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The R script and data were used to generate Fig. 1 of the manuscript

Carpenter, S.R., Pace M.L., and Wilkinson G.M. 2022. Organic color and resilience of phytoplankton to enrichment.

The R script is a general implementation of multivariate autoregression by Bayesian updating, as described in the paper and the notes in the R code. I have used the DLM function in the script for numerous other projects.

The dataset of daily values was constructed from spreadsheets compiled during the original research summarized by Pace et al. 2017 and Wilkinson et al. 2018 and by computing daily means for high-frequency data from the EDI repository:

Pace, M., J. Cole, and S. Carpenter. 2020. Cascade project at North Temperate Lakes LTER - High Frequency Data for Whole Lake Nutrient Additions 2013-2015 ver 2. Environmental Data Initiative. https://doi.org/10.6073/pasta/cbe19041db41e720d84970f43156c042

References

Pace, M. L., Batt, R. D., Buelo, C. D., Carpenter, S. R., Cole, J. J., Kurtzweil, J. T., & Wilkinson, G. M. (2017). Reversal of a cyanobacterial bloom in response to early warnings. Proceedings of the National Academy of Sciences, 114(2), 352-357. doi:10.1073/pnas.1612424114

Wilkinson, G. M., Carpenter, S. R., Cole, J. J., Pace, M. L., Batt, R. D., Buelo, C. D., & Kurtzweil, J. T. (2018). Early warning signals precede cyanobacterial blooms in multiple whole-lake experiments. Ecological Monographs, 88(2), 188-203. doi:doi:10.1002/ecm.1286