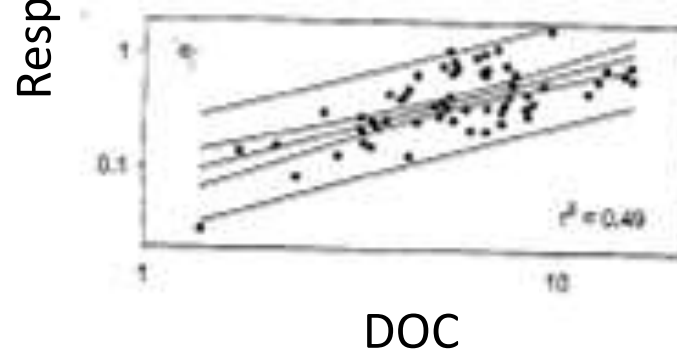
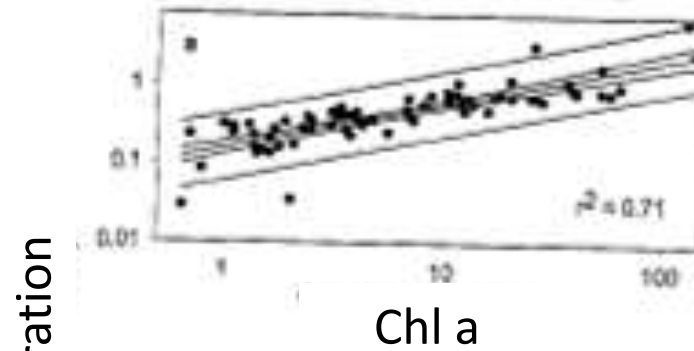


Drivers of temporal variation in pelagic community respiration

Chris Solomon

3 Feb 2009

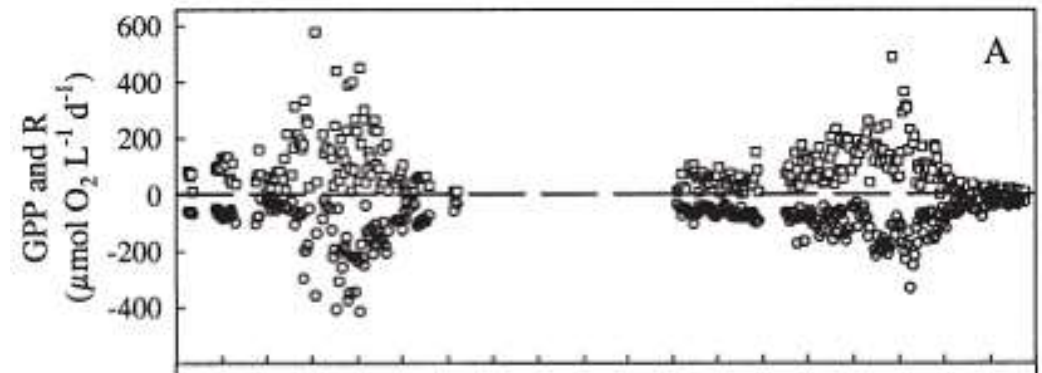
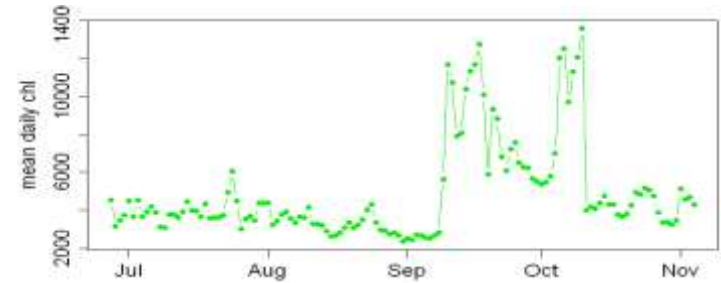
Respiration varies among lakes



Pace and Prairie 2005

What about temporal variation within lakes?

- Drivers vary over time...
- ...and R varies over time



Staeher and Sand-Jensen 2007

Among lakes: 0.7 to 160 mmol O₂ L⁻¹ d⁻¹ (Pace and Prairie 2005)

Within a lake: 1 to 400 mmol O₂ L⁻¹ d⁻¹ (Staeher and Sand-Jensen 2007)

What are the patterns and drivers of temporal variation in R?

- How similar are time series of R across lakes?
- What explains temporal variation in R?
- How do relationships change across lake trophy gradients?

$$- \quad R_{\text{tot}} = R_A + R_{\text{H,autoch}} + R_{\text{Halloch}}$$

Interested in being involved?

Comments and suggestions?

Please let me know!!

What data do we need?

- High frequency:
 - DO
 - Water temperature
 - Wind speed
 - Irradiance (PAR)
- Other:
 - Chl a
 - DOC and/or color
 - ...