Computational Methods: Tools for bridging epistemic divides

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Ghandi once quipped that “an expert is someone who knows more and more about less and less.” While knowledge is certainly limited by individual capacities, expertise itself can limit our ability to work together on complex problems like sustainability and resilience. One particularly important aspect of this problem is the epistemological divide between qualitative and quantitative research. Debates still rage over the usefulness of abstract generalizations vs. detailed narratives, average relationships vs. specific circumstances, and, ultimately, numbers vs. words as the best source of understanding. Discussions of these issues are always difficult, even among those of us who believe that both approaches are necessary and that neither is sufficient. In this paper, I explain how computational methods, which incorporate generalities and details, averages and specifics, and numbers as well as words, can help to bridge the quantitative qualitative divide.