August 11, 2022 DEI Working Group Call

Attendees: Nick Record, John Zobitz, Anna Sjodin, Jason McLachlan, Jody Peters, Antoinette Abeyta, Cazimir Kowalski

Agenda/Notes:

1. Poll to find times to meet in Sept to Dec
   a. Make sure your time zone is selected

2. Discussion of Barriers to Inclusion Outline developed by the Mclachlan Lab that can be revised to be an EFI Blog post
   a. Other resources that can be used while working on the blog post
      i. Notes from the Building Inclusive Forecasts Workshop
      ii. Recording from the Workshop - don't want to make this recording public, but keeping it linked here so the group can use it as a reference if needed.
   b. Comparison of alternative diagram that provides example of inclusive forecast development
      i. Google slide to compile alternative diagrams
      ii. Nick and Anna came up with some alternatives
      iii. Nick's partners in Africa do not have the monitoring and science infrastructure isn't there to produce a cadillac of forecasts
         1. From Nick's figure: Can start with meeting with stakeholders. Figure out the event(s) to forecast, what decision to make based on that, and what is the time frame of the forecast
         2. Start by talking with people. This sets the stage for a collaborative forecast
         3. Survey of data/existing knowledge
            a. E.g., russ tide - looking for any reports for any time in the year when those events hvae occurred, are there measurements or covariates, and local ecological knowledge
         4. Predictive Algorithms
         5. These conversations go back and forth and things come up like what is impossible to forecast or where we need 10 more years of funding
         6. This is a nice alternative to the formal/rigid cycle from the PNAS
         7. How does this perspective dovetail/chaing the first cycle in the PNAS figure?
            a. Even though it is cyclical it has a realy directionality
            b. Nick's emphasizes bidirectionality.
            c. Is this an alternative, a complement or something else?
         8. Nick has pulled a bunch of forecasting cycles from papers

          a. What is clear in all of the diagrams is that the stakeholders are separated.

          b. Stakeholders can be management (but management is often in a separate or tiny part of the cycle). Management/stakeholders should come in earlier

      9. The multi-way arrows could come in at any point and would change the flow

   iv. Anna's image started with the wedding cake figure from the Prediction/Forecasting/Projection manuscript

      1. System understanding ->modeling->decision making

      2. In Anna's image - trying to emphasize not separating stakeholders. Put Decision in the middle of the image

      3. Tried to stay away from directionality and listing A,B,C,D or 1,2,3, 4

      4. Wanted it to be less technical looking. The original probability curves in the PNAS figure were intimidating

      5. Also tried to incorporate the different steps of forecasting

      6. Outside is the red - this is the quantitative, the ecological science part of it. They can go either way and you can start anywhere

      7. Wasn't sure how to show that participating anywhere in the outside could contribute to forecasting world

      8. Blue is the ethics/goals portion - again no direction, but are things we want to accomplish and can go back to it

      9. Then that all feeds into the decision

      10. Things to work on - community and relationship building. A lot of this is super collaborative. You don't have to be a expert modeler in order to inform or interpret the model.

   v. One thing to include is the data and thinking about where the data comes from

   vi. The two figures are very aligned. Both have bidirectional arrows

   vii. Think what we are talking about adding is complicated, but it has to be - that is how we do inclusive science

   viii. You can break it down to general principles like Nick but then each have to be broken down or you can try to put it all on the page and it will be more complicated like Anna's figure

   ix. Could put the social interactive stuff in the arrows on Anna's figure

      1. The way the arrows happen is including more

   x. When we say data - there is implicit assumption that that will be data for a model. If we want to build an inclusive diagram, we should be careful about framing it in that language.

   xi. Make sure the motivation/rewards of the predictive effort are not framed in the way of data being input that is run by technicians

       xii.   Think some things won't be easily depicted in the figure. There could be a whole new figure about data sovereignty, who owns the data, etc. This could be part of the text that describes something like Nick's figure.

      xiii.   [Raw data is an oxymoron](#) is really useful

      xiv.   Concrete example of how more diverse voices makes science stronger - i fyou think of how forecasts are informed by knowledge and wisdom in addition to data. It is captured in forecasting, but it is not included in ay of the figures that Nick compiled. If you are working with different cultures, those perspectives are a challenge to the stiff Western framework, but is a good way to make a different kind of forecast

      xv.   Even with weather forecasting there is cultural wisdom included in that.

      xvi.

  c. Next steps for the Blog Post

      i.   Outline of the post we have talked about previously: Provide the forecasting framework, describe the barriers, provide alternative framework

      ii.   Invite feedback/dialogue from the EFI community - what are we missing, what needs to be adjusted?

  d. Next steps

      i.   Consider whether what we have to say is good to get out to a broader audience with a manuscript. But a blog post is a nice way to start the conversation

      ii.   Have Nick/Anna provide a little more

      iii.   Start another Google doc for the Blog Post outline. Drop in Anna and Nick's figures, and perhaps the compiled forecast cycles - what they hvae in common and where they could be updated.

      iv.   One other topic that came up in the outline was the education side of things. For students coming into the forecasting world, are there barriers there?

      v.   Topics for the blog post - Partners, communities affected by forecasts, training the next generation of researchers

      vi.   Could expand on the entry point/access - knowing about the system, but could be other things, for some people it is convening, others it is web scraping. Maybe there is a way in a future cartoon to bring out those access points - the diversity of access points

3. Follow up on conversations stemming from the Weapons of Math Destruction book group discussions and the ethical considerations for each of the [NEON Forecasting Challenge](#) themes

  a. Check in with John to see if he had a chance to put together a structure for developing course materials related to this

  b. Book talks about algorithms at the financial institutions. We did a thought exercise about in ecological forecasting, what would be a weapon of math destruction

     c. Bomb parts, scale, scope, who is included/excluded

     d. EFI has run the forecasting challenges

     e. If we want to consider ethics in forecasting - what would be low barrier entry points for students to consider during a class

     f. If you have a forecasting product and it is used in a commercial sense or in an unintended consequence that could lead to possible harm to some group of people, that may not have been considered in the inputs to the modeled forecasts - so what are the ethical issues students should consider

     g. If this is a product developer - what are the consequences there

     h. For business owners who use the forecast

     i. If it comes from data from tribal land, what is the sovereignty of the data

     j. If fed government (e.g., NOAA) is a partner in these data, what are the partnerships

     k. This is a first step to adapt to different scenarios (e.g., mountain pine beetles, tick forecasts, phenology forecats) and come up with different local and regional options for discussion

     l. Mary Lofton at Virginia Tech working with Cayelan Carey on Macrosystems EDDIE - these are online modules with some that focus on forecasting.

     m. Over next month have group look over John's draft and provide comments and help to refine to be able to test in the classroom

     n. Jason can help test this out in his class this fall

     o. Nick teach forecasting course to 3rd undergrads - teach data justice and algorithm accountability and the students create a forecast. From his experience at the 3rd year undergrad level, the primary lit/paper discussions or debates with real examples and real scholarship have really engaged the students through the primary lit. 3rd year undergrad are still figuring out how to use/explore the lit, but they are past the Macrosystems EDDIE point and click level

     p. One way to get into this is to advocate for environmental or social justice. Sometime that perspective isn't ingrained early in undergrad education.

     q. Caution or something to consider - if students don't have the context for what issues Native American or minority communities, then make sure to provide readings for first hand knowledge and input from those communities.

4. Guidelines for EFI and Diversity

     a. Google doc for jointly working on ideas

     b. Goal: Develop 2 documents. One for internal use within EFI with concrete suggestions about ways for EFI to be inclusive when hosting panels, organizing meetings, or co-hosting events with other organizations. The second with a short checklist of suggestions for EFI panelists and seminar speakers.

     c. During the June call, the group added bullets of new suggestions to the Google doc. Next step - add some details or resources to go along with each bullet. Do people want to volunteer for a bullet?

5. Other Ideas from previous calls that Jody is leaving in as a reference
    a. 1-pager with suggestions for seminar speakers on ways to make their presentations culturally relevant.
    b. Seminar series to highlight people creating/using forecasts in sectors outside academia
        i. Diana and Nievita helped brainstorm EFI members who would be good for this (see notes from point 6 below), but Jody hasn't had time to reach out to potential panelists. Does anyone have bandwidth to help reach out to speakers?
        ii. NOTE FROM July 20, 2022: EFISA is interested in hosting an early career panel to highlight people with careers outside of academia. WE may be able to partner with EFISA to put together a panel