Uncertainty, scale, and space in privately-provided public climate change adaptations: Institutional challenges

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A Research Agenda for Transformative Change
To date, considerable attention in climate change adaptation has been focused on defining the capacities necessary for private or publicly managed adaptations, where the adaptation is both dependent on and directly benefits the ‘adapting’ actor. In this paper we will present our exploration of a specific mode of adaptation that is of increasing salience in public policy, yet creates specific challenges for managing adaptation over the long term: the need for private-provisioning of public adaptation goods and services. This domain of adaptation is at the interface of public and private spheres of action. Adaptation in this domain requires the contribution of numerous individuals who are unlikely to directly benefit from their ‘adaptive’ actions, yet whose actions collectively create a public adaptation good. We outline the characteristics of this domain of adaptation and the implications of these characteristics for adaptation governance. In this paper we focus on the existing evidence that suggests that social learning and providing the infrastructure for systemic perspectives in decision-making can potentially enhance the provisioning of these goods, in part by strengthening social contracts among affected actors. Nevertheless, high uncertainty associated with the nature of anticipated climate impacts in particular places coupled with the potential for surprise in climate change trajectories is likely to undermine efforts to induce private actors to participate in the provisioning of these goods. Furthermore, the benefits of the privately-provided public adaptation good are likely to accrue at distinct spatial and temporal scales, and distinct locations, than the scales and locations of the private individuals whose actions are necessary for provisioning the adaptation service. High uncertainty, mismatches in scale and institutions, and the spatial complexity of the adaptation service requires new insights into appropriate institutional structures for adaptation. Through a selection of case studies, we explore the potential of distinct institutional designs that might serve to enhance adaptation in this specific under-research domain.