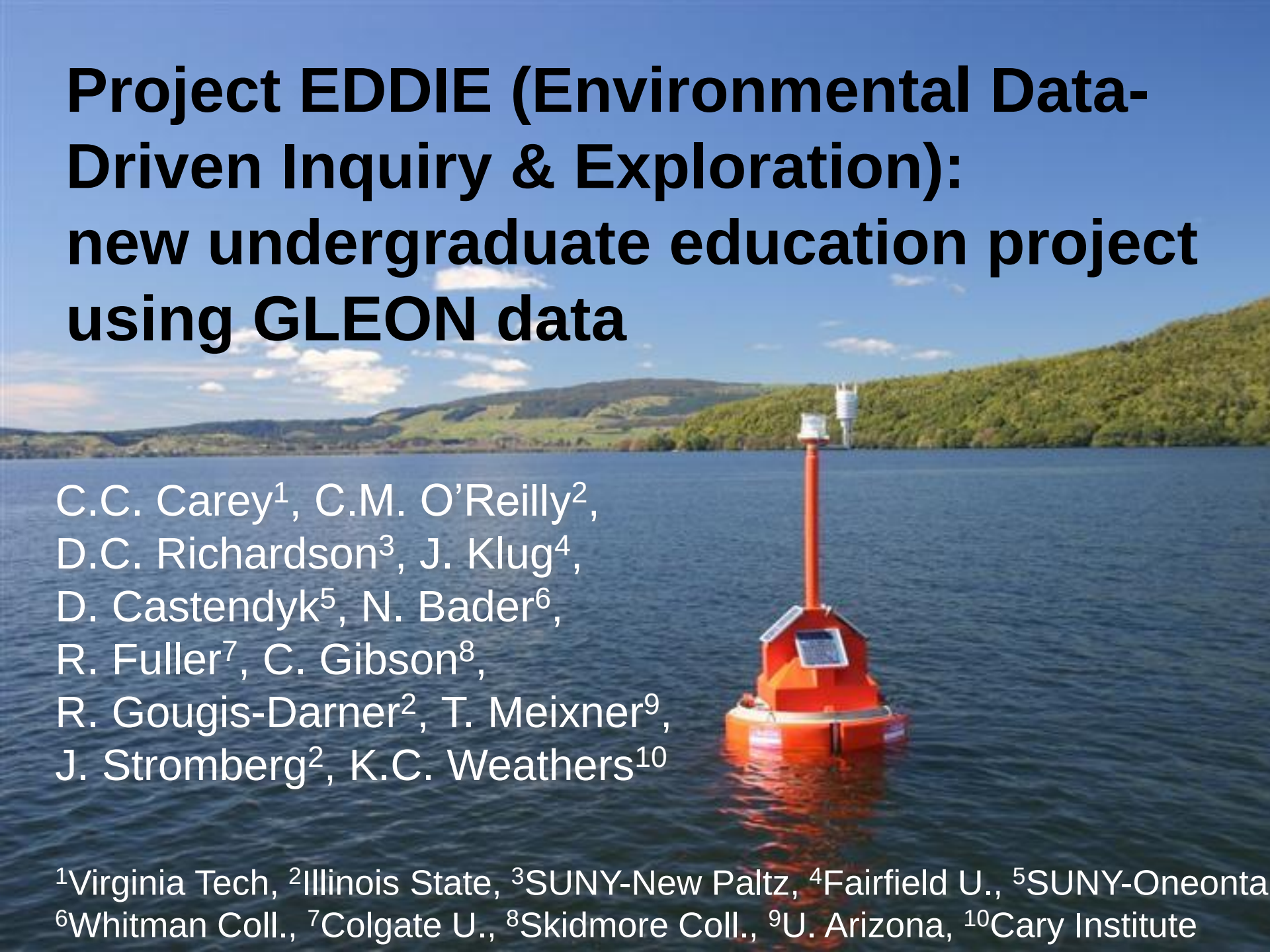
Project EDDIE (Environmental Data-Driven Inquiry & Exploration): new undergraduate education project using GLEON data



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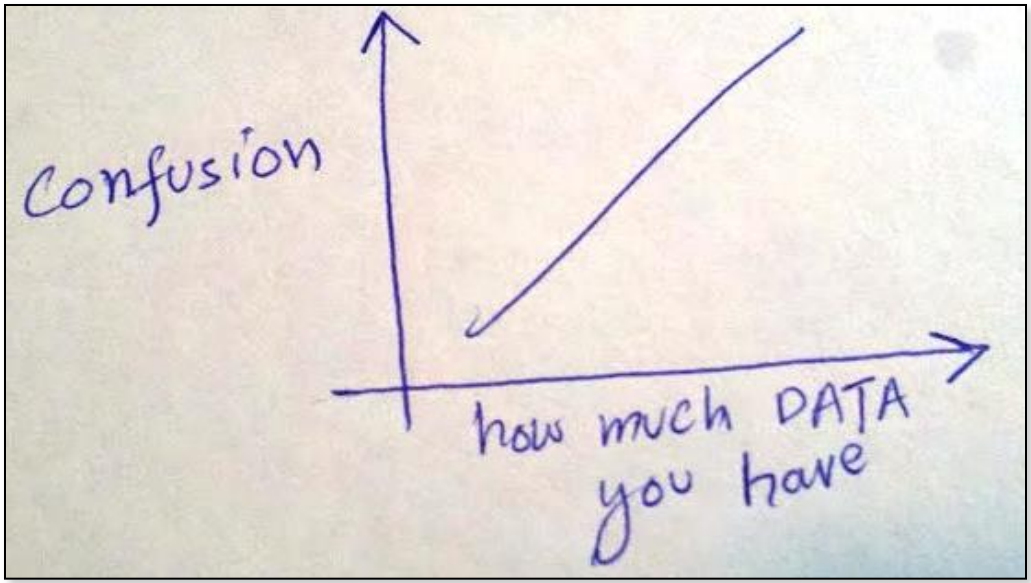
Rationale

- Undergraduates need quantitative reasoning skills and tools to analyze large, high-frequency datasets and better understand ecological concepts.
- Our response: create teaching modules that use real, messy GLEON data in undergraduate classrooms



My goal is for my students to explore data to come to the opposite conclusion.

Image from letsgraph.com

Teaching modules with GLEON data

- Ice phenology, Lake metabolism, Lake physics, Climate Change
- Each module consists of pre-packaged lesson plan for instructors, in-class activities, homework + answers, datasets, and pre-class readings
- “Ground-testing” in classes in 13 classrooms and 9 universities 2014-2015
- ABC structure
- Putting GLEON data in the classroom

Learning objectives

- Build data manipulation and analysis skills
- Use large datasets to improve understanding of ecological and limnological concepts
- Develop skills using Excel for graphing and statistics
- Expand students' understanding of data variability and 'messiness'

Credit: Princeton University

What next?

- Current and future work:
  - Working with pedagogical experts to improve modules and learning objectives
  - Creating new modules for general limnology and ecology classes (n = 10 modules total)
  - Wait for it… tested modules will be freely disseminated in 2015 via GLEON and NEON at www.projecteddie.org
  - Do you have an idea for a module? Please let us know!

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Long-term goal