

Reservoirs & Lake Management G16 Final Report



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Climate change & variability: exploring lake resilience & management



Cintia Piccolo, Vanesa Perillo, Nora Theodore, Courtney Wigdahl-Perry, June Fichter, Lisa Borre Jen Klug, Theresa Warner, Robyn Smyth, Gerardo Perillo, Dave Johnson and Paula Zapperi

- **ULTIMATE GOAL:** Communicate the ability of lakes to withstand climate and anthropogenic variability to lake managers and community members.
- **KEY QUESTION:** What are the lake variables that affect recovery from climate variability? What about community resilience? (building on other GLEON papers such as Jennings et al., 2012)
- **INITIAL FOCUS:** Heavy rainfall events, droughts, wind events... across a global scale.
 - Lake response determined by catchment area relative to lake volume combined with storm intensity (Klug et al., 2012).
 - Other variables? transparency, chlorophyll, stratification stability, conductivity.
 - Call for interested sites (already in: Lake Sunapee, Lake La Salada (Argentina), Ireland, South Korea)
- **Potential collaborations/synergies with other groups:** Storm Blitz Group, Catchment Group, GLEON Northeast

Outreach to Lake Managers/ Communities



Courtney Wigdahl-Perry, Robyn Smyth, Lisa Borre, June Fichter, Nora Theodore, Jen Klug, Vanesa Perillo, Cintia Piccolo*

- **WHO:** Lake community members and management personnel
- **WHY:** Illustrate mutually beneficial partnerships; unique audience
- **HOW:** Ultimately, GLEON webpage? **Short-term → blog posts**
- **WHAT:** (continue brainstorming!)
 - Case studies/ fact sheets
 - Videos
 - Basic figures showing traditional sampling regime compared to high-frequency data
 - How to contact your local GLEON “rep”
- **Immediate action items:**
 - Blog posts!
 - GLEON-wide survey of management partners – What do you need/want to know? What can GLEON help you with?
 - Questionnaire for GLEON scientists to initiate partnerships with local groups
- **SYNERGIES?** Kathie Weathers, Robyn Smyth (SURVEY – Dec 1st), Amy Hetherington

Biological and physical drivers of variability in hypolimnetic oxygen deficit



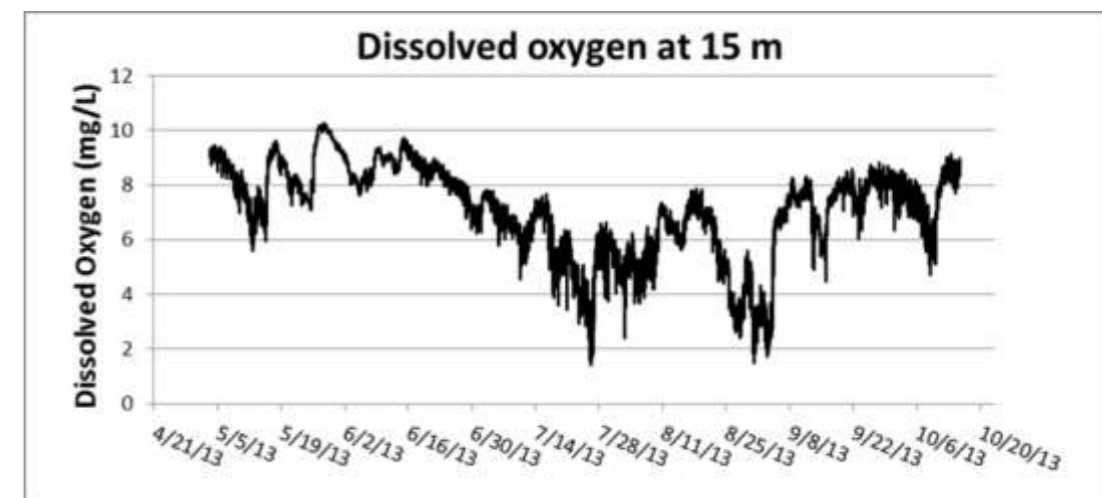
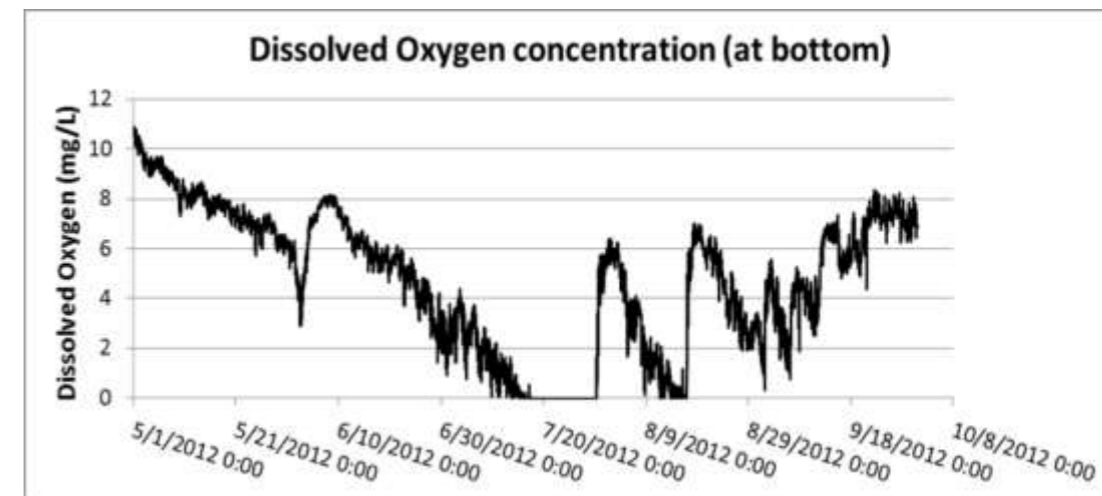
Dave Johnson*, Bomchul Kim, Jen Klug*, Cintia Piccolo, Nora Theodore, Theresa Warner
and ...

How do mechanisms vary in
importance across reservoirs/lakes?

- function of
 - residence time
 - climate region
 - trophic status
 - land use
 - etc.

Are there other systems with data
like these?

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Pharmaceuticals and Personal Care Products (PPCPs)



Sarah Bartlett, Lisette de Senerpont Domis, June Fichter, David Johnson, Bomchul Kim, Nora Theodore, Theresa Warner, Courtney Wigdahl-Perry

What is the magnitude/presence of PPCPs in freshwater water lakes?

- Literature Review – what has been done
- Data Review – looking for people who are screening for PPCPs
- Request for Emails of Interested Persons

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