

November 14, 2019 Methods & Tools Working Group Call

Agenda and Notes

- What is the purpose of the group
 - Identify low hanging fruit to get info out for what is available and what is missing to spur development of methods for forecasting and then matchmaking with potential partners
 - What are the other groups doing?
 - Theory / CI groups are coming up with forecasting standards which will be needed for the forecasting challenge in the next year.
 - Theory is also doing a forecasting hypotheses which may turn into a paper. Also maybe a grant proposal
 - CI is talking about other archiving platforms for forecasting - blog post may come out of this
 - Partners group is reaching out to a bunch of people and seeing what needs various stakeholders have. Also doing some matchmaking with modelers and stakeholders
 - Education and Inclusion group: Cayelan Carey is going to survey instructors who teach forecasting classes. Also discussing how to build diversity in the group and be more inclusive
 - Decision Science group: working on a blog post that goes over the iterative forecasting process and how decision science fits in
 - Grad Student group: still figuring out what to do. Various levels of experience, one idea is to have an instructional session for how to forecast
 - Jake led a tutorial at a recent GLEON meeting and used what has been discussed in the Methods call. He used the Task View Google doc as a resource. This would be good to move forward
 - Resources here:
https://github.com/gsagleon/G21_GSA_workshop/tree/master/A_EcoForecast
 - One option - blog post about tools available. Help people coming into forecasting
- From the Sept 26 call
 - Review the Task View Google Doc
 - This is a list of resources used by the community
 - Where are we good, where are there gaps, do we need to ask anyone else to provide any more input?
 - Next steps: Draft figure to organize these resources around
 - To support the RCN - have brief tutorials that can be useful for students who are going to participating on the forecasting challenge
 - Use Jake's GLEON presentation as a blog post/skeleton for adding more resources-
https://github.com/gsagleon/G21_GSA_workshop/tree/master/A_EcoForecast/Resources

- Jake prefers a small set of blog posts that provide input from folks with different expertise
 - For next call - Jake will condense workshop presentation and we can talk the steps to forecasting combined with Task Views list. Then identify who wants to be in charge of the different components
 - Put on Slack and Email
 - Goal to get groups that already have participated. Have you already done stuff or have things that are related to this and will you be willing to help with this effort?
 - We don't have to cover every single step in the forecasting process
 - Elise's idea: for RCN or something down the road - does everyone have their own workflow, or are there other concepts that aren't settled/worked out? Put out a series of podcasts where people do 10-15 minutes on a specific topic. Panel discussion of addressing specific topics
 - Ideas:
 - Coordinate with podcasts that already exist. Freshwater podcast ([Making Waves <https://freshwater-science.org/education-outreach/making-waves>](https://freshwater-science.org/education-outreach/making-waves))
 - Major Revisions podcast (<https://www.majorrevisionspodcast.com/>)
 - Definition of forecasting in ecology could be a good topic
 - Explain more to the ecological community what we are doing with forecasts
 - Jody to send email to group - are you already working on this. Do you need a broader impact? Identify people who are willing to help. Or do you know of people who would be willing to contribute that we can contact.
- This came up in the last call: Mixing of infrastructure and methods is this discussion. Where is a good fit for broad approach discussions such as ensemble modeling vs. trend analysis of big data?
- Here are the notes about the Mid-term (by RCN next summer) goals from Sept 26 call:
 - Best practices - a heavier lift then we are ready to go into right now
 - Definitions - Anna and Gretchen from the Education/DEI group looked at how folks have been using forecasting terms. This will be good to bring in.
 - Need to spend more time going through tools before identifying gaps
 - Think about for the REU/RCN forecasting challenge - if someone new wanted to participate in forecasting competition, where will they hit a wall with a steep learning curve, writing code from scratch, deal with the list of 257 workflow tools to figure out what to use and how to use it
- Here are the notes about the Long-term goals from Sept 26 call:
 - Mike: Intersection between CI/Methods & Tools. Call with EFI & NCEAS about putting a forecasting/ecological modeling, reproducibility mid-scale

CI proposal together. Matt Jones asked - what would the stack look like, what technologies? Ask NSF to support NCEAS working group/workshop proposal to develop roadmap/strategic plan statement of what is needed. Build on what we have started with the Task View doc and get into what the technologies are available, what are the unmet needs, and where are the bottlenecks? Have generic workflow (here are the components that go in) and this will allow others to plug into the workflow. Lay out the needs of the community. Be clear about standards and protocols involved

- PEcAn has become large and sprawling. Has become hard for folks outside of PEcAn development team to drop modules in. Need a master plan on how it all works so others can figure out how to make updates they need
- There doesn't need to be 1 technical solution. But if there is a common ground or enough people are building tools that are interoperable with others.
- Long term goal **interoperability**