September 14, 2020 Education Working Group Call

Attendees: Anna Sjodin, Jody Peters, Alyssa Willson, Jason McLachlan, Diana Dalbotten, Elva Gudalupe Escobar Briones

Agenda/Notes:

1. Forecasting, Prediction, Projection Manuscript (Anna and Gretchen)
    a. Working on writing
    b. Jody worked on Methods section regarding the survey
    c. Grad students working on their writing on the lit search (Web of Science, ProQuest, Google trend search)
        i. Made figure for Google trend and have written up methods, results, discussion
    d. Gretchen is working on her dissertation, so will take off coming to the meetings for this semester. But will still be working with Anna on this
    e. Anna will pick this up in October. Her September is swamped

2. RCN Education Effort Updates (Jason)
    a. STC didn't get funded. But we have the opportunity to take what we have in hand and think about what the education group might take advantage of the RCN
    b. RCN Workshop this upcoming year is dedicated to education
        i. Collate available resources for teaching individuals at different levels of education (basic/advanced: high school, undergrad, grad, managers, etc)
        ii. Outline steps for the next 3 years and identify gaps
        iii. Forecasting Challenges - cut across the breadth of ecology. Everyone has the same dataset and see the different approaches
            - For summer meeting - want to think about ways for Challenge participants to use the challenges to think about pedagogy, tools, training materials
        iv. In prep for summer Education meeting, want to have a smaller DEI workshop - where are the barriers for people interested in forecasting and how to make things easier. Then use this when we launch into the Summer meeting
        v. Trying to figure out formatting for educational materials and what is most useful for the community
            - Tools are all over the place, differences in programing language
            - How do we engage people - take a few examples and work them all the way through to have a template or go step by step
            - This will depend on what level the individuals have. In some cases will need to go step by step. But in other cases, people can take the resource and run with it
        vi. 2 levels emerging in training
            - Students at grad level who are picking up and working at a high level. We are pretty good at providing training/background at that

level. There is still work to do, but it is straightforward with the available tools and being able to engage people already involved with forecasting
    - Upper undergrad/early grad students who are not as quantitative. Their major is in domain science (ecology, natural science) - how do you convince them? And how to fill in the resources. If after RCN we have content online, problem sets, code, examples, videos and have gone through the forecasting challenge a couple of times to

vii. How do we frame this year's meeting so people who participate can figure out how to make it more accessible and make it more concrete for their class.

viii. How to create different resources - if we split people into groups prior to the workshop to work on materials based on a certain level of resource, or topic/component of forecasting

ix. Think about how to advertise for the workshop in the spring for best practices and what to pay attention to - target people who teach grad classes that want to incorporate the challenges in them or target people who teach at the undergrad level who want to include forecasting to their undergrad level. Then boil that down to an agenda aimed at producing concrete educational efforts.

x. Elva - had a Hackathon for Sargassum at undergrad level. She will share the link with the group.

xi. The goal of the main Education workshop - have a concrete product that will be helpful to educate a broad audience on forecasting principles and how to do that
    - Goal is not to have finished projects, but have people think about how to create inclusive resources, how to contribute meaningfully, and form working groups to create resources and want that to inspire people to continue to work on resources for the continuity fo the RCN. It is short, don't expect people to have whole modules.
    - Spend half day to full day coming up with strategies and pitching it to the group and seeing what people think will or will not work.
    - Lesson plans or lesson skeleton that people could use to create lectures? There is so much need so there could be all kinds of things.
        - Want to have people frame their materials in ways that will reach people from different backgrounds
        - There is lots of low hanging fruit - so lesson plans and lectures would be a great resource
    - Intro for forecasting for general ecology for undergrad class - Anna would be interested in helping with something like this
        - Gen bio, ecology, forestry, etc

        - Have a folder for slides for all these things and people could add as they develop them

xii. Alyssa has been collecting resources and the next step is to organize it
    - Have timeline (or various timelines) going from

xiii. Starting with the problem/what you want to solve to get a more diverse audience. Start with this to spark the interest. Focus on problems that relate to people from lots of different backgrounds

xiv. Have the intro slides that are used for undergrads available because they are helpful for the grad classes as well. And have a bunch of examples

xv. Webinar series idea prior to the workshop. Bring in different perspectives of people interested in ecological forecasting (urban ecology, Native American land management, etc). Start by listening to the people want to serve, think about how to make ecological forecasting more general, and then tie into the forecasting challenge/RCN

3. Compilation of resources for undergrad education (Alyssa)
    a. Draft on the EFI website so far: https://ecoforecast.org/advanced-educational-materials/#introductory
        i. This will not be the final website. This is just the draft
    b. Organized by level (avoided undergrad/grad) - introductory and advanced, included general discipline, and resource type
    c. There are a lot of gaps that can be filled in
    d. By the next meeting Alyssa will have a timeline of who will use these resources and when in their education. Alyssa can show where the gaps are. Then the main task will be prioritizing those gaps.
    e. Start talking to people early - get them to tell us their experience. What do you want to forecast, where are you stuck, and where is their overlap with people making forecasts.

4. Here are two papers from Elva's group that Jody will add to Slack papers channel and EFI Zotero library
    a. Reasons for and strategies to integrate climate change into the management of human use of deep-sea ecosystem, drawing examples from deep-seabed mining. Applications of climate projections, larval dispersal models, and habitat suitability models as research tools whose output can guide regional environmental management planning, impact assessment, and adaptive management. Mainstreaming climate into management of human use of the deep seabed, and how these actions may be facilitated by knowledge transfer, deep-ocean observing, and cross-sectoral policy integration. https://onlinelibrary.wiley.com/doi/epdf/10.1111/gcb.15223
    b. Corresponding policy recommendations in regards to climate change and sustainable management of deep-seabed mining https://www.dosi-project.org/wp-content/uploads/2015/08/040-DOSI-Climate-change-considerations-V4.pdf.pdf