



SOLAS Open Science Conference 2009

Barcelona, 16th-19th November 2009

Discussion Session Proposal

Discussion session proposal form

	Convener	Co-convener (if any)	Rapporteur
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Session title	Ship plumes		
Background and motivation, e.g. research question (max. 150 words, no figures/ tables)	<p>Emissions of gases and particles from ocean-going ships have major impacts on photochemistry in the marine boundary layer and are potentially important for the deposition of nutrients to the ocean. Throughout large regions of the ocean, ship emissions dominate the natural sulfur emissions, largely of DMS, and have therefore to be considered in estimates of climate forcing by sulfate aerosols which are also directly released from ships (Activity 1.3 of the SOLAS Science and Implementation Plan). Ship emissions are important sources of nitrogen and the input of nitrogen into marine ecosystems might affect marine productivity (Activity 1.5). Furthermore the fluxes of carbonaceous aerosol particles as well as hydrocarbons are also significant. The effects on atmospheric photochemistry (Activity 1.2) include the production of ozone in regions that are usually sinks for ozone and the pollution-induced release of reactive chlorine from sea salt, which has a lifetime of several days (due to multiphase cycling), so that it is significantly longer than the lifetime of the ship plume itself. Ship traffic has increased significantly in recent years and is projected to keep increasing.</p>		
Intended outcome, action or product following the discussion session (max. 50 words)	<ol style="list-style-type: none"> (1) Establishment of working group on ship plumes (2) Decide on how to improve the White Paper and whether to make a peer-reviewed review paper out of it (3) Plan workshops to address points in White Paper 		