Framing professional climate risk knowledge: Extreme weather events as drivers of adaptation innovation in Copenhagen, Denmark

While existing research suggests that extreme weather events influence perceptions of climate risk, the mechanisms shaping innovation in urban climate adaptation work remain understudied. In this article, we inquire into how recent localized extreme weather events in Copenhagen, Denmark, have spurred processes of innovation in adaptation pathways. We suggest that risk-framing work by professionals plays an important part in understanding urban innovation processes, since changes in public risk perceptions become part of collaborative learning processes amongst communities of professionals. Such learning processes can result in new technological pathways of innovation, as part of wider urban knowledge systems. We analyze these processes through 32 semi-structured interviews with professionals involved in creating knowledge about climate adaptation in urban Copenhagen. Specifically, we compare two knowledge and innovation pathways, for pluvial and coastal flooding, representing, respectively, an actualized extreme event and a near miss. Overall, we find that the presence (pluvial) or absence (coastal) of damage from localized extreme events matters to the knowledge and innovation pathways. Innovation in dominant technological solution spans, as well as related institutional decision-making routines, is more pervasive in pluvial flooding, whereas coastal flooding is widely considered as temporally distant. Analytically, we suggest that a distinction between regulative and expanded institutional framings of risk matters to how professionals understand their own room for manoeuvre. Recent pluvial flood events have not changed the official technical risk assessments. Yet when professionals consider such events in an expanded institutional frame, they incorporate increased public and political risk perceptions as they construct pathways for further innovation.