

Full Publication List

2021

- Hillaire-Marcel, C., Sang-Tae, K., Landais, A., Prosenjit, G., Sergey, A., Lecuyer, C., Blanchard, M., Meijer, H. A. J., **Steen-Larsen, H. C.** (Accepted). A stable isotope toolbox for water and inorganic carbon cycle studies. *Nature Reviews Earth and Environment*, <https://doi.org/10.1038/s43017-021-00209-0>
- Wahl, S., **Steen-Larsen, H. C.**, Reuder, J., & Hörhold, M. (2021). Quantifying the stable water isotopologue exchange between snow surface and lower atmosphere by direct flux measurements. *Journal of Geophysical Research: Atmospheres*, 126, e2020JD034400.
- Gkinis, V., and 29 co-authors incl. **H. C. Steen-Larsen** (2021). A 120,000-year long climate record from a NW-Greenland deep ice core at ultra-high resolution. *Scientific Data*, 1–9. <http://doi.org/10.1038/s41597-021-00916-9>
- Chazette, P., and 11 co-authors incl. **H. C. Steen-Larsen** (2021). Experimental investigation of the stable water isotope distribution in an Alpine lake environment (L-WAIVE), *Atmos. Chem. Phys.*, 21, 10911–10937, <https://doi.org/10.5194/acp-21-10911-2021>, 2021

2020

- Leroy Dos Santos, C., Masson-Delmotte, V., Casado, M., Fourré, E., **Steen-Larsen, H. C.**, Maturilli, M., et al. (2020). A 4.5 Year-Long Record of Svalbard Water Vapor Isotopic Composition Documents Winter Air Mass Origin. *Journal of Geophysical Research: Atmospheres*, 125(23)
- Bonne, J.-L., and 9 co-authors incl. **H. C. Steen-Larsen** (2020). Moisture origin as a driver of temporal variabilities of the water vapour isotopic composition in the Lena River Delta, Siberia. *Atmospheric Chemistry and Physics*, 20(1), 10493–10511.
- Rutz, J. J., and 16 co-authors incl. **H. C. Steen-Larsen** (2020). Global and Regional Perspectives. In F. M. Ralph, M. D. Dettinger, J. J. Rutz, & D. E. Waliser (Eds.), *Atmospheric Rivers* (Vol. 55, pp. 89–140). Cham: Springer International Publishing.
- Thurnherr, I., and 12 co-authors incl. **H. C. Steen-Larsen** (2020). Meridional and vertical variations of the water vapour isotopic composition in the marine boundary layer over the Atlantic and Southern Ocean. *Atmospheric Chemistry and Physics*, 20(9), 5811–5835.

2019

- Gao, J., Yao, T., Masson-Delmotte, V., **Steen-Larsen, H. C.**, & Wang, W. (2019). Collapsing glaciers threaten Asia's water supplies. *Nature*, 565, 19-21. doi:10.1038/d41586-018-07838-4
- Kokhanovsky, A and 30 co-authors incl. **Steen-Larsen, H. C.** (2019). Retrieval of Snow Properties from the Sentinel-3 Ocean and Land Colour Instrument, *Remote Sensing*, 11(19), 2280–43. <http://doi.org/10.3390/rs11192280>
- Pang, H., Hou, S., Landais, A., Masson-Delmotte, V., Jouzel, J., **Steen-Larsen, H. C.**, et al. (2019). Influence of Summer Sublimation on δD , $\delta^{18}O$, and $\delta^{17}O$ in Precipitation, East Antarctica, and Implications for Climate Reconstruction From Ice Cores, *Journal of Geophysical Research: Atmospheres*, 68(17), 3487–20. <http://doi.org/10.1029/2018JD030218>
- Bonne, J.-L., Behrens, M., Meyer, H., Kipfstuhl, S., Rabe, B., Schönicke, L., **Steen-Larsen, H. C.**, Werner, M. (2019). Resolving the controls of water vapour isotopes in the Atlantic sector. *Nature Communications*, 1–10. <http://doi.org/10.1038/s41467-019-09242-6>
- Madsen, M. V., **Steen-Larsen, H. C.**, et al. (2019). Evidence of Isotopic Fractionation During Vapor Exchange Between the Atmosphere and the Snow Surface in Greenland. *Journal of Geophysical Research: Atmospheres*, 124(6), 2932–2945. <http://doi.org/10.1029/2018JD029619> (M. V. Madsen is former master student of H. C. Steen-Larsen)

- Wei, Z. and 26 co-authors incl. **Steen-Larsen, H. C.** et al. (2019). A global database of water vapor isotopes measured with high temporal resolution infrared laser spectroscopy. *Scientific Data*, 6, 180302. <http://doi.org/10.1038/sdata.2018.302>
- Hoffman, A. O., **Steen-Larsen, H. C.**, Christianson, K., & Hvidberg, C. (2019). A low-cost autonomous rover for polar science. *Geoscientific Instrumentation, Methods and Data Systems*, 8(1), 149–159. <http://doi.org/10.5194/gi-8-149-2019> (A. Hoffman is former master student of H. C. Steen-Larsen)
- Guðlaugsdóttir, H., Sjolte, J., Sveinbjörnsdóttir, Á. E., Werner, M., & **Steen-Larsen, H. C.** (2019). North Atlantic weather regimes in $\delta^{18}\text{O}$ of winter precipitation: isotopic fingerprint of the response in the atmospheric circulation after volcanic eruptions. *Tellus B*, 71(1), 1633848. <http://doi.org/10.1080/16000889.2019.1633848>
- Zannoni, D., **Steen-Larsen, H. C.**, et al. (2019). The atmospheric water cycle of a coastal lagoon_ An isotope study of the interactions between water vapor, precipitation and surface waters. *Journal of Hydrology*, 572, 630–644. <http://doi.org/10.1016/j.jhydrol.2019.03.033>
- Zannoni, D., **Steen-Larsen, H. C.**, Stenni, B., Dreossi, G., & Rampazzo, G. (2019). Synoptic to mesoscale processes affecting the water vapor isotopic daily cycle over a coastal lagoon. *Atmospheric Environment*, 197, 118–130. <http://doi.org/10.1016/j.atmosenv.2018.10.032>

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- Benetti, M., Lacour, J.-L., Sveinbjörnsdóttir, A. E., Aloisi, G., Reverdin, G., Risi, C., . . . **Steen-Larsen, H. C.** (2018). A Framework to Study Mixing Processes in the Marine Boundary Layer Using Water Vapor Isotope Measurements. 45(5), 2524-2532. doi:doi:10.1002/2018GL077167
- Guðlaugsdóttir, H., **Steen-Larsen, H. C.**, Sjolte, J., Masson-Delmotte, V., Werner, M., & Sveinbjörnsdóttir, Á. E. (2018). The influence of volcanic eruptions on weather regimes over the North Atlantic simulated by ECHAM5/MPI-OM ensemble runs from 800 to 2000 CE. *Atmospheric Research*, 213, 211-223. doi:https://doi.org/10.1016/j.atmosres.2018.04.021
- Zannoni, D., **Steen-Larsen, H. C.**, Stenni, B., Dreossi, G., & Rampazzo, G. (2019). Synoptic to mesoscale processes affecting the water vapor isotopic daily cycle over a coastal lagoon. *Atmospheric Environment*, 197, 118-130. doi:https://doi.org/10.1016/j.atmosenv.2018.10.032
- Zheng, M., Sjolte, J., Adolphi, F., Vinther, B. M., **Steen-Larsen, H. C.**, Popp, T. J., & Muscheler, R. (2018). Climate information preserved in seasonal water isotope at NEEM: relationships with temperature, circulation and sea ice. *Clim. Past*, 14(7), 1067-1078. doi:10.5194/cp-14-1067-2018

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- Ebner, P., **Steen-Larsen, H. C.**, (and 3 co-authors): Experimental observation of transient $\delta^{18}\text{O}$ interaction between snow and advective airflow under various temperature gradient conditions, Vol. 11, 1733-1743, 2017, *The Cryosphere*
- Steen-Larsen, H. C.**, C. Risi, (and 3 co-authors): Evaluating the skills of isotope-enabled General Circulation Models against in-situ atmospheric water vapor isotope observations, Vol. 121, 2017, *Journal of Geophysical Research*
- Benetti, M.[‡], **H. C. Steen-Larsen**[‡], (and 18 co-authors): Stable isotopes in the atmospheric marine boundary layer water vapour over the Atlantic Ocean, 2012-2015, 3:160128, 2017, *Nature Scientific Data*. [‡]Both authors contributed equally to the manuscript.

2016

- Galewsky, J., **H. C. Steen-Larsen**, (and 4 co-authors): Stable isotopes of hydrogen and oxygen in atmospheric water vapor and applications to the hydrological cycle, (Vol. 54, 2016, *Reviews of Geophysics*)

Ritter, F., **H. C. Steen-Larsen**, (and 8 co-authors): Isotopic exchange on the diurnal scale between near-surface snow and lower atmospheric water vapor at Kohnen station, East Antarctica, Vol. 10, 1647-1663, 2016, *The Cryosphere* (F. Ritter is former master student of H. C. Steen-Larsen)

Berkelhammer, M., **H. C. Steen-Larsen**, (and 4 co-authors): Radiation and atmospheric circulation controls on carbonyl sulfide concentrations in the marine boundary layer, Vol. 121, 13113-13128, 2016, *Journal of Geophysical Research*

Kurita, N., (and 6 co-authors incl. **H. C. Steen-Larsen**): Identification of Air Masses Responsible for Warm Events on the East Antarctic Coast, Vol. 12, 307-313, 2016, *Scientific Online Letters on the Atmosphere*

Berkelhammer, M., D. Noone, **H. C. Steen-Larsen**, (and 6 co-authors): Surface-atmosphere decoupling limits accumulation over Greenland, Vol. 2. (4), e1501704–e1501704, 2016, *Science Advances*

Schaller, C., (and 5 co-authors incl. **H. C. Steen-Larsen**): A representative density profile of the North Greenland snowpack, Vol. 10, 1991-2002, 2016, *The Cryosphere*

Casado, M., (and 12 co-authors incl. **H. C. Steen-Larsen**): Continuous measurements of isotopic composition of water vapour on the East Antarctic Plateau, Vol. 16, 8521-8538, 2016, *Atmospheric Chemistry and Physics*

Kurita, N., (and 6 co-authors incl. **H. C. Steen-Larsen**): Influence of large-scale atmospheric circulation on marine air intrusion toward the East Antarctic coast, Vol. 43, 9298–9305, 2016, *Geophysical Research Letters*

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Steen-Larsen, H. C., A. E. Sveinbjörnsdóttir, Th. Jonsson, F. Ritter, J.-L. Bonne (and 5 co-authors): Moisture sources and synoptic to seasonal variability in the North Atlantic water vapor isotopic composition, 2015, 10.1002/2015JD023234, *Journal of Geophysical Research*

Bailey, A., D. Noone, M. Berkelhammer, **H. C. Steen-Larsen**, P. Sato: The stability and calibration of water vapor isotope ratio measurements during long-term deployments, Vol. 8, 4521-4538, 2015, *Atmospheric Measurement Techniques*

Masson-Delmotte, V.[‡], **H. C. Steen-Larsen**[‡], (and 20 co-authors): Recent changes in North West Greenland climate documented by NEEM shallow ice core data and simulations, and implications for past temperature reconstructions, Vol. 9, 1481-1504, 2015, *The Cryosphere*

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Bonne, J.-L., **H.C. Steen-Larsen**, C.Risi, M. Werner, H. Sodemann (and 10 co-authors): The summer 2012 Greenland heat wave: in situ and remote sensing observations of water vapour isotopic composition during an atmospheric river event, Vol. 120, 7, 2014JD022602, 2015, *Journal of Geophysical Research*

Pang, H., H. Shugui, A. Landais, V. Masson-Delmotte, F. Prie, **H. C. Steen-Larsen**, (and 7 co-authors): Spatial distribution of ^{17}O -excess in surface snow along a traverse from Zhongshan station to Dome A, Antarctica. Vol. 414, 126-133, 2015, *Earth and Planetary Science Letters*

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Bonne, J.-L., V. Masson-Delmotte, O. Cattani, M. Delmotte, C. Risi, H. Sodemann, **H. C. Steen-Larsen**: The isotopic composition of water vapor and precipitation in Ivittuut, Southern Greenland, 13, 30521-30574, 2014, Atmospheric Chemistry and Physics

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