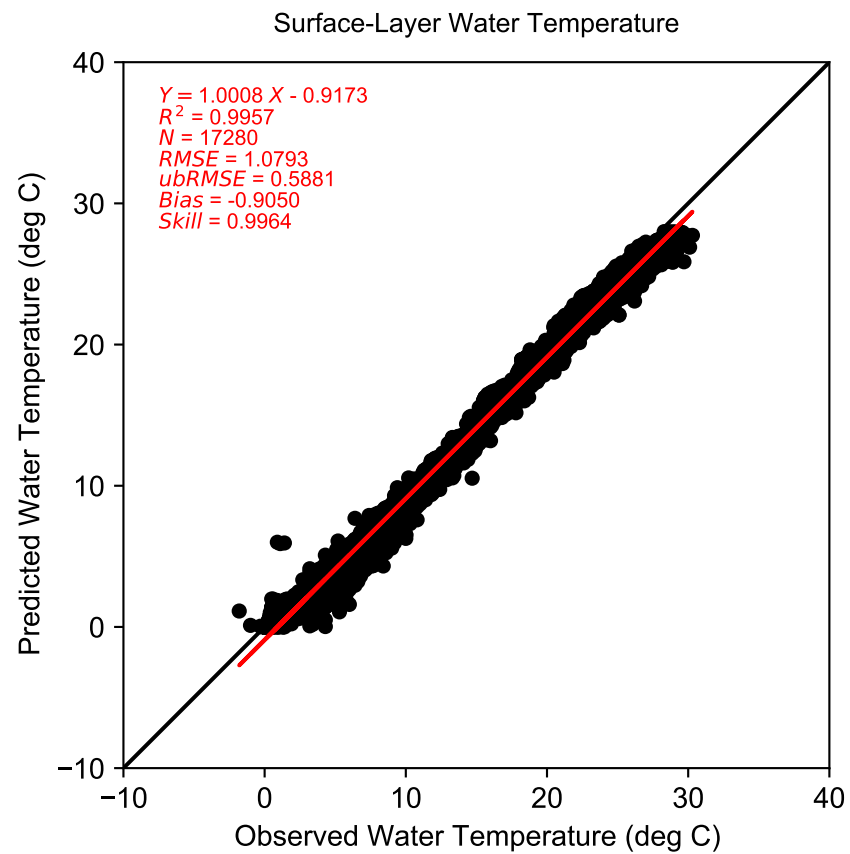


Figure 3.3-12 (6)
 Comparison of Observed and Predicted Water Temperature at
 NOAA MARCUS HOOK during 01-01-2018 to 12-31-2019 period.

Station ID: 8540433
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

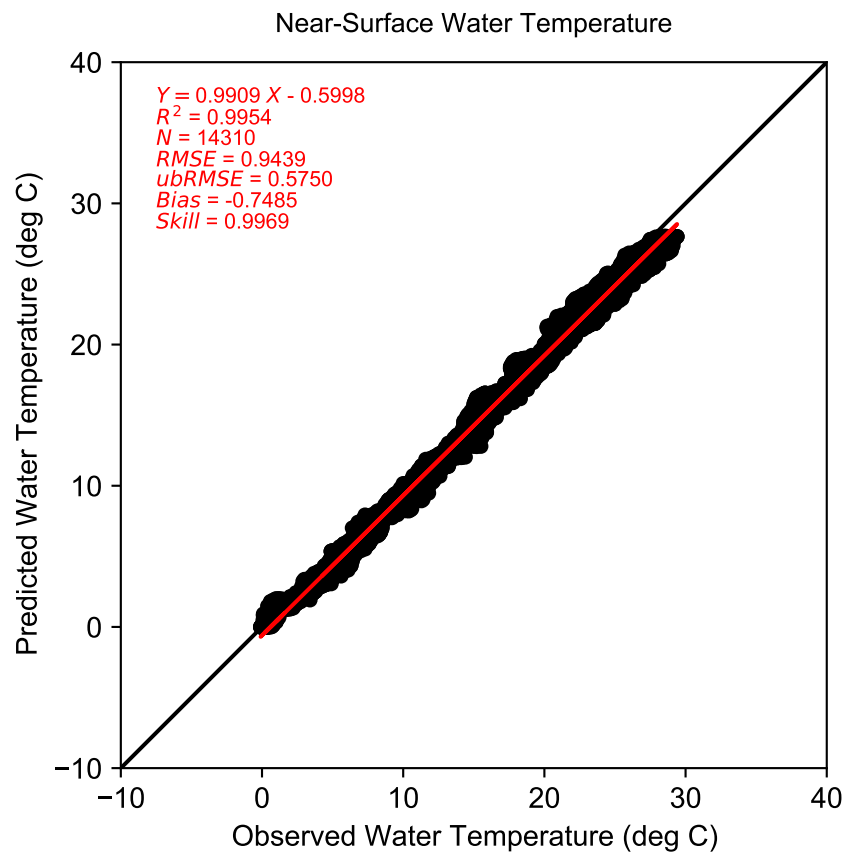
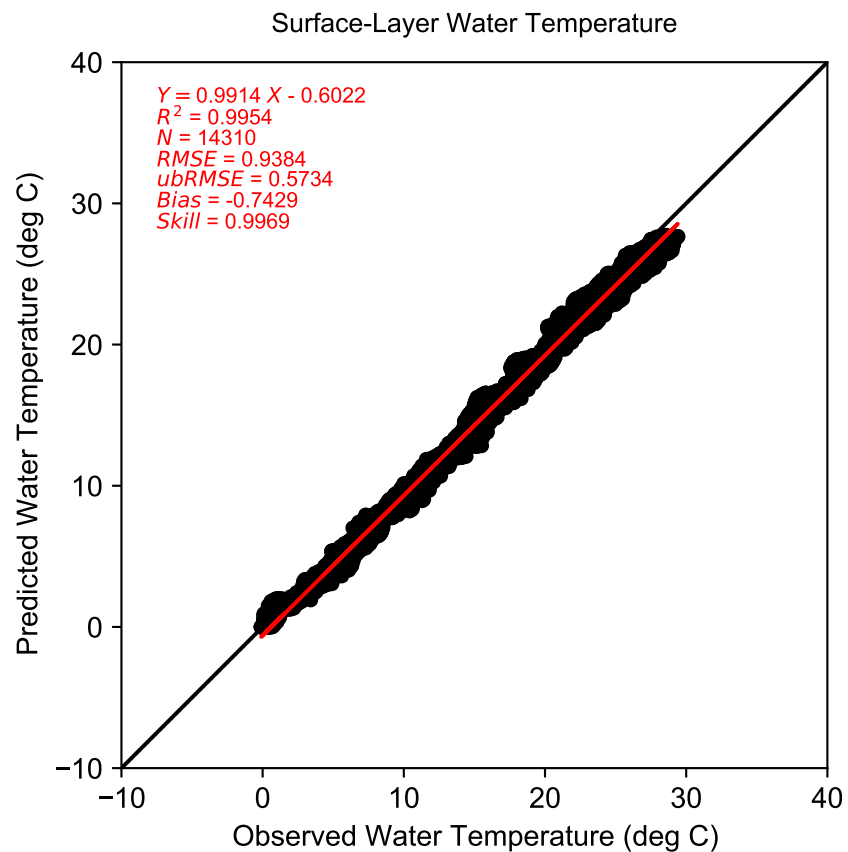


Figure 3.3-12 (7)
 Comparison of Observed and Predicted Water Temperature at
 USGS CHESTER during 01-01-2018 to 12-31-2019 period.

Station ID: 01477050

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

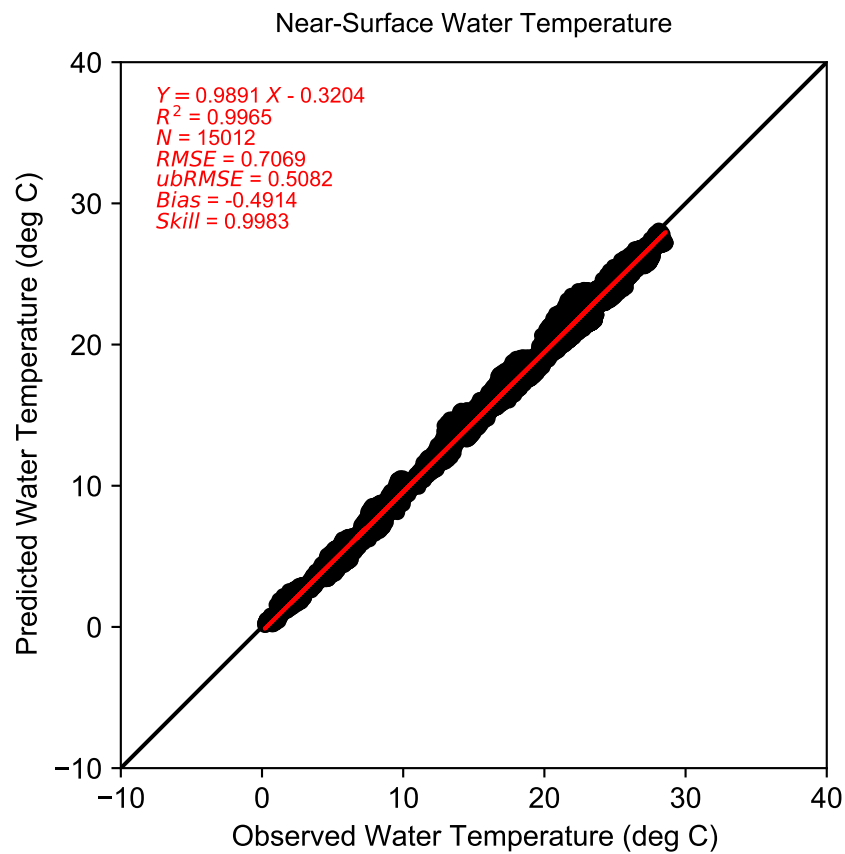
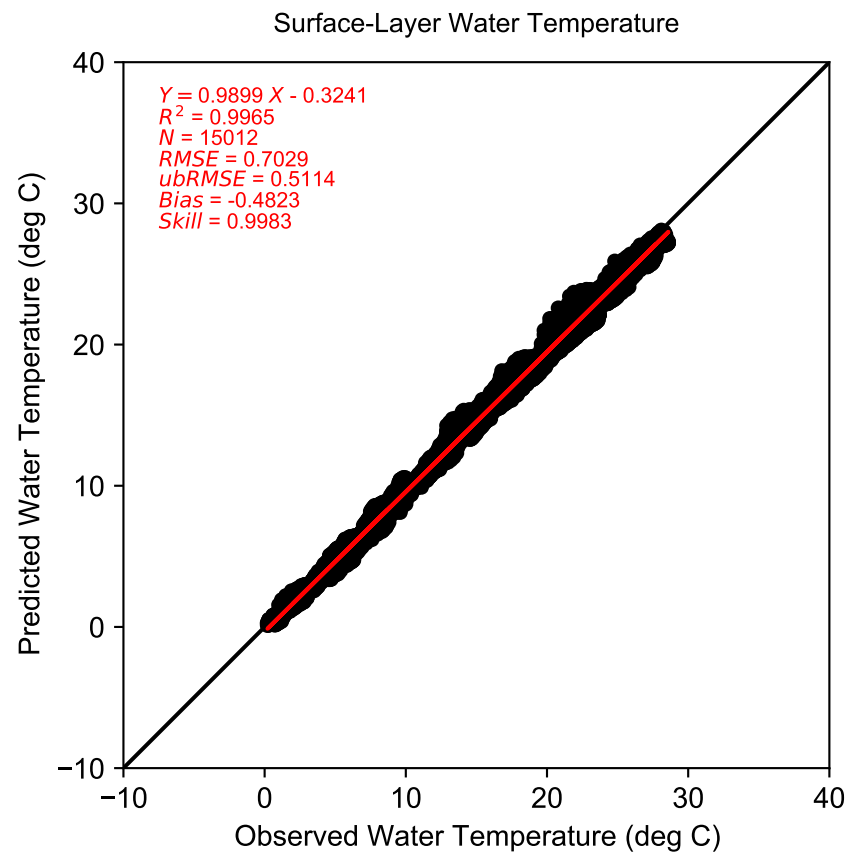


Figure 3.3-12 (8)
 Comparison of Observed and Predicted Water Temperature at
 USGS BEN FRANKLIN BRIDGE during 01-01-2018 to 12-31-2019 period.

Station ID: 01467200
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

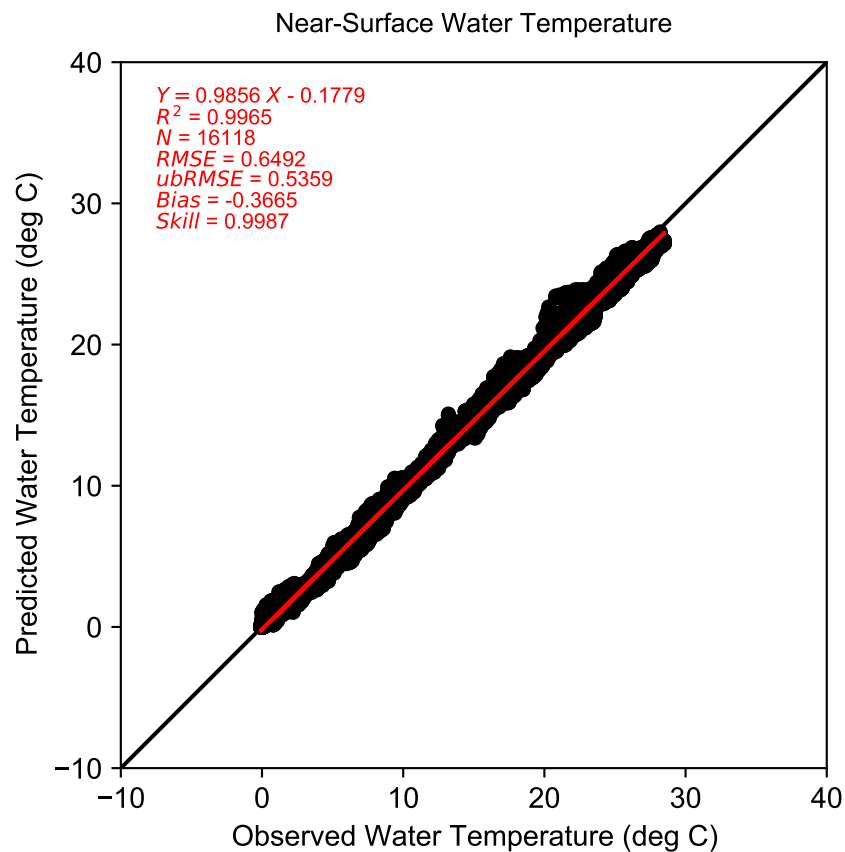
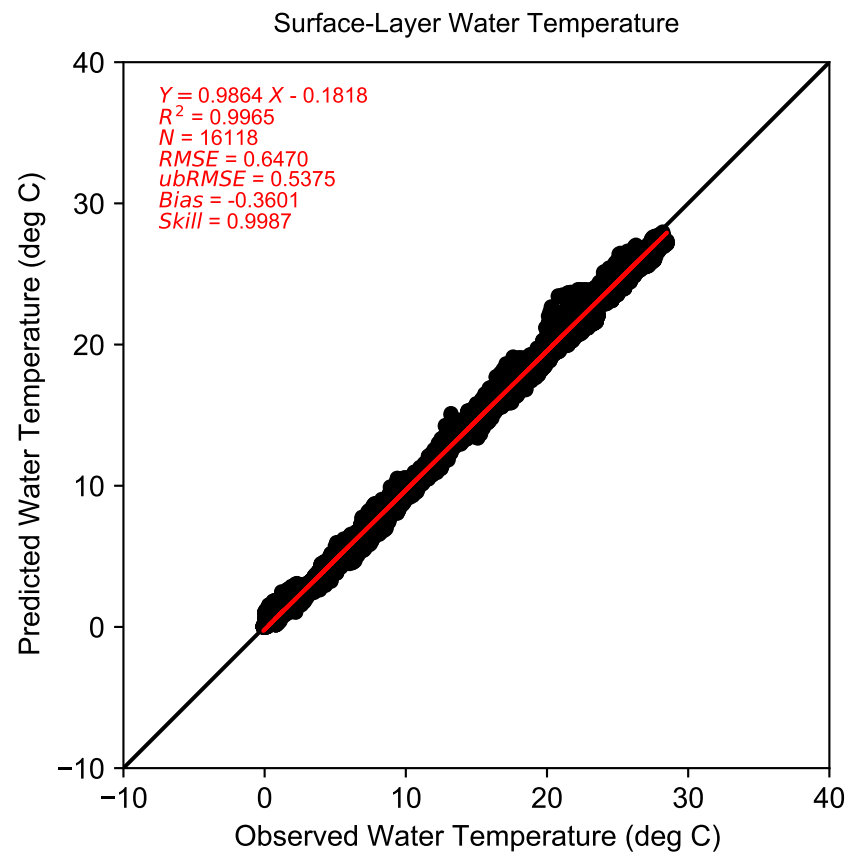


Figure 3.3-12 (9)
 Comparison of Observed and Predicted Water Temperature at
 NOAA PHILADELPHIA during 01-01-2018 to 12-31-2019 period.

Station ID: 8545240
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

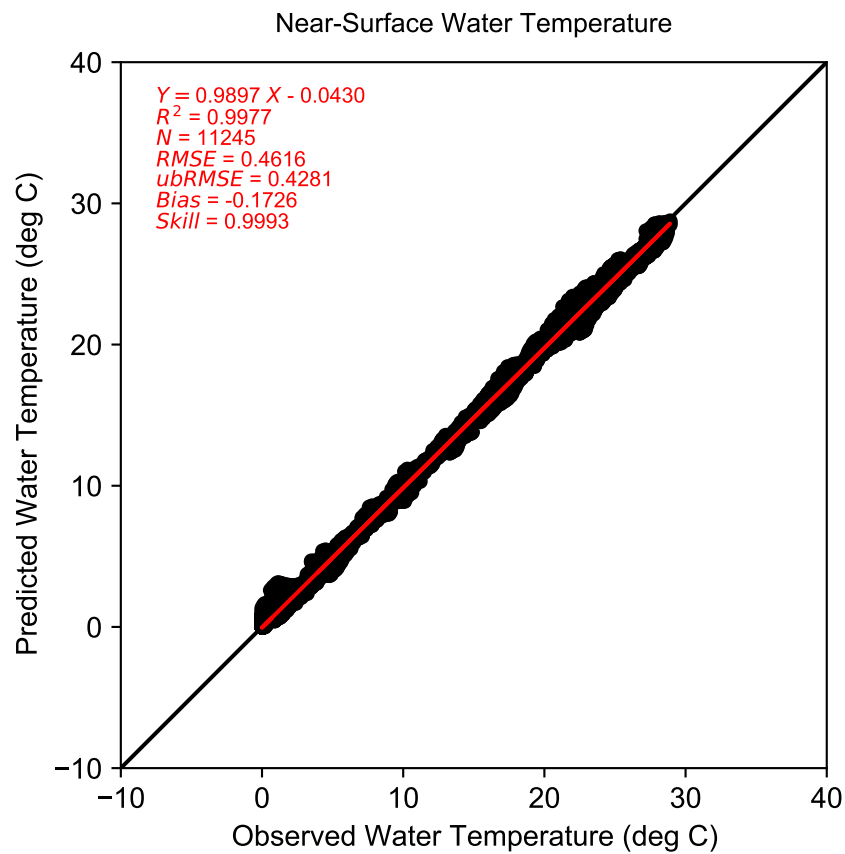
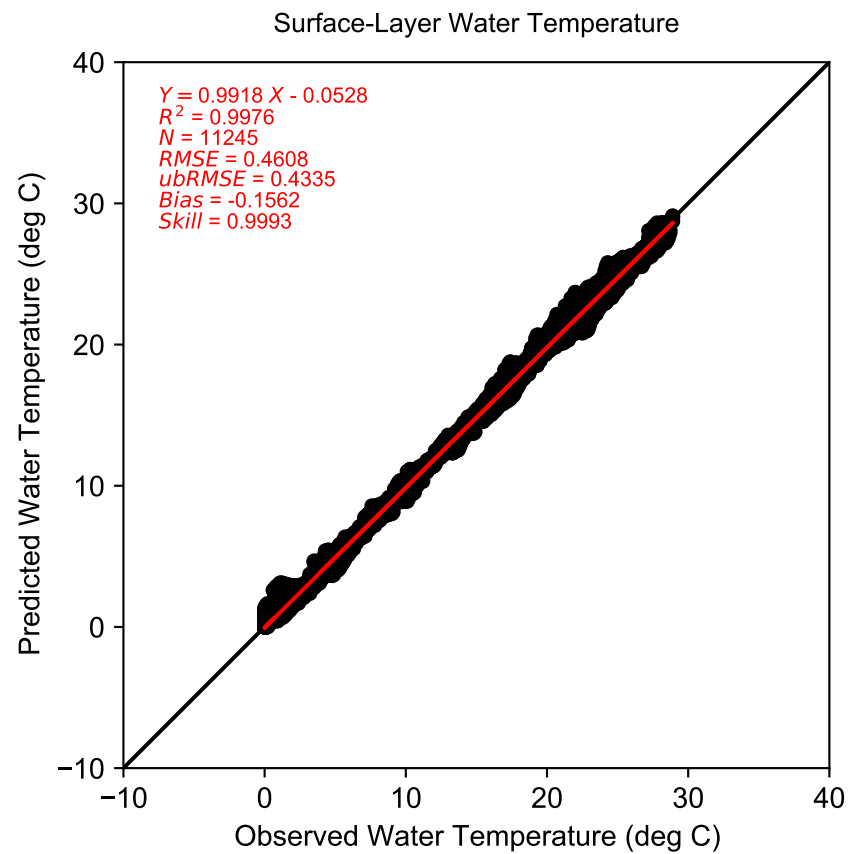


Figure 3.3-12 (10)
 Comparison of Observed and Predicted Water Temperature at
 NOAA BURLINGTON during 01-01-2018 to 12-31-2019 period.

Station ID: 8539094
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

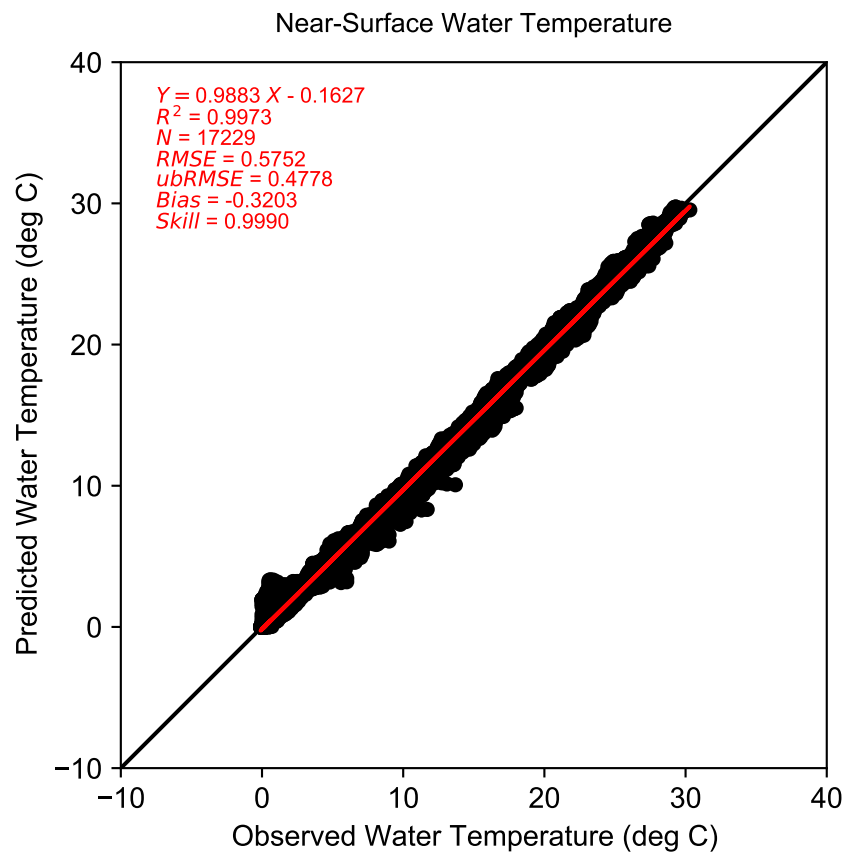
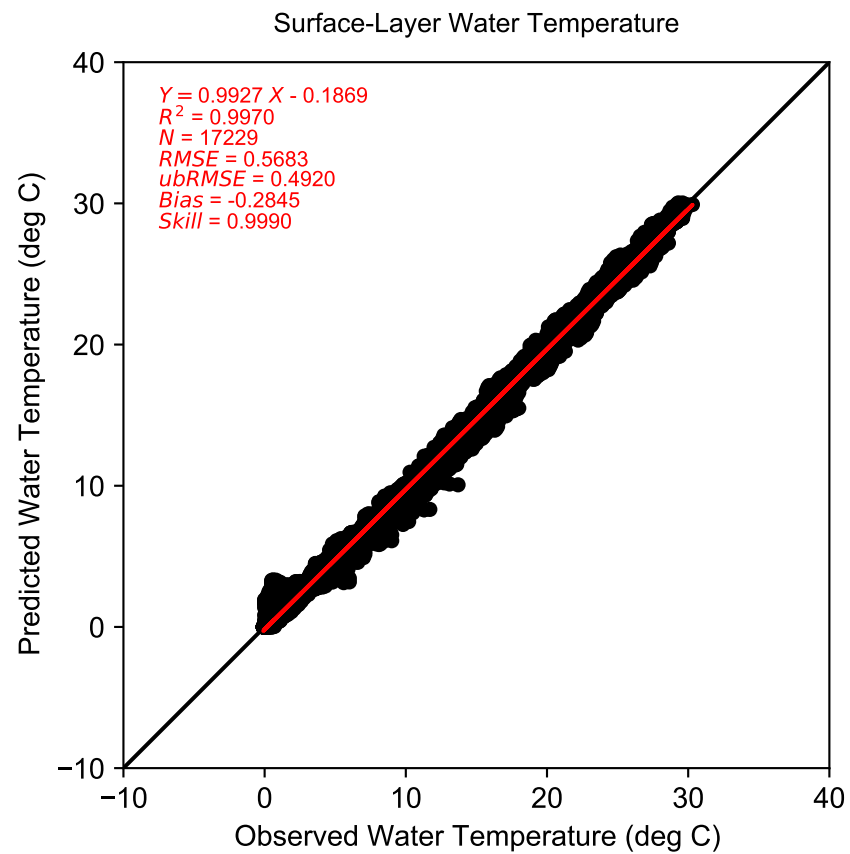
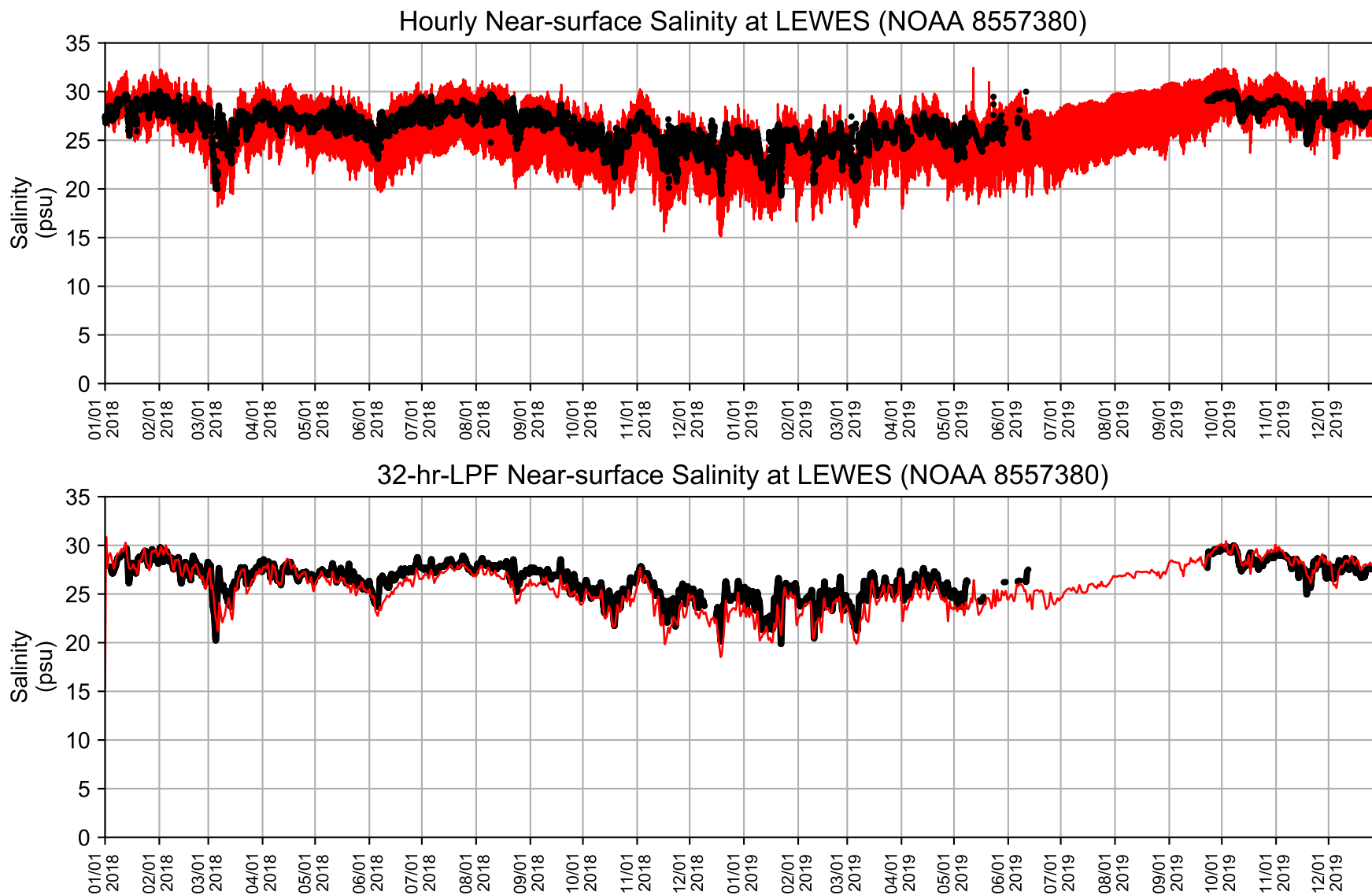


Figure 3.3-12 (11)
 Comparison of Observed and Predicted Water Temperature at
 NOAA NEWBOLD during 01-01-2018 to 12-31-2019 period.

Station ID: 8548989
 Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2 CTE3=12.

Appendix K: Observed and predicted hourly and 32-hour-low-pass-filtered salinity



— Model Prediction (surface)
• Data



Figure 3.3-13 (1)

Observed and Predicted Near-surface Salinity at LEWES (NOAA 8557380)

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 8557380, NOAA LEWES

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EutroModel_HydroReport\code\p_ssi_line_grid_gvc_G72_nosa_sla_only_rpt.py 9/30/2020 12:46:3

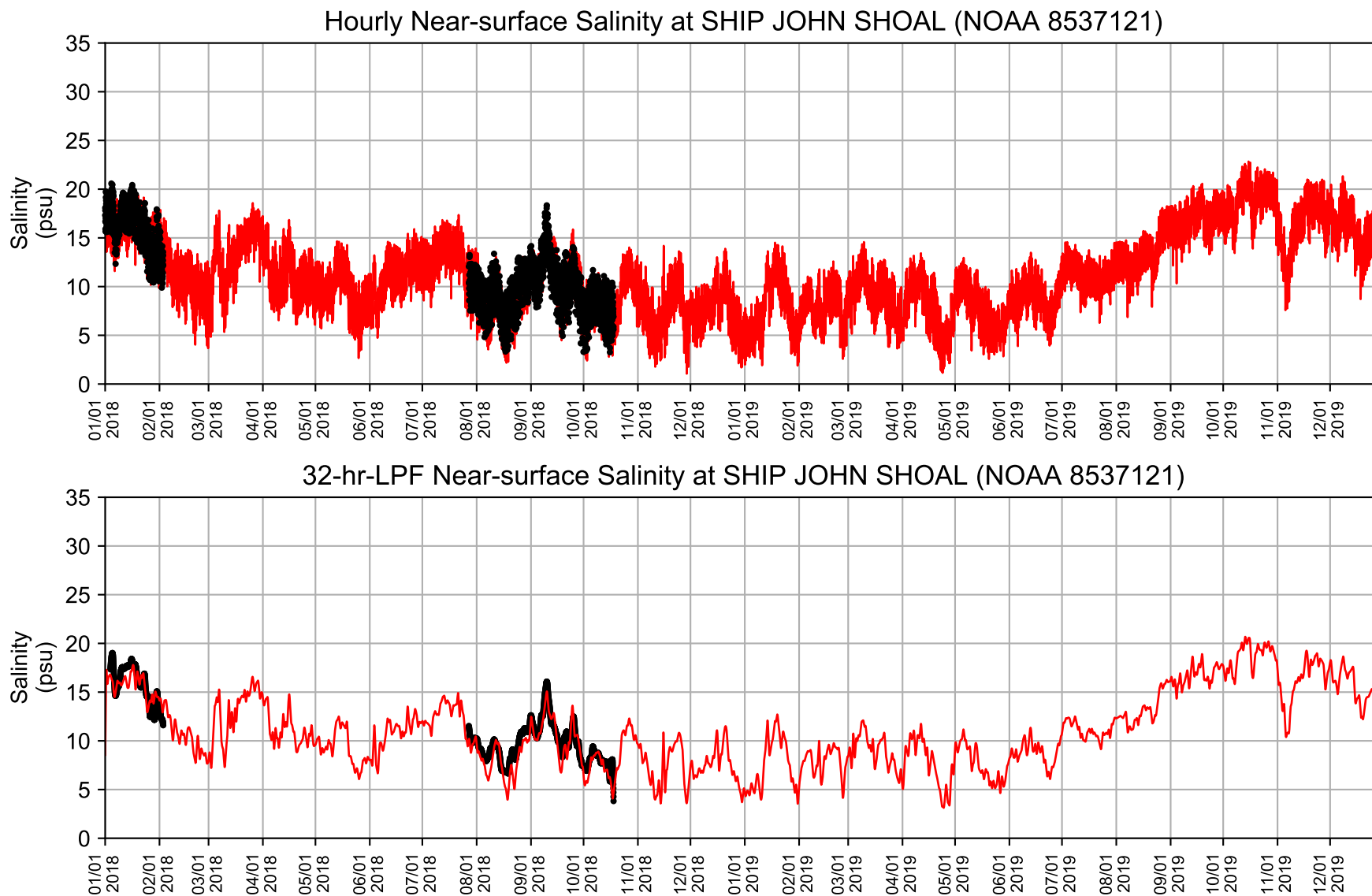
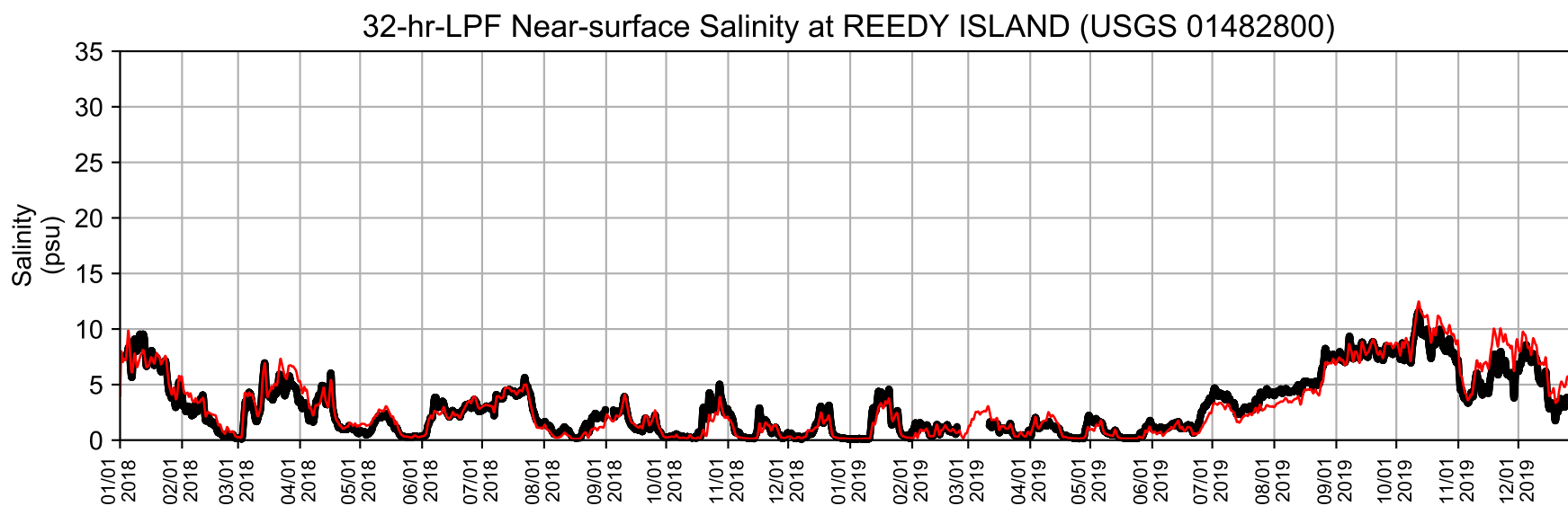
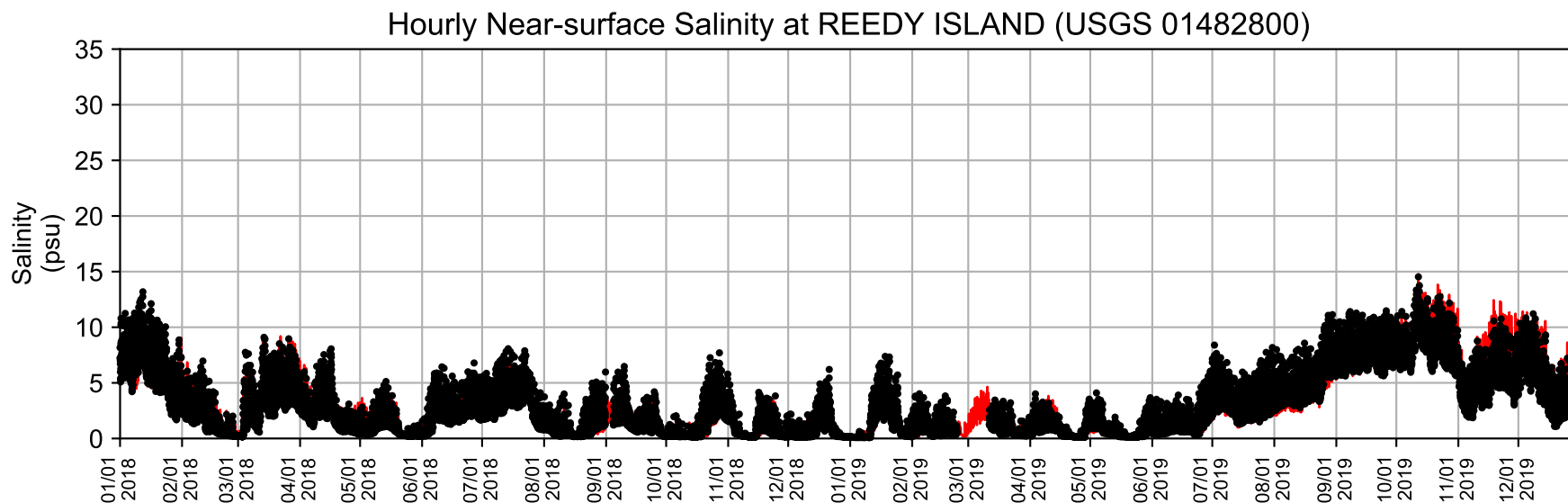


Figure 3.3-13 (2)
Observed and Predicted Near-surface Salinity at SHIP JOHN SHOAL (NOAA 8537121)

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.
Station ID: 8537121, NOAA SHIP JOHN SHOAL

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EutroModel_HydroReport\code\p_ssi_line_grid_gvc_G72_noaa_sis_only_rpt.py 9/30/2020 12:46:5



— Model Prediction (surface)
• Data



Figure 3.3-13 (3)

Observed and Predicted Near-surface Salinity at REEDY ISLAND (USGS 01482800)

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 01482800, USGS REEDY ISLAND

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EutroModel_HydroReport\code\p_ssi_line_grid_gvc_G72_nosa_sla_only_rpt.py 9/30/2020 12:46:6

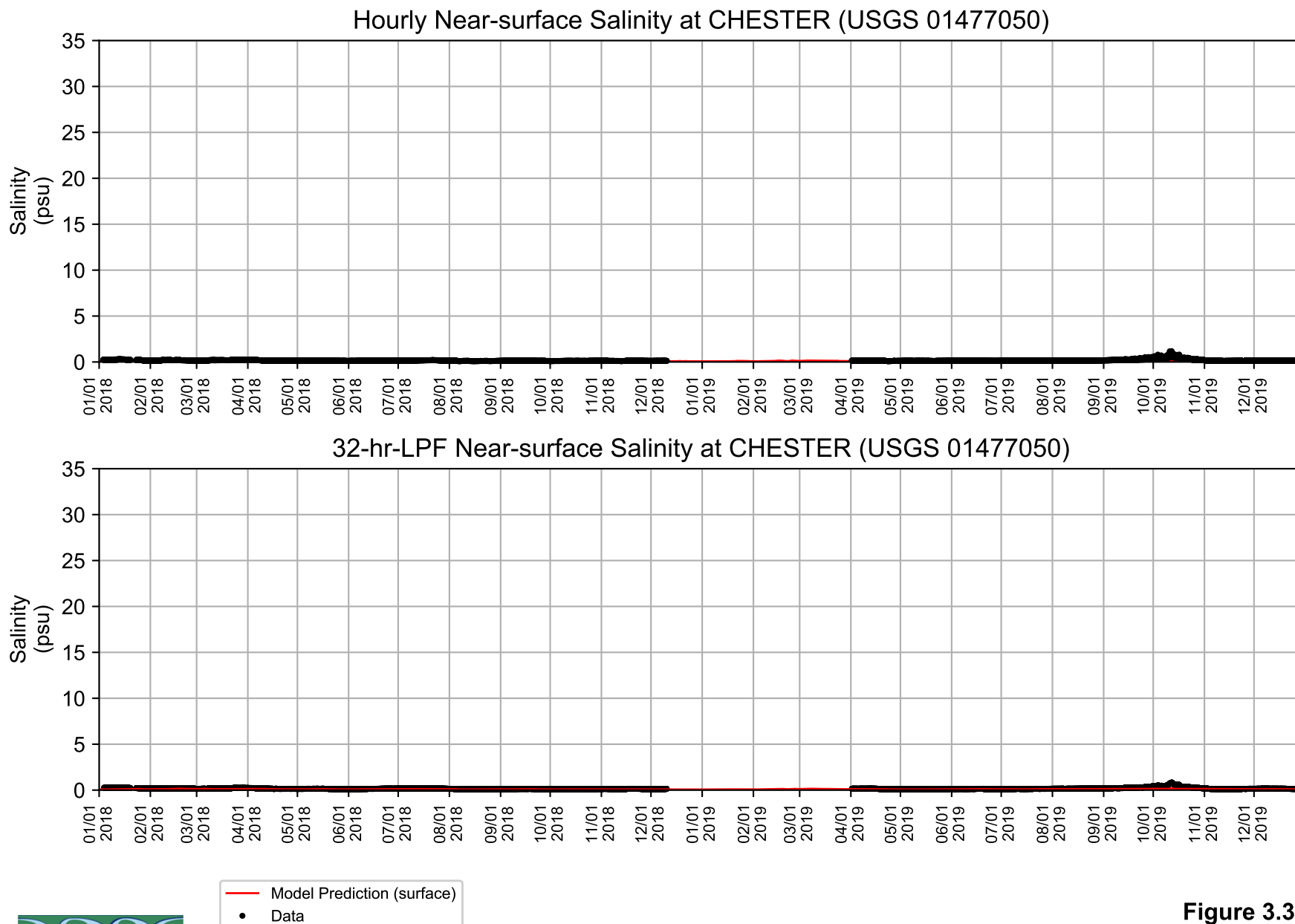


Figure 3.3-13 (4)
Observed and Predicted Near-surface Salinity at CHESTER (USGS 01477050)

Notes: Salinity data was derived from conductivity and water temperature based on
Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 01477050, USGS CHESTER

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EutroModel_HydroReport\code\p_ssi_line_grid_G72_nosa_sla_only_rpt.py 9/30/2020 12:46:8

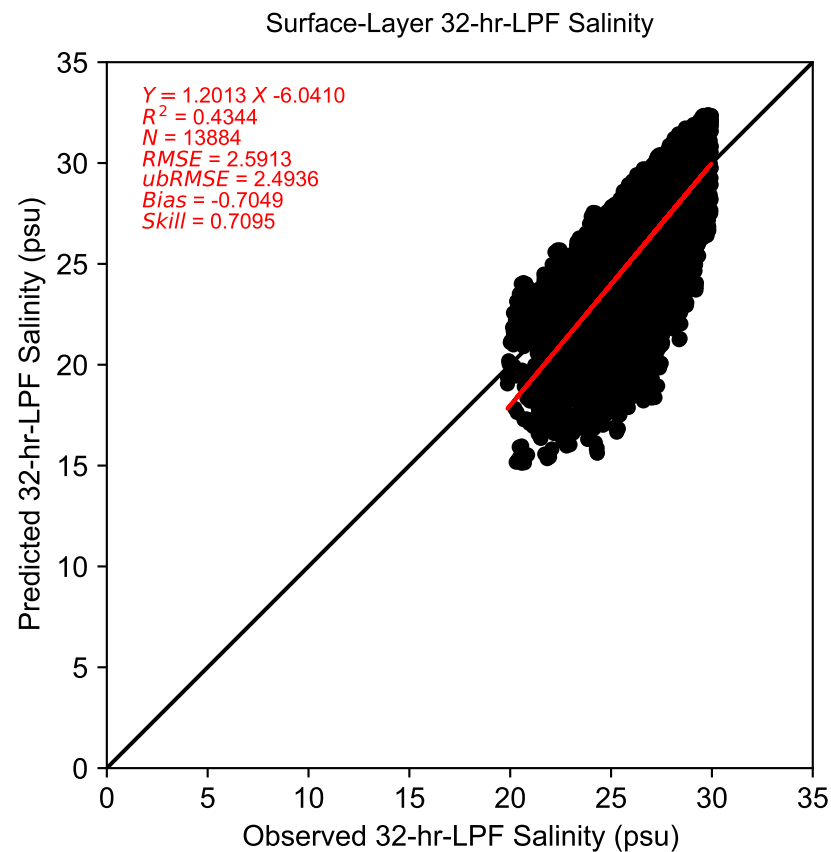
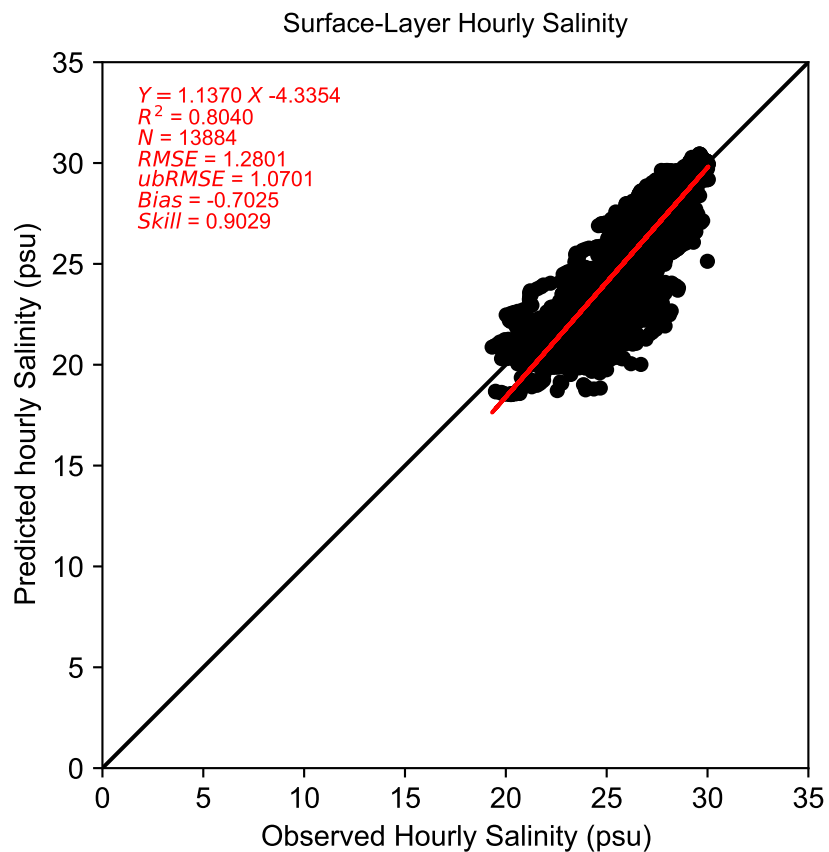


Figure 3.3-14 (1)
 Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at
 LEWES (NOAA 8557380) during 01-01-2018 to 12-31-2019 period.

*Notes: Salinity data was derived from conductivity and water temperature based on
 Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.*

Station ID: 8557380

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EutroModel_HydroReport\code\p_ssi_line_grid_gvc_G72_nosa_sia_only_rpt.py 9/30/2020 14:42:6

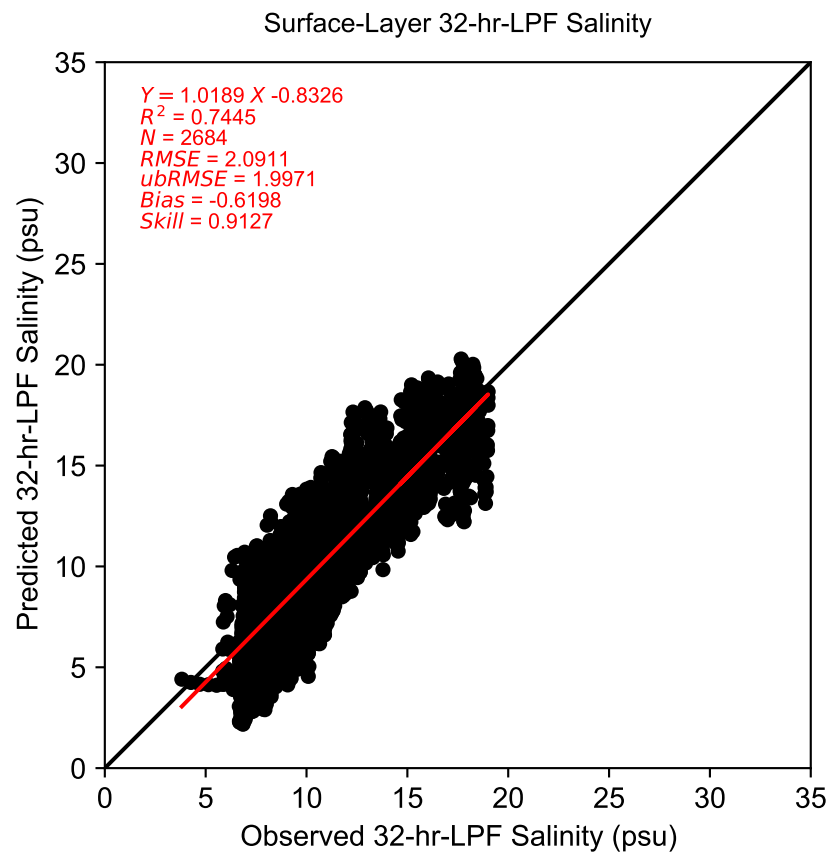
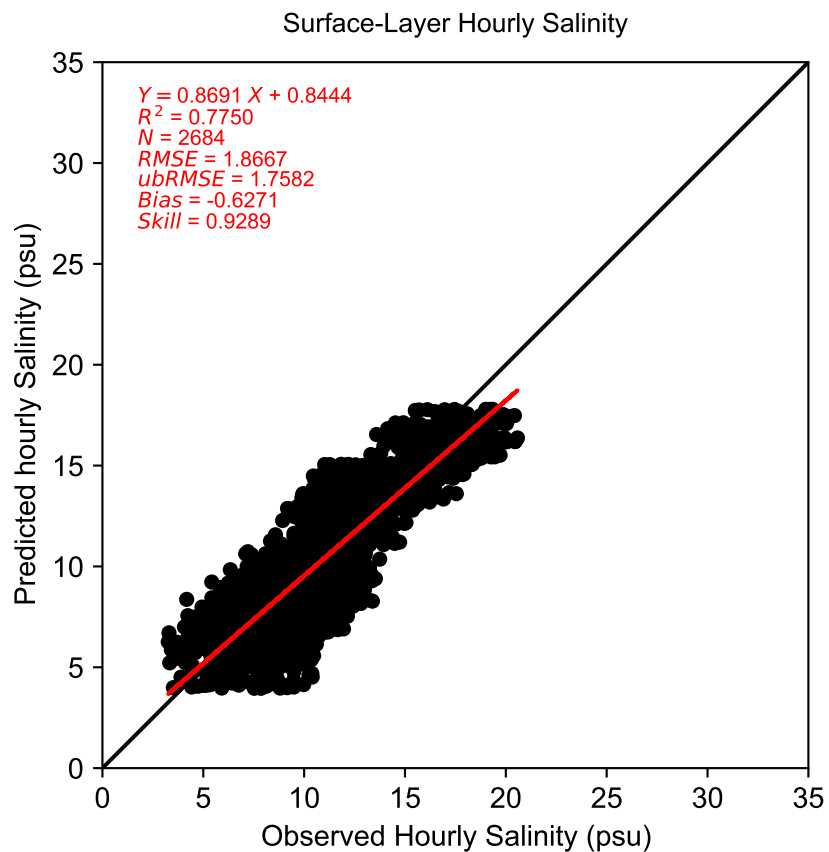


Figure 3.3-14 (2)
 Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at
 SHIP JOHN SHOAL (NOAA 8537121) during 01-01-2018 to 12-31-2019 period.

Notes: Salinity data was derived from conductivity and water temperature based on
 Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 8537121

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EutroModel_HydroReport\code\p_ssi_line_grid_gvc_G72_nosa_sia_only_rpt.py 9/30/2020 14:42:8

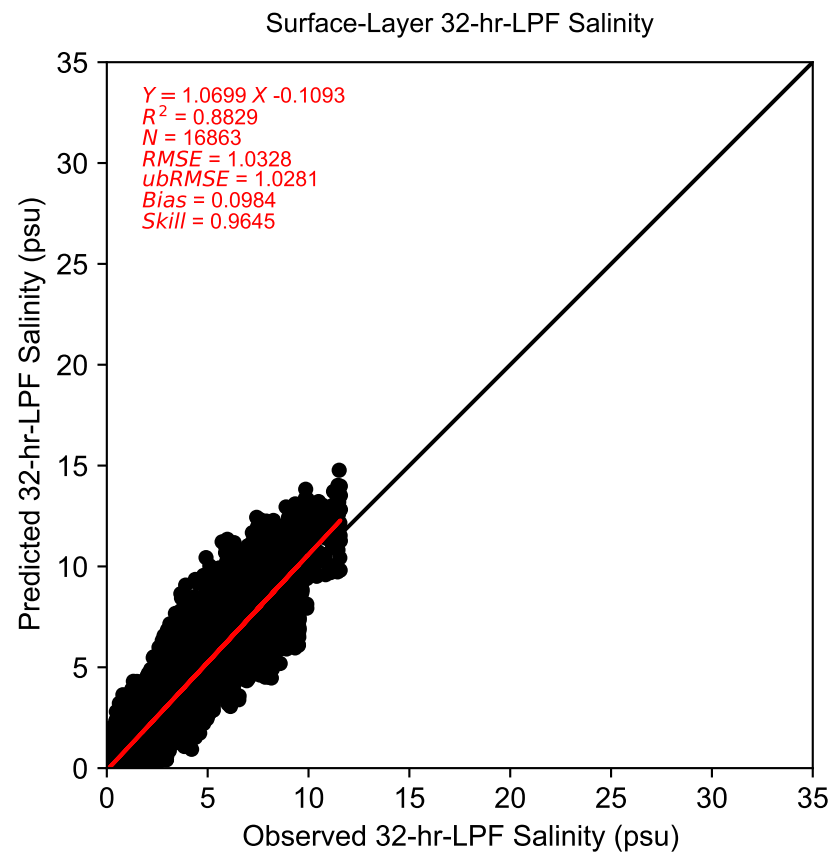
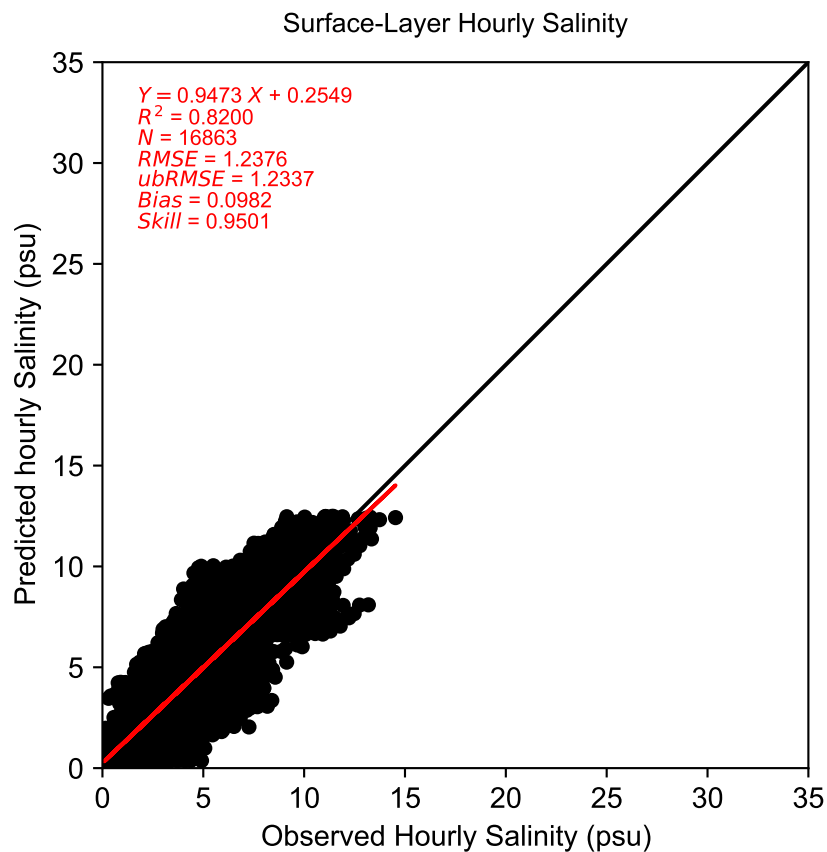


Figure 3.3-14 (3)

Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at REEDY ISLAND (USGS 01482800) during 01-01-2018 to 12-31-2019 period.

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 01482800

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EuroModel_HydroReport\code\p_sal_line_grid_gvc_G72_noaa_sta_only_rpt.py 9/30/2020 14:42:10

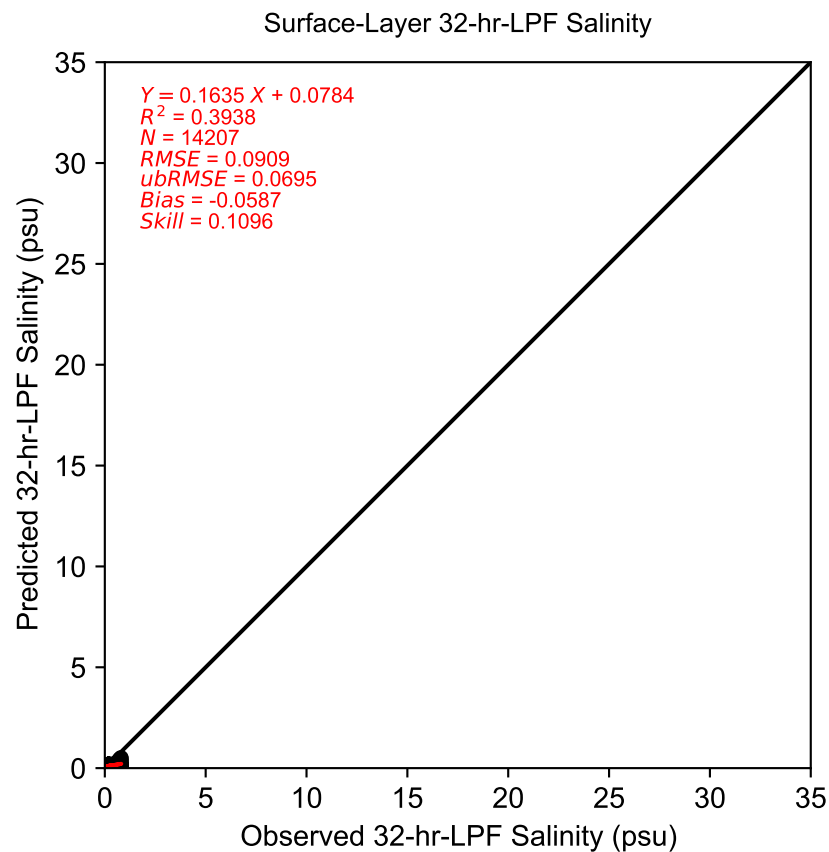
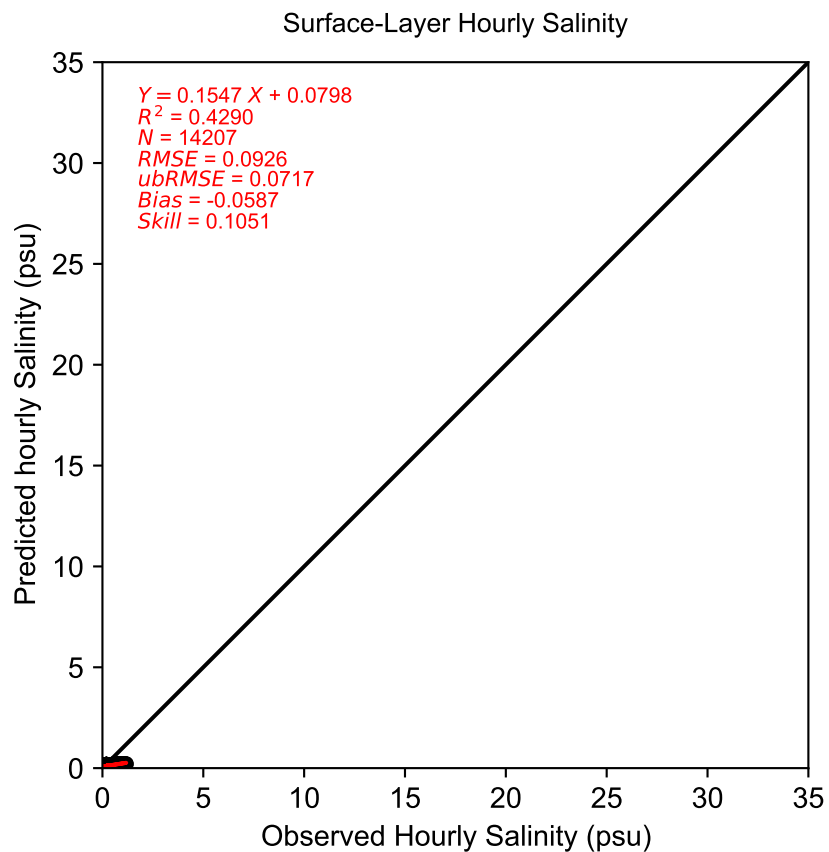


Figure 3.3-14 (4)
 Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at
 CHESTER (USGS 01477050) during 01-01-2018 to 12-31-2019 period.

*Notes: Salinity data was derived from conductivity and water temperature based on
 Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.*

Station ID: 01477050

Run ID: EFDC_HYDRO_G72_2020-05-16, GVC, KC =12, Grid 7.2; CTE3=12. Set ocean surface salinity B.C. based on Lewes data.

FC - D:\Jobs\EFDC\documents\EuroModel_HydroReport\code\p_sal_line_grid_gvc_G72_noaa_sta_only_rpt.py 9/30/2020 14:42:12

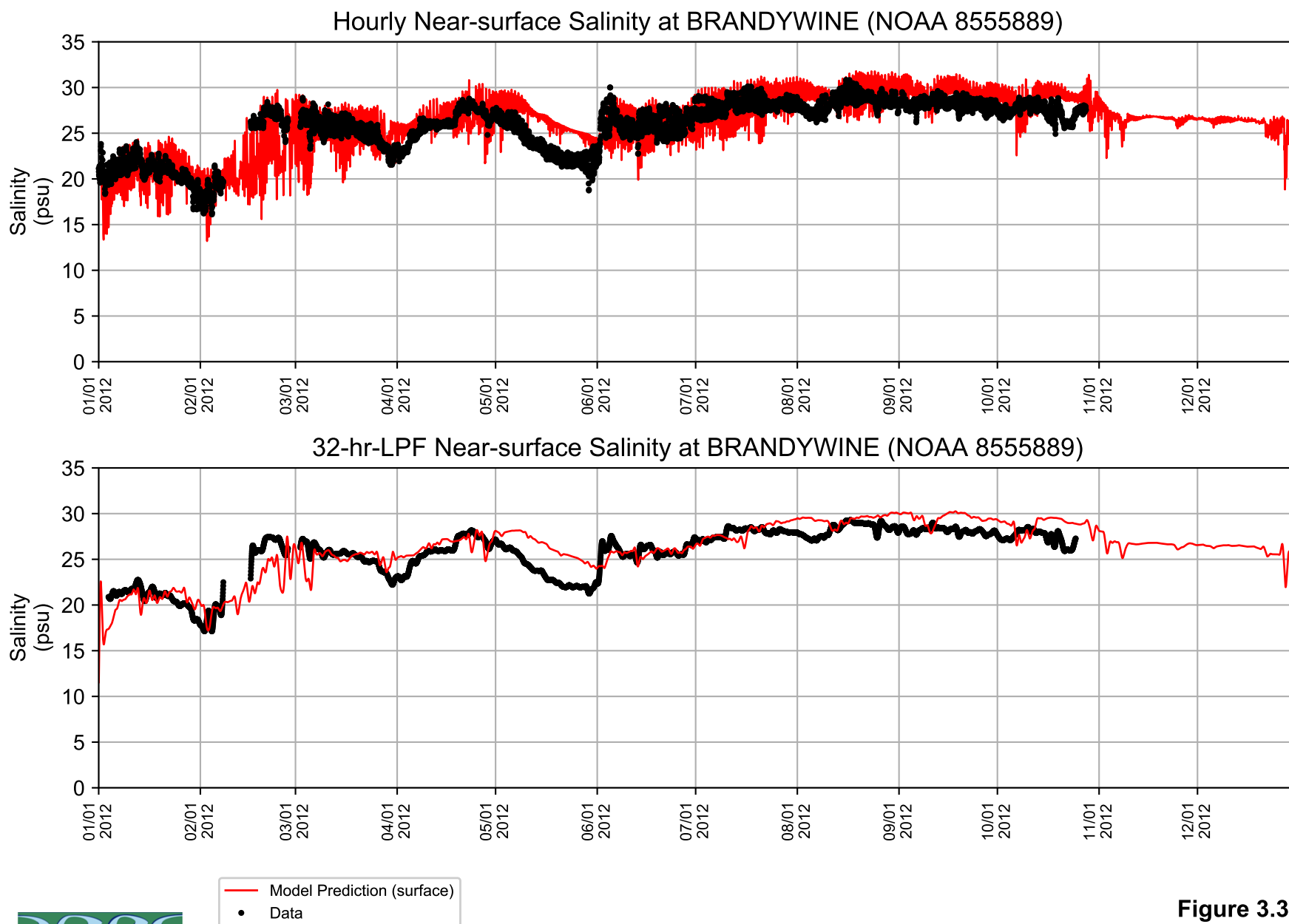


Figure 3.3-15 (1)
Observed and Predicted Near-surface Salinity at BRANDYWINE (NOAA 8555889)

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 8555889, NOAA BRANDYWINE

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

FC-D:\Jobs\EFDC\Documents\EuroModel_HydroReport\code\p_sal_line_grid_gvc_G72_noaa_sta_only_rpt.py 9/30/2020 12:48:8

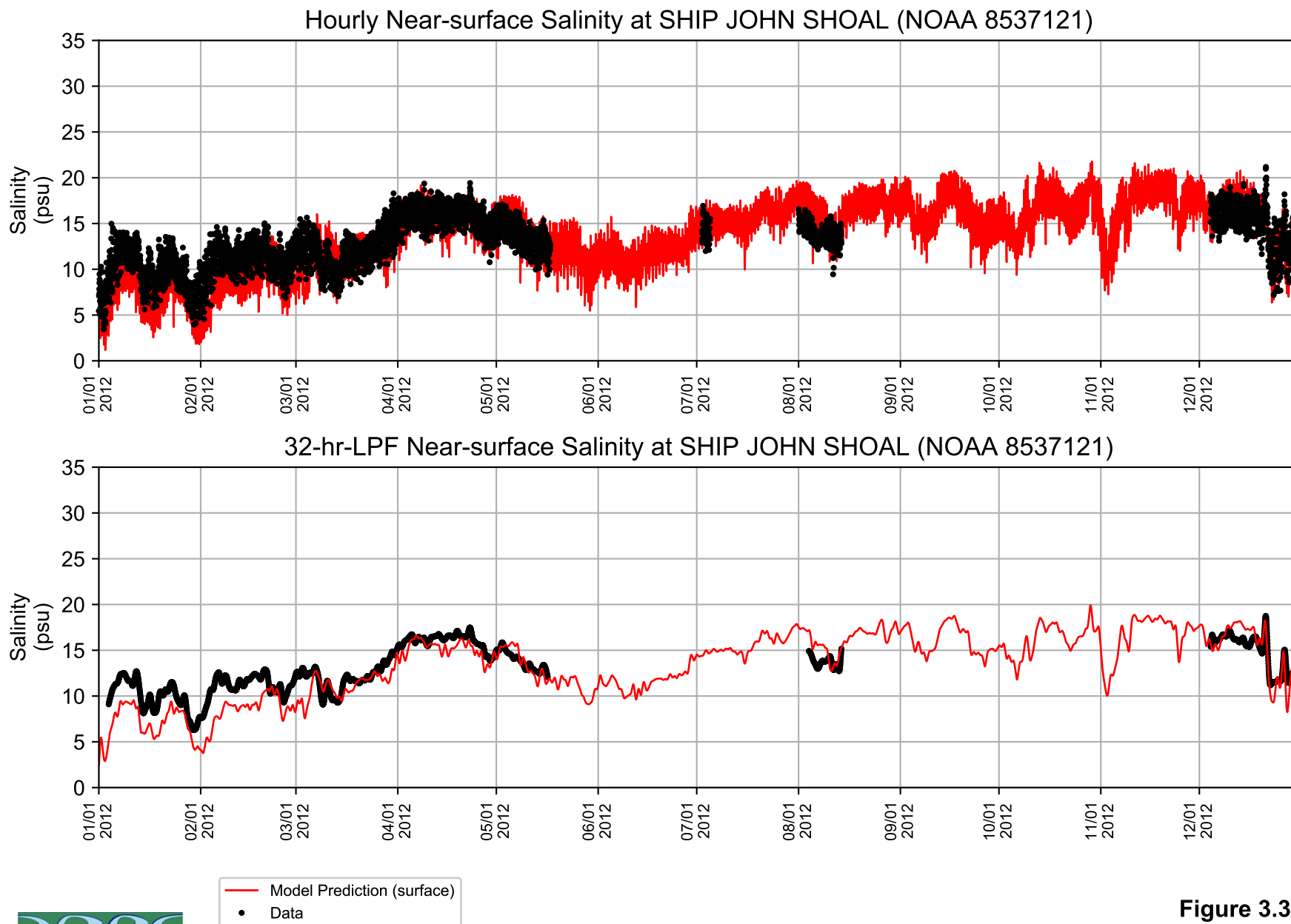


Figure 3.3-15 (2)
Observed and Predicted Near-surface Salinity at SHIP JOHN SHOAL (NOAA 8537121)

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 8537121, NOAA SHIP JOHN SHOAL

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

FC-D:\Jobs\EFDC\Documents\EuroModel_HydroReport\code\ip_sal_line_gvc_G72_noaa_sta_only_rpt.py 9/30/2020 12:48:9

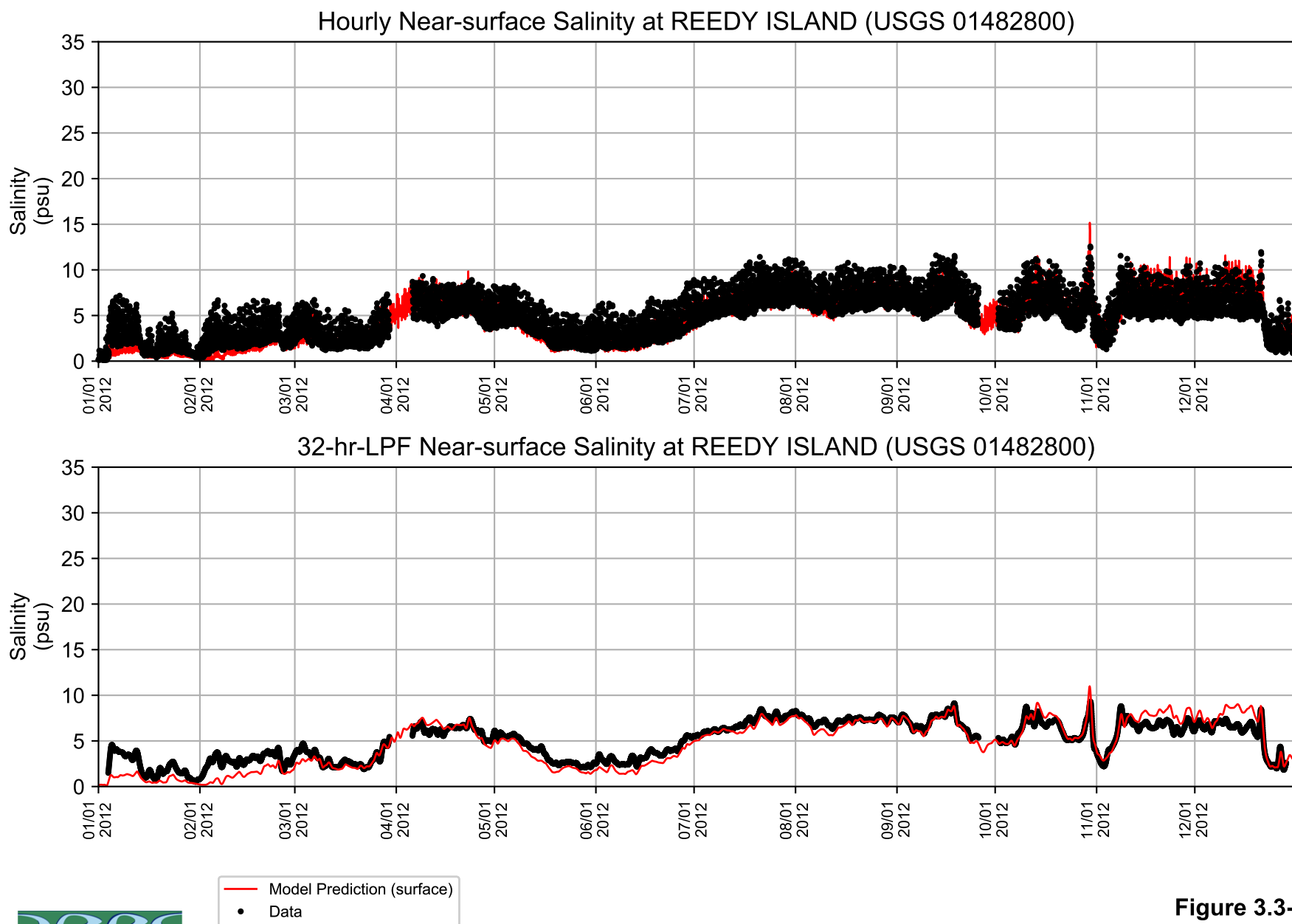


Figure 3.3-15 (3)

Observed and Predicted Near-surface Salinity at REEDY ISLAND (USGS 01482800)

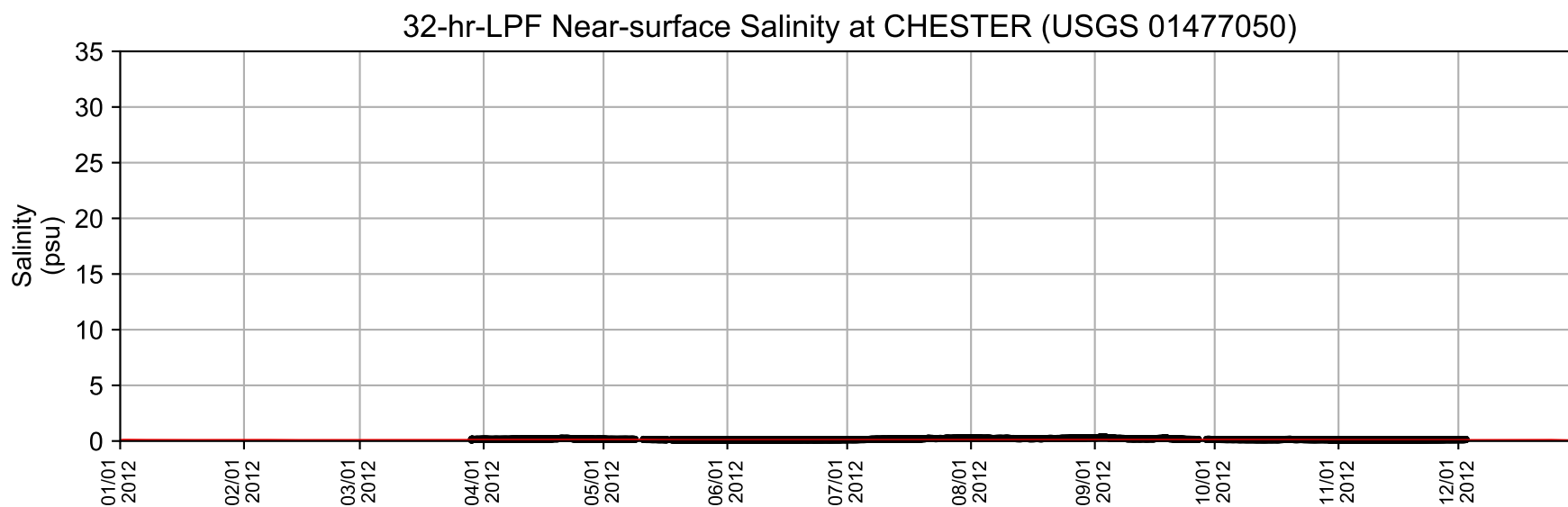
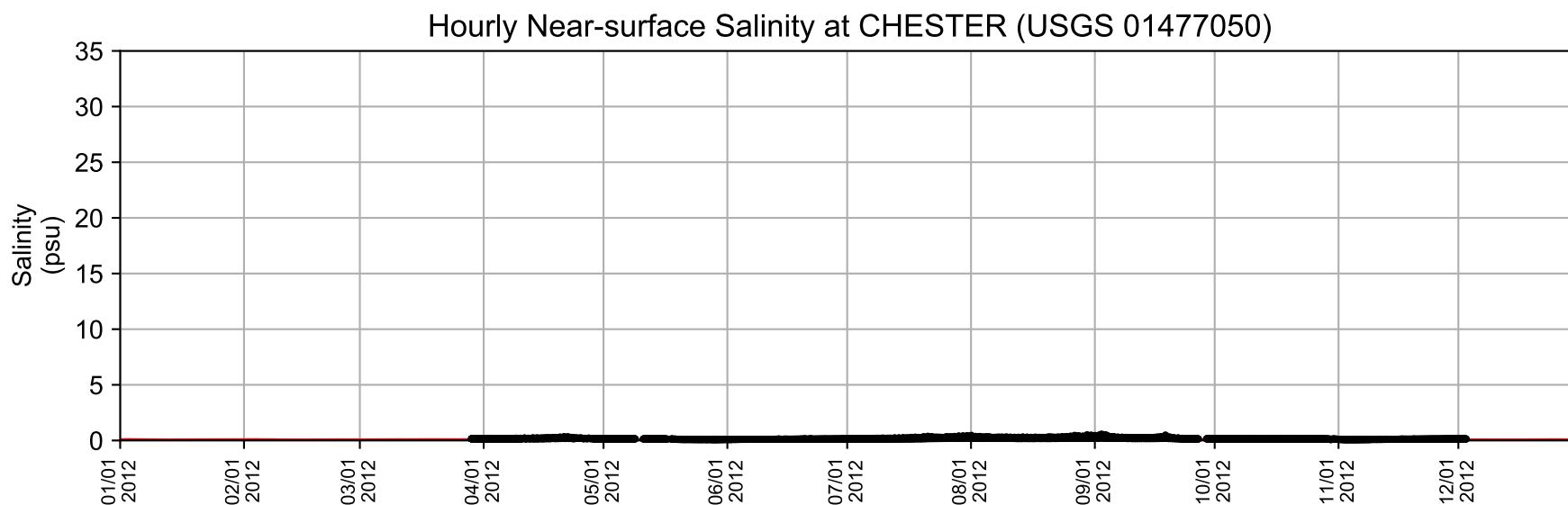


Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 01482800, USGS REEDY ISLAND

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

FC - D:\Jobs\EFDC\Documents\EuroModel_HydroReport\code\p_sal_fine_gvc_G72_noaa_data_only_rpt.py 9/30/2020 12:48:10



— Model Prediction (surface)
• Data



Figure 3.3-15 (4)

Observed and Predicted Near-surface Salinity at CHESTER (USGS 01477050)

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 01477050, USGS CHESTER

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

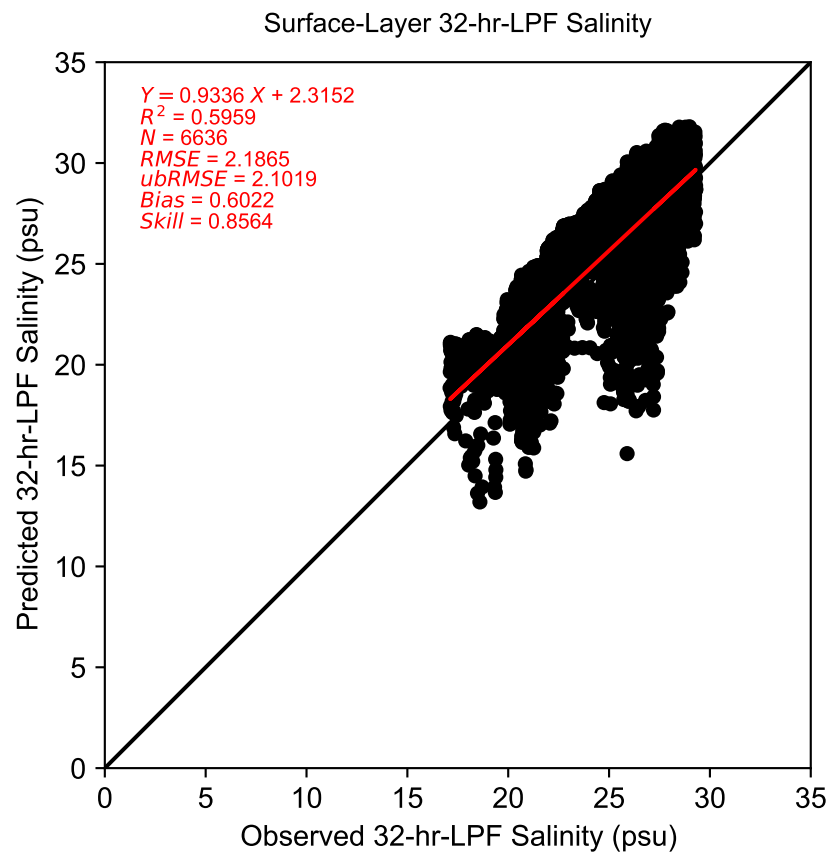
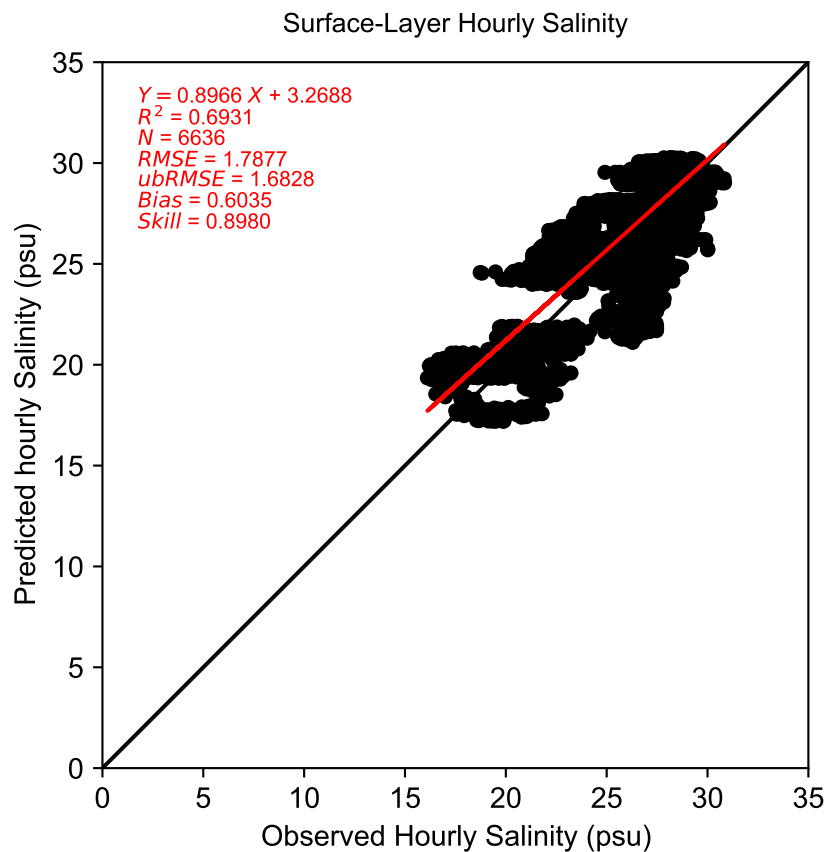


Figure 3.3-16 (1)

Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at BRANDYWINE (NOAA 8555889) during 01-01-2012 to 12-31-2012 period.

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 8555889

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

FC - D:\Jobs\EFDC\Documents\EutroModel_HydroReport\code\p_sal_fine_grid_gvc_G72_noaa_data_only_rpt.py 8/30/2020 14:41:33

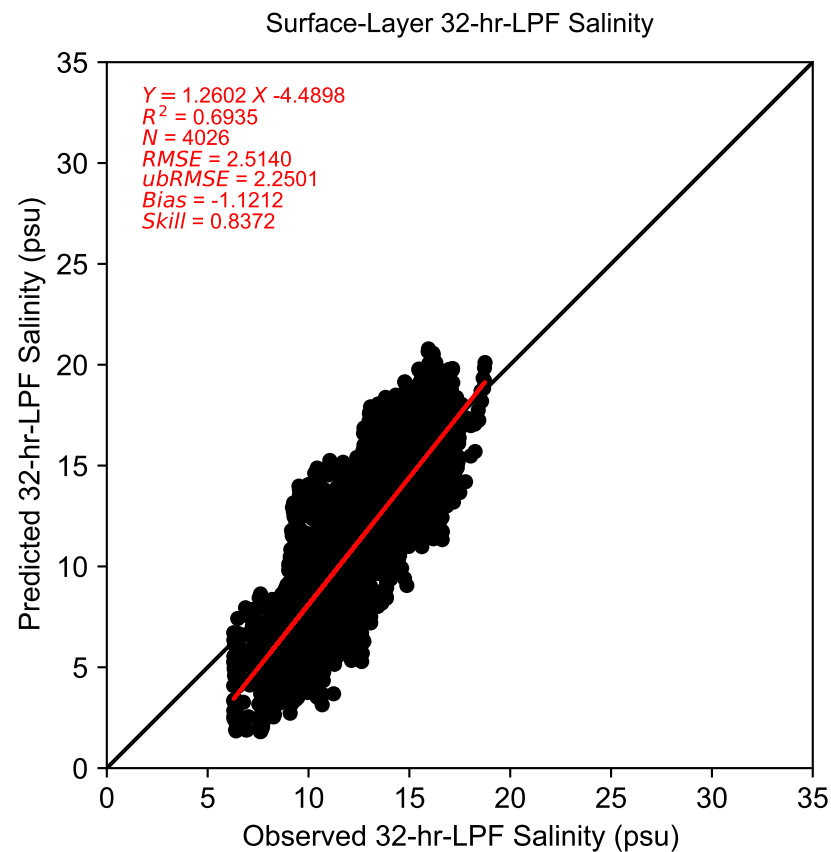
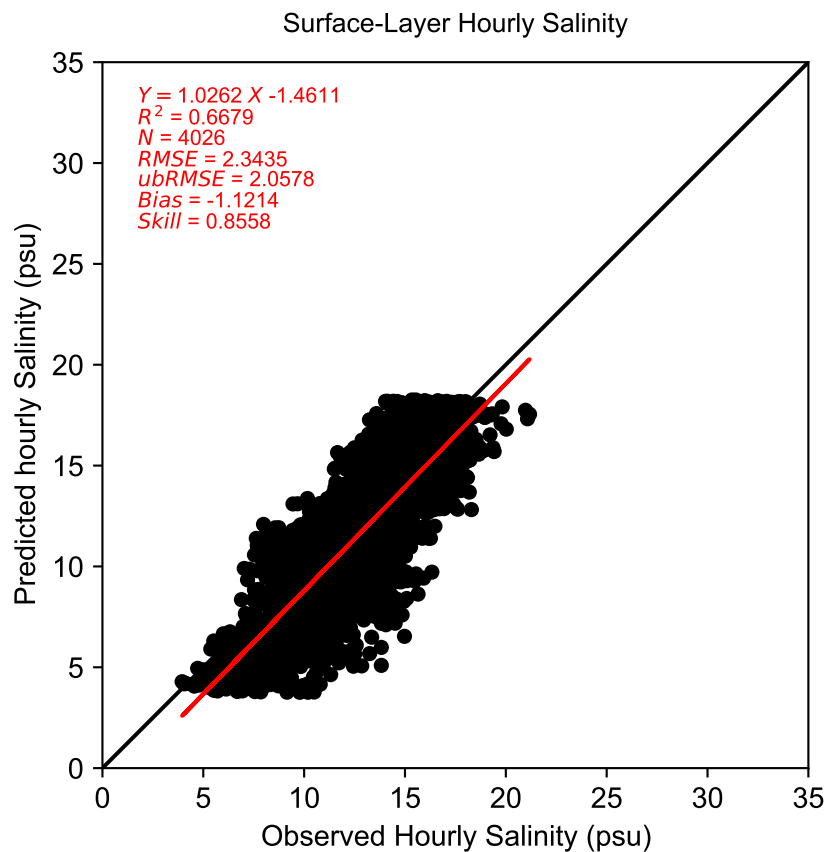


Figure 3.3-16 (2)

Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at SHIP JOHN SHOAL (NOAA 8537121) during 01-01-2012 to 12-31-2012 period.

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 8537121

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

FC - D:\Jobs\EFDC\Documents\EuroModel_HydroReport\code\p_sal_fine_grid_G72_noaa_data_only_rpt.py 8/30/2020 14:41:35

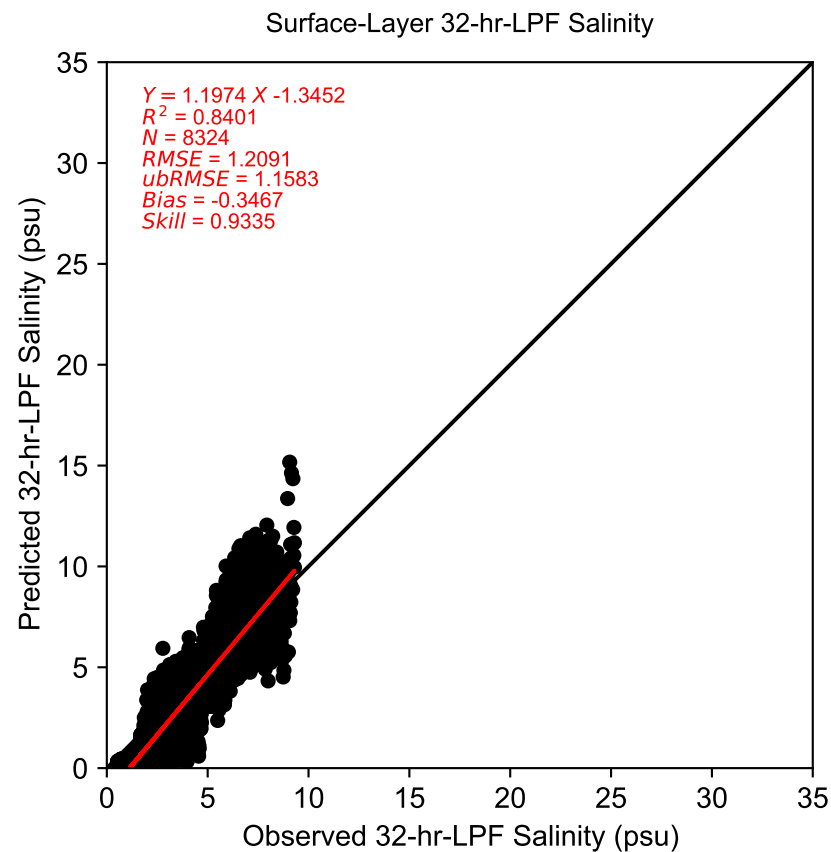
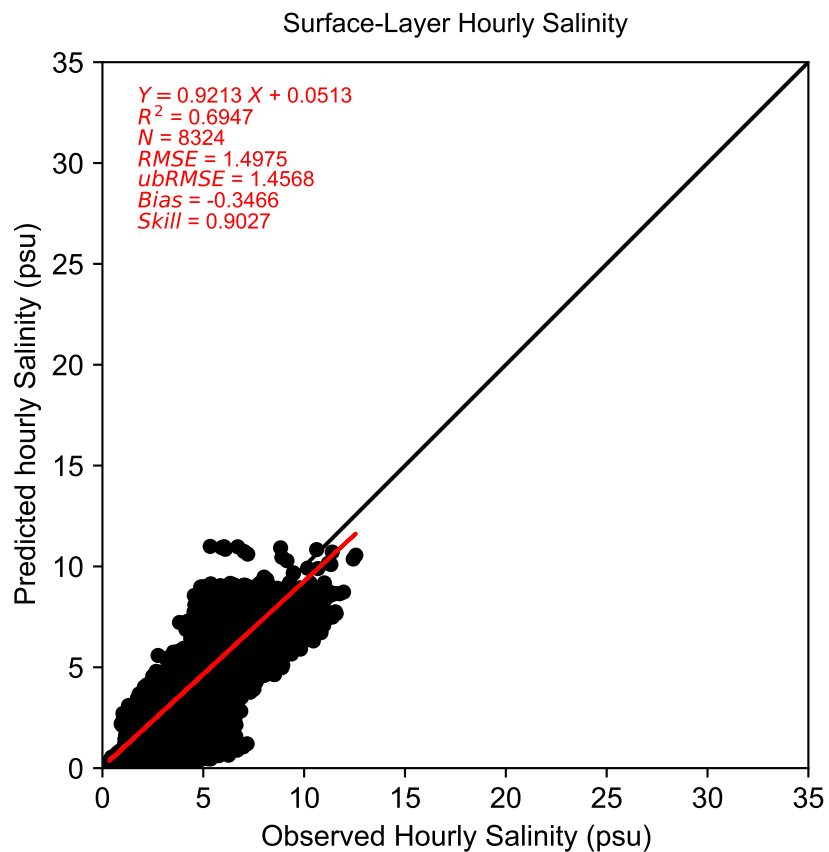


Figure 3.3-16 (3)

Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at REEDY ISLAND (USGS 01482800) during 01-01-2012 to 12-31-2012 period.

Notes: Salinity data was derived from conductivity and water temperature based on Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.

Station ID: 01482800

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.

FC - D:\Jobs\EFDC\Documents\EutroModel_HydroReport\code\p_sal_fine_grid_G72_noaa_data_only_rpt.py 8/30/2020 14:41:37

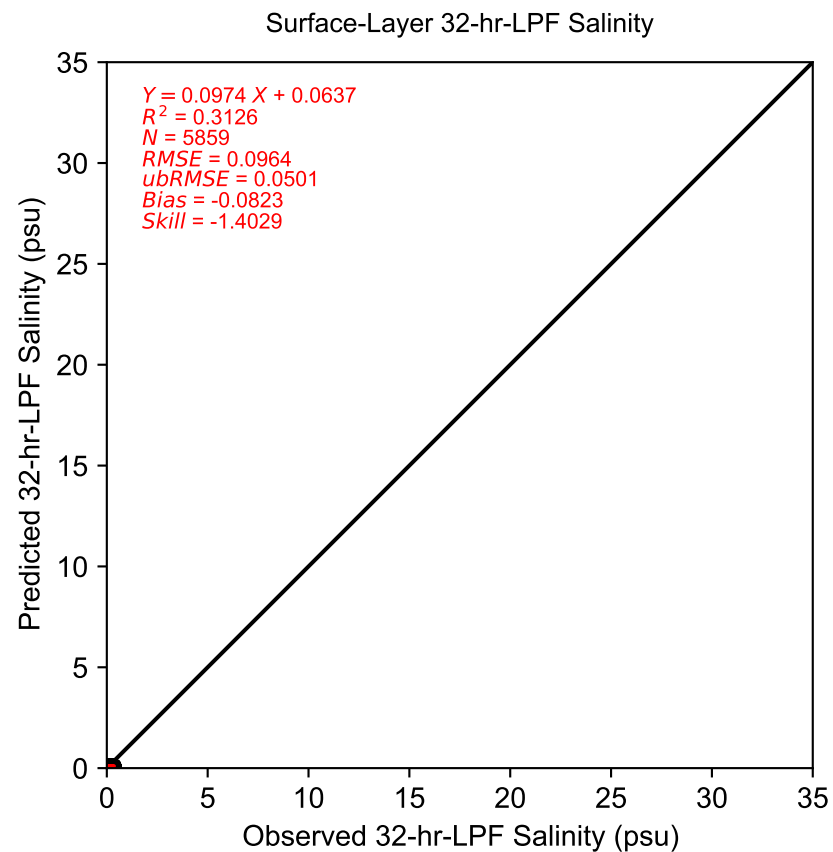
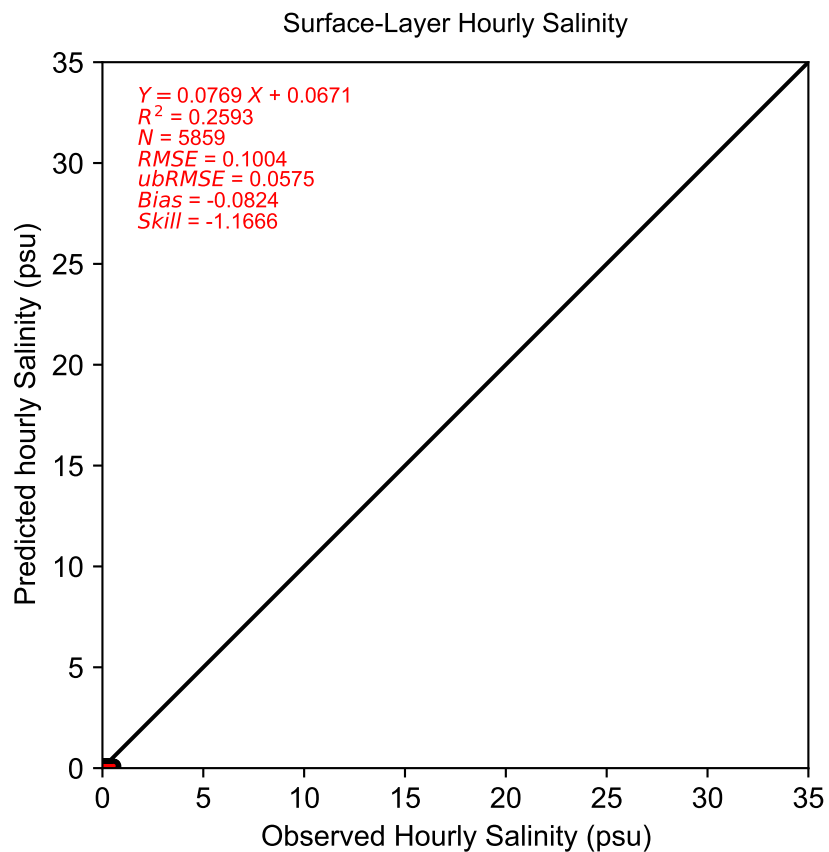


Figure 3.3-16 (4)
 Comparison of Observed and Predicted Hourly and 32-hour-Low-pass-filtered Salinity at
 CHESTER (USGS 01477050) during 01-01-2012 to 12-31-2012 period.

*Notes: Salinity data was derived from conductivity and water temperature based on
 Standard Methods for the Examination of Water and Wastewater, 19th Ed. 1995.*

Station ID: 01477050

Run ID: EFDC_HYDRO_G72_2020-07-04, GVC, KC =12, Grid 7.2 CTE3=12. Set ocean salinity B.C. 3 ppt higher than observed salinity at Brandywine.