

June 30, 2020 Social Science Working Group Call

Attendees: Mike Dietze, Kira Sullivan-Wiley, Kathy Gerst, Jody Peters, Jaime Ashander, Deepak Ray, Güray Hatipoğlu

Agenda/Notes:

1. Blog Post Updates

- Jaime has draft of human dynamics text. Will send to RFF collaborators this week
- Kira will reach out to Mike Gerst and Güray with comments on their drafts that points to ways to match the format of the previous posts.
- Nat Springer had suggested writing something about land-use change modeling. Deepak can pick up on this. In his previous work he did a lot of land-use modeling. May need to interview/include people who have done the recent work
- Ritvik from U of MD had an idea that he had email Kira/Jaime about
- Kira will follow up with individuals to make progress

2. RCN NEON Forecasting Challenge Updates

- Forecast evaluation/ challenge design-- include ideas around scenarios (people interested in providing input: Melissa, Kathy, Kira, Jaime, Deepak - phenology, Güray - aquatic instruments)-- Forecast challenge will go live as soon as they're ready, with start dates to follow based on field-related lead time. Jan 1 might be a little ambitious. But then the challenge should run for most of 2021. Challenges will be multi-phase and will be released every year for the next ~5 years. So we can start with social science prototype.
 - How to use expert knowledge and expert elicitation to think about forecast outputs
 - Developing other social science questions/research that can come out of this challenge (Kira, Melissa, Kathy?. Kira will ping Melissa and Kathy to talk about offline). Questions listed in RCN slides:
 - 1.How do we think of forecast skill assessment: e.g., scoring rules
 - 2.How can we aggregate multiple forecasts to improve prediction by considering models as expert hypotheses i.e., expert elicitation
 - 3.How can we integrate ecological forecast and ecosystem service valuation models to understand the predicted value of nature?
 - 4.Design of decision support tools and how to think about it from day 1 of a project
 - 5.How can think about decision support tool design from Day 1 of a project to build tools and visualization that are understood and useful to decision-makers?
 - 6.How can prediction of human drivers (e.g., land use, pandemic response) be integrated into forecasts to improve predictions for both short- and long-term perturbations?

- Partners group liaison? Or working on the “partners webinar”
- Goal for this group (or a subset/offshoot of this group) - come up with interesting social science research ideas to leverage the Forecasting Challenge
 - See the list of questions from the ppt from the RCN Workshop (added above - Jaime)
- Other things to consider
 - Is there anything we can learn about uncertainty from the Challenges
 - How can the forecasts be interpreted? Are they being used/interpreted as forecasters intend them to be
 - Evaluate forecasts and users
 - Do users have or feel they have buy-in? And see the evolution of those relationships over the 5 years
 - Have Social Science group stay involved and find opportunities to plug in early to assess relationships.
 - In relation to the uncertainty communication assessment can also look at elements beyond the forecasts how much trust there is in the forecast developers and how does that change if there are direct connections between the forecast developers and the users.
 - A unique aspect of the Forecast Competition is that there is a multi-model ensemble format. This is different from any other forecasts being created. We have multiple people/groups that are forecasting the same thing. This is in a planned way. The CDC Aedes challenge falls in the same context. Have the natural experiment of the covid forecasts. But outside of the disease context, this is a unique opportunity to have multiple models.
 - Deepak’s overall goal is to understand how social science works. His background is in working on the modeling side and is now working with Melissa on learning the social science side of things.
 - One idea is to look at the internal dynamics of the teams - study it from a social science perspective
 - Example: [AgMIP project](#) - simulate what will affect future crop use. Not as short term as the NEON challenges - more long term. Each model has its own nuance and their goal is to make intercomparisons between the models. Also similar process within the IPCC
 - For the MIPs they are using benchmarking the skill of the forecasts to historical simulations.
 - Output benchmarks - how do each of the groups communicate their outputs?
 - Jody isn’t sure if there are standards for outputs that have been created or thought about for the NEON Forecasting Challenges. From looking at the

- Forecast Workflow Outline the CI/Methods group is working on, it doesn't look there is anything about outputs
 - Here is the Visualization Task View the CI/Methods Working Group are working on. This will be good to get input from this group on.
 - Jody will bring up the Output/Visualization standardization needs on the upcoming Forecasting Standards call
- Human actions - is this included in the Forecasting Challenge?
 - Jaime's colleague went to a SESYNC workshop about leveraging NEON data for social environmental work.
<https://www.sesync.org/opportunities/research-workshops/people-land-and-ecosystems-leveraging-neon-for-socio-environmental>
 - Are there stakeholders that care about the forecast you are making (this is more narrow for the type of groups that will be interested)
 - Are there stakeholders that are interested in forecasts of this kind (this can help to broaden out who the stakeholders are)
 - Keep our finger on the pulse of how this goes
- Types of social science questions we can ask at this point will be constrained by the Forecast Challenge topics and NEON site limitations
- The Social Science group will be called upon to do targeted advising with the Challenges

3. Challenge topics

- Community - beetle pitfall data - community level focus; Lead: Anna Spiers (CU Grad student)
- Ticks - population modeling concept; Leads: Sadie Ryan and John Foster (BU Grad Student)
- Terrestrial fluxes and ecohydrology; Lead: Alex Young (Early career researcher SYBT-ESF)
- Phenology; Leads: Kathryn Wheeler (BU Grad Student) and Chris Jones
- Aquatics (temp, do, chlorophyll); Leads: James Guinnip (Kansas State grad student), Sarah Burnet and Ryan McClure are co-leads