

## Summary of recent literature

Here is a list of recent references (published/submitted during 2019-2021) of either the workshop's own publications, or publications that participants considered noteworthy and relevant for the field.

1. Aemisegger, F., Vogel, R., Graf, P., Dahinden, F., Villiger, L., Jansen, F., Bony, S., Stevens, B., and Wernli, H. (2021). How Rossby wave breaking modulates the water cycle in the North Atlantic trade wind region, *Weather Clim. Dynam.*, 2, 281–309, <https://doi.org/10.5194/wcd-2-281-2021>.
2. Affolter, S., Häuselmann, A. D., Fleitmann, D., Edwards, R. L., Cheng, H., and Leuenberger, M. (2019): Central Europe temperature constrained by speleothem fluid inclusion water isotopes over the past 14,000 years, *Sci Adv*, 5, eaav3809. DOI: [10.1126/sciadv.aav3809](https://doi.org/10.1126/sciadv.aav3809).
3. Akers, P.D., Kopec, B.G., Klein, E.S., Causey, D., Welker, J.M. (2020) Baffin Bay sea ice extent and synoptic moisture transport drive water vapor ( $\delta^{18}\text{O}$ ,  $\delta\text{D}$  and d-excess) variability in coastal NW Greenland. *Atmospheric Chemistry and Physics*, doi.org/10.5194/acp-2020-340.
4. Bailey, H., Hubbard, A., Klein, E. S., Mustonen, K., Akers, P. D., Mattila, H., and Welker, J. M. (2021) Arctic sea ice loss fuels European extreme snowfall. *Nature Geoscience*, DOI: 10.1038/s41561-021-00719-y
5. Bonne, J.-L., Meyer, H., Behrens, M., Boike, J., Kipfstuhl, S., Rabe, B., Schmidt, T., Schönicke, L., Steen-Larsen, H. C., and Werner, M.: Moisture origin as a driver of temporal variabilities of the water vapour isotopic composition in the Lena River Delta, Siberia, *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2019-942>, 2020.
6. Brunello, C. F., Andermann, C., Helle, G., Comiti, F., Tonon, G., Tiwari, A., & Hovius, N. (2019). Hydroclimatic seasonality recorded by tree ring  $\delta^{18}\text{O}$  signature across a Himalayan altitudinal transect. *Earth and Planetary Science Letters*, 518, 148-159.
7. Bühler, Janica C., Roesch, Carla, Kirschner, Moritz, Sime, Louise, Holloway, Max D., Rehfeld, Kira. (2021) Comparison of the oxygen isotope signatures in speleothem records and iHadCM3 model simulations for the last millennium. *Climate of the Past*, 17, 985-1004. doi: 10.5194/cp-17-985-2021.
8. Casado, M., A. Landais, G. Picard, L. Arnaud, G. Dreossi, B. Stenni, F. Prié, *Geophys. Res. Lett.*, 2021, <https://doi.org/10.1029/2021GL093382>
9. Casado, M., T. Münch, T. Laepple, Climatic information archived in ice cores: impact of intermittency and diffusion on the recorded isotopic signal in Antarctica. *Clim. Past*. **16**, 1581–1598 (2020).
10. Cauquoin, A., and Werner, M. (2021). High-resolution nudged isotope modeling with ECHAM6-wiso: Impacts of updated model physics and ERA5 reanalysis data. *Journal of Advances in Modeling Earth Systems*, accepted, <https://doi.org/10.1029/2021MS002532>.

11. Chakraborty, S., Amey Datye, Charuta Murkute, Subrato Halder, Anant Parekh, Nitesh Sinha, P.M. Mohan. 2021 Application of precipitation isotopes in pursuit of paleomonsoon reconstruction: an Indian perspective, p. 413-427. In: *Holocene Climate Change and Environment* (eds) Kumaran, N., and Damodaran, P. Elsevier.
12. Chazette, P., Flamant, C., Sodemann, H., Totems, J., Monod, A., Dieudonné, E., Baron, A., Seidl, A., Steen-Larsen, H. C., Doira, P., Durand, A., and Ravier, S.: 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.
13. Crawford, J., Azcurra, C.S., Hughes, C.E., Gibson, J.J., Parkes, S.D. 2019. Comparison of atmospheric water vapour  $\delta^{18}\text{O}$  and  $\delta^2\text{H}$  estimated using evaporation pan, rainfall equilibrium and continuous measurements. *Journal of Hydrology*. 576: 551–560 <https://doi.org/10.1016/j.jhydrol.2019.06.056>.
14. Dahinden, F., Aemisegger, F., Wernli, H., Schneider, M., Diekmann, C. J., Ertl, B., Knippertz, P., Werner, M., and Pfahl, S. (2021) Disentangling different moisture transport pathways over the eastern subtropical North Atlantic using multi-platform isotope observations and high-resolution numerical modelling, *Atmos. Chem. Phys.*, 21, 16319–16347, <https://doi.org/10.5194/acp-21-16319-2021>.
15. Daniels, W. C., Russell, J. M., Morrill, C. Longo, W. M., Giblin, A. E., Holland-Stergar, P., Welker, J. M., Wen, X, Hu, A., Huang, Y. Lacustrine leaf wax hydrogen isotopes indicate strong regional climate feedbacks in Beringia since the last ice age. *Quaternary Science Reviews* 269 107130.
16. Dee, S.G., Nusbaumer, J., Bailey, A. R., Russell, J. M., Lee, J.E., Konecky, B., Buening, N., and Noone, D. "Tracking the Strength of the Walker Circulation with Stable Isotopes in Water Vapor." *Journal of Geophysical Research, Atmospheres*, 123. <https://doi.org/10.1029/2017JD027915>.
17. Diekmann, C. J., Schneider, M., Ertl, B., Hase, F., García, O., Khosrawi, F., Sepúlveda, E., Knippertz, P., and Braesicke, P.: The global and multi-annual MUSICA IASI  $\{\text{H}_2\text{O}, \delta\text{D}\}$  pair dataset, *Earth Syst. Sci. Data*, 13, 5273–5292, <https://doi.org/10.5194/essd-13-5273-2021>, 2021.
18. Diekmann, C. J., Schneider, M., Knippertz, P., de Vries, A. J., Pfahl, S., Aemisegger, F., et al. (2021). A Lagrangian perspective on stable water isotopes during the West African Monsoon. *Journal of Geophysical Research: Atmospheres*, 126, e2021JD034895. <https://doi.org/10.1029/2021JD034895>
19. Domingo, Dario, Malmierca Vallet, Irene , Sime, Louise , Voss, Jochen, Capron, Emilie. (2020) Using ice cores and Gaussian process emulation to recover changes in the Greenland Ice Sheet during the last interglacial. *Journal of Geophysical Research: Earth Surface*, 125. 19 pp. 10.1029/2019JF005237
20. Falster, G., Konecky, B., Madhavan, M., Stevenson, S., & Coats, S. (2021). Imprint of the Pacific Walker Circulation in Global Precipitation  $\delta^{18}\text{O}$ , *Journal of Climate*, 34(21), 8579-8597 <https://doi.org/10.1175/JCLI-D-21-0190.1>
21. Feher, Renata, Voiculescu, Mircea, Chiroiu, Patrick, Perşoiu, Aurel. (2021) The stable isotope composition of hoarfrost. *Isotopes in Health and Environmental Studies*, 57 (4). 386-399. <https://doi.org/10.1080/10256016.2021.1917567>.

22. Fritz, M., Wetterich, S., McAlister, J., and Meyer, H.: A new local meteoric water line for Inuvik (NT, Canada). 2021. *Earth Syst. Sci. Data Discuss.* [preprint], <https://doi.org/10.5194/essd-2021-294>, in review.
23. Gimeno, L., Eiras-Barca, J., Durán-Quesada, A.M., Dominguez, F., van der Ent, R., Sodemann, H., Sánchez-Murillo, R., Nieto, R. and Kirchner, J. W.: The residence time of water vapour in the atmosphere. *Nat. Rev. Earth Environ.*, <https://doi.org/10.1038/s43017-021-00181-9>, 2021.
24. Goursaud, Sentia, Holloway, Max, Sime, Louise, Wolff, Eric, Valdes, Paul, Steig, Eric J., Pauling, Andrew. (2021) Antarctic Ice Sheet elevation impacts on water isotope records during the Last Interglacial. *Geophysical Research Letters*, 48. 10 pp. 10.1029/2020GL091412
25. Hatvani, I. G., Szatmári, G., Kern, Z., Erdélyi, D., Vreča, P., Kanduč, T., Czuppon, G., Lojen, S., Kohán, B. (2021) Geostatistical evaluation of the design of the precipitation stable isotope monitoring network for Slovenia and Hungary. *Environment International*, 146, 106263. <https://doi.org/10.1016/j.envint.2020.106263>
26. He, C., Liu, Z., Otto-Bliesner, B. L., Brady, E. C., Zhu, C., Tomas, R., Buizert, C., and Severinghaus, J. P. (2021), Abrupt Heinrich Stadial 1 cooling missing in Greenland oxygen isotopes, *Science Advances*, 7(25), eabh1007.
27. He, C., Liu, Z., Otto-Bliesner, B. L., Brady, E. C., Zhu, C., Tomas, R., Clark, P. U., Zhu, J., Jahn, A., & Gu, S. (2021), Hydroclimate footprint of pan-Asian monsoon water isotope during the last deglaciation, *Science Advances*, 7(4), eabe2611.
28. Hillaire-Marcel, C., Kim, S.-T., Landais, A. X. L., Ghosh, P., Assonov, S., Cuyer, C. L. X., et al. (2021). A stable isotope toolbox for water and inorganic carbon cycle studies. *Nature Reviews Earth & Environment*, 1–21. <http://doi.org/10.1038/s43017-021-00209-0>
29. Hu, J., S. G. Dee, and J. Nusbaumer, “The role of isotope-enabled GCM complexity in simulating tropical circulation changes in high-CO<sub>2</sub> scenarios,” *Journal of Advances in Modeling Earth Systems*, <http://dx.doi.org/10.1029/2020MS002163>.
30. Hughes, A. G., Wahl, S., Jones, T. R., Zühr, A., Hörhold, M., White, J. W. C., & Steen-Larsen, H. C. (2021). The role of sublimation as a driver of climate signals in the water isotope content of surface snow: Laboratory and field experimental results. *The Cryosphere*, 15, 4949–4974. <https://doi.org/10.5194/tc-15-4949-2021>
31. Khosrawi, F., Toride, K., Yoshimura, K., Diekmann, C. J., Ertl, B., Hase, F., and Schneider, M.: Can the assimilation of water isotopologue observation improve the quality of tropical diabatic heating and precipitation?, *Weather Clim. Dynam. Discuss.* [preprint], <https://doi.org/10.5194/wcd-2021-49>, in review, 2021.
32. Kino, K., Okazaki, A., Cauquoin, A., & Yoshimura, K. (2021). *Contribution of the Southern Annular Mode to variations in water isotopes of daily precipitation at Dome Fuji, East Antarctica. Journal of Geophysical Research: Atmosphere.* <https://www.essoar.org/doi/10.1002/essoar.10507344.3>
33. Kino, K., Okazaki, A., Cauquoin, A., Yoshimura, K., Contribution of the Southern Annular Mode on variations in water isotopes of daily precipitation at Dome Fuji, East Antarctica. *Submitted to JGR-A*, <https://www.essoar.org/doi/10.1002/essoar.10507344.2>

34. Kwiecien, O., Braun, T., Brunello, C. F., Faulkner, P., Hausmann, N., Helle, G., ... & Breitenbach, S. F. (2021). What we talk about when we talk about seasonality—A transdisciplinary review. *Earth-Science Reviews*, 103843.
35. Lee, K. O., Aemisegger, F., Pfahl, S., Flamant, C., Lacour, J.-L., and Chaboureaud, J.-P. (2019). Contrasting stable water isotope signals from convective and large-scale precipitation phases of a heavy precipitation event in Southern Italy during HyMeX IOP 13. *Atmos. Chem. Phys.*, 19, 7487–7506, <https://doi.org/10.5194/acp-19-7487-2019>.
36. Lone, A.M., Achyuthan, H., Chakraborty, S., Metya, A., Datye, A., Kripalani, R.H., Fousiya, A.A., (2020) Controls on the isotopic composition of daily precipitation characterized by dual moisture transport pathways at the monsoonal margin region of North-Western India, *Journal of Hydrology*, 588; 125106; doi: <https://doi.org/10.1016/j.jhydrol.2020.125106>.
37. Mellat, M., Mustonen, K., Bailey, H., Klein, E., Marttila, H. and Welker, J. M. Hydroclimatic Controls on the Isotopic ( $\delta^{18}\text{O}$ ,  $\delta^2\text{H}$ , d-excess) Traits of Pan-Arctic Summer Rainfall Events. (2021) *Frontiers in Earth Sciences: Hydrosphere*, doi: [10.3389/feart.2021.651731](https://doi.org/10.3389/feart.2021.651731)
38. Nitesh Sinha and S. Chakraborty 2020 Isotopic interaction and source moisture control on the isotopic composition of rainfall over the Bay of Bengal. *Atmospheric Research*. V. **35**, 1 May 2020, 104760, <https://doi.org/10.1016/j.atmosres.2019.104760>.
39. Okazaki, A., & Yoshimura, K. (2019). Global evaluation of proxy system models for stable water isotopes with realistic atmospheric forcing. *Journal of Geophysical Research: Atmospheres*, 124, 8972– 8993. <https://doi.org/10.1029/2018JD029463>
40. Osman, M. B., Joseph R. McConnell, Benjamin E. Smith , Luke D. Trusel, Sarah B. Das, Nathan Chellman, Monica Arienzo and Harald Sodemann: Abrupt Common Era hydroclimate shifts drive west Greenland ice cap change, <https://doi.org/10.1038/s41561-021-00818-w>, *Nat. Geosci.* (2021).
41. Oza, Harsh, et al. "Hydrometeorological processes and evaporation from falling rain in Indian sub-continent: Insights from stable isotopes and meteorological parameters." *Journal of Hydrology* 591 (2020): 125601.
42. Oza, Harsh, et al. "Hydrometeorological processes in semi-arid western India: insights from long term isotope record of daily precipitation." *Climate Dynamics* 54.5 (2020): 2745-2757.
43. Risi, C, Muller, C, Vimeux, F, Blossey, P, Vedeau, G, Dufaux, C, Abramian, C. What controls the mesoscale variations in water isotopic composition within tropical cyclones and squall lines? Cloud resolving model simulations. Submitted to JAMES. <https://www.essoar.org/pdfjs/10.1002/essoar.10507830.1>
44. Risi, C., Muller, C., & Blossey, P. (2021). Rain evaporation, snow melt, and entrainment at the heart of water vapor isotopic variations in the tropical troposphere, according to large-eddy simulations and a two-column model. *Journal of advances in modeling earth systems*, 13(4), e2020MS002381. <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2020MS002381>
45. Saranya, P., Krishnakumar, A., Kumar, S. and Krishnan, K.A., 2020. Isotopic study on the effect of reservoirs and drought on water cycle dynamics in the tropical Periyar basin draining the slopes of Western Ghats. *Journal of Hydrology*, 581, p.124421.

46. Saranya, P., Krishnakumar, A., Sinha, N., Kumar, S. and Krishnan, K.A., 2021. Isotopic signatures of moisture recycling and evaporation processes along the Western Ghats orography. *Atmospheric Research*, 264, p.105863.
47. Sodemann, H., 2020: Beyond turnover time: Constraining the lifetime distribution of water vapor from simple and complex approaches, *J. Atmos. Sci.*, 77 (2), 413-433, [doi:10.1175/JAS-D-18-0336.1](https://doi.org/10.1175/JAS-D-18-0336.1).
48. Tada, M., Yoshimura, K. & Toride, K. Improving weather forecasting by assimilation of water vapor isotopes. *Sci Rep* 11, 18067 (2021). <https://doi.org/10.1038/s41598-021-97476-0>
49. Terzer-Wassmuth, S., Wassenaar, L. I., Welker, J. M., and Araguas-Araguas, L. J. (2021) Improved High-Resolution Global and Regionalized Isoscapes of  $\delta^{18}\text{O}$ ,  $\delta^2\text{H}$ , and d-excess in Precipitation. *Hydrological Processes* DOI: 10.1002/hyp.14254.
50. Toride, K., Yoshimura, M., Tada, C., Diekmann, B., Ertl, F., Khosrawi, M., Schneider, Potential of mid-tropospheric water vapor isotopes to improve large-scale circulation and weather predictability. *Geophysical Research Letters*, 48, e2020GL091698, doi: 10.1029/2020GL091698, 2021.
51. Torri, G. (2021) On the isotopic composition of cold pools in radiative-convective equilibrium. *Journal of Geophysical Research: Atmospheres*, 126, e2020JD033139. <https://doi.org/10.1029/2020JD033139>
52. Torri, G., A.D. Nugent, B.N. Popp, The isotopic composition of rainfall on a subtropical mountainous island (submitted) <https://www.essoar.org/doi/abs/10.1002/essoar.10508270.1>
53. Wahl, S., Steen-Larsen, H., Reuder, J., & Hörhold, M. (2021). Quantifying the Stable Water Isotopologue Exchange Between the Snow Surface and Lower Atmosphere by Direct Flux Measurements. *Journal of Geophysical Research*. <http://doi.org/10.1029/2020JD034400>
54. Wahl, S., Steen-Larsen, H. C., Reuder, J., & Hörhold, M. (2021). Quantifying the Stable Water Isotopologue Exchange Between the Snow Surface and Lower Atmosphere by Direct Flux Measurements. *Journal of Geophysical Research: Atmospheres*, 126(13), 1–24. <https://doi.org/10.1029/2020JD034400>
55. Wang, S., Jiao, R., Zhang, M., Crawford, J., Hughes, C. E., Chen, F. (2021). Changes in below-cloud evaporation affect precipitation isotopes during five decades of warming across China. *Journal of Geophysical Research: Atmospheres*, 126(7): e2020JD033075. DOI: 10.1029/2020JD033075
56. Weng, Y., Johannessen, A. and Sodemann, H., 2021: High-resolution stable isotope signature of a land-falling atmospheric river in southern Norway, *Weather Clim. Dynam.*, 2, 713–737, [doi: 10.5194/wcd-2-713-2021](https://doi.org/10.5194/wcd-2-713-2021), 2021.
57. Weng, Y., Touzeau, A. and Sodemann, H., 2020: Impact of isotope composition on the humidity dependency correction of water vapour isotope measurements with infra-red cavity ring-down spectrometers, *Atmos. Meas. Tech.*, 13, 3167–3190, doi:[10.5194/amt-13-3167-2020](https://doi.org/10.5194/amt-13-3167-2020).