October 20, 2020 Social Science Working Group Call

Attendees: Kira Sullivan-Wiley, Jaime Ashander, Cindy Hu, Mike Dietze, Jody Peters, Melissa Kenney, Güray Hatipoğlu

Agenda/Notes:

1. Results of poll for quarterly/annual joint calls with Social Science and Partners Groups
   ○ 8 responses with all votes for quarterly
   ○ Have the first joint call at the beginning of next year after Jody sends a poll
   ○ Jody will create a Doc with list of topics to discuss and we need to have people listed for who will lead the different topic discussion.
     ■ Joint Call Ideas Doc

2. Visualization, Decision Support, and User Interfaces Task View Update
   ○ Whitney is taking her prelims in December so she is taking a step back from this. Chris may make some progress. But otherwise, we will get back to this after December.
   ○ The Social Science group is in a holding pattern on this task until someone comes back with need for more input

3. Vignette for visualizing data/metadata formatted and archived using the Forecasting Standards (how to archive forecast and its metadata)
   ○ Could we provide a vignette showing how to grab data/metadata from forecast and provide an effect visualization
     ■ Want a simple example of how to use the output from a forecast
     ■ Melissa's work tests the visualization (more of the back end of this) rather than creates the visualization. She can work with people creating the visualizations
     ■ Jaime can make some graphs and distribute them to the group
     ■ Melissa can provide input on that
     ■ Jody to connect Quinn and Jaime to see if Quinn's examples from the terrestrial and aquatics Challenge themes that he has been working on
     ■ Jaime will start with the vignettes in the Standards, specifically FLARE
     ■ Quinn would like to present at AGU at the Town Hall at Dec 9
   ○ Most of the vignettes are about getting information into the standards. But want to provide an overview/vignette of how to use/visualize the data from the forecasts
   ○ ~~Are there visualization best practices?~~
     ■ This would be related to the Task View
   ○ Other vignettes examples. Worked examples of how to take a model/data for a forecast and create the metadata and put it in a standardized format to archive
     ■ https://eco4cast.github.io/EFIstandards/articles/flare-metadata-example.html

- Would be a good example to start with. But it hasn't been updated to the latest Standards yet
  - https://eco4cast.github.io/EFIstandards/articles/logistic-metadata-example.html

4. Blog Post Updates
   - Mike Gerst's post is waiting for final approval
   - Jaime's post is on hold
   - Güray's post is moving along. It is on Jaime and Kira's desks for review

5. Are there other writing options/collaborations for this group to work on
   - The Forecasting Challenge is planning to do a special issue
     - If there was a longer term (doesn't have to be big) writing task that would be publishable, this could be good to think about
     - Challenge analyses will be starting about this time next year
     - This could be tangential to the Challenge since we don't have a social science task for the first round
     - The teams are submitting their forecasts and anyone interested in writing up the analyses can participate. Hoping the design teams for each theme will take a leadership role.
     - No one is tasked with doing anything social science related for those analyses right now
     - Ideas
       - Melissa:
         - Identify local experts in particular areas to see if we can do an expert judgment forecast
           - If there are things people are used to forecasting (spring turnover, phenological changes)
         - If there are multiple forecasts at one site then can think about model aggregation. Social scientists think about model aggregation differently than biophysical scientists do. But the forecasts may not be developed enough yet in this first round
         - Challenge evaluation - Quinn has a colleague with experience on grand challenge evaluation
         - Testing efficacy of visualizations
         - Proof of concept idea - model integration. Think about how to take forecast being generated in real time and incorporating them into more social needs. Ecosystem service evaluation
           - Because the NEON sites were set up to have minimal human impacts, this would need to be a proof of concept

- ■ As a proof of concept this would provide a preliminary paper and a grant proposal.
  - ○ On the last CI call we talked about model aggregation. This is different than doing a forecast based off an expert
  - ○ This is the first opportunity where we have competing forecasts at the same site. There have been lots done with multi-model comparisons, but they are all hindcasts, not predictions
  - ○ Each model is built off an expert's judgment of the relationships (statistical or based off machine learning). There is an underlying hypothesis. If we can understand what that is and where the experts think the model will work well and where it will have limitations can provide interesting opportunities to think about where models will work well or less well. If you can capture expert knowledge for why the models are structured the way they are then you can do better at a model averaging approach to know which models will work better under different situations. This is more of a long game. But understand the embedded model hypotheses and how people think the world works could be a social science opportunity.
- ● Kira
  - ○ Behavior within groups. The process of the team building and the coming together of multiple people in a group to design with fairly stringent guidelines
    - ■ Participant observation within the teams. What is the social dynamics of different experts coming together to build a forecast
    - ■ Are there patterns that emerge about how the teams interact and the outcomes of the forecasts they develop
    - ■ Could be a good opportunity for a grad student who has the skills and expertise to work on this
- ● Cindy
  - ○ When we get to the point where forecasts can be usable for end users
  - ○ Connecting NEON sites with travel
  - ○ Ticks could be viewed as representative of the larger land scape not just the NEON site. There seems to be synchrony of tick abundance across a broader area
  - ○ If there is information about the geographic expanse that tick forecasts are applicable, this could lead to opportunities for stakeholder engagement

- - If we hvae really good tick forecasts and can do it at a NEON site, then there could be scalable into populated areas.
  - One of the questions is to determine how scalable it is
  - Think that the Terrestrial Flux and Phenology forecasts would also be synchronous across a broader area
  - This could give us a good place to start for thinking about stakeholders

6. Ideas for future calls - Research ideas

7. [NEON Ecological Forecasting Challenge](#) Updates - see discussion points in above bullets