Stephenson, S.; et al. (2018): Climatic Responses to Future Trans-Arctic Shipping

"Here we investigate impacts of shipping emissions on Arctic climate using a fully coupled Earth system model (CESM 1.2.2) and a suite of newly developed projections of 21st-century trans-Arctic shipping emissions. We find that trans-Arctic shipping will reduce Arctic warming by nearly 1 °C by 2099, due to sulfate-driven liquid water cloud formation. Cloud fraction and liquid water path exhibit significant positive trends, cooling the lower atmosphere and surface."

LINK

Read more » Stephenson, S.; et al. (2018): Climatic Responses to Future Trans-Arctic Shipping

"We describe important issues, aiming to reduce systematic errors and uncertainties in statistical tests as well as increase the level of quantitative sounding and evaluation. Firstly, a regularized set of design and operation in the steps should be established to optimize techniques of cloud seeding. Secondly, the latest achievements in atmospheric physics, physical sounding and statistics need to be introduced to help improve the correctness and scientificity. Thirdly, middle-and long-term special research projects are expected to investigate the influence of ideal hypotheses of seedingschemes, statistical test plans, and statistical methods."