Introduction

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Introduction

Who am I?

- Ecologist & limnologist
    - Use palaeo as a tool
- Statistical ecologist
- Not an ecological statistician
- Used to teach the “ECRC Numerical Course” with John Birks
- Now a research scientist at IECS, U Regina
- Interested in
    - ecosystem response to environmental change
    - community dynamics
    - effects of N deposition on remote oligotrophic lakes
    - effects of nutrient enrichment on prarie lakes
    - C & N dynamics
    - statistical modelling

Figure 1: Me on a miserable summers day in Greenland

Philosophy

We want to use methods that are

- ecologically plausible
- simple without being too simple
- not unduly complex

John Birks' legacy on quantiative palaeoecology

Yet as a field we haven't moved with the times — squandering John's legacy

What was simple / not too complex 20 years ago may not be the best "simple-non-complex" way now

As a field we are crap at training

Reproducibility

Who here could reproduce the analyses for their

- terminal degree disertation?
- last paper?

For a worrying example, see Richard Telford's blog for his ongoing attempts to reproduce results from Lake Żabińskie (LaroqueTobler et al, 2015, *QSR* **111** 35–50)

Schedule

Lectures 0930–1200

Lunch 1200-1300

Computers 1300–you give up

- Monday
  - Intro to R
  - Linear models
- Tuesday
  - GLMs
  - GAMs
- Wednesday
  - Ordination
- Thursday
  - Stratigraphic data
  - Time series
- Friday
  - GLMMs
  - Requests from the audience

Course materials

All the materials are on GitHub

github.com/gavinsimpson/adelaide-2017

Re-use