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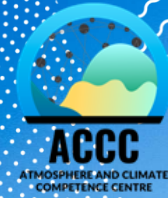
# Dust in the Arctic: interactions between climate, dust, and ecosystems



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# Two closely related Arctic Council CAFF/AMAP Special Issue publications address complementary aspects of dust in the Arctic



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## Dust in the Arctic: a brief review of feedbacks and interactions between climate change, aeolian dust and ecosystems

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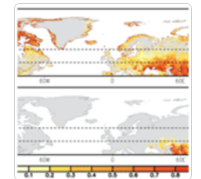
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## Newly identified climatically and environmentally significant high-latitude dust sources



Outi Meinander , Pavla Dagsson-Waldhauserova, Pavel Amosov, Elena Aseyeva, Cliff Atkins, Alexander Baklanov, Clarissa Baldo, Sarah L. Barr, Barbara Barzycka, Liane G. Benning, Bojan Cvetkovic, Polina Enchilik, Denis Frolov, Santiago Gassó, Konrad Kandler, Nikolay Kasimov, Jan Kavan, James King, Tatyana Koroleva, Viktoria Krupskaya, Markku Kulmala, Monika Kusiak, Hanna K. Lappalainen, Michał Laska, Jerome Lasne, Marek Lewandowski, Bartłomiej Luks, James B. McQuaid, Beatrice Moroni, Benjamin Murray, Ottmar Möhler, Adam Nawrot, Slobodan Nickovic, Norman T. O'Neill, Goran Pejanovic, Olga Popovicheva, Keyvan Ranjbar, Manolis Romanias, Olga Samonova, Alberto Sanchez-Marroquin, Kerstin Schepanski, Ivan Semenov, Anna Sharapova, Elena Shevnina, Zongbo Shi, Mikhail Sofiev, Frédéric Thevenet, Throstur Thorsteinsson, Mikhail Timofeev, Nsikanabasi Silas Umo, Andreas Uppstu, Darya Urupina, György Varga, Tomasz Werner, Olafur Arnalds, and Ana Vukovic Vimic

**Meinander et al. 2025**

**CAFF SI**

**DOI: 10.3389/fenvs.2025.1536395**

**Meinander et al. 2022**

**AMAP SLCF SI**

**DOI: 10.5194/acp-22-11889-2022**



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# Dust in the Arctic: interactions between climate, dust, and ecosystems

## Climate and ecosystem related interactions of aeolian dust in the Arctic include:

**Direct radiative forcing** (absorption and scattering); **indirect radiative forcing** (clouds and cryosphere); effects on **atmospheric chemistry**; **deposition** on terrestrial, marine, fresh water and cryospheric ecosystems; **semi-direct effects on meteorological parameters** (e.g., atmospheric pressure, temperature profile and cloudiness) affecting the radiative balance in the atmosphere.

**Dust deposition can supply ecosystems** with macro and micronutrients, acid-neutralizing capacity, heavy metals, microbes and other biota, synthetic materials, and light-absorbing particles.

