



# SOLAS Open Science Conference 2009

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### Discussion Session Proposal

	Convener	Co-convener (if any)	Rapporteur
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<b>Session title</b>	Sea ice biogeochemistry and exchange with the atmosphere		
<b>Background and motivation, e.g. research question (max. 150 words, no figures/ tables)</b>	<p>Near-future climate change is predicted to have its strongest impact in polar regions due to direct changes in surface area of polar oceans and ice sheets and to subsequent feedback processes. The currently observed reductions in ice extent and thickness appear to be ahead in time of model forecasts, illustrating both the rapidity of the observed changes and the difficulty of understanding and modeling all the feedbacks involved in the change. In current global models, sea ice's main impact is on Earth's radiative balance through its albedo, on deepwater formation and on air-sea-exchange processes of gases. The latter impact refers to sea ice as a "cap" on the ocean surface. Emerging views indicate, however, that sea ice itself plays an important role in the biogeochemical cycling and exchange of climate gases. Therefore, the main question for this discussion session is: What are the main climate-relevant compounds and processes associated with sea ice and can we quantify their impact?</p>		
<b>Intended outcome, action or product following the discussion session (max. 50 words)</b>	<p>The intended outcome is to prioritize key questions that need to be solved in order to quantify the role of sea ice in global biogeochemical cycles and more specific in the production and fluxes of climate-relevant gases, both directly through ice/snow-atmosphere interactions and indirectly through impacts of ice melt on surface waters and subsequent sea-air fluxes.</p>		