

Politics of climate anticipation - The promises of underground carbon

In a time of climatic and environmental changes, anticipatory goals and concerns are increasingly incorporated within a growing number of disciplinary and university-based sectors and fields. The task for social sciences thus becomes not only to imagine alternative and preferable futures, but also to develop an engaged scholarship for critically examining how socio-environmental futures are imagined, calculated, pre-empted, prepared for and secured against (Adam and Groves, 2007; Anderson 2010; Aradau and van Munster, 2011; Hastrup and Skrydstrup, 2013). My contribution relies on on-going research that scrutinizes how environmental scientists, experts and managers seek to anticipate, prepare and manage environmental futures in an attempt to secure forms of non-human and human life in a time of climate change (Granjou, Walker and Salazar, 2017).

I am interested in the constitution of an emerging, speculative and promissory climatic regime drawing on the hoped-for potential of ‘negative emission technologies’. Negative emission technologies are expected to help mitigate and adapt to climate change through using and enhancing the sequestering capacities of natural carbon sinks, such as oceans, forests or soils, after previous attempts to decrease anthropogenic greenhouse gas emissions have stalled (Hamilton, 2013). The Agreement reached at the 2015 United Nations Climate Change Conference (COP 21) in Paris signalled a shift in emphasis from stabilising greenhouse gas concentration in the atmosphere through cuts in global emissions, to the new centrality of using and enhancing carbon sinks in order to achieve a zero net global carbon balance (Aykut et al., 2017). This new speculative politics of climatic anticipation and its underlying expectations for the long-term storage of greenhouse gases in soils have not yet received the critical attention it deserves in social sciences (yet see the recent special issue in *Global Sustainability*, 2018, 1).

Building on an empirical investigation into the recent emergence of research at the juncture of climate and soil sciences, I develop a critical stance on the growing expectations of using soils as sinks in climate change modelling, forecasting and mitigation strategies (Granjou and Salazar, 2019). The investigation was part of a long-term collective research project involving multidisciplinary exchanges with soil scientists both as respondents and collaborators within my project. Drawing on the reading of scientific literature and a series of interviews with scientists working at the juncture of soil and climate research, I first discuss the challenges of modeling soils for climate change forecasting; I call for a more careful consideration of the situated, heterogeneous, and volatile dynamics of carbon within soils – that are both able to sequester *and* release massive amounts of greenhouse carbon into the atmosphere. Drawing on recent insights from the dynamic scholarship of environmental humanities and new materialisms that move away from conceiving of the material world as “dead matter” (Whatmore, 1006; Bennett, 2010), I then highlight soil’s capacities to shape future climates including by fostering major planetary tipping points (such as permafrost thaw). I suggest how soil’s future-making capacities open up alternative stories in which agency and change are not human-only prerogatives. I eventually call for a better consideration of soil no longer as an inert subsurface in the depth of which we would bury and try to forget all our unwanted ‘things’ (including carbon), thus voicing soil scientists’ concerns for paying more attention to soils’ situated complexity and vulnerability.

As a conclusion I suggest that enacting new cultures and frames for critical anticipatory thinking in the environmental field may require unsettling social sciences’ disciplinary approach to de-constructing ‘the social production of science’, in order to foster a more interdisciplinary engagement with environmental sciences’ anticipatory knowledge and

agendas (Kon Kam King, Granjou et al., 2018). Universities definitely have a role to play in this.

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