

May 27, 2020 Education Working Group Call

Attendees: Anna Sjodin, Whitney Woelmer, Laura Super, Mike Dietze, Alyssa Willson, Jason McLachlan, Jody Peters, Shannon LaDeau, Lisa Haber

Agenda/Notes:

1. Re-cap from RCN and Introductions of New People
 - Education video from RCN: <https://youtu.be/wbbRRwJUa0>
 - Introductions:
 - Jason - Paleoecologist at ND. Coordinate education initiative for EFI, STC, RCN
 - People's interest in EFI may overlap with RCN, STC, etc, but they do not have to overlap
 - Whitney - PhD student at Virginia Tech. Starting project where she will develop EDDIE module at undergrad level to incorporate big data and computer coding skills. Interested in learning about pedagogy and helping to organize and access resources and help to develop them
 - Alyssa - PhD student at ND with Jason. Interested in teaching forecasting to underrepresented groups in STEM. Focusing on conceptual side
 - Lisa - PhD student at Virginia Commonwealth in Chris Gough's lab. New to EFI. Interested in applying forecasting tools in dissertation chapter. Interested in learning to expand educational access to grad programs without forecasting resources. Has background in high school teaching and interested in applying educational frameworks
 - Anna - postdoc at U of Idaho. Studies viruses. Was self-taught forecasting in grad school. Likes to work with students and mentor them and want to promote forecasting/quantitative skills for undergrads
 - Shannon - Cary Institute - vector research (ticks/mosquitoes) and viral transmission in animal populations. Obvious at undergrad/grad level that there are haves and have nots. Important thing to do is to help figure out how to bridge the gap between biology/stats and applicable/quantitative courses
 - Laura - Grad student at U of British Columbia, plant-microbe-invertebrate interactions and anthropogenic change. Research background in botany, Ecology, and Sustainability. Is on Sustainable Development Goal (SDG) Alliance as a volunteer at UBC. Working on paper to incorporate diversity at undergrad level for teaching and wants to connect with the Diversity group as well, tangentially and is tangentially associated with the Social Sciences group; focusing on Education and Theory groups for now (short-term)
 - Mike - EFI Director at BU. Teaching forecasting course at grad level since 2012. Doing 4th short course on forecasting in a week. Major interest in teaching has been important for the launch of EFI

2. Updates from Anna and Gretchen about the forecasting vs prediction survey/manuscript progress
 - Have a survey to look at vocab words across fields of forecasting
 - Announced at RCN workshop and through twitter
 - Have about 80 responses so far
 - Grad group has been helping Anna/Gretchen to look for authors/emails from forecasting papers
 - Gretchen/Anna talking tomorrow about next steps to involve grad students in writing process. Have students do lit search for the subfield of their interest
 - Forecasting vocab survey - fill out the survey and let others you know about it to survey it as well
 - https://uidaho.co1.qualtrics.com/jfe/form/SV_4PIItUH8Ne9xRcx
 - The survey is also going out to the Theory group in their homework/action items follow up email that will be going out soon
 - Anna/Gretchen will continue to keep the group updated on the project and if they need help with specific tasks

3. RCN Workshop - what are the high priorities that we heard at the workshop
 - Grad Level
 - Tutorials or clear examples of worked through code that wasn't toy code but that started at an entry level
 - Think about the components needed for forecasting and going over each component piece by piece
 - Was John's tutorial for the Grad Workshop helpful?
 - Lisa: Was helpful. Having markdown was really helpful.
 - Envisioning a video, narrating a problem. Contextualizing it with a picture of the site and the problem. Then narrating the model. Would be helpful for people without a coding background
 - Make the link between the problem/example and the process
 - Have a version for grad students and then make it modular that is accessible for undergrads
 - There are also needs for complicated examples. Developing a presentation/video for a specific study with a fully developed forecasting system. Distill it down to the ecology, the data, and how it is all put together with the models/forecasts
 - Have baseline example and then add on the complexity. Point people to the videos we have for the introductions and then be able to expand it out with the more complex examples
 - Line from beginning to end is important - show the overall process of creating/using forecasts
 - Synergistic opportunity with the RCN - trailers for the different forecasting challenges.

- Ticks - why do we care about forecasts of ticks. Why are they a problem, where are they a problem, what are we trying to forecast
 - Expect that we could get NEON buy in for this since it will be a way to share their data products
 - Start with one forecasting challenge and try to pull together a forecast with a video that walks through each of the steps of the forecast
 - The point is to help someone who doesn't understand forecasting to understand it
 - Use the other forecasts submitted to show that the pieces are put together differently by different teams
 - If we have a bunch of resources about the forecast topic this may inspire people who aren't interested in forecasting to start with (e.g., someone who studies ticks), but once they see all the resources (on ticks) they may be inspired to learn more about forecasting (in addition to the tick ecology)
 - Trying to get a couple of prototypes of videos for the NEFI course in 2 weeks. This would spring board toward the more deeply technical version. But this will not have all the pedagogy. So this would be a place for this Group to build on.
 - The 5 people on the call that will be participating in the NEFI course can keep notes on where we can move things forward and use the resources that have been presented (e.g., what code would be good to use)
- Undergrad Level Opportunities
 - If we have bare-bones code working with NEON + model = forecast. This can also work for undergrads. Could be a different video for undergrads
 - Take this example and check with folks in other disciplines that haven't been well represented in EFI to find how best to reach those undergrad populations (e.g., undergrads from small liberal arts colleges)
 - Diana Dalbotten - good at reminding people about what it takes to get inspired when you are scared of excel. Take this version and think about what it takes to encourage these folks to get into forecasting. Want to get people to believe that they can forecast
 - Notes from RCN Workshop Education Group 1 Breakout Notes from Day 2: [link removed]
 - Notes from RCN Workshop Education Group 2 Breakout Notes from Day 2: [link removed]
 - Notes from RCN Workshop Education Group 3 Breakout Notes from Day 2: [link removed]

4. Google doc to compile educational resources: [link removed]
5. [Earth Hacks](#) - a program that helps undergrads and grad students as well set up their own hackathons. It was suggested by a senior at Smith College who attended the EFI-RCN workshop and Jody thought it is a program that would be good for this group to know about.
6. Next Steps:
 - See how the NEFI course goes
 - Decide on the topic - got to have a good story that can make a prediction but with something that doesn't have so much data that it is overwhelming
 - pick one of the topics from the RCN challenge - aquatic instruments (chl-a) and ticks will be highlighted in the NEFI course
 - Have lots of expertise at VT on aquatic, Shannon and John have tick expertise
 - For trailer type video work with folks at Carey
 - Ticks seem like a good option with a simple population model. Use this as a placeholder for now
 - After NEFI course will know what the limitations in the data might be
 - What is the code - get GitHub repo
 - What do we need to annotate/make videos