



## Collective Art Practice for Communications-Directed Climate Visualization

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“Language [is] absolutely teeming with metaphors that are often invisible to us,” writes Melanie Mitchell, in her book, *Artificial Intelligence: A Guide for Thinking Humans*. “But our understanding of essentially *all* abstract concepts comes about via metaphors based on core physical knowledge.” As significant work in both geography and the arts demonstrate, our engagement with the physical, material environment shapes our understanding of and our relationship to the world, ourselves, and both human and nonhuman others. Our sense of place is deeply informed by our embodied experiences and our visual surrounds, which are socially constructed and culturally replicated. These concepts are continuously revealed by the pervasiveness of and dependence upon physical metaphor to scaffold language, art, and thought. Rapidly advancing computational technology, however, has irrigated a culture that is profoundly unmoored from these physical and material relationships. While the internet has successfully democratized information, bringing to fruition the knowledge utopia many envisioned at its genesis, and supercomputing has revolutionized the processing and visualizing of immense datasets at incredible speeds, modern computing has also drastically widened the gap between the lay public and the means of knowledge *production*. The research process, from start to finish, has become so specialized, opaque, reshaped, and repackaged for broad audiences that the average person can no longer connect with its resulting data—can no longer imagine the ice cores, weather balloons, permafrost samples, sea level trackers, or recording devices awaiting the calls of birds long-extinct that lay behind the inhuman line graphs and bar charts spelling our demise. This outsourcing, digitizing, abstracting, and hyper-personal target marketing of information has crippled a system of knowledge-production and communication built on relational trust and a recognition of personal, experience-based truths within larger, institutional messaging. Further, prior work shows that individual belief systems emerge from complex socio-cultural milieus, of which one dominant component is the beliefs of an individual’s immediate community—those they trust as a result of long-standing relationships. Knowledge of and beliefs about the world are fundamentally grounded in physical, personal experience, in place, and in community relationships. In an era of hyper-polarization, digital abstraction, and pressing climate challenges, how might ethical communication practices expand and evolve to more effectively engage with diverse communities already facing the multifarious repercussions of climate change? How can we leverage the physical, the material, and the communal to reestablish the connection between environmental data—and its subsequent insights—with its original source? I propose that a reconceptualization of scientific visualization, based in the fine arts, has the potential to bridge this

gap. Here, I explore the potentials of integrating visualization with traditional collectivist art practices—drawing on literature from the arts and from geography, participatory mapping, and communications—with the directed aim of improving conceptual understanding and producing actionable insights in key vulnerable communities for climate resilience.