Spatio-temporal characteristics of atmospheric rivers over Scandinavia

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In this poster, we will show some early results from our current study focusing on atmospheric rivers over Scandinavia. We have used a state-of-the-art detection and tracking algorithm on ERA5 reanalysis data to identify, and compute key characteristics of, atmospheric rivers that make landfall over Scandinavia. Atmospheric rivers are long and narrow filaments with unusually high quantities of tropospheric moisture transport, as measured by the Integrated Water Vapour Transport. Globally, much of the poleward moisture transport occurs within atmospheric rivers. Previously, impacts on the regional climate and circulation of atmospheric rivers have been extensively studied in both North America and Eastern Asia, where they have shown to play an important role in the variability of regional climate. For instance, atmospheric rivers are known to play a significant role in extreme precipitation events in many locations around the world. With this work, we aim to further examine how atmospheric rivers affect the Scandinavian climate through the evaluation of their intensity, frequency, seasonal variability and spatial patterns.

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