July 13, 2023 Education Working Group Call

Attendees: Abby Lewis, Alyssa Willson, Cazimir Kowalski, Jason McLachlan, Jody Peters, Gerbrand Koren, Olivia Tabares
Regrets: Dexter Howard

Agenda/Notes:

1. Ethics in Forecasting Project Manuscript Updates
    a. Authorship guidelines
    b. Discussion questions
        i. Water temperature vs dissolved oxygen
            ● Can we highlight reasons why water temp is changing that affects water quality. E.g., dam upstream that affects sites or other flow regulation or power plant
            ● Want to connect water temp to some kind of driver. Want to add more context for the students
            ● Connection between water temp and water quality is less biologically or ecologically straightforward than DO, but think we can make the case
            ● If climate change is responsible for warming waters, then is should be the case everywhere. Input/output are related
            ● Want to hypothesize a mechanism that we can articulate to make it easy for students. Will have students who are expert in water quality so want to make it clear fr them. For students who are generally trained, want to be clear about what is happening and why so they can get to the point of evaluating the measured site conditions and cultural values
            ● What is the broader point that we want to communicate
            ● Give justification for why EPA has perspective on temp
            ● The lakes/streams sites bring in complication since they will be regulated differently
            ● The data/map is made up, so as long as we have are logical
            ● Possible next steps: redraft figures with trajectories that are consistent with observations in an analogous place and update the years to be the last 10 years
            ● Caz thinks the variance in Fig 2b is similar to what was used in the GA course, but didn't use the actual data from the course (will need to check this)
            ● For Georgia's class, she makes up data that is consistent with the trends in the data she observes for her consulting work with Tribes. But it is data from a made up place.
            ● TEK rankings in Fig 3b are similar to what was from the GA meeting

- - Because the rankings are based on the GA meeting which had a lot of Native members participating, then stick with the values
  - 2 changes Jason recommends -
    - Change axes to go up to recent time period (last 10 years)
    - Change the framing paragraph without adding too much detail to set the problem up so it is clear about how this relates to what the EPA cares about
    - Leave the figures as they are
  - Then do we add text that there is justification about where the data comes from and that it was done at the Geoscience Alliance meeting which had large Native American participation.
    - "The values presented in Figure 3 are simulated but they are consistent with the mean and variance similar to those from a class at a Tribal College and a workshop at the Geoscience Alliance meeting which was targeted for Native Americans."
  - Use text from Georgia's email for the framing.
  - Add a caveat sentence that says water temp is one of many measurements of water quality and it is a snapshot. Abby will draft this text.
  ii. Figures licenses - put the licenses for all the figures (reproduced by permission, CC-BY, etc)
  iii. Student instructions - need to be very concise. Olivia is willing to look through the student instructions section
  iv. Table 1 - like Dexter's pdf version!
  v. Figure 4.3
    - Strategy could be to not include the figure in our document, then have students look it up in the paper which is open access
    - Or write in the instructions explicitly
    - This also gets to a question about the handouts for the students - do we give both figures in the handout, or put the figure in the handout to the instructor part or a second handout to the students that they don't have access to when they are creating the figure
  vi. Do we need to suggest reviewers?
    - Submission form does not require a cover letter or suggested reviewers. So lets wait on reviewers unless editors ask?
  vii. Abby will send out the final student handouts for the group to look at. Abby's goal is to finalize the text in the manuscript and then will make them. Olivia will look at the manuscript text one more time before Abby gets to the student handout.

2. Olivia's ESA presentation that will highlight EFI projects. Provide materials/figures to help Olivia with the presentation.
   a. Here's the Abstract (Final version)

- b. Here are the Slides (work in progress)
     - i. Great to have Alyssa to work on a slide about on the education assessment paper
     - ii. Slide from Caz about the the education modules
     - iii. Slide about barriers from Antoinette
     - iv. Slide from Abby about ethics project
     - v. Jody provide overview of EFI materials and Sloan report
  - c. Olivia will look over the slides in prep for DEI working group call to get feedback form the group
  - d. Olivia is the community manager for 2 chapters in ESA and can help spread information. Jody will send info to Olivia
  - e. Any input from the group about moving to Threads from Twitter?
     - i. Not sure about it since it is new

3. Macrosystems EDDIE
   - a. Leaving this in as a placeholder in case Mary has updates or wants input

4. Jason's Environmental Justice class

5. Any other updates or input people want to share or get feedback on?

6. Notes from a long time ago, that may be good as a reference. But doesn't need to be discussed on this call. Open Book Project to keep in mind and mash up of notes from previous calls
   - a. There is potential to use the educational materials developed for the Sloan grant or with Olivia's class to start providing content for this that other EFI members could contribute to.
      - i. This is a book you would read before you read Mike's Forecasting book
      - ii. If we start to develop modular materials they could be included in such a book
      - iii. Can start to develop a list of the components that would be useful to include in a book and think about how to make it applicable to a wide range of students from many different backgrounds
      - iv. Think about developing slides/materials that provide context
      - v. Running list of who has expressed interest at one time or another
         - Jason McLachlan, Shannon LaDeau, Elva Escobar
      - vi. Has anyone seen the [Open Forecasting Textbook](#) (does exist as a [paperback](#) as well)
         - In the Preface this is for a 3rd year undergrad intro master's course
         - Interesting template. Success in part due to free online and R packages are nicely user friendly

- This is a bookdown format where R code is integrated and is a living document
- Wouldn't get the credit of something like an AGU Monograph, but would be more broadly available.
- Could do something that are RMarkdowns that could be combined as a book
- Loop John Zobitz into this. He is also writing a book for his courses. Mike has used some of his chapters in his 300 level course.
- Do this in the context of NEON data and walking through all the steps of forecasting. Could get long, but would be a nice resource.
- A self-contained book to walk through. Could reference other books.

vii. This sounds like a strong potential for a proposal for NSF Education Directorates, especially if we could bring in an education evaluator who evaluates the open source, collaborative textbook.
- If we structured it well it could have a strong educational research component