REACCH Triptych: Bringing art to science

Liz Allen (lizb.allen@email.wsu.edu) WSU and Isaac Madsen WSU

Like many good stories, the story of how a team of researchers came to create a series of colorful paintings addressing complex issues connected to their research began during a brainstorming session at the REACCH graduate student retreat in Sandpoint, Idaho. We were reflecting on the challenges of communicating science across disciplinary and professional boundaries. We began by sketching conceptual paintings that depicted climate change and agriculture in the Pacific Northwest. We came up with silly and inventive ways to show connections between fields and cities, ivory tower academics and farmers, entomology and cartography, land and air, and science and policy.

After a few more spontaneous meetings, the specific vision for a collaborative art project took shape. We wanted to reflect the truth that in order to address relationships between society and natural resources, multiple perspectives must be engaged. Working collaboratively to produce a work of art struck us as a novel and interesting way for the REACCH research team to explore diverse approaches to understanding climate change impacts on regional agriculture. We envisioned the painting project as a forum for the group to share attitudes about modeling, experimental methods, decision making, and cycles of production and consumption. A key motivation for us, as graduate students interested in a range of social science and natural science questions, was to facilitate working relationships that spanned disciplines—in other words, to promote project integration.

Mulling over the goals and challenges of the REACCH project, three themes emerged that we wanted to explore further: (1) strategic vs. tactical decision making, (2) models vs. reality, and (3) global connectivity. Identifying three themes was fitting, as it allowed us to plan for a triptych, or three-panelled painting, in the tradition of great masters from the Gothic period onward. Walking a fine line between dictating the form and content of the paintings and starting absolute chaos with hundreds of paint trays and brushes, we laid down some rough outlines and penned a prompt for each of the three panels. The outer two panels are focused on perspectives, or ways of understanding the world. The center panel is a representation of interconnections. We shared

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Working together on a creative project fostered conversations and greater understanding among our REACCH team about big-picture goals of seeking to understand climatic and philosophical questions embedded in their work. By representing REACCH through art, we have opened new audiences and venues to highlight our work, thus increasing public awareness of the complexities of climate change and sustainable agriculture. We are scheduling showings in various art galleries, and the pieces have been displayed at the U.S. Department of Agriculture, National Institute of Food and Agriculture headquarters in Washington, DC.

Figure 1. Perspective: Models are not reality
The left panel represents tensions between a simplified, abstracted representation in which different conditions and scenarios can be tested (a model) and an organic, complex, multi-faceted reality. Models allow us to see how nature and society operate—yet, they may lead us to overlook the true dynamic nature of the systems we want to understand. There is a challenge for diverse communities to understand and use model outputs; their real concerns and needs are not always well served by models developed in academia. This tension is visualized as a "model world" that fades into a "real and messy" nature. Photo by Joe Pallen.

Figure 2. Web of interconnection: Eating to live
The center panel of the triptych displays relationships between production and consumption, exploring what the concept of sustainability really means. The image is a diagram of a food production system with the cycle's externalities explored. We sought to address the relationships between farmers and consumers, technological change and environmental impacts, policy decisions and food security. Food production is inextricably bound with environmental change. We envisioned the REACCH hovering within the network of connections, with potential to enhance regional carbon storage and address the impacts of nitrate leaching out of agricultural systems. Photo by Joe Pallen.

these painting prompts with the research team of more than 80 faculty, students, and stakeholders at the second annual REACCH Meeting in Portland, Oregon, in February 2013. Then we encouraged, cajoled, and pestered the crowd until more than half of the group contributed to the three 3' x3' canvasses we had laid out with an ample supply of acrylic paints in the hotel lobby.

Thus, the REACCH triptych's story spans three states—Idaho, Washington, and Oregon—just like the interdisciplinary research effort that spawned it. The triptych itself is an integration of art and science (Figures 1–3). Viewing the colorful finished products, we're proud of the work that this team created, but not because of esthetic outputs alone. From our perspective, working together on a creative project fostered conversations and greater understanding among researchers about big-picture goals of seeking to understand climatic and philosophical questions embedded in their work.

Figure 3. Perspective: Scalability of decisions
The right panel explores how academics, policy makers, and farmers think about uncertainty, risk, change, and decision making. Often, people in academia or policy roles are trained to think strategically, looking at how to engineer social and environmental systems to meet a defined objective. In climate change research, this often means taking a global view of change and focusing energy on how to create policy conditions and mitigate greenhouse gas emissions. Farmers and many other actors in society must be tactical decision makers; they must respond to conditions and adapt to local change. The kind of information they need is more refined in terms of spatial scale, and there is inherent risk and uncertainty in their decision-making processes. This image illustrates tensions and overlap between these modes of decision making. Photo by Joe Pallen.