

Supplementary Information

Long-term trends, current status, and transitions of water quality in Chesapeake Bay

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Item 1 - Observed vs model fits of mean, monthly $\log_{10} chl-a$ (mg m^{-3}) for nine tributary stations from 1985 to 2015.

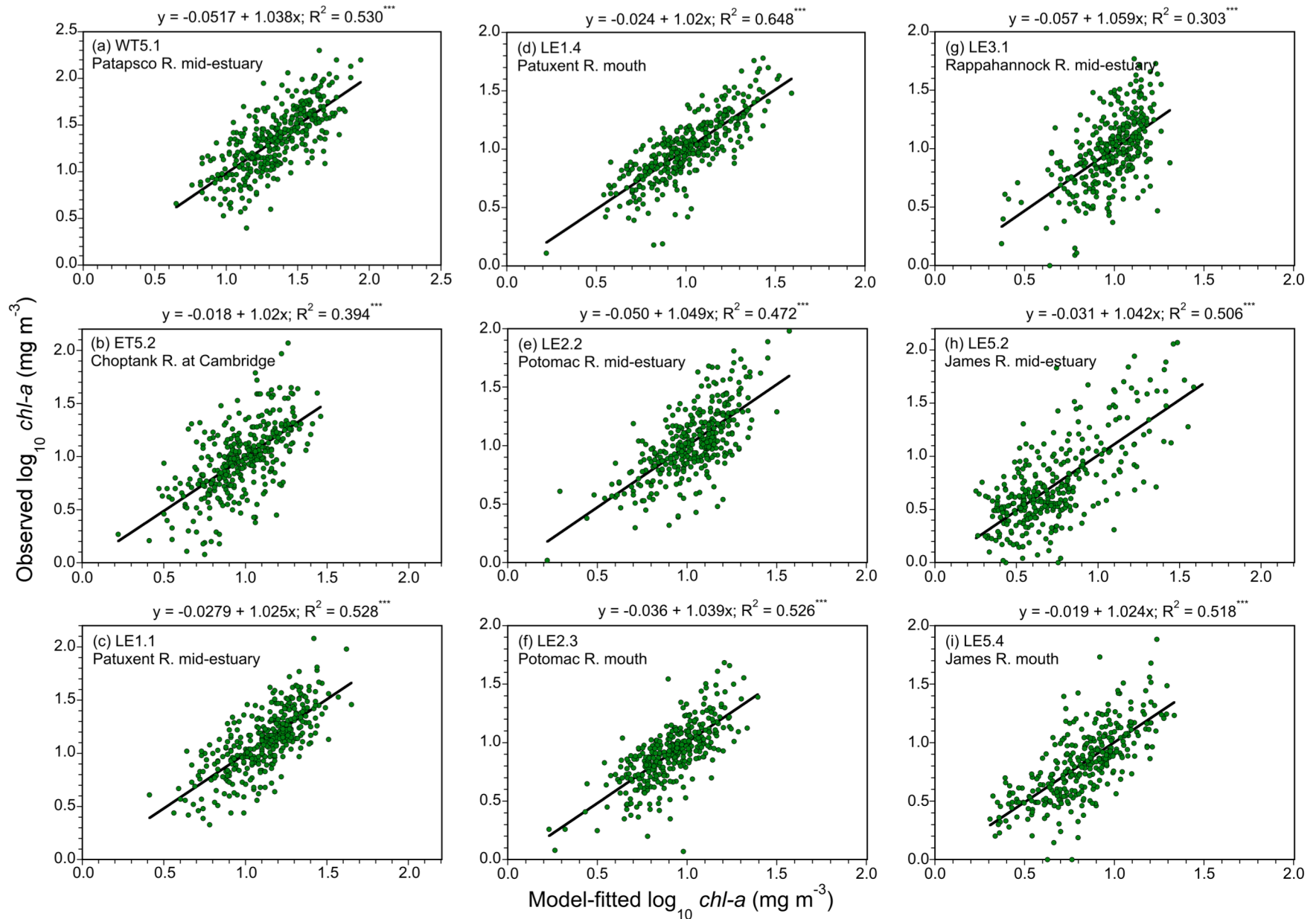
Item 2 - Observed vs model fits of mean, monthly Secchi depth (m) for nine tributary stations from 1985 to 2015.

Item 3 - Time series of flow-adjusted model predictions of Secchi depth (m) for nine tributary stations from 1985 to 2015. *Solid black lines* depict model predictions in mean-flow conditions; *dashed blue lines* show predictions in high-flow conditions; *dashed brown lines* show predictions in low-flow conditions.

Item 4 - Observed vs model fits of mean, monthly $\text{NO}_2 + \text{NO}_3$ (μM) for nine tributary stations from 1985 to 2015.

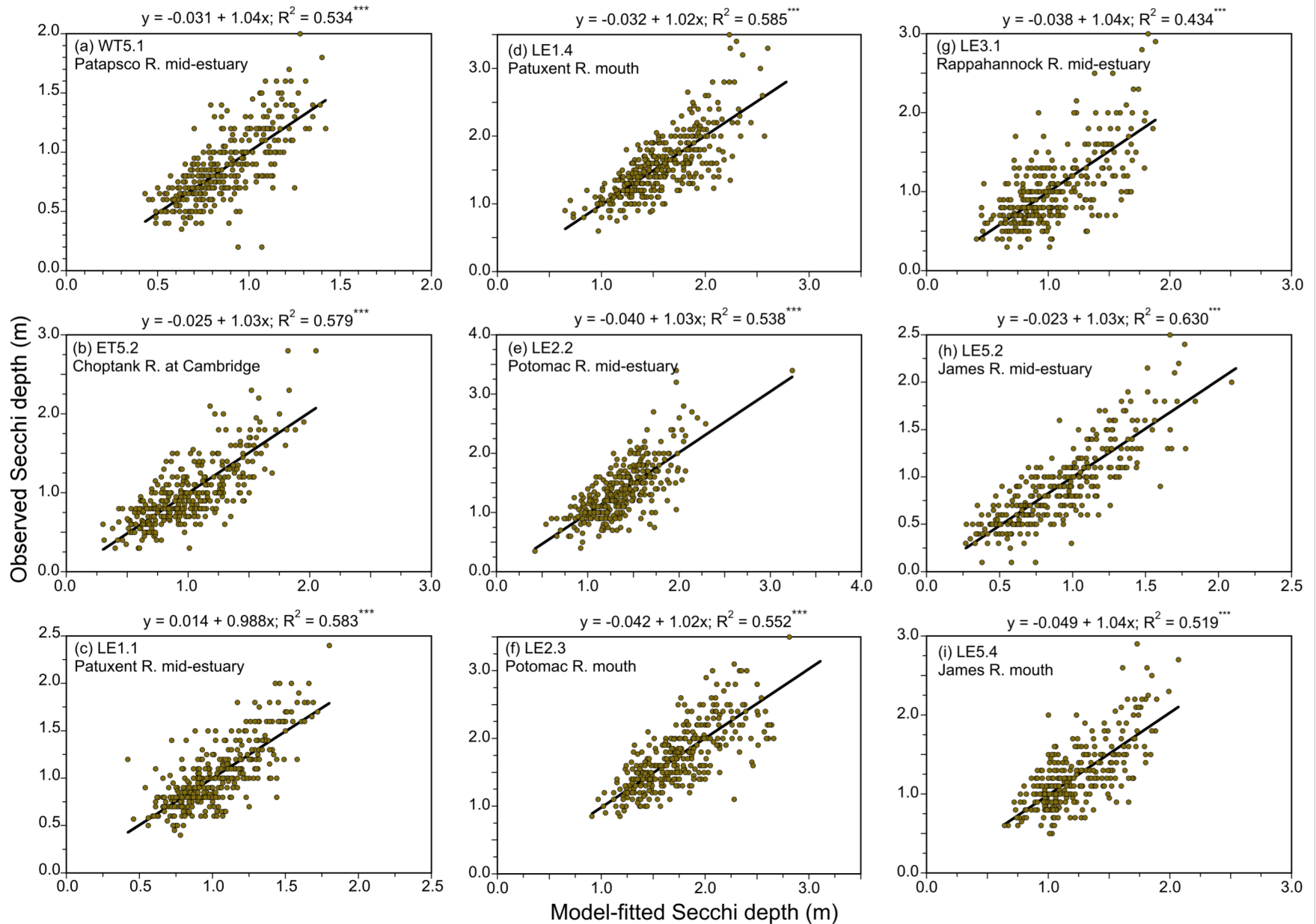
Item 5 - Time series of flow-adjusted model predictions of $\text{NO}_2 + \text{NO}_3$ (μM) for nine tributary stations from 1985 to 2015. *Solid black lines* depict model predictions in mean-flow conditions; *dashed blue lines* show predictions in high-flow conditions; *dashed brown lines* show predictions in low-flow conditions.

Observed vs. model-fitted $\log_{10} chl-a$ Nine tributary stations

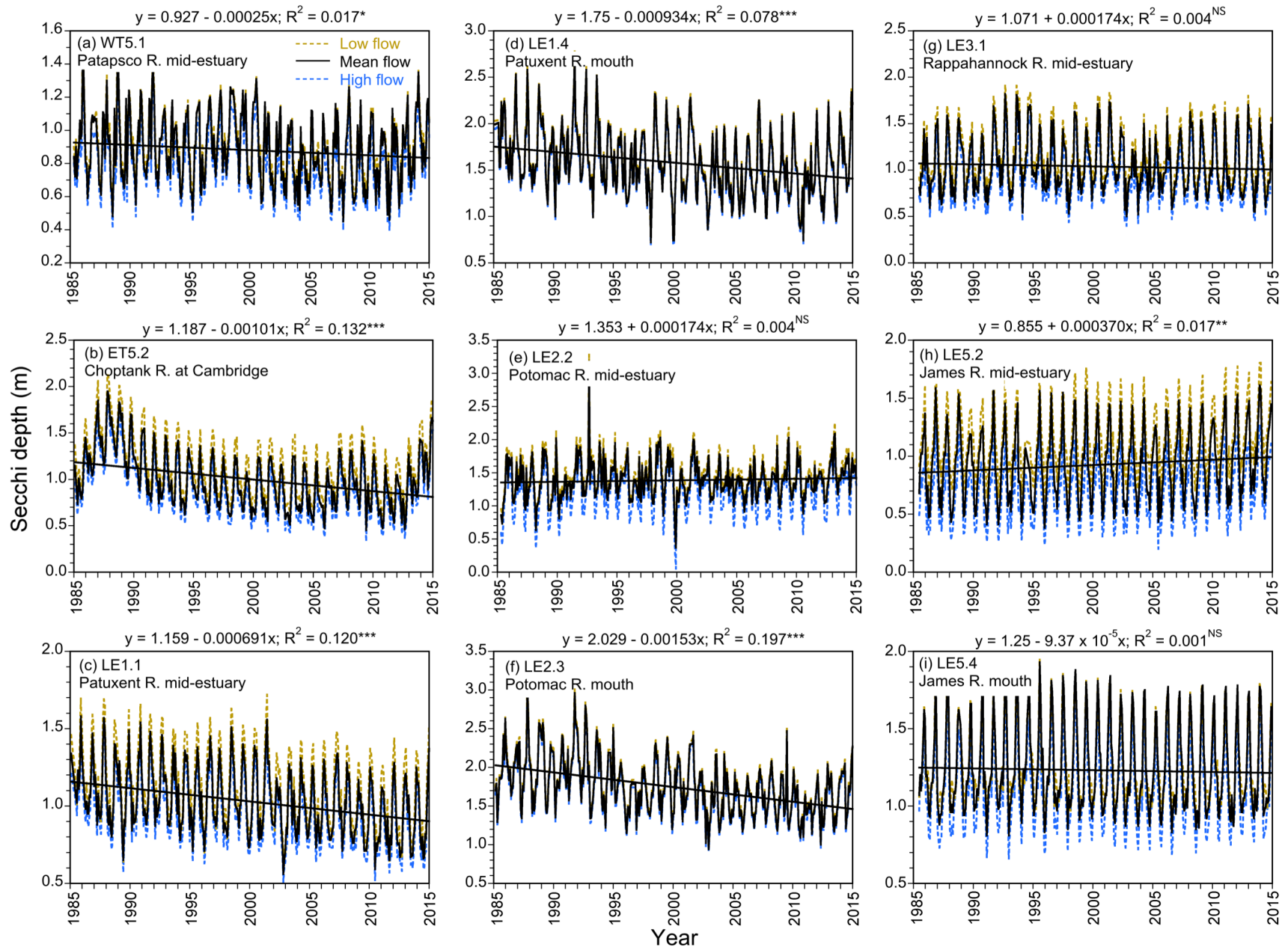


Observed vs. model-fitted Secchi depth

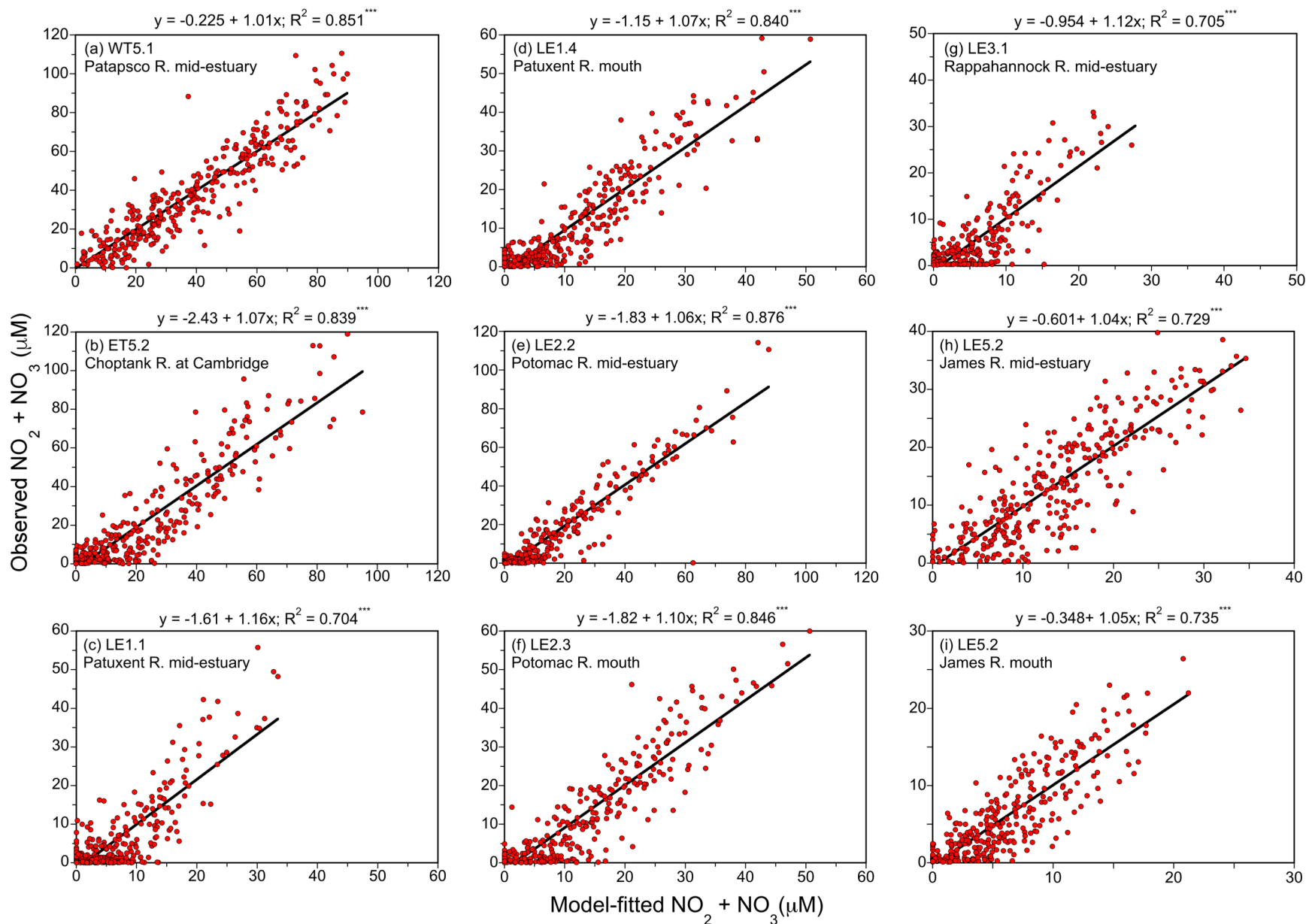
Nine tributary stations



Time-series of flow-adjusted Secchi depth Nine tributary stations



Observed vs. model-fitted $\text{NO}_2 + \text{NO}_3$ Nine tributary stations ² ₃



Time-series of flow-adjusted $\text{NO}_2 + \text{NO}_3$ Nine tributary stations

