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Changing trends in carbon dioxide exchange components in three Arctic tundra sites

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This paper aims to investigate the interannual variability in carbon flux components in a High, Low and Sub Arctic tundra site. By identifying trends in different tundra types, we can better understand the possible future response of Arctic tundra under climatic change. The timing and length of seasons, alongside environmental controls, have been examined to assess their effect on the seasonal carbon budgets of these sites. Data was collected using the micrometeorological eddy covariance technique from three Arctic tundra sites in Greenland (74.47 °N), Siberia (70.82 °N) and Sweden (68.33 °N). We have hypothesized that the interannual trends in net ecosystem exchange (NEE) components will vary between the different tundra types in this study and will most likely be driven by temperature, vegetation characteristics (NDVI) and season phenology (start and length of seasons). Our results will present the evolution of the seasonal budgets (Thaw, pre-green, green, post-green seasons) of NEE components; and the drivers of these trends over 6 years (2003 - 2008) in these three sites. These and more will be presented at the conference.