

April 14, 2022 Joint Methods & CI Working Group Call

Attendees: Libby Mohr, Jody Peters

Regrets: Matt Brousil, Jake Zwart

Agenda/Notes:

1. Announcement - May 23-25 EFI is hosting a Virtual Conference. We are looking for people to present 10 minute talks or posters and/or 30 or 60 minute workshops about a specific task, skill, walk through a forecasting workflow, etc. Details and registration at: <https://ecoforecast.org/efi-2022-conference/>
2. Visualization/Decision Support Tools, User Interface Task View
 - a. Link to the New Copy of the Doc
 - b. Link to the Previous Copy of the Doc
 - c. Uncertainty Quantification & Propagation, Modeling & Stats and Workflow Task Views to use as Reference: <https://projects.ecoforecast.org/taskviews/>
 - d. Overview figure (Jody)
 - i. Check with Mike to see if this matches with his vision
 - ii. Can we get rid of the two leaves with nothing
 - iii. Sub-branches to show the subheading/type of plots
 - iv. Sub-branches to give mini versions of the mini plots
 - v. Is it possible to get the figure into bookdown and be able to click on specific leaves? Can it be done in bookdown? Do we need java script?
 1. Libby to look into this
 - e. Introduction - Burning Embers figure. Hassan got permission from Joel Smith, the lead author of the PNAS and IPCC papers. But do we need to get permission from [PNAS](#) or [Cambridge University Press](#)?
 - i. Check permission a bit more for PNAS figure
 - f. Guiding Principles Updates from Jody - There was some previous wording about user interfaces and decision support tools that I tried to edit to focus on general visualizations and web apps since that is what we ended up focusing on here. Did this work?
 - i. Suggestions from Matt
 1. Generally speaking, I think that the Rehkopf bullet points, Tables 1 & 2, and the a11y a-d info act as a bit of a road bump for the reader. I think that linking to these materials when they're present in other (stable/permanent) documents is ideal. For the a11y resources, could these be moved to become the first subsection of HOW WE MAKE VISUALS? Seems like they apply to most of what follows and are at a similar technical level as the other lists in that section

- a. Jody will move a11y section down to How we Make Visuals
- 2. **Development: Co-development or Co-production:** I think this section could be renamed either as *Development and Co-development*, or, as *Co-development*, depending on what we want it to convey. i.e., is there anything that we would want to say for just development? (not co-dev). If so, then we could add a sentence or two introducing points to think about in the normal development process. I personally couldn't think of anything to put for that (feels like the whole Guiding Principles can relate in some way), so I think I lean towards just Co-development for this section. If this is the case, then I would lead in with a sentence that clarifies that this isn't relevant in every scenario. E.g. "Depending on the type of visualization product you are creating and your audience, you may be collaborating with other users or parties on project development. If so, it is important to consider the co-development process."
 - a. Jody made re-titled this section "Co-Development"
- g. Animated visuals
 - i. Libby updated the text and added a description of the HOPS. She created a couple of examples and is waiting to hear back from Cee about suggestions.
 - ii. With the HOPS examples wanted to use the forecast example. Trying to get a forecast from the NEON Challenge? Hoping to get an interesting forecast. Currently using the aquatics null from 2021.
 - 1. Jody will reach out to Quinn, Carl, and Libby to make connections.
 - iii. SVG-based animation tools
 - 1. Think this is something Cee put in. Jody to follow up with them.
- h. High-level Reactive Features - did anyone get a chance to look at it or go through as a group on the call
 - i. Add info about whether it is code based tool or a drag and drop tool
 - 1. Have this as stars/asterisks right now, but change that to add a column so that is more clear
 - ii. Add short description
 - iii. Can do this by updating the table and adding 2 columns
 - iv. Jody will work on updating this table
- i. Types of Plots for Spatial Data
 - i. The CDC link provides examples of plots. The group can decide if we want to make forecasting examples for these or just point to the CDC examples. Think for now, start with the CDC examples.
- j. Mapbox - can someone provide updated text here. Jody to check with Kelly.
- k. Visualizing Uncertainty Section - Libby any feedback needed?
 - i. Libby will try out the 'with_blur()' function. Jody had issues getting it to work.

- ii. Jody to ping Leah to review this section to see if there is anything that needs to be added to what Libby updated.
 - I. What still needs to be updated
 - i. Need a few additional citations for
 1. Correll et al., 2018
 2. Hofman et al., 2020
 3. Joslyn & LeClerc, 2012
 4. MacEachren et al., 2012
 - m. Plans for drafting this in Bookdown
 - i. Jody will set up the structure based off the other Task Views
 - ii. Libby will help
 1. Think we want to have the code to show how figures were created, but then put in the figures as images just in case the code breaks for accessing the NEON data later on.
3. Next Activities
- a. Data Ingest, Cleaning, and Management
 - b. Idea from Carl and Quinn
 - i. Quinn and I were talking about how we'd love to start engaging this WG more directly with methods/CI in the neon4cast challenge. In particular, now that we have a decent pipeline for gathering in forecasts and publishing scores, there's a lot to be explored with visualization. The current flexdashboard is maybe an example of this (<https://projects.ecoforecast.org/neon4cast-dashboard/phenology>), it shows a range of possible visualizations and summaries but is kinda all-over-the-place, probably few people visiting the site can make much sense of it. For an audience that knows ggplot and wants to learn/practice more advanced tools like interactive visualizations and dashboard layouts, this could be a good entry point. It would also be fun to get more folks engaged with the data coming out of the challenge, and using visualization to explore interesting questions about forecast horizons performance according to different metrics, visualizing uncertainty, etc etc.
 - ii. We could get people started in creating simple interactive dashboards with minimal R code showing an overall team rankings or a single forecast of a single team. I imagine then that WG members might work individually or in groups to generate some visualizations, and/or critique and tweak existing visuals (and supporting text!) so we slowly move towards dashboards that really tell a story about these forecasts.
 - iii. Anyway, just wanted to bounce the idea off you. I don't want to derail the ongoing work of the group, and maybe this idea is terribly

impractical, as you know I'm prone to being carried away with impractical ideas!

4. Jody is leaving in as a placeholder. This would be good to discuss when Mike is able to join the call. Any more gaps people thought of in response to Mike's prompt for the November call?
 - a. Mike's prompt: Discuss next steps beyond the current task views (2 done, 1 in progress, 1 on deck). In particular, I think we've completed enough of the task views that we could have some useful discussions about identifying gaps and bottlenecks in current methods and tools and ways we might think about moving forward on identifying and addressing those (e.g. surveys, workshops, hackathons, group projects, virtual panels / webinars, etc). This is also motivated by some recent interagency (NOAA, NASA, CDC) roundtables that EFI has been sponsoring where standards and community CI are emerging as priority items for the federal agencies (caveat, that doesn't mean there's any funds). It is also relevant to the next round of the [EFI NEON challenge](#) and the upcoming [EFI2022 "all-hands" conference](#)
5. [NEON Ecological Forecast Challenge](#) CI Update