

## Curriculum Vitae M. Werner

### **Personal Data**

Name: PD Dr. Martin Werner  
Year of Birth: 1968  
Place of Birth: Cologne  
Nationality: German

### **Academic Education and Professional Career**

- since 2008:** Senior Scientist at the Alfred Wegener Institute for Polar and Marine Research (Section “Paleoclimate Dynamics”, Prof. Dr. G. Lohmann)  
**since 2008:** Vice Head of the Section “Paleoclimate Dynamics”  
**since 2014:** AWI Delegate and Executive Committee Member of the Scientific Steering Committee (WLA) of the German Climate Computing Centre (DKRZ)  
**since 2008:** Guest Lecturer at the University of Bremen (Climate, Paleoclimatology)
- 2006-2008:** Scientific Officer at the Headquarters of the Leibniz Association, Bonn (Division “Evaluation”, Dr. C. Klein)
- 2002-2006:** Scientist at the Max Planck Institute for Biogeochemistry, Jena (Department “Integration of Biogeochemical Cycles / Paleoclimatology”, Prof. Dr. C. Prentice, Dr. S. Harrison)  
**2005-2006:** Guest Lecturer at the Universities of Jena and Weimar
- 2000-2002:** Post-doc at the Institute for Meteorology, University of Stockholm, Sweden (Department “Aerosols and Climate”, Prof. Dr. H. Rodhe)
- 1996-2000:** Research Assistant at the Max Planck Institute for Meteorology, Hamburg (Unit “Biogeochemical Tracers in the Climate System”, Dr. M. Heimann)  
**2000:** Ph.D. Defence at the University of Hamburg  
Thesis: “Spatial and Temporal Variability of Water Isotopes in Polar Precipitation”
- 1988-1995:** Studies of Physics at the Universities of Kiel, Heidelberg and Ottawa, Canada  
**1995:** Diploma examinations in Physics, Ruprecht-Karls-University of Heidelberg  
Thesis “Comparison of the Distribution of Volcanic Material Depositions within North-East Greenland” (supervisor: Dr. D. Wagenbach)  
**1990:** Pre-Diploma in Physics at the University of Kiel

## Peer-Reviewed Publications

106. Böhler, J. C., J. M. Axelsson, F. A. Lechleitner, J. Fohlmeister, A. N. LeGrande, M. Midhun, J. Sjolte, M. Werner, K. Yoshimura, and K. Rehfeld, Investigating oxygen and carbon isotopic relationships in speleothem records over the last millennium using multiple isotope-enabled climate models, *Climate of the Past*, 18(7), 1625–1654. [doi: 10.5194/cp-18-1625-2022](https://doi.org/10.5194/cp-18-1625-2022), 2022.
105. Sun, Y., G. Knorr, X. Zhang, L. Tarasov, S. Barker, M. Werner, and G. Lohmann, Ice sheet decline and rising atmospheric CO<sub>2</sub> control AMOC sensitivity to deglacial meltwater discharge, *Global and Planetary Change*, 210103755, [doi:10.1016/j.gloplacha.2022.103755](https://doi.org/10.1016/j.gloplacha.2022.103755), 2022.
104. Shi, X., M. Werner, C. Krug, C. M. Brierley, A. Zhao, E. Igbinosa, P. Braconnot, E. Brady, J. Cao, R. D'Agostino, J. Jungclaus, X. Liu, B. Otto-Bliesner, D. Sidorenko, R. Tomas, E. M. Volodin, H. Yang, Q. Zhang, W. Zheng, and G. Lohmann, Calendar effects on surface air temperature and precipitation based on model-ensemble equilibrium and transient simulations from PMIP4 and PACMEDY, *Climate of the Past*, 18(5), [doi:10.5194/cp-18-1047-2022](https://doi.org/10.5194/cp-18-1047-2022), 2022.
103. Shupe, M. D., M. Rex, B. Blomquist, P. O. G. Persson, J. Schmale, T. Uttal, [...], M. Wendisch, M. Werner, Z. Xie, and F. Yue, Overview of the MOSAiC expedition – Atmosphere, *Elementa: Science of the Anthropocene*, 10(1), [doi:10.1525/elementa.2021.00060](https://doi.org/10.1525/elementa.2021.00060), 2022.
102. Krätschmer, S., M. van der Does, F. Lamy, G. Lohmann, C. Völker, and M. Werner, Simulating glacial dust changes in the Southern Hemisphere using ECHAM6.3-HAM2.3, *Climate of the Past*, 18(1), 67–87, [doi:10.5194/cp-18-67-2022](https://doi.org/10.5194/cp-18-67-2022), 2022.
101. Danek, C., P. Gierz, S. S. Kostrova, P. Meister, H. Meyer, and M. Werner, M., Eurasian Holocene climate trends in transient coupled climate simulations and stable oxygen isotope records, *Journal of Quaternary Science*, [doi:10.1002/jqs.3396](https://doi.org/10.1002/jqs.3396), 2021.
100. Landais, A., B. Stenni, V. Masson-Delmotte, J. Jouzel, A. Cauquoin, E. Fourré, B. Minster, E. Selmo, T. Extier, M. Werner, F. Vimeux, R. Uemura, I. Crotti, and A. Grisart, Interglacial Antarctic–Southern Ocean climate decoupling due to moisture source area shifts, *Nature Geoscience*, [doi:10.1038/s41561-021-00856-4](https://doi.org/10.1038/s41561-021-00856-4), 2021.
99. Cauquoin, A., and M. Werner, High-Resolution Nudged Isotope Modeling With ECHAM6-Wiso: Impacts of Updated Model Physics and ERA5 Reanalysis Data, *Journal of Advances in Modeling Earth Systems*, 13(11), [doi:10.1029/2021ms002532](https://doi.org/10.1029/2021ms002532), 2021.
98. Dahinden, F., F. Aemisegger, H. Wernli, M. Schneider, C. J. Diekmann, B. Ertl, P. Knippertz, M. Werner, and S. Pfahl, Disentangling different moisture transport pathways over the eastern subtropical North Atlantic using multi-platform isotope observations and high-resolution numerical modelling, *Atmospheric Chemistry and Physics*, 21, 16319–16347. [doi:10.5194/acp-21-16319-2021](https://doi.org/10.5194/acp-21-16319-2021), 2021.
97. Bagheri Dastgerdi, S., M. Behrens, J. L. Bonne, M. Hörrhold, G. Lohmann, E. Schlosser, and M. Werner, Continuous monitoring of surface water vapour isotopic compositions at Neumayer Station III, East Antarctica, *The Cryosphere*, 15(10), 4745–4767, [doi:10.5194/tc-15-4745-2021](https://doi.org/10.5194/tc-15-4745-2021), 2021.
96. Breil, M., E. Christner, A. Cauquoin, M. Werner, and G. Schädler: Applying an isotope-enabled regional climate model over the Greenland ice sheet: effect of spatial resolution on model bias, *Climate of the Past*, 17(4), 1685–1699. [doi:10.5194/cp-17-1685-2021](https://doi.org/10.5194/cp-17-1685-2021), 2021.
95. Münch, T., M. Werner, and T. Laepple, How precipitation intermittency sets an optimal sampling distance for temperature reconstructions from Antarctic ice cores, *Climate of the Past*, 17(4), 1587–1605, [doi:10.5194/cp-17-1587-2021](https://doi.org/10.5194/cp-17-1587-2021), 2021.
94. Thurnherr, I., K. Hartmuth, L. Jansing, J. Gehring, M. Boettcher, I. Gorodetskaya, M. Werner, M. Heinli, and F. Aemisegger, The role of air–sea fluxes for the water vapour isotope signals in the cold and warm sectors of extratropical cyclones over the Southern Ocean, *Weather and Climate Dynamics*, 2(2), 331–357. [doi:10.5194/wcd-2-331-2021](https://doi.org/10.5194/wcd-2-331-2021), 2021.
93. Daux, V., B. Minster, A. Cauquoin, O. Jossoud, M. Werner, and A. Landais, Oxygen and hydrogen isotopic composition of tap waters in France, *Geological Society London, Special Publications*, 507. [doi:10.1144/SP507-2020-207](https://doi.org/10.1144/SP507-2020-207), 2021.

92. Parker, S. E., S. P. Harrison, L. Comas-Bru, N. Kaushal, A. N. LeGrande, and M. Werner, A data-model approach to interpreting speleothem oxygen isotope records from monsoon regions, *Climate of the Past*, 17(3), 1119–1138. [doi:10.5194/cp-17-1119-2021](https://doi.org/10.5194/cp-17-1119-2021), 2021.
91. Paul, A., S. Multizza, R. Stein, and M. Werner, A global climatology of the ocean surface during the Last Glacial Maximum mapped on a regular grid (GLOMAP), *Climate of the Past*, 17(2), 805–824. <https://doi.org/10.5194/cp-17-805-2021>, 2021.
90. Denisova, N.Y., K. G. Gribanov, and M. Werner, Validation of ECHAM AGCMs Using Laser Spectrometer Data from Two Arctic Stations. *Atmospheric and Oceanic Optics*, 33 (6), 702–707, [doi:10.1134/S1024856020060093](https://doi.org/10.1134/S1024856020060093), 2020.
89. Servettaz, A. P. M., A. J. Orsi, M. A. J. Curran, A. D. Moy, A. Landais, C. Agosta, V. H. L. Winton, A. Touzeau, J. R. McConnell, M. Werner, and M. Baroni, Snowfall and Water Stable Isotope Variability in East Antarctica Controlled by Warm Synoptic Events, *Journal of Geophysical Research*, 125(17), 1702, doi:10.1029/2020JD032863, 2020.
88. Sjolte, J., F. Adolphi, B. M. Vinther, R. Muscheler, C. Sturm, M. Werner, and G. Lohmann, Seasonal reconstructions coupling ice core data and an isotope enabled climate model – methodological implications of seasonality, climate modes and selection of proxy data, *Climate of the Past*, 116(5), 1737–1758, doi:10.5194/cp-16-1737-2020, 2020.
87. Bonne, J. L., H. Meyer, M. Behrens, J. Boike, S. Kipfstuhl, B. Rabe, T. Schmidt, L. Schönicke, H. C. Steen-Larsen, and M. Werner, 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(17), 10493–10511, doi:10.5194/acp-20-10493-2020, 2020.
86. Sutter, J., O. Eisen, M. Werner, K. Grosfeld, T. Kleiner, and H. Fischer, Limited Retreat of the Wilkes Basin Ice Sheet during the Last Interglacial, *Geophysical Research Letters*, 47(13), 1–8, doi:10.1029/2020GL088131, 2020.
85. Aichner, B., Z. Makhmudov, I. Rajabov, Q. Zhang, F. S. R. Pausata, M. Werner, L. Heinecke, M. L. Kuessner, S. J. Feakins, D. Sachse, and S. Mischke, Hydroclimate in the Pamirs was driven by changes in precipitation-evaporation seasonality since the last glacial period, *Geophysical Research Letters*, 46(23), 13972–13983, doi:10.1029/2019GL085202, 2019.
84. Cauquoin, A., M. Werner, and G. Lohmann, Water isotopes - climate relationships for the mid-Holocene and pre-industrial period simulated with an isotope-enabled version of MPI-ESM, *Climate of the Past*, 15(6), 1913–1937, doi:10.5194/cp-15-1913-2019, 2019.
83. Kostrova, S. S., H. Meyer, F. Fernandoy, M. Werner, and P E. Tarasov, Moisture origin and stable isotope characteristics of precipitation in southeast Siberia, *Hydrological Processes*, 35(8), 601, doi:10.1002/hyp.13571, 2019.
82. Guðlaugsdóttir, H., J. Sjolte, A. E. Sveinbjörnsdóttir, M. Werner, and H. C. Steen-Larsen, 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), 1–19, doi:10.1080/16000889.2019.1633848, 2019.
81. Baker, A., A. Hartmann, W. Duan, S. Hankin, L. Comas-Bru, M. O. Cuthbert, P. C. Treble, J. Banner, D. Genty, L. M. Baldini, M. Bartolomé, A. Moreno, C. Pérez-Mejías, and M. Werner, Global analysis reveals climatic controls on the oxygen isotope composition of cave drip water, *Nature Communications*, 10(1), 2984, doi:10.1038/s41467-019-11027-w, 2019.
80. Comas-Bru, L., S. P. Harrison, M. Werner, K. Rehfeld, N. Scroxton, C. Veiga-Pires, and SISAL Working Group Members, Evaluating model outputs using integrated global speleothem records of climate change since the last glacial, *Climate of the Past*, 15(4), 1557–1579, doi:10.5194/cp-15-1557-2019, 2019.
79. Goursaud, S., V. Masson-Delmotte, V. Favier, S. Preunkert, M. Legrand, B. Minster, and M. Werner, Challenges associated with the climatic interpretation of water stable isotope records from a highly resolved firn core from Adélie Land, coastal Antarctica, *The Cryosphere*, 13(4), 1297–1324, doi:10.5194/tc-13-1297-2019, 2019.
78. Klein, F., N. J. Abram, M. A. J. Curran, H. Goosse, S. Goursaud, V. Masson-Delmotte, A. Moy, R. Neukom, A. Orsi, J. Sjolte, N. Steiger, B. Stenni, and M. Werner, Assessing the robustness of Antarctic temperature reconstructions over the past 2 millennia using pseudoproxy and data assimilation experiments, *Climate of the Past*, 15(2), 661–684, doi:10.5194/cp-15-661-2019, 2019.

77. Bonne, J. L., M. Behrens, H. Meyer, S. Kipfstuhl, B. Rabe, L. Schönicke, H. C. Steen-Larsen, and M. Werner, Resolving the controls of water vapour isotopes in the Atlantic sector, *Nature Communications*, 10(1), 1632, doi:10.1038/s41467-019-09242-6, 2019.
76. Sjolte, J., C. Sturm, F. Adolphi, B. M. Vinther, M. Werner, G. Lohmann, and R. Muscheler, Solar and volcanic forcing of North Atlantic climate inferred from a process-based reconstruction, *Climate of the Past*, 14(8), 1179–1194, doi:10.5194/cp-14-1179-2018, 2018.
75. Werner, M., J. Jouzel, V. Masson-Delmotte, and G. Lohmann, Reconciling glacial Antarctic water stable isotopes with ice sheet topography and the isotopic paleothermometer, *Nature Communications*, 9(1), 3537, doi:10.1038/s41467-018-05430-y, 2018
74. Maier, E., X. Zhang, M. Werner, R. Gersonde, S. Mulitza, M. Méheust, J. Ren, B. Chaplgin, H. Meyer, R. Stein, R. Tiedemann, and G. Lohmann, North Pacific freshwater events linked to changes in glacial ocean circulation, *Nature*, 559, 241–245, doi:10.1038/s41586-018-0276-y, 2018.
73. Goursaud, S., V. Masson-Delmotte, V. Favier, A. Orsi, and M. Werner, Water stable isotopes spatio-temporal variability in Antarctica in 1960–2013: observations and simulations from the ECHAM5-wiso atmospheric general circulation model, *Climate of the Past*, 14(6), 923–946, doi:10.5194/cp-14-923-2018, 2018.
72. Guðlaugsdóttir, H., H. C. Steen-Larsen, J. Sjolte, V. Masson-Delmotte, M. Werner, and A. E. Sveinbjörnsdóttir, 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:10.1016/j.atmosres.2018.04.021, 2018.
71. Mutz, S. G., T. A. Ehlers, M. Werner, G. Lohmann, C. Stepanek, and J. Li, Estimates of late Cenozoic climate change relevant to Earth surface processes in tectonically active orogens, *Earth Surface Dynamics*, 6(2), 271–301, doi:10.5194/esurf-6-271-2018, 2018.
70. Christner, E., F. Aemisegger, S. Pfahl, M. Werner, A. Cauquoin, M. Schneider, F. Hase, S. Barthlott, and G. Schädler, The climatological impacts of continental surface evaporation, rainout, and sub-cloud processes on  $\delta D$  of water vapor and precipitation in Europe, *Journal of Geophysical Research*, 123(8), 4390–4409, doi:10.1002/2017JD027260, 2018.
69. Brocas, W. M., T. Felis, P. Gierz, G. Lohmann, M. Werner, J. C. Obert, D. Scholz, M. Kölling, and S. R. Scheffers, Last Interglacial Hydroclimate Seasonality Reconstructed From Tropical Atlantic Corals, *Paleoceanography and Paleoceanography*, 33(2), 198–213, doi:10.1002/2017PA003216, 2018.
68. Stenni, B., M. A. J. Curran, N. J. Abram, A. Orsi, S. Goursaud, V. Masson-Delmotte, R. Neukom, H. Goosse, D. Divine, T. V. Ommen, E. J. Steig, D. A. Dixon, E. R. Thomas, N. A. N. Bertler, E. Isaksson, A. Ekaykin, M. Frezzotti, M. Werner, and M. Frezzotti, Antarctic climate variability on regional and continental scales over the last 2000 years, *Climate of the Past*, 13(11), 1609–1634, doi:10.5194/cp-13-1609-2017, 2017.
67. Xiao, W., L. Lee, Y. Hu, S. Liu, W. Wang, X. Wen, M. Werner, and C. Xie, An Experimental Investigation of Kinetic Fractionation of Open-Water Evaporation Over a Large Lake, *Journal of Geophysical Research*, 19(24), 3737, doi:10.1002/2017JD026774, 2017.
66. Gierz, P., M. Werner, and G. Lohmann, Simulating climate and stable water isotopes during the Last Interglacial using a coupled climate-isotope model, *Journal of Advances in Modeling Earth Systems*, 9(5), 2027–2045, doi:10.1002/2017MS001056, 2017.
65. Mulitza, S., C. M. Chiessi, E. Schefuß, J. Lippold, D. Wichmann, B. Antz, A. Mackensen, A. Paul, M. Prange, K. Rehfeld, M. Werner, T. Bickert, N. Frank, H. Kuhnert, J. Lynch-Stieglitz, R. C. Portilho Ramos, A. O. Sawakuchi, M. Schulz, T. Schwenk, R. Tiedemann, M. Vahlenkamp, and Y. Zhang, Synchronous and proportional deglacial changes in Atlantic meridional overturning and northeast Brazilian precipitation, *Paleoceanography*, 32(6), 622–633, doi: 10.1002/2017PA003084, 2017.
64. Schneider, M., C. Borger, A. Wiegele, F. Hase, O. E. García, E. Sepúlveda, and M. Werner, MUSICA MetOp/IASI { $H_2O, \delta D$ } pair retrieval simulations for validating tropospheric moisture pathways in atmospheric models, *Atmospheric Measurement Techniques*, 1–33, 10(2), 507–525, doi: doi:10.5194/amt-10-507-2017, 2017

63. Goursaud, S., V. Masson-Delmotte, V. Favier, S. Preunkert, M. Fily, H. Gallee, B. Jourdain, M. Legrand, O. Magand, B. Minster, and M. Werner, A 60-year ice-core record of regional climate from Adélie Land, coastal Antarctica, *The Cryosphere*, 11(1), 343–362, doi: 10.5194/tc-11-343-2017, 2017.
62. Steen-Larsen, H. C., C. Risi, M. Werner, K. Yoshimura, and V. Masson-Delmotte, Evaluating the skills of isotope-enabled general circulation models against in situ atmospheric water vapor isotope observations, *Journal of Geophysical Research*, 122(1), 246–263, doi: 10.1002/2016JD025443, 2017.
61. Deininger, M., F. McDermott, M. Mudelsee, M. Werner, N. Frank, and A. Mangini, Coherency of late Holocene European speleothem  $\delta^{18}\text{O}$  records linked to North Atlantic Ocean circulation, *Climate Dynamics*, 49(1-2), 595–618, doi:10.1007/s00382-016-3360-8, 2017.
60. Li, J., T. A. Ehlers, M. Werner, S. G. Mutz, C. Steger, and H. Paeth, Late quaternary climate, precipitation  $\delta^{18}\text{O}$ , and Indian monsoon variations over the Tibetan Plateau, *Earth and Planetary Science Letters*, 457, 412–422, doi: 10.1016/j.epsl.2016.09.031, 2016.
59. Deininger, M., M. Werner, and F. McDermott, North Atlantic Oscillation controls on oxygen and hydrogen isotope gradients in winter precipitation across Europe; implications for palaeoclimate studies, *Climate of the Past*, 12(11), 2127–2143, doi: 10.5194/cp-12-2127-2016, 2016.
58. Rimbu, N., G. Lohmann, M. Werner, and M. Ionita, Links between central Greenland stable isotopes, blocking and extreme climate variability over Europe at decadal to multidecadal time scales, *Climate Dynamics*, p. 1-15, doi: 10.1007/s00382-016-3365-3, 2016.
57. Feng, R., C. J. Poulsen, and M. Werner, Tropical circulation intensification and tectonic extension recorded by Neogene terrestrial  $\delta^{18}\text{O}$  records of the western U.S., *Geology*, 44(11), 971–974, doi: 10.1130/G38212.1, 2016.
56. Li, J., T. A. Ehlers, S. Mutz, C. Steger, H. Paeth, M. Werner, C. J. Poulsen, and R. Feng, Modern Precipitation  $\delta^{18}\text{O}$  and Trajectory Analysis over the Himalaya-Tibet Orogen from ECHAM5-wiso Simulations, *Journal of Geophysical Research*, Vol. 121(18), p. 10,432–10,452, doi: 10.1002/2016JD024818, 2016.
55. Mutz, S. G., T. A. Ehlers, J. Li, C. Steger, H. Paeth, M. Werner, and C. J. Poulsen, Precipitation  $\delta^{18}\text{O}$  over the Himalaya-Tibet orogen from ECHAM5-wiso simulations: Statistical analysis of temperature, topography and precipitation, *Journal of Geophysical Research*, Vol. 121(16), p. 9278–9300, doi: 10.1002/2016JD024856, 2016.
54. Ritter, F., H. C. Steen-Larsen, M. Werner, V. Masson-Delmotte, A. Orsi, M. Behrens, G. Birnbaum, J. Freitag, C. Risi, and S. Kipfstuhl, Isotopic exchange on the diurnal scale between near-surface snow and lower atmospheric water vapor at Kohnen station, East Antarctica, *The Cryosphere*, Vol. 10(4), p. 1647-1663, doi: 10.5194/tc-2016-4, 2016.
53. Dittmann, A., E. Schlosser, V. Masson-Delmotte, J. G. Powers, K. W. Manning, M. Werner, and K. Fujita, Precipitation regime and stable isotopes at Dome Fuji, East Antarctica, *Atmospheric Chemistry and Physics*, Vol. 16(11), p. 6883-6900, doi: 10.5194/acp-2015-1012, 2016.
52. Werner, M., B. Haese, X. Xu, X. Zhang, M. Butzin, and G. Lohmann, Glacial-interglacial changes of  $\text{H}_2^{18}\text{O}$ , HDO and deuterium excess - results from the fully coupled Earth System Model ECHAM5/MPI-OM, *Geoscientific Model Development*, Vol. 9(2), p. 647-670, doi: 10.5194/gmd-9-647-2016, 2016.
51. Comas-Bru, L., F. McDermott, and M. Werner, The effect of the East Atlantic pattern on the precipitation  $\delta^{18}\text{O}$ -NAO relationship in Europe, *Climate Dynamics*, p. 1-11, doi: 10.1007/s00382-015-2950-1, 2016.
50. Jasechko, S., A. Lechner, F. S. R. Pausata, P. J. Fawcett, T. Gleeson, D. I. Cendón, J. Galewsky, A. N. LeGrande, C. Risi, Z. D. Sharp, J. M. Welker, M. Werner, and K. Yoshimura, Late-glacial to late-Holocene shifts in global precipitation  $\delta^{18}\text{O}$ , *Climate of the Past*, Vol. 11(10), p. 1375-1393, doi: 10.5194/cp-11-1375-2015, 2015.
49. Masson-Delmotte V., H.C. Steen-Larsen, P. Ortega, D. Swingedouw, T. Popp, B. M. Vinther, H. Oerter, A. E. Sveinbjornsdottir, H. Gudlaugsdottir, J. E. Box, S. Falourd, X. Fettweis, H. Gallee, E. Garnier, J. Jouzel, A. Landais, B. Minster, N. Paradis, A. Orsi, C. Risi, M. Werner, and J. W. C. White, Recent changes in north-west Greenland climate documented by NEEM shallow ice core

- data and simulations, and implications for past temperature reconstructions, *The Cryosphere*, Vol. 9(4), p. 1481-1504, doi: 10.5194/tcd-9-655-2015, 2015.
48. Eichinger R., P. Jöckel , S. Brinkop , M. Werner, and S. Lossow, Simulation of the isotopic composition of stratospheric water vapour - Part 1: Description and evaluation of the EMAC model. *Atmospheric Chemistry and Physics*, Vol. 15(10), p. 5537-5555, doi: 10.5194/acp-15-5537-2015, 2015.
  47. Bonne J. L., H. C. Steen-Larsen, C. Risi, M. Werner, H. Sodemann, J. L. Lacour, X. Fettweis, G. Cesana, M. Delmotte, O. Cattani, P. Vallelonga, H. A. Kjær, C. Clerbaux, Á. E. Sveinbjörnsdóttirffilmak, and V. Masson-Delmotte, The summer 2012 Greenland heat wave: in situ and remote sensing observations of water vapour isotopic composition during an atmospheric river event, *Journal of Geophysical Research*, Vol. 120(7), p. 2970-2989, doi: 10.1002/2014JD022602, 2015.
  46. Cauquoin, A., A. Landais, G. M. Raisbeck, J. Jouzel, L. Bazin, M. Kageyama, J.-Y. Peterschmitt, M. Werner, E. Bard, and ASTER Team, Comparing past accumulation rate reconstruction in East Antarctic ice cores using  $^{10}\text{Be}$ , water isotopes and CMIP5-PMIP3 models, *Climate of the Past*, Vol. 11, p. 355-367, doi: 10.5194/cp-11-355-2015, 2015.
  45. Meyer, H., T. Opel, T. Laepple, A. Y. Dereviagin, K. Hoffmann, and M. Werner, Long-term winter warming trend in the Siberian Arctic during the mid- to late Holocene, *Nature Geoscience*, Vol. 8, p. 122-125. doi: 10.1038/ngeo2349, 2015.
  44. Pekarsky S., A. Angert, B. Haese, M. Werner, K. A. Hobson, and R. Nathan, Enriching the isotopic toolbox for migratory connectivity analysis: a new approach for migratory species breeding in remote or unexplored areas. *Diversity and Distributions*, Vol. 21(4), p. 416-427, doi: 10.1111/ddi.12306, 2015.
  43. Rokotyan, N. V., V. I. Zakharov, K. G. Gribanov, M. Schneider, F.-M. Bréon, J. Jouzel, R. Imasu, M. Werner, M. Butzin, C. Petri, T. Warneke, and J. Notholt, A posteriori calculation of  $\delta^{18}\text{O}$  and  $\delta\text{D}$  in atmospheric water vapour from ground-based near-infrared FTIR retrievals of  $\text{H}_2^{16}\text{O}$ ,  $\text{H}_2^{18}\text{O}$ , and  $\text{HD}^{16}\text{O}$ , *Atmospheric Measurement Techniques*, Vol. 7(8), p. 2567-2580, doi: 10.5194/amt-7-2567-2014, 2014.
  42. Gribanov, K., J. Jouzel, V. Bastrikov, J. L. Bonne, F. M. Bréon, M. Butzin, O. Cattani, V. Masson-Delmotte, N. Rokotyan, M. Werner, and V. Zakharov, Developing a western Siberia reference site for tropospheric water vapour isotopologue observations obtained by different techniques (in situ and remote sensing), *Atmospheric Chemistry and Physics*, Vol. 14(12), p. 5943-5957, doi: 10.5194/acp-14-5943-2014, 2014.
  41. Butzin, M., M. Werner, V. Masson-Delmotte, C. Risi, C. Frankenberg, K. Gribanov, J. Jouzel, and V. Zakharov, Variations of oxygen-18 in West Siberian precipitation during the last 50 years, *Atmospheric Chemistry and Physics*, Vol. 14(11), p. 5853-5869, doi: 10.5194/acp-14-5853-2014, 2014.
  40. Feng, R., C. J. Poulsen, M. Werner, C. P. Chamberlain, H. T. Mix, and A. Mulch, Early Cenozoic evolution of topography, climate, and stable isotopes in precipitation in the North American Cordillera, *American Journal of Science*, Vol. 313(7), p. 613-648, doi: 10.2475/07.2013.01, 2013.
  39. Tandong, Y., V. Masson-Delmotte, J. Gao, W. Yu, X. Yang, C. Risi, C. Sturm, M. Werner, H. Zhao, Y. He, W. Ren, L. Tian, C. Shi, and S. Hou, A review of climatic controls on delta O-18 in precipitation over the Tibetan Plateau: observations and AGCMs evaluations, *Reviews of Geophysics*, Vol. 51(4), p. 525-548, doi: 10.1002/rog.20023, 2013.
  38. Haese, B., M. Werner, and G. Lohmann, Stable water isotopes in the coupled atmosphere-land surface model ECHAM5-JSBACH, *Geoscientific Model Development*, Vol. 6(5), p. 1463-1480, doi: 10.5194/gmd-6-1463-2013.
  37. Collins, J. A., E. Schefuss, S. Mulitza, M. Prange, M. Werner, T. Tharammal, A. Paul, and G. Wefer, Estimating the hydrogen isotopic composition of past precipitation using leaf-waxes from western Africa, *Quaternary Science Reviews*, Vol. 65, p. 88-101, doi: 10.1016/j.quascirev.2013.01.007, 2013.
  36. Dietrich, S., M. Werner, T. Spangehl, and G. Lohmann, Influence of orbital forcing and solar activity on water isotopes in precipitation during the mid and late Holocene, *Climate of the Past*, Vol. 9, p. 13-26, doi: 10.5194/cpd-9-13-2013, 2013.

35. Lohmann, G., A. Wackerbarth, P. M. Langebroek, M. Werner, J. Fohlmeister, D. Scholz, and A. Mangini, Simulated European stalagmite record and its relation to a quasi-decadal climate mode, *Climate of the Past*, Vol. 9, p. 89-98, doi: 10.5194/cpd-9-89-2013, 2013.
34. Xiao, C., M. Ding, V. Masson-Delmotte, R. Zhang, B. Jin, J. Ren, C. Li, M. Werner, Y. Wang, X. Cui, and X. Wang, Stable isotopes in surface snow along a traverse route from Zhongshan station to Dome A, East Antarctica, *Climate Dynamics*, Vol. 41, p. 2427-2438, doi: 10.1007/s00382-012-1580-0, 2012.
33. Wackerbarth, A., P. M. Langebroek, M. Werner, G. Lohmann, S. Riechelmann, and A. Mangini, Simulated oxygen isotopes in cave drip water and speleothem calcite in European caves, *Climate of the Past*, Vol. 8, p. 1781-1799, doi: 10.5194/cp-8-1781-2012, 2012.
32. Xu, X., M. Werner, M. Butzin, and G. Lohmann, Water isotope variations in the global ocean model MPI-OM, *Geoscientific Model Development*, Vol. 5, p. 809-818, doi: 10.5194/gmd-5-809-2012, 2012.
31. Blüthgen, J., R. Gerdes, and M. Werner, Atmospheric response to the extreme Arctic sea ice conditions in 2007, *Geophysical Research Letters*, Vol. 39, L02707, doi: 10.1029/2011GL050486, 2012.
30. Laepple, T., M. Werner, and G. Lohmann, Reply to "Antarctic accumulation seasonality", *Nature*, Vol. 479, p. E2-E4, doi: 10.1038/nature10614, 2011.
29. Langebroek, P.M., M. Werner, and G. Lohmann, Climate information imprinted in oxygen-isotopic composition of precipitation in Europe, *Earth and Planetary Science Letters*, Vol. 311, p. 144-154, doi: 10.1016/j.epsl.2011.08.049, 2011.
28. Werner, M., P.M. Langebroek, T. Carlsen, M. Herold, and G. Lohmann, Stable water isotopes in the ECHAM5 general circulation model: Towards high-resolution isotope modeling on a global scale, *Journal of Geophysical Research*, Vol. 116, D15109, doi: 10.1029/2011JD015681, 2011.
27. Laepple, T., M. Werner, and G. Lohmann, Synchronicity of Antarctic temperatures and local solar insolation on orbital time scales, *Nature*, Vol. 471, p. 91-94, doi: 10.1038/nature09825-94, 2011.
26. Cruz, F. W., M. Vuille, S. J. Burns, X. Wang, H. Cheng, M. Werner, R. L. Edwards, I. Karmann, A. S. Auler, and H. Nguyen, Orbitally driven east-west antiphasing of South American precipitation, *Nature Geoscience*, Vol. 2, p. 210-214, doi: 10.1038/ngeo444, 2009.
25. Demuzere, M., M. Werner, N. P. M. van Lipzig, and E. Roeckner, An analysis of present and future ECHAM5 pressure fields using a classification of circulation patterns, *International Journal of Climatology*, Vol. 29, p. 1796-1810, doi: 10.1002/joc.1821, 2009.
24. Mügler, I., D. Sachse, M. Werner, B. Xu, G. Wu, T. Yao, and G. Gleixner, Effect of lake evaporation on  $\delta D$  values of lacustrine n-alkanes: A comparison of Nam Co (Tibetan Plateau) and Holzmaar (Germany), *Organic Geochemistry*, Vol. 39, p. 711-729, 2008.
23. Jouzel, J., V. Masson-Delmotte, O. Cattani, G. Dreyfus, S. Falourd, G. Hoffmann, B. Minster, J. Jouzel, J.-M. Barnola, J. Chappellaz, H. Fischer, J. C. Gallet, S. Johnsen, M. Leuenberger, L. Louergue, D. Luethi, H. Oerter, F. Parrenin, G. Raisbeck, D. Raynaud, J. Schwander, R. Spahni, R. Souchez, E. Selmo, A. Schilt, J. P. Steffensen, B. Stenni, B. Stauffer, T. F. Stocker, J. L. Tison, M. Werner, and E. W. Wolff, Orbital and millennial Antarctic climate variability over the past 800,000 years, *Science*, Vol. 317, p. 793-796, 2007.
22. Helsen, M. M., R. S. W. van de Wal, M. R. van den Broeke, V. Masson-Delmotte, H. A. J. Meijer, M. P. Scheele, and M. Werner, Modelling the Isotopic Composition of Antarctic Snow Using Backward Trajectories: Simulation of Snow Pit Records, *Journal of Geophysical Research*, Vol. 111, D15109, doi: 10.1029/2005JD006524, 2006.
21. Vuille, M., M. Werner, R. S. Bradley, R. S. Chan, and F. Keimig, Stable Isotopes in East African Short Precipitation Record Indian Ocean Zonal Mode, *Geophysical Research Letters*, Vol. 32, L21705, doi: 10.1029/2005GL023876, 2005.
20. Vuille, M., M. Werner, R. S. Bradley, and F. Keimig, Stable Isotopes in Precipitation in the Asian Monsoon Region, *Journal of Geophysical Research*, Vol. 110, D23108, doi: 10.1029/2005JD006022, 2005.
19. Masson-Delmotte, V., J. Jouzel, A. Landais, M. Stievenard, S. J. Johnsen, J. W. C. White, M. Werner, A. Sveinbjornsdottir, and K. Fuhrer, GRIP deuterium excess reveals rapid and orbital-scale changes in Greenland moisture origin, *Science*, Vol. 309, p. 118-121, 2005.

18. Vuille, M., and M. Werner, Stable Isotopes in Precipitation Recording South American Summer Monsoon and ENSO Variability - Observations and Model Results, *Climate Dynamics*, Vol. 25, p. 401-413, doi: 10.1007/s00382-005-0049-9, 2005.
17. Stier, P., J. Feichter, S. Kinne, S. Kloster, E. Vignati, J. Wilson, L. Ganzeveld, I. Tegen, M. Werner, Y. Balkanski, M. Schulz, and O. Boucher, The Aerosol-Climate Model ECHAM5-HAM, *Atmospheric Chemistry and Physics*, Vol. 5, p. 1125-1156, 2005.
16. Tegen, I., M. Werner, S. P. Harrison, and K. E. Kohfeld, Reply to Comment by N. Mahowald et al. on "Relative Importance of Climate and Land Use in Determining Present and Future Global Soil Dust Emission", *Geophysical Research Letters*, Vol. 31, L24106, 2004.
15. Tegen, I., M. Werner, S. P. Harrison, and K. E. Kohfeld, Relative Importance of Climate and Land Use in Determining Present and Future Global Soil Dust Emission, *Geophysical Research Letters*, Vol. 31, L05105, doi: 10.1029/2003GL019216, 2004.
14. Krinner, G., and M. Werner, Impact of Precipitation Seasonality Changes on Isotopic Signals in Polar Ice Cores, *Earth and Planetary Science Letters*, Vol. 216, p. 525, doi: 10.1016/S0012-821X(03)00550-8, 2003.
13. Vuille M., R. S. Bradley, M. Werner, and F. Keimig, 20th Century Climate Change in the Tropical Andes, *Climatic Change*, Vol. 59, p. 75, 2003.
12. Hoffmann, G., E. Ramirez, J. D. Taupin, B. Francou, P. Ribstein, R. Delmas, H. Dürr, R. Gallaire, J. Simões, U. Schotterer, M. Stievenard, and M. Werner, Coherent Isotope History of Andean Ice Cores over the Last Century, *Geophysical Research Letters*, Vol. 30, No. 4, p. 1179, doi: 10.1029/2002GL014870, 2003.
11. Vuille M., R. S. Bradley, R. Healy, M. Werner, D. R. Hardy, L. G. Thompson, and F. Keimig, Modeling Delta O-18 in Precipitation over the Tropical Americas, Part II: Simulation of the Stable Isotope Signal in Andean Ice Cores, *Journal of Geophysical Research*, Vol. 108, No. D6, p. 4175, doi: 10.1029/2001JD002039, 2003.
10. Vuille M., R. S. Bradley, M. Werner, R. Healy, and F. Keimig, Modeling Delta O-18 in Precipitation over the Tropical Americas, Part I: Interannual Variability and Climatic Controls, *Journal of Geophysical Research*, Vol. 108, No. D6, p. 4174, doi: 10.1029/2001JD002038, 2003.
09. Werner, M., I. Tegen, S. P. Harrison, K. E. Kohfeld, I. C. Colin, Y. Balkanski, H. Rodhe, and C. Roelandt, Seasonal and Interannual Variability of the Mineral Dust Cycle under Present and Glacial Climate Conditions, *Journal of Geophysical Research*, Vol. 107, No. D24, p. 4744, doi: 10.1029/2002JD002365, 2002.
08. Werner, M., and M. Heimann, Modeling Interannual Variability of Water Isotopes in Greenland and Antarctica, *Journal of Geophysical Research*, Vol. 107, No. D1, doi: 10.1029/2001JD900253, 2002.
07. Ridal, M., A. Jonsson, M. Werner, and D. Murtagh, A One-Dimensional Simulation of the Water Vapor Isotope HDO in the Tropical Stratosphere, *Journal of Geophysical Research*, Vol. 106, No. D23, p. 32,283, 2001.
06. Werner, M., M. Heimann, and G. Hoffmann, Isotopic Composition and Origin of Polar Precipitation in Present and Glacial Climate Simulations, *Tellus B*, Vol. 53, No. 1, p. 53, 2001.
05. Werner, M., U. Mikolajewicz, G. Hoffmann, and M. Heimann, Possible Changes of Delta O-18 in Precipitation Caused by a Meltwater Event in the North Atlantic, *Journal of Geophysical Research*, Vol. 105, No. D8, p. 10,161, 2000.
04. Werner, M., U. Mikolajewicz, M. Heimann, and G. Hoffmann, Borehole Versus Isotope Temperatures on Greenland: Seasonality Does Matter, *Geophysical Research Letters*, Vol. 27, No. 5, p. 723, 2000.
03. Hoffmann, G., Werner, M. and Heimann, M.: Erratum: Water isotope module of the ECHAM atmospheric general circulation model: A study on timescales from days to several years, *J. Geophys. Res.*, 103(D18), 23323–23323, doi:10.1029/98JD02857, 1998.
02. Hoffmann G., M. Werner, and M. Heimann, The Water Isotope Module of the ECHAM Atmospheric General Circulation Model - A Study on Time Scales from Days to Several Years, *Journal of Geophysical Research*, Vol. 103, No. D14, p. 16,871, 1998.

01. Fischer H., M. Werner, D. Wagenbach, M. Schwager, T. Thorsteinsson, F. Wilhelms, S. Kipfstuhl, and S. Sommer, Little Ice Age Clearly Recorded in Northern Greenland Ice Cores, *Geophysical Research Letters*, Vol. 25, No. 10, p. 1749, 1998.

### Not Peer-Reviewed Publications

16. Denisova, N. Y., K. G. Gribanov, and **M. Werner**, Verification of the isotopic atmospheric general circulation model for a monitoring station in Labytnangi, *Proceedings of SPIE, 26th International Symposium on Atmospheric and Ocean Optics: Atmospheric Physics*, Vol 11560, doi:[10.1117/12.2575615](https://doi.org/10.1117/12.2575615), 2020.
15. Denisova, N. Y., K. G. Gribanov, **M. Werner**, and N. S. Malygina, Modeling of isotope composition of precipitation in the foothills of the Altai with two atmospheric circulation models ECHAM, *Proceedings of SPIE, 25th International Symposium on Atmospheric and Ocean Optics: Atmospheric Physics*, Vol. 11208, doi:[10.1117/12.2540767](https://doi.org/10.1117/12.2540767), 2019.
14. Mulitza, S., M. C. Chiessi,, J. Lippold, J. Lynch-Stieglitz, A. Mackensen, A. Paul, M. Prange, R. P. Ramos, A. P .S. Cruz, E. Schefuß, T. Schwenk, M. Schulz, R. Tiedemann, I. Voigt, M. Werner, and Zhang, Y., Response of the Tropical Atlantic Ocean-Atmosphere System to Deglacial Changes in Atlantic Meridional Overturning, *Nova Acta Leopoldina*, NF 121, Nr. 408, p. 167-169, 2015.
13. Schefuß E., M. Werner, B. Beckmann, B. Haese, and G. Lohmann, North-West African Hydrologic Changes in the Holocene: A Combined Isotopic Data and Model Approach. In: *Integrated Analysis of Interglacial Climate Dynamics (INTERDYNAMIC)*, SpringerBriefs in Earth System Sciences, Springer International Publishing, p. 109-114, doi: 10.1007/978-3-319-00693-2\_18, 2015.
12. Denisova, N. Y., K. G. Gribanov, M. Werner, and V. I. Zakharov, Climate modeling for Yamal territory using supercomputer atmospheric circulation model ECHAM5-wiso, *Proceedings of SPIE - The International Society for Optical Engineering*, edited by O. A. Romanovskii, Vol. 9680, Article 96806B, 2015.
11. Xu, X., M. Werner, M. Butzin, and G. Lohmann, Oceanic  $\delta^{18}\text{O}$  Variation and its Relation to Salinity in the MPI-OM Ocean Model, in: *Earth System Science: Bridging the Gaps between Disciplines Perspectives from a Multi-Disciplinary Helmholtz Research School*, ed. by G. Lohmann, K. Grosfeld, D. Wolf-Gladrow, V. Unnithan, J. Notholt, and A. Wegner, Springer Verlag, Berlin-Heidelberg, 134 p., ISBN: 978-3-642-32234-1, doi: 10.1007/978-3-642-32235-8, 2013.
10. Xu, X., G. Lohmann, M. Werner, and X. Zhang, Variations of oceanic oxygen isotopes at the present day and the LGM: equilibrium simulations with an oceanic general circulation model, *Climate of the Past Discussions*, Vol. 8, p. 4885-4922, doi: 10.5194/cpd-8-4885-2012, 2012.
09. Werner, M., Modelling stable water isotopes: Status and perspectives, in: *European Research Course on Atmospheres*, ed. by Claude Boutron, The European Physical Journal (EPJ) - Web of Conferences, ERCA Vol. 9, p. 73-82, doi: 10.1051/epjconf/201009005, 2010.
08. Gleixner, G., D. Sachse, J. Radke, and M. Werner, Neue Wege zum Paläoklima, in: *Max-Planck-Gesellschaft: Jahrbuch 2005*, Selbstverlag, ISBN 3-927579-21-1, 2005.
07. Hoffmann, G., M. Cuntz, J. Jouzel, and M. Werner, How Much Climate Information Do Water Isotopes Contain? A Systematic Comparison Between the IAEA/GNIP Isotope Network and the ECHAM4 Atmospheric General Circulation Model, in: *Isotopes in the Water Cycle*, Springer Verlag, Niederlande, doi: 10.1007/1-4020-3023-1, 2005.
06. Tegen, I., S. P. Harrison, K. E. Kohfeld, and M. Werner, Dust Deposition and Aerosols in the Last Glacial Maximum and Their Climate Effects, *Nova Acta Leopoldina*, NF 88, Nr. 331, p. 71-78, 2001.
05. Werner, M., Spatial and Temporal Variability of Water Isotopes in Polar Precipitation, *MPI-Examensarbeit #69*, ISSN 0938-5177, Hamburg University, 2000.
04. Werner, M., U. Mikolajewicz, M. Heimann, and G. Hoffmann, Borehole Versus Isotope Temperatures on Greenland: Seasonality Does Matter, *MPI-Report #295*, ISSN 0937-1060, Hamburg, Germany, 1999.

03. Werner, M., U. Mikolajewicz, G. Hoffmann, and M. Heimann, Possible Changes of Delta O-18 in Precipitation Caused by a Meltwater Event in the North Atlantic, *MPI-Report #294*, ISSN 0937-1060, Hamburg, Germany, 1999.
02. Werner, M., M. Heimann, and G. Hoffmann, Stable Water Isotopes in Greenland Ice Cores: ECHAM-4 Model Simulation versus Field Measurements, in: *Isotope Techniques in the Study of Environmental Change*, International Atomic Energy Agency (IAEA), Vienna, 1998.
01. Werner, M., Vergleichende Studie über die Verteilung vulkanogener Spurenstoffdepositionen in Nord-Ost-Grönland, *Diplomarbeit im Studiengang Physik*, R.-Karls-Universität Heidelberg, 1995.