August 18, 2021 Education Working Group Call

Attendees: Anna Sjodin, Mary Lofton, Jody Peters, Shannon LaDeau, Tadhg Moore
Regrets: Jason McLachlan, Alyssa Willson

Agenda/Notes:

1. Poll for Sept-Dec calls. Ignore the dates and just focus on the day/time options. Also make sure your timezone is selected at the top.

2. Update about Olivia's scripts for teaching R infographic for teaching/learning biostatistics with R Updates.
   a. We will save this for the next call Olivia is able to attend

3. Document for (guidance counselors/instructors) working with students interested in ecological forecasting
   a. Venues for sharing: Ecolog, Career counselors, QUBES (see notes from May/April calls for details about QUBES options)
   b. 1st box: change Environmental problems to challenges
   c. Liked the previous version in that hit had Forecasting a likely future and estimating uncertainty or identifying probability
   d. Better see the future identify probable outcomes and assessing probability to the outcomes.
   e. What does it look like box - move the examples to the second box
   f. Decision makers are in the second box, so don't need to have it in the first box.
   g. Asterisks on the 2nd page - have issues seeing them. Also have issue with the differences in the asterisks. Don't need the asterisk since we already have the statement. Leave the note and remove the asterisks.
   h. Ecological forecasting has been used to predict toxic algal blooms, wildfire
   i. More rearranging - 1st box
      i. Ecological uses mathematical models as 1st sentence.
      ii. This allows us to better see what the future looks like
      iii. Just like in weather forecasting...what outcome will occur and how certain is that outcome
   j. 2nd box
      i. The most effect ecological forecast…
      ii. Example of societal challenges include. - put after 1st sentence but before key areas
      iii. Remove space before "The" in second box
      iv. 2nd box would be nice to get bigger to expand the figure
   k. 3rd box
      i. Could get rid of 1 figure to save space
      ii. "Included is a list"

iii. More information could be on the second page in the Note
iv. See more information about careers and education resources
v. Ecological forecasting is relevant to many career paths
vi. More information at courses and careers can be found at ecoforecast.org or on the following page.
vii. "Teaching ecology and environmental science" for second bullet
l. Tadhg and Mary will be demoing forecasting in Freshwater Ecology .for Sept 17. Would like to use this in that course. Could get student feedback
m. Could host the pdf on the Macrosystems EDDIE with the modules
n. Do we want any credit given to the EFI Education Working Group? If we can make it look cute, then add it
o. Make the updates, then send to the group for feedback and final updates prior to the Sept 17 deadline. Mary can have tasks delegated to her.

4. Forecasting, Prediction, Projection Manuscript Update (Anna and Gretchen)
a. Gretchen has or will be defending shortly and is taking a break. When she gets back from her break, Anna will reach out
b. Anna will reach out to Gretchen to see if
c. Conceptual figure and discussion. Everything else is drafted
i. Had images along with photos, but this isn't what the journal wants.
ii. By next meeting - Anna will plan to have something

5. Task for the future. Jody is leaving this on as a reminder.
a. What kind of biostats do students need to know to set them up for being able to take a forecasting course?
i. Jason - provide update on ideas from RCN Steering Committee Call
ii. From Feb 2021 call: How do we make those materials available? Don't want to create a textbook, but could think about an AGU Monograph style resources. 10 chapters that build on each other.
iii. Go back to the notes from Feb 2021 call for details about this conversation.
iv. Elva Escobar is interested in participating on this project
v. Here are some ideas that came from a separate call with the RCN Steering Committee.
● Quinn is trying to think about how to put some of his course materials together. Thinking of perhaps a How To Guide for the forecasting challenge
● 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 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.
    - 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
  vi. Disciplinary expertise - think we are downplaying the empirical researchers who are providing data/data collection. Don't want to leave those people out
    - Ecological methods course
  vii. Also don't want to leave out people more interested in the social science/partners side of things. But this is where the note up at the top of page 2 will be important to convey that not all courses are necessary.