

Interactive comment on “Decadal trends in aerosol chemical composition at Barrow, AK: 1976–2008” by P. K. Quinn et al.

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This is an interesting paper studying seasonal changes of chemical composition of the Arctic aerosol over the last 30 years. The main value of this paper is the presentation of long-term series of data on aerosol concentrations and their relation to emission data. It is interesting to observe that the same emission source regions have contributed to the concentrations of the Arctic aerosol over this long period of time and that the decrease in emissions from these sources is clearly indicated in the decrease of aerosol concentrations. Of course, the relationship of emission changes with the concentration changes is not linear but the trend of these changes is similar. Another important message from the paper is on a source of summer aerosol related to the sea salt formation. Interesting halogen chemistry is proposed. The paper is well illustrated with

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figures and written in a transparent manner. It is also interesting to note that the results on sources and transport of aerosols to the Arctic obtained 3 decades ago are still valid and used. I am grateful to the authors of the reviewed paper for refreshing our memory on this important research carried out 30 years ago. I am pleased to recommend this paper for publication in its current version.

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