

Abstract for Antarctic climate symposium 10th of May 2019

Organic compounds in the Antarctic Atmosphere; first results of the 2017 and 2018 field sampling campaign.

Antarctica is considered the best preserved region on earth, often associated with pristine air, water and ice. Yet, we know very little about the impact of antropogenic organic chemicals reaching the continent and the processes these undergo. In an effort to develop a better understanding of the atmospheric pathways of both volatile and semi-volatile trace organics in the Antarctic atmosphere extensive sampling campaigns were carried out in Dronning Maud Land during the 2017 and 2018 austral summer. In the framework of the CHASE project both organic chemicals sorbed to airborne particles as well as in the gas-phase were sampled using passive and active methods. Along a 230 km traject stretching from the Sør Rondane mountain plateau to the Princess Ragnhild Coast, seven sample sites were installed with each with 3 different types of air samplers in order to target different chemical classes. The passive samplers are a good approach to get a year worth of time integrated and spatially resolved information about the organic composition of the air. In addition, a high volume air sampler was installed and operated in the vicinity of the Princess Elisabeth Station yielding weekly samples during the summer season. As far as our knowledge stretches this is the first detailed study with this scope done in the region and passive samplers are used to gather location specific data on Antarctica. We look forward to presenting our first results from the past campaigns at the Antarctic Climate Symposium 2019.