SK/GAM Comparison Maps

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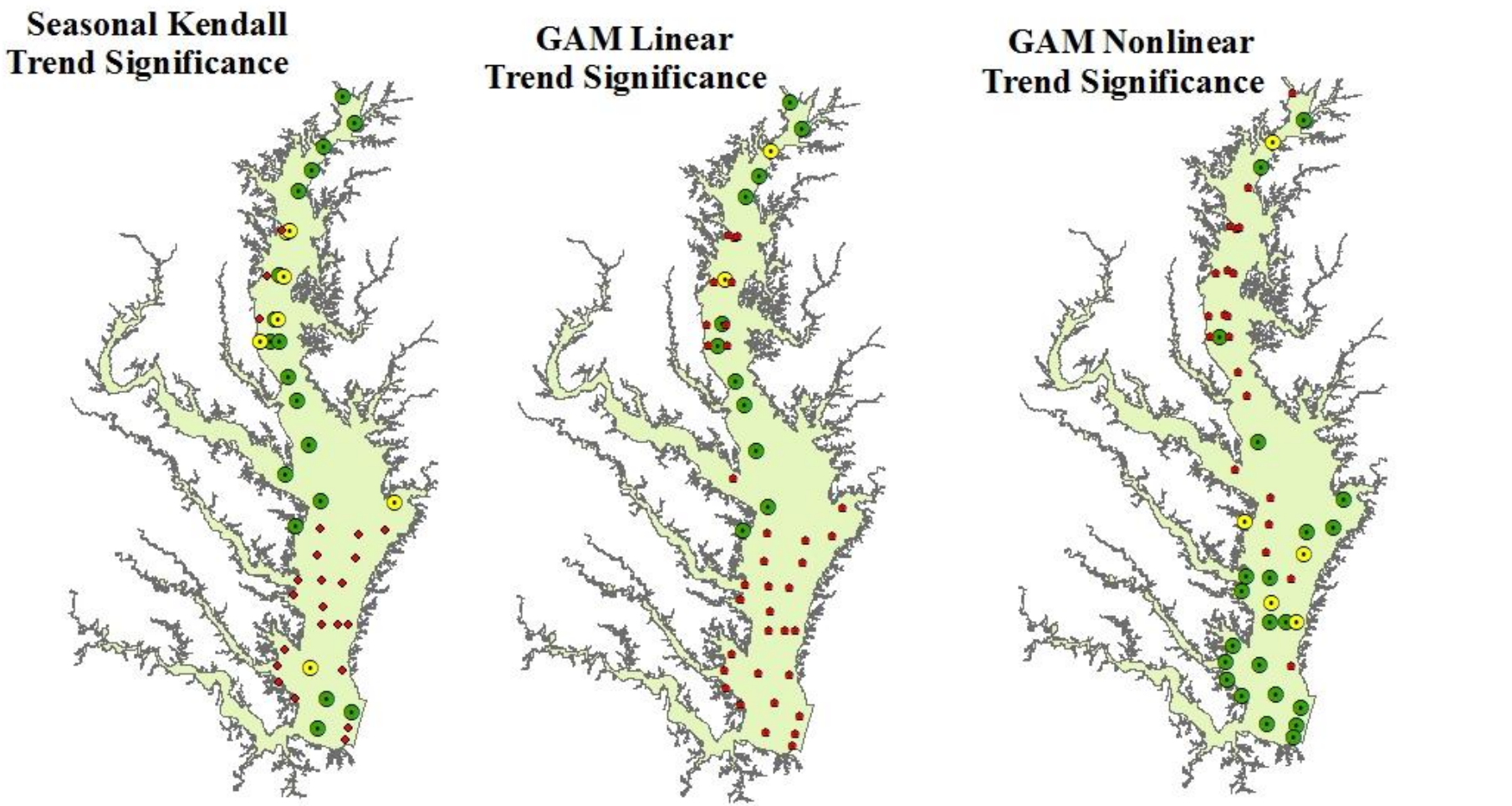
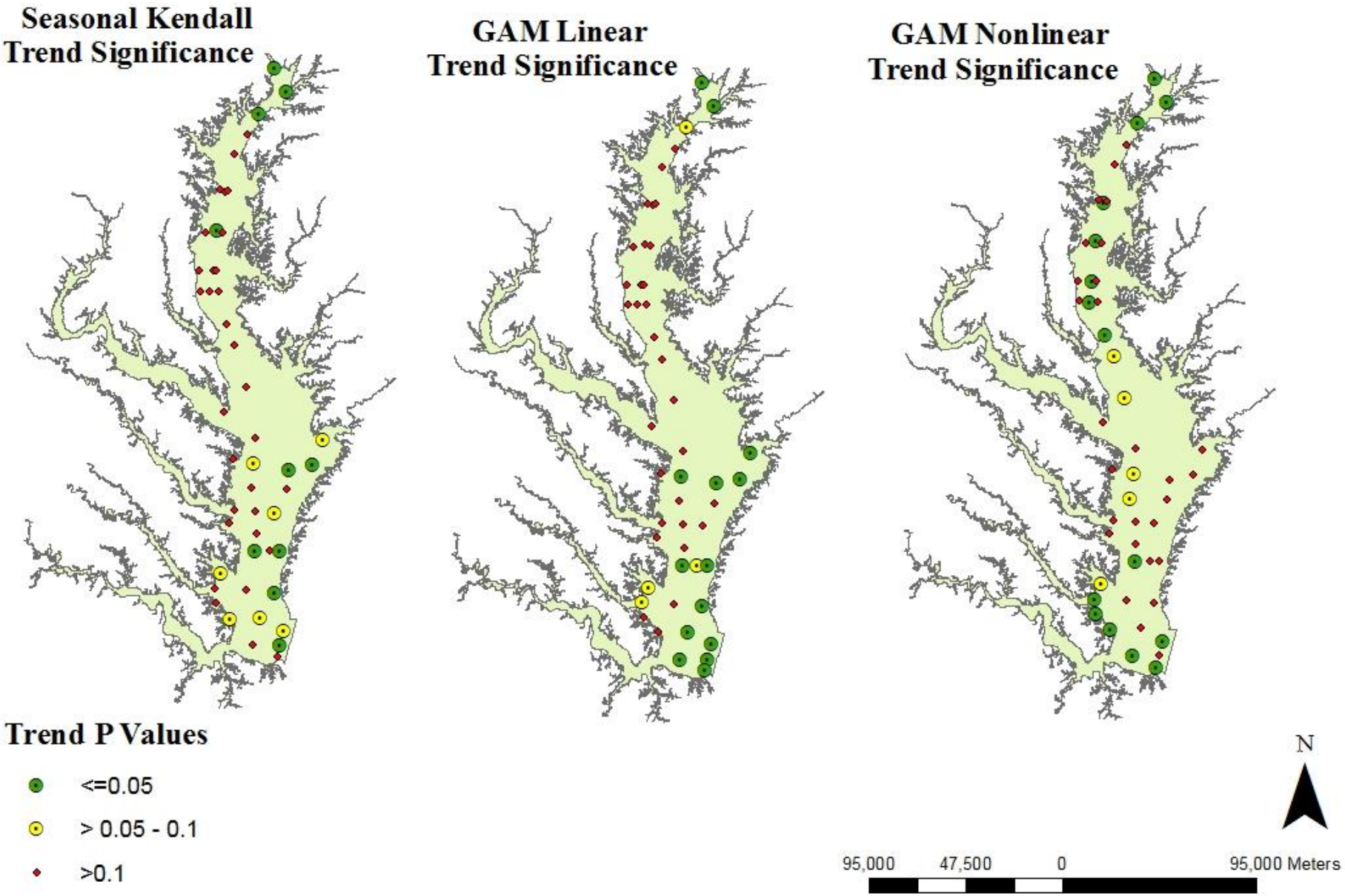
Overview

- These slides represent a comparison of findings among three statistical analyses completed (two iterations of the GAM method and the Seasonal Kendall method).
- The ability to detect trends at different levels of significance (i.e. different p values) were evaluated for the tidal main stem of the Chesapeake Bay for chl-a, DO, water clarity, TN, and TP.
- Specific stations are also outlined to show the differences in capturing linear and non-linear trends among the models.

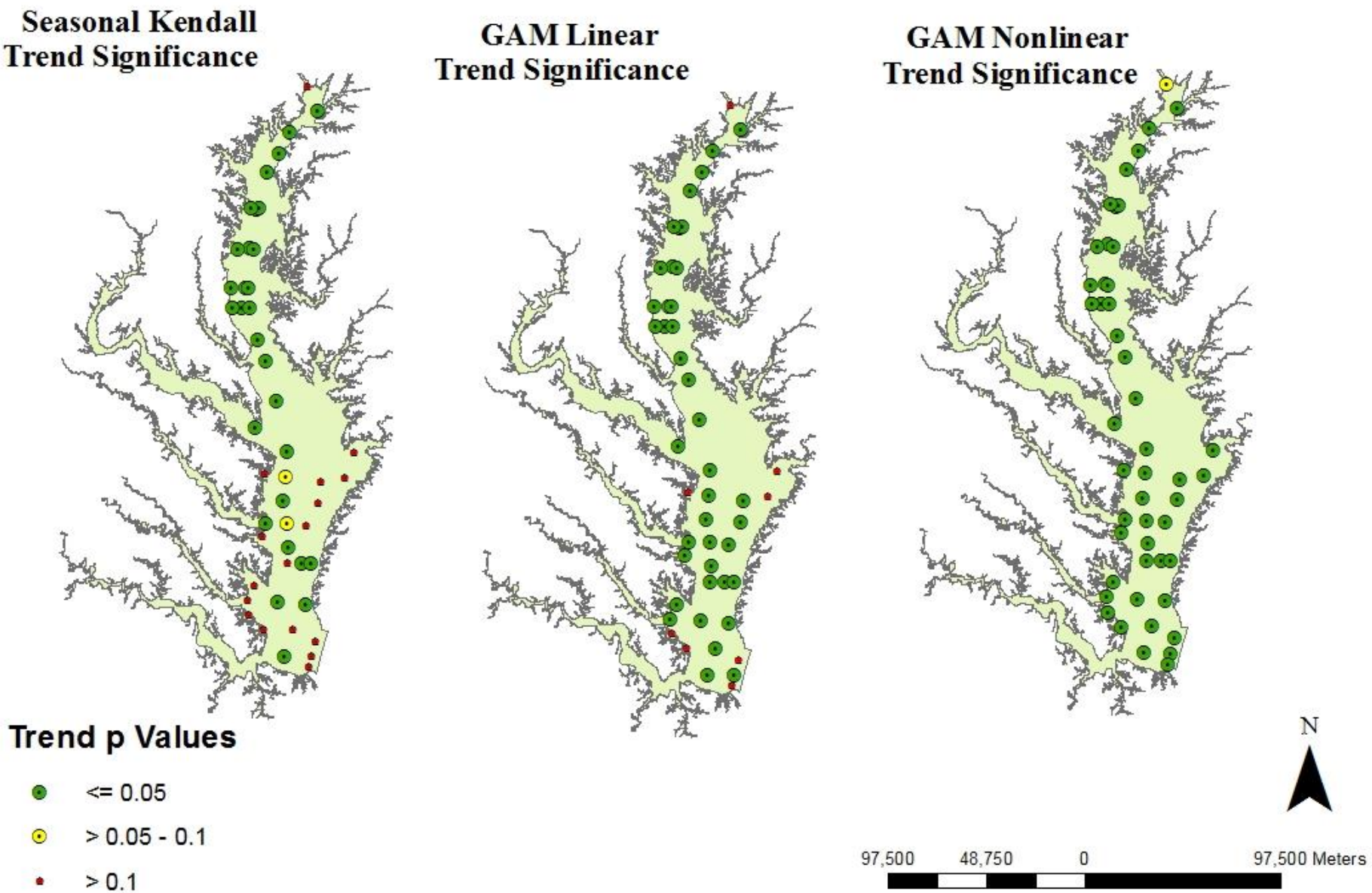
Surface Chlorophyll-a Trends - Main Stem



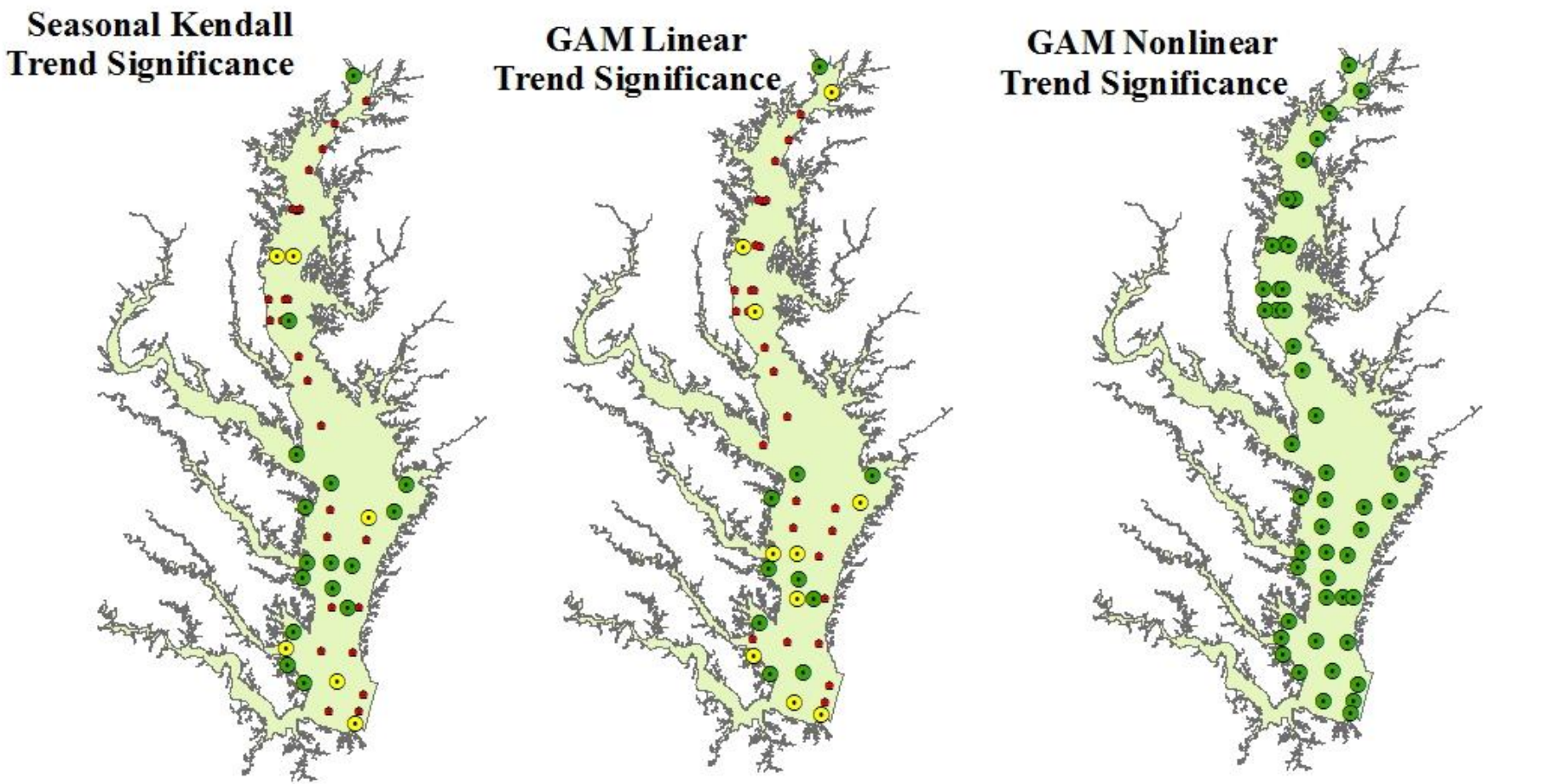
Bottom Dissolved Oxygen Trends - Main Stem



Secchi Trends - Main Stem

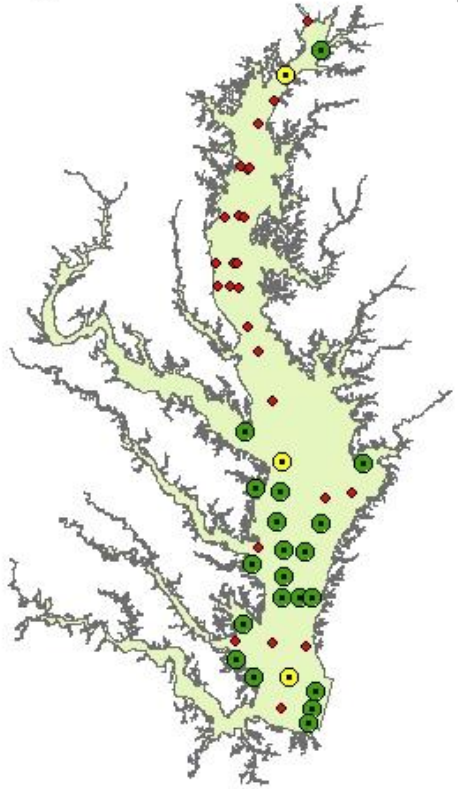


Surface Total Nitrogen Trends - Main Stem

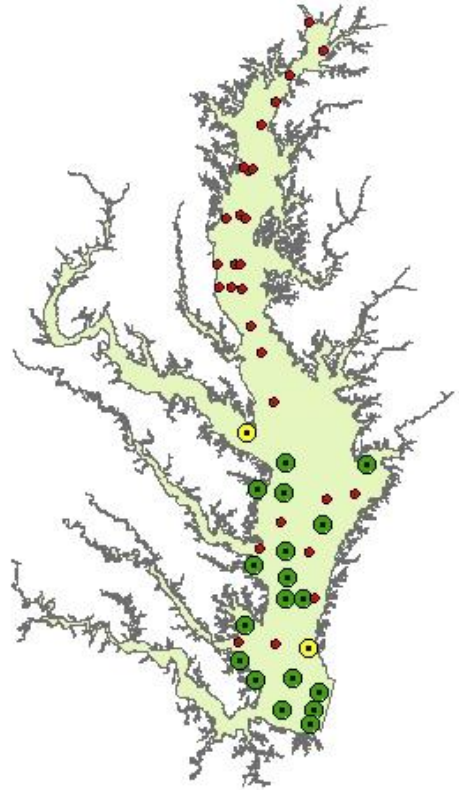


Surface Total Phosphorus Trends - Main Stem

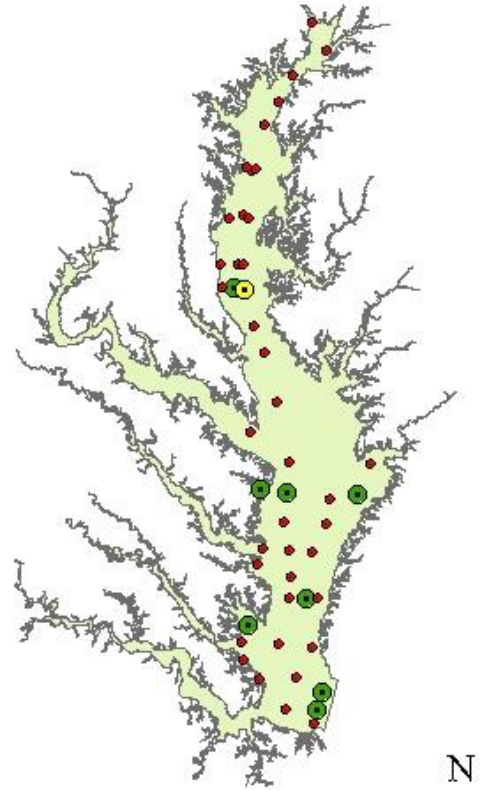
Seasonal Kendall Trend Significance



GAM Linear Trend Significance



GAM Nonlinear Trend Significance

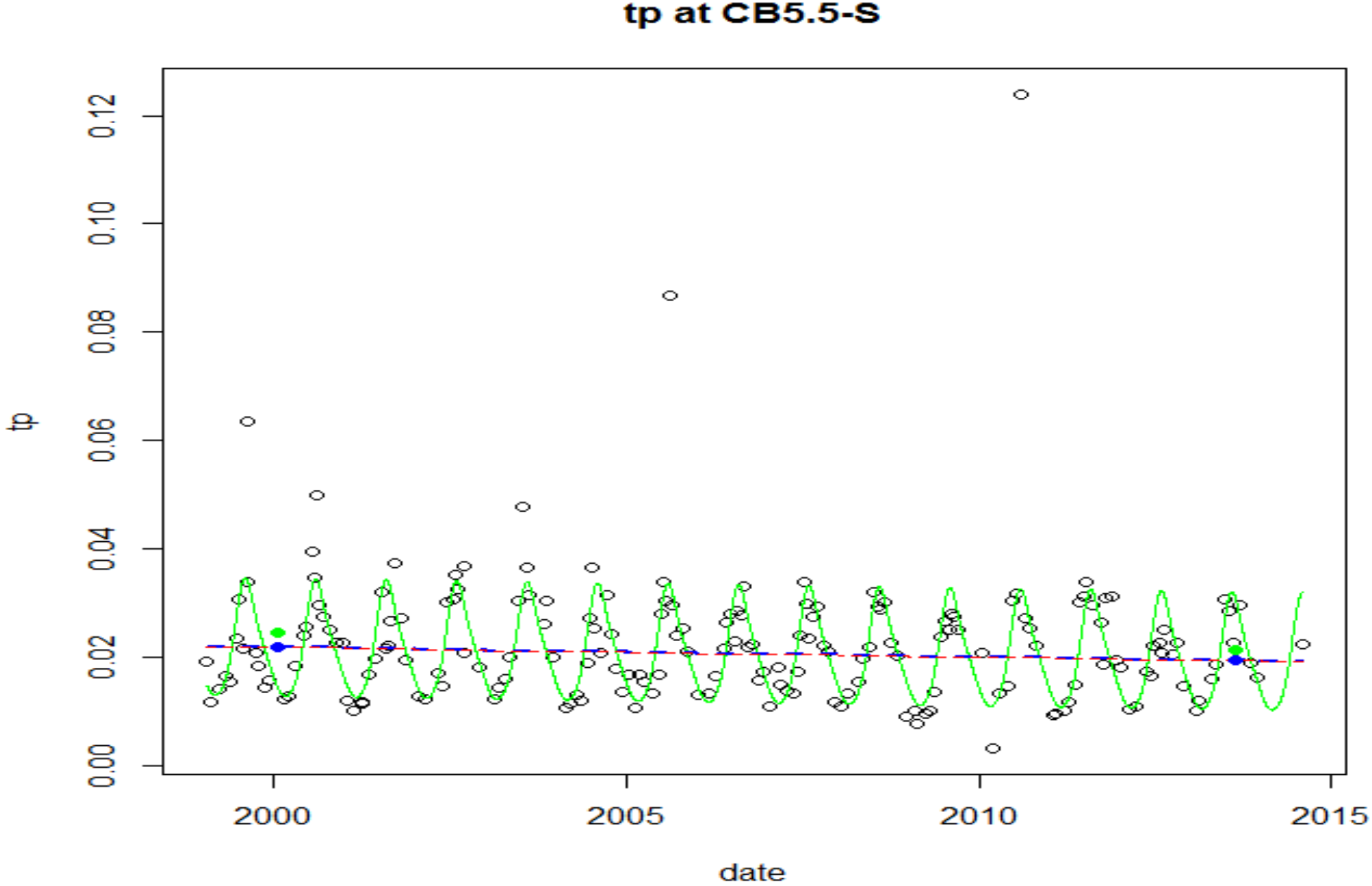


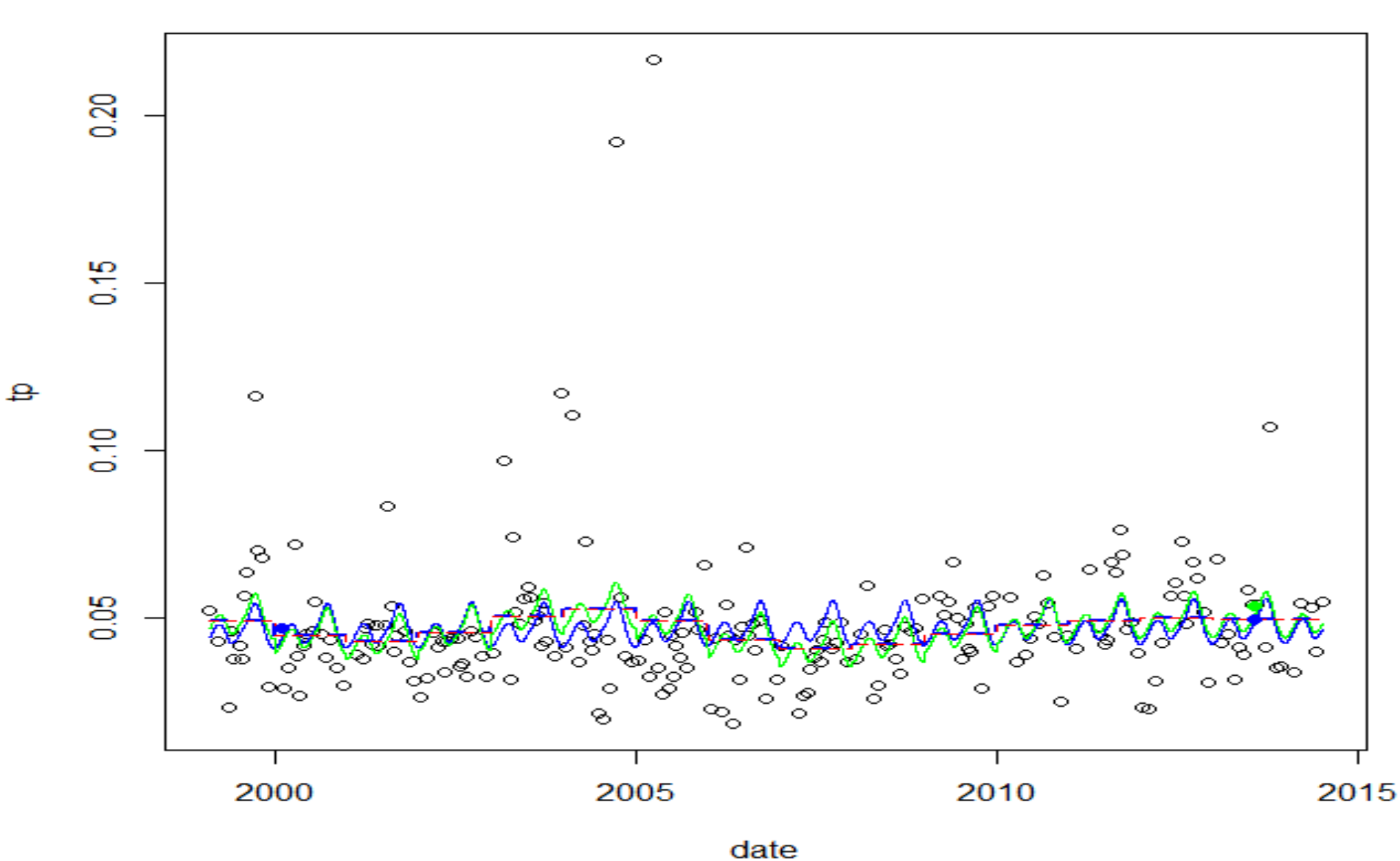
Trend p Values

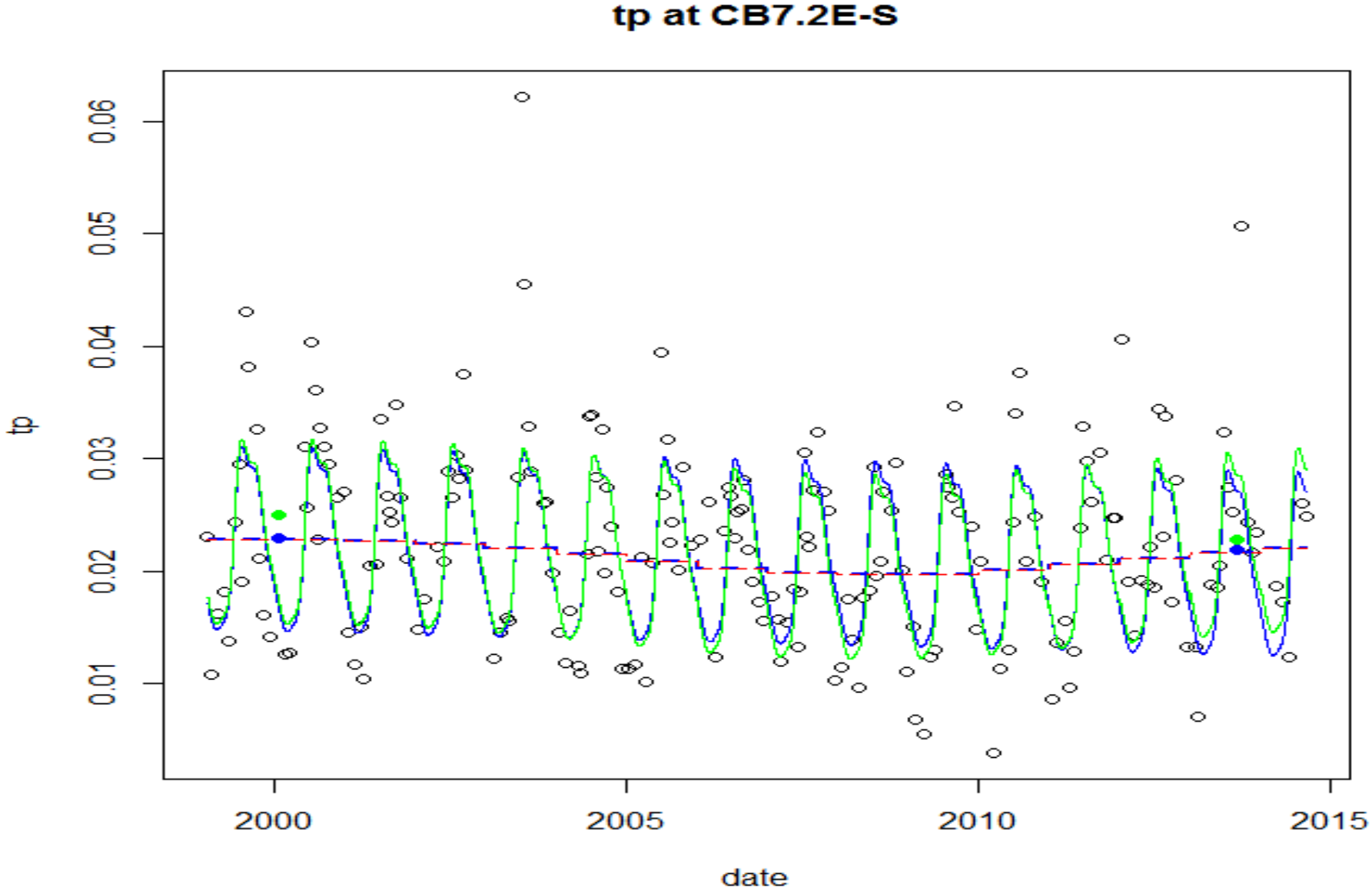
- <= 0.05
- > 0.05 - 0.1
- > 0.1

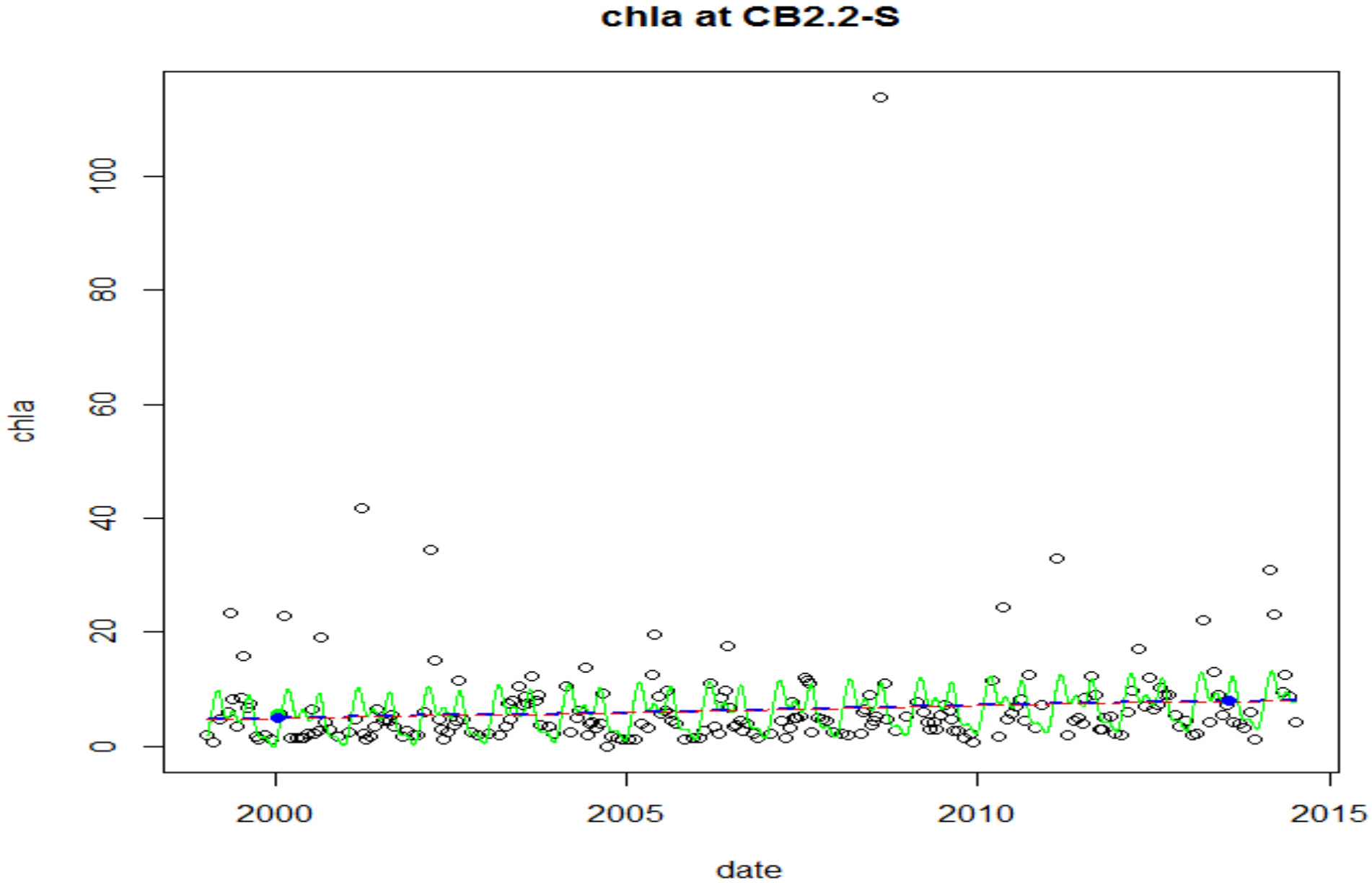
N

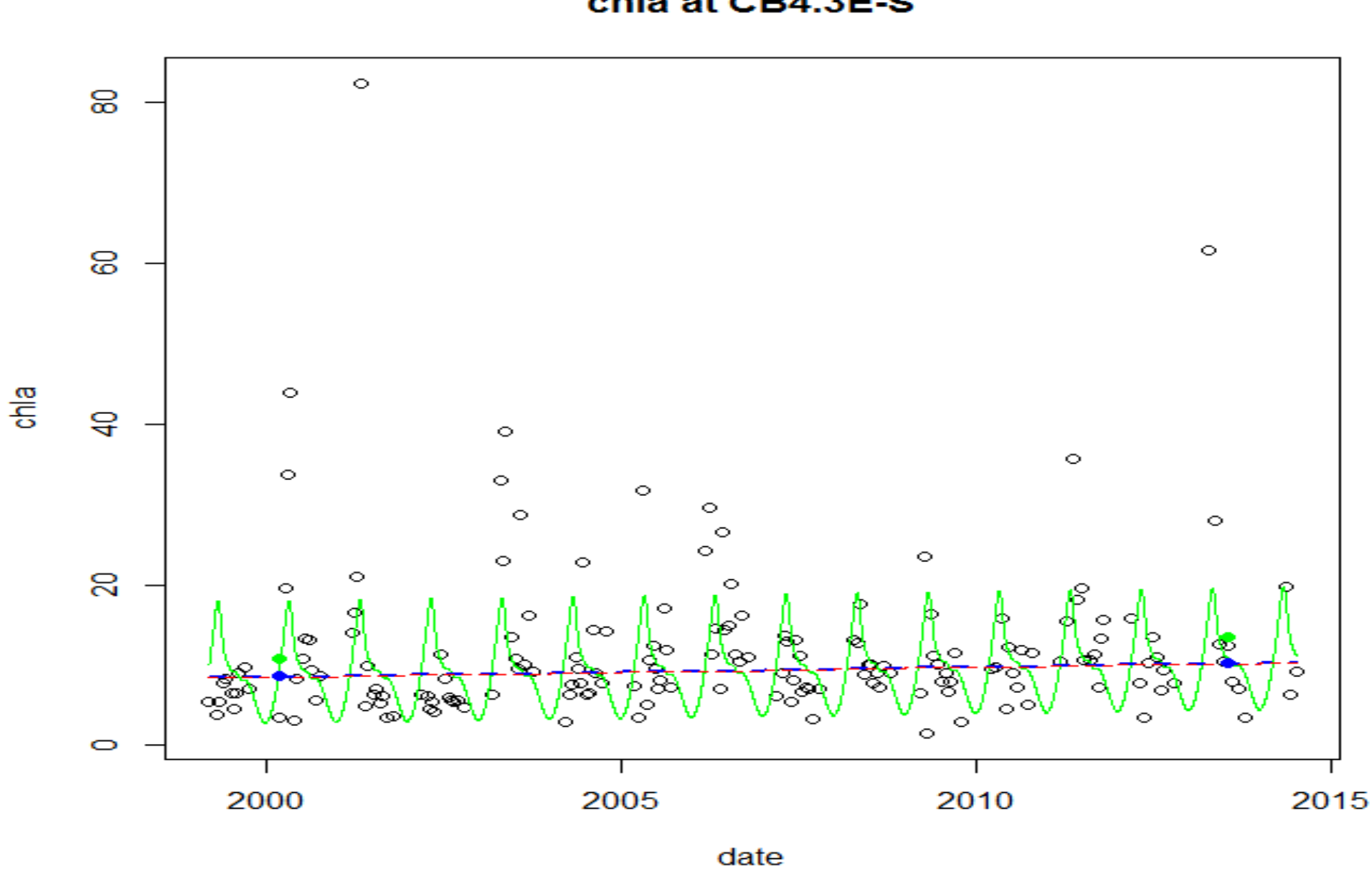
100,000 50,000 0 100,000 Meters


tp at CB5.5-S
tp
0.00
0.02
0.04
0.06
0.08
0.10
0.12
2000
2005
2010
2015
date


tp at CB2.1-S
tp
0.05
0.10
0.15
0.20
2000
2005
2010
2015
date


tp at CB7.2E-S
tp
0.01
0.02
0.03
0.04
0.05
0.06
2000
2005
2010
2015
date


chla at CB2.2-S
chla
0
20
40
60
80
100
2000
2005
2010
2015
date


chla at CB4.3E-S
chla
0
20
40
60
80
2000
2005
2010
2015
date