Cvijanovic, Ivana; et al. (2015): Impacts of ocean albedo alteration on Arctic sea ice restoration and Northern Hemisphere climate


"Motivated by this, we investigate the impacts of idealized high latitude ocean albedo changes on Arctic sea ice restoration and climate. In our simulated 4xCO2 climate, imposing surface albedo alterations over the Arctic Ocean leads to partial sea ice recovery and a modest reduction in Arctic warming."

Link

Read more » Cvijanovic, Ivana; et al. (2015): Impacts of ocean albedo alteration on Arctic sea ice restoration and Northern Hemisphere climate
Robock, Alan (2015): Stratospheric aerosol geoengineering

"The prospect of geoengineering working may reduce the current drive toward reducing greenhouse gas emissions, and there are concerns about commercial or military control. Because geoengineering cannot safely address climate change, global efforts to reduce greenhouse gas emissions and to adapt are crucial to address anthropogenic global warming."

Read more » Robock, Alan (2015): Stratospheric aerosol geoengineering
"Therefore, understanding the spatiotemporal distribution of TA changes is critical to grasp the oceanic capacity to uptake and store carbon. Furthermore, dissolution of CO2 in seawater does not change TA, but may affect processes controlling its cycling. Hence, it is also interesting to study TA in the context of climate change, i. e. in a rising CO2 ocean."

Link (pdf)

"The novelty of our research relies on the fact that none of previous studies have addressed this topic with a fully coupled Earth system model of such a level of complexity. Fully coupled set-ups (versus box-models or forced subsystems) hold the potential of revealing new features within the Earth system dynamics."

Link (pdf)


24.04.2015

# New Publications

0 Comments

Caviezel, Claudio; Revermann, Christoph (2014): Climate Engineering. Can and should we reduce global warming with technology? (German)
Caviezel, Claudio; Revermann, Christoph (2014): Climate Engineering. Can and should we reduce global warming with technology? (German)

German TA-report published as a book.

DeLoughrey, Elizabeth M.; et al. (2015): Global ecologies and the environmental humanities. Postcolonial approaches


Book with chapters on climate change; some relevant to CE. "This book examines current trends in scholarly thinking about the new field of the Environmental Humanities, focusing in particular on how the history of globalization and imperialism represents a special challenge to the representation of environmental issues."
Stilgoe, Jack (2015): Geoengineering as Collective Experimentation


"Geoengineering would seem to be an archetype of technology as social experiment, blurring lines that separate research from deployment and scientific knowledge from technological artefacts. Looking into the experimental systems of geoengineering, we can see the negotiation of what is known and unknown."

"When it comes to climate engineering, though, (and we use the term “climate engineering” in its broadest sense here, to refer to the full potential set of greenhouse gas removal and albedo modification technologies, since this wide usage best reflects the muddied state of the conversation in the United States), the picture is a good deal more complicated."

Link

Read more » Nicholson, Simon; Thompson, Micheal (2015): Strange Bedfellows: Climate Engineering Politics in the United States

"Solid aerosols that are coated with sulfate and/or have formed aggregates may have very different scattering properties and chemical behavior than do uncoated non-aggregated monomers. We use a two-dimensional chemical transport model to capture the dynamics of interacting solid and liquid aerosols in the stratosphere."

Link

"Here, we identify four directions for near-future climate ethics research that we believe are both in need of further examination and likely to be of interest to a diverse coalition of decision-makers working “on the ground”: geoengineering; scope of ethical consideration; responsibility of actors; and, hazards, vulnerabilities and impacts."

Link

Read more » Markowitz, Ezra M.; et al. (2015): Climate ethics at a multidisciplinary crossroads: four directions for future scholarship