

July 11, 2019 Decision Science Working Group Call

Agenda

- Introductions / record attendance

Melissa Kenney - Univ of MN, Institute on the Envi, decision support processes and tools

Mike Dietze - BU, E&E, EFI Leader

Kathy Gerst - USNPN, data development and products,

Kira Sullivan-Wiley - BU, Pardee Center, behavioral geographer, interventions

Rich Fulford - EPA, community level decision-making, coastal decision-making, structured decision-making

Jamie Ashander - RFF, ecologist interested in integrating human decisions

Carl Boettinger - UC Berkeley, ecologist, optimal decision making

- What are the short term goals for this working group -- what could be accomplished (or balls that could get rolling) this year and how do we get there?

- What are the longer term goals we are working toward

1. Discussion of how to best operationalize forecasts for decision-making, in part because sometimes the data can be disconnected from the decision
 - a. How can we best package and communicate the forecast information so that they have confidence that
2. Where does the decision science theory -- where do advances in decision science help with emerging topics of ecological forecasts
 - a. Are there opportunities to use the nascent products for advancing big questions and gaps in decision science / social science more broadly
 - b. Unclear what product might look like but interesting first step
3. Guidelines or best practices to engage stakeholders to identify the needs in the decision-making
 - a. How to gauge the success of the interactions with the stakeholders
 - b. How to engage the utility of the forecasts
 - c. What is the proposed outcome? Paper? Guidelines?
 - d. **Build into blog post and also explore collaboration with DEI about co-production, Kathy highlighted as important**
4. Agency technical readiness standards -- make sure that it recognizes the role of decisions and decision-makers in the forecast process
 - a. Short-term goal
 - b. What does this look like
 - i. Specific language from EFI meeting notes:
 - ii. *Evaluate how agency technical readiness standards (e.g. NOAA NAO-216-105B, NASA's similar standard) could be adapted to inform a definition of ecological forecasting:*

1. *Develop a two-dimensional taxonomy of application readiness / operationality and forecast purpose. (NB: potentially work with education group to add third/fourth dimensions – reproducibility and openness)*
2. *Revisit definition of ecological forecasting (e.g., Clark et al 2001) by including the role of decisions or decisionmakers*

Note: *cyberinfrastructure WG planning to take the lead on developing standards*

c. Rich and Jamie -- POC for EFI community discussions on standards and readiness

5. Role of uncertainty in decision-making, design of decision processes given that there will always be uncertainty with forecasts
 - a. Also nice tie to the sophistication and differences in uncertainty that has been developed
 - b. Potential collaboration with theory and these different uncertainties impact decisions differently

c. Carl interested in POC with theory group

6. High level review paper of basics of decision science for ecologists
 - a. Or most common misconceptions ecologists have about decision scientists
7. EFI blog post -- where the main misunderstandings of decisions and social scientists might be for ecologists. (Note: not *just* a blog post but also a catalyst for how this group might think about and engage with this topic in a way that's useful to EFI and the broader communities)
 - a. What the ecological forecasts looks like without having input from a social scientists and what it has with the contributions with a social scientists
 - b. When do you need social science in the process and development of forecast and why
 - c. Kira lead
 - d. Melissa is definitely on board
 - e. Jamie, Kailin Kroetz (?) RFF also interested (potentially, for Kailin -- Jaime will check); hope to provide economics angle
 - f. Kathy interested to contribute perspective as an implementer of decision-support tools
 - g. NEXT STEPS: meeting to talk about topics and develop an organizational structure, work together over Slack and Google Doc on the blog post**
 - i. Ask Jody to send out request**

• Are there goals where a small amount of seed funding from EFI (<\$5K) would help move us forward

1. Ideas at this stage can be done without funding so we didn't talk about this in detail. If folks have ideas we'll leave space to discuss in future meetings.

- Leave with a plan for a next call (either exact date or data range to poll) and hopefully some discrete, assigned next steps.

Larger group meeting after Labor Day

EFI at ESA -- social event details forthcoming (hold Tues evening -- still yet TBD)

Blog Post meeting

- Links to EFI2019 Conference Notes

First Breakout Notes:

LINK REMOVED

Second breakout notes - group merged with Partners to come up with these notes: LINK REMOVED

EFI SLACK

LINK REMOVED

Notes From the July 11 Call

Introductions/Attendance

Overview of agenda by Melissa

Introductions

Melissa Kenney - Univ of MN, Institute on the Envi, decision support processes and tools Mike

Dietze - BU, E&E, EFI Leader

Kathy Gerst - USNPN, data development and products,

Kira Sullivan-Wiley - BU, Pardee Center, behavioral geographer, interventions

Rich Fulford - EPA, community level decision-making, coastal decision-making, structured decision-making

Jamie Ashander - RFF, ecologist interested in integrating human decisions

Carl Boettinger - UC Berkley, ecologist, optimal decision making

What things interest people?

Rich: discussion about **how to best operationalize forecasts for decisions?** EPA tries to communicate science effectively to that it feeds into decisions, but data is sometimes disconnected (thrown over the fence). Initiative like this could be useful in learning how to package and communicate forecasts to be useful to decision makers. I.e. **how to best communicate forecasts.**

Kira: where in the decision sci theory can best make contributions to emerging field of EF (esp more formal and near-term). Do we know enough? Where are there opportunities to use these products to advance big questions or gaps in the decision literature? Could be a review paper or some case studies?

Melissa: would expand to a broader and more inclusive way of thinking about decision making beyond just decision sci theory. Include a wider range of social science disciplines.

Kathy: heard the need for guidelines or best practices for engaging stakeholders and how to work with people effectively and evaluate success of those interactions (whole process of engagement and working together). How successful in informing decisions

Melissa: importance of being reflective

Jamie: would echo. Second break out notes do have best practices checklist. Relatively granular task, but what for would that take to be useful to the community or working group? Paper or something else? Also on the notes: had talked about the notion of whether Agency Technical Readiness standards that could more explicitly reflect the role of decision makers in the process.

Carl: particularly interested in the role of uncertainty in decision making, more of the reality into decision process. How to design decisions around the fact that there will always be uncertainties in the forecasts (both quantified and not).

Mike: Second Carl's interest in uncertainties. Would also love to see a decision science review paper for ecologists and/or "most common misconceptions that ecologists have about decision making"

Kira: Idea for a Blog post. What forecasting looks like with or without the input/contribution of social scientists. Something more specific at each stage of the process (not just the end point). Could be a useful summary of how people could work with us better.

Jamie: would be interested to participate. Kaelin also may be interested.

Kathy: people are hungry for info about how to better connect with social scientists and decision makers. Happy to contribute but don't know exactly where.

Kira happy to take the lead on this

While we're on the topic, a few logistics to get the ball rolling...

Could have a brainstorming session or a google doc/slack for outlining & discussing

Work with Jody to schedule a time

Link between Decisions and ARL

- Could there be a breakout conversation (Jamie, Rich) about whether these are insufficient / limiting from a social sci perspective?
- Rich: would like to capture the collective wisdom of the group on this as the way that we talk about things can be very different between communities
- Jamie: think would be interested in at least initial discussions about what that looks like. Would need to review these documents.

Guidelines and best practices: some of this could be built into the blog, but this is a much bigger issue. Also related to Edu and DEI and coproduction

Uncertainty: potential overlap or areas of collaboration between Theory and Decision. Carl designated point of contact.

Melissa: part of the power of EFI is the overlap and synergies between working groups

Different ways that uncertainty partitioning interpreted in forecast and decisions. Different impacts on how decisions are made. If we want to reduce uncertainty may be different priorities for different communities.

Seed Funding: everything so far is free, but keep in mind

Next general call could be after labor day if we engage on Blog in between