

List of Publications Prof. Jürg Luterbacher, PhD

ISI Web of Knowledge (access/October 2021)

Number of peer reviewed publications (without proceedings): 226

(23 in journals with Impact Factor > 8)

Sum of the times cited: >19000;

times cited without self-citations: >17000;

Highly cited in the field: 9; h-index: 72

papers in press, accepted, revised, in revision, submitted and in prep can be found at the end of this file

Google Scholar (access/May 1 2022)

Citation indices	All	Since 2017
Citations	32277	14838
h-index	89	64
i10-index	220	188

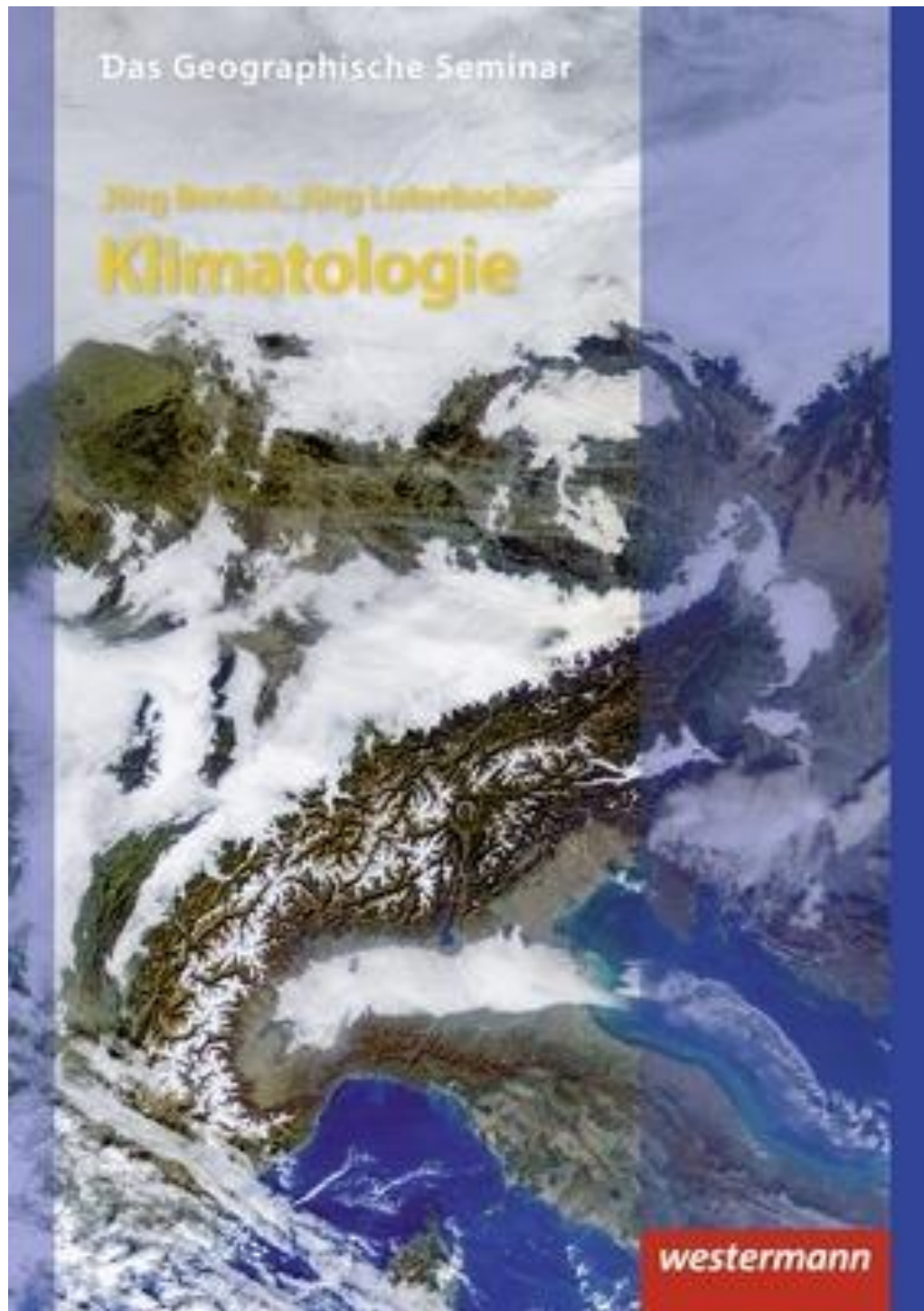


2015 Highly cited researcher Geosciences (Thomson Reuters)

2014 Highly cited researcher Geosciences (Thomson Reuters)

Bendix, J., and **Luterbacher, J.**, 2019: Klimatologie. Das Geographische Seminar. Westermann Verlag, 329 p, 978-3-14-160284-5

<https://www.westermann.de/artikel/978-3-14-160284-5/Klimatologie-Neubearbeitung-2019>



1. Peer-reviewed Scientific Papers, Published

2022

Zaitchik, B.F., Omumbo, J., Lowe, R., van Aalst, M., Anderson, L.O., Fischer, E., Norman, C., Robbins, J., Barciela, R., Trtanj, J., von Borries, R., and **Luterbacher, J.**, 2022: Planning for compound hazards during the COVID-19 pandemic: the role of climate information systems. *BAMS*, **103**, E704-E709, <https://doi.org/10.1175/BAMS-D-21-0215.1>

Hermanson, L., et al. (including **Luterbacher, J.**), 2022: WMO Global Annual to Decadal Climate Update: A prediction for 2021-2025, *BAMS*, **103**, E1117-E1129, <https://doi.org/10.1175/BAMS-D-20-0311.1>

Logothetis, I., Dafka, S., Tourpali, K., Misios, S., Zanis, P., Xoplaki, E., **Luterbacher, J.**, and Papagianoulis, E., 2022: Connection between ENSO episodes, Indian Summer Monsoon and the Eastern Mediterranean atmospheric circulation in CMIP5 simulations over the 20th century. *Int. J. Climatol.*, <https://doi.org/10.1002/joc.7510>.

Jaume-Santero, F., Barriopedro, D., García-Herrera, R., and **Luterbacher, J.**, 2022: Monthly North Atlantic Sea Level Pressure reconstruction back to 1750 CE using optimized networks of observations. *J. Climate*, <https://doi.org/10.1175/JCLI-D-21-0155.1>.

Yuan, N., Xiong, F., Xoplaki, E., He, W., and **Luterbacher, J.**, 2022: A new approach to correct the overestimated persistence in tree-ring width based precipitation reconstructions. *Clim. Dynam.*, **58**, 2681–2692.

2021

- Xoplaki, E., **Luterbacher, J.**, Luther, N., Behr, L., Wagner, S., Jungclaus, J., Zorita, E., Toreti, A., Fleitmann, D., Izdebski, A., Bloomfield, K., 2021: Hydrological Changes in Late Antiquity: Spatio-Temporal Characteristics and Socio-Economic Impacts in the Eastern Mediterranean. In: Erdkamp P., Manning J.G., Verboven K. (eds) *Climate Change and Ancient Societies in Europe and the Near East*. Palgrave Studies in Ancient Economies. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-81103-7_18, pp 533-560
- Bundo, M., de Schrijver, E., Federspiel, A., Toreti, A., Xoplaki, E., **Luterbacher, J.**, Franco, O.H., Müller, T., and Vicedo-Cabrera, M., 2021: Ambient temperature and mental health hospitalizations in Bern, Switzerland: A 45-year time-series study, *PlosOne*, **E 16**: e0258302.
- Yang, B., et al., including **Luterbacher, J.**, 2021: Long-term decrease in Asian monsoon rainfall and abrupt climate change events over the past 6,700 years. *PNAS*, **118**, e2102007118.
- Slivinski, L.C. et al., including **Luterbacher, J.**, 2021: An evaluation of the performance of the 20th Century Reanalysis version 3. *J. Climate*, **34**, 1417–1438.
- Hernández, A., Cachão, M., Sousa, P., Trigo, R.M., **Luterbacher, J.**, Vaquero, J.M., and Freitas, M.C., 2021: External forcing mechanisms controlling the North Atlantic coastal upwelling regime during the mid-Holocene. *Geology*, **49**, 433-437.
- Dafka, S., Akritis, D., Zanis, P., Pozzer, A., Xoplaki, E., **Luterbacher, J.**, and Zerefos, C., 2021: On the link between the Etesian winds, tropopause folds and tropospheric ozone over the Eastern Mediterranean during summer. *Atmos. Res.*, **248**, 105161.

Skrynyk, O., **Luterbacher, J.**, Allan, R., Boichuk, D., Sidenko, V., Skrynyk, O., Palarz, A., Oshurok, D., Osadchy, V., Xoplaki, E., and Soadchy, V., 2021: Ukrainian early (pre-1850) historical weather observations. *Geosci. Data J.*, **8**, 55-73

Seibert, R., Andresen, L.C., Jarosch, K.A., Moser, G., Kammann, C.I., Yuan, N., **Luterbacher, J.**, Laughlin, R.L., Watson, C., Erbs, M., and Müller, C., 2021: Plant functional groups differ in their long-term nutrient response to eCO₂ in an extensive grassland. *Ecosystems*, <https://doi.org/10.1007/s10021-021-00703-y>.

Zhang, M., Tölle, M.H., Hartmann, E., Xoplaki, E., and **Luterbacher, J.**, 2021: A sensitivity assessment of COSMO-CLM to different land cover schemes in convection-permitting climate simulations over EURO-CORDEX. *Atmosphere*, **12**, 1595; <https://doi.org/10.3390/atmos12121595>

Not peer-reviewed 2021 publication:

Naumann, G., Podesta, G., Marengo, J., **Luterbacher, J.**, Bavera, D., Arias Muñoz, C., Barbosa, P., Cammalleri, C., Chamorro, L., Cuartas, A., de Jager, A., Escobar, C., Hidalgo, C., Leal de Moraes, O., McCormick N., Maetens, W., Magni, D., Masante, D., Mazzeschi, M., Seluchi, M., Skansi, M. M., Spinoni, J., Toreti, A. The 2019-2021 extreme drought episode in La Plata Basin, EUR 30833 EN, Publications Office of the European Union, Luxembourg, 2021, ISBN 978-92-76-41898-6 (online), doi:10.2760/773, JRC126508

2020

- Luterbacher, J.**, Newfield, T.P., Xoplaki, E. et al., 2020: Past pandemics and climate variability across the Mediterranean. *Euro-Mediterr. J. Environ. Integr.* **5**, 46.
- Zaitchik, B.F., Sweijid, N., Shumake-Guillemot, J., **Luterbacher, J.**, et al., 2020: A framework for research linking weather, climate and COVID-19. *Nat. Commun.* **11**, 5730. <https://doi.org/10.1038/s41467-020-19546-7>
- Ratna, S.B., Osborn, T.J., Joshi, M., and **Luterbacher, J.**, 2020: The influence of Atlantic variability on Asian summer climate is sensitive to the pattern of Sea Surface Temperature anomaly. *J. Climate*, **33**, 7567-7590.
- Hartmann, E., Schulz, J-P., Seibert, R., Schmidt, M., Zhang, M., **Luterbacher, J.**, and Tölle, M.H., 2020: Impact of Environmental Conditions on Grass Phenology in the Regional Climate Model COSMO-CLM. *Atmosphere*, **11**, 1364; <https://doi.org/10.3390/atmos11121364>
- Bundo, M., de Schrijver, E., Federspiel, A., **Luterbacher, J.**, Franco, O.H., Müller, T., and Vicedo-Cabrera, A.M., 2020: Impact of ambient temperature on mental health in Bern, Switzerland: a time-series study. *Europ. J. Pub. Health*, **30**, ckaa165.373, <https://doi.org/10.1093/eurpub/ckaa165.373>
- Palarz, A., **Luterbacher, J.**, Ustrnul, Z., Xoplaki, E., and Celiński-Mysław, D., 2020: Representation of low-tropospheric temperature inversions in ECMWF reanalyses over Europe. *Env. Res. Lett.*, **15**, 074043.
- Ljungqvist, F.C., Piermattei, A., Seim, A., Krusic, P.J., Büntgen, U., He, M., Kirilyanov, A.V., **Luterbacher, J.**, Schneider, L., Seftigen, K., Stahle, D.W., Villalba, R., Yang, B., and Esper, J., 2020: Ranking of tree-ring based hydroclimate reconstructions of the past millennium. *Quat. Sci. Rev.*, **230**, 106074.
- Talento, S., Osborn, T.J., Joshi, M., Rajtna, S., and **Luterbacher, J.**, 2020: Response of the Asian summer Monsoons to a high-latitude thermal forcing: mechanisms and nonlinearities. *Clim. Dynam.*, **54**, 3927–3944.

Esper, J., Klippel, L., Krusic, P.J., Konter, O., Raible, C.C. Xoplaki, E., **Luterbacher, J.**, and Büntgen, U., 2020: Eastern Mediterranean summer temperatures since 730 CE from Mt. Smolikas tree-ring density data. *Clim. Dynam.*, **54**, 1367–1382.

Chamorro, A., Tölle, M.H., Ivanov, M., **Luterbacher, J.**, and Breuer, L., 2020: Analyzing future pattern changes of meteorological drought events in the Fulda catchment, Germany. *Int. J. Climatol.*, **40**, 5515-5526.

Büntgen, U, González-Rouco, J.F., **Luterbacher, J.**, Stenseth, N.C., and Johnson, D.M., 2020: Extending the (paleo)climatic concept of 'Detection and Attribution' to global change ecology in the Anthropocene. *Funct. Ecol.*, **34**, 2270–2282.

Hernández, A., Martin-Puertas, C., Moffa-Sánchez, P., Moreno-Chamarro, E., Ortega, P., Blockley, S., Cacho, I., Cobb, K.M., Comas-Bru, L., Giralt, S., Goosse, H., **Luterbacher, J.**, Martrat, B., Muscheler, R., Parnell, A., Pla-Rabes, S., Sjolte, J., Scaife, A.A., Swingedouw, D., Wise, E., and Xu, G., 2020: Modes of climate variability: synthesis and review of proxy-based reconstructions through the Holocene. *Earth-Sci. Rev.*, **209**, 103286.

2019

Duan, J., Ma, Z., Wu, P., Xoplaki, E., Hegerl, G., Li, L., Schurer, A., and **Luterbacher, J.**, 2019: Detection of human influences on temperature seasonality from the 19th century. *Nature Sustainability*, **2**, 494-490.

Obermeier, W.A., Lehnert, L.W., Pohl, M.J., Makowski, Gianonnia, S., Silva, B., Seibert, R., Laser, H., Moser, G., Müller, C., **Luterbacher, J.**, and Bendix, J., 2019: Grassland ecosystem services in a changing environment: The potential of hyperspectral monitoring. *Remote Sens. Environm.*, **232**, 111273.

- Luterbacher, J.**, and Xoplaki, E., 2019: Palaeoclimatic conditions during the Hellenistic period in the Eastern Mediterranean. In: Zerefos, C.S. and M. V. Vardinoyannis (Eds.) *Hellenistic Alexandria: Celebrating 24 Centuries*, Archaeopress Archaeology, Oxford, UK, pp. 272-279, ISBN 9781789690675
- Toreti, A., Belward, A., Perez-Dominguez, I., Naumann, G., Manfron, G., **Luterbacher, J.**, Cronie, O., Seguini, L., Baruth, B., van den Berg, M., Dentener, F., Ceglar, A., Chatzopoulos, T., and Zampieri, M., 2019: The exceptional 2018 European water seesaw calls for action on adaptation. *Earth Fut.*, **7**, 652-663
- Schurer, A.P., Hegerl, G.C., **Luterbacher, J.**, Brönnimann, S., Cowan, T., Tett, S., Zanchettin, D., and Timmreck, C., 2019: Disentangling the causes of the 1816 European year without a Summer. *Environ. Res. Lett.* **14**, 094019.
- Yuan, N., Huang, Y., Duan, J., Zhu, C., Xoplaki, E., and **Luterbacher, J.**, 2019: On climate prediction: How much can we expect from climate memory? *Clim. Dynam.*, **52**, 855-864
- Ljungqvist, F.C., Seim, A., Krusic, P.J., González-Rouco, J.F., Werner, J.P., Cook, E.R., Zorita, E., **Luterbacher, J.**, Xoplaki, E., Destouni, G., García Bustamante-Bustamante, E., Melo-Aguilar, C.A., Seftigen, K., Wang, J., Gagen, M.H., Esper, J., Fleitmann, D., Solomina, O., and Büntgen, U., 2019: Warm-season temperature and hydroclimate co-variability across Europe since 850 CE. *Environ. Res. Lett.* **14** 084015
- Brönnimann, S., et al., including **Luterbacher, J.**, 2019: Unlocking pre-1850 instrumental meteorological records: A global inventory. *BAMS*, **100**, ES389-ES413
- Zhou, T., **Luterbacher, J.**, Wu, S., Y., Li, C., Chao, Q., Cheng, X., Duan, Y., Stevens, B., Voigt, S., Zheng, X., and Zou, L. 2019: A new era of China-Germany joint research exploring the climate mystery of Earth. *Sci. Bulletin*, **64**, 1733-1736

- Dafka, S., Toreti, A., Zanis, P., Xoplaki, E., and **Luterbacher, J.**, 2019: Twenty-first-century changes in the mid-latitude atmospheric circulation and their connection to the eastern Mediterranean winds. *J. Geophys. Res.- Atmosphere*, **124**, 12741-12754
- Talento, S., Schneider, L., Werner, J.P., and **Luterbacher, J.**, 2019: Precipitation Reconstruction over Continental Asia: Pseudo-Proxy Approach. *Earth Syst. Dynam.* **10**, 347-364
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- Tejedor, E., de Luis, M., Barriendos, M., Cuadrat, J.M., **Luterbacher, J.**, and Saz M.A., 2019: Rogation ceremonies: A key to understanding past drought variability in north-eastern Spain since 1650. *Clim. Past*, **15**, 1647–1664
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2018

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- Obermeier, W.A., Lehnert, L.W., Ivanov, M.A., **Luterbacher, J.**, and Bendix, J., 2018: Reduced summer aboveground biomass in temperate C3 grasslands under climate change regimes. *Earth's Future*, **6**, 716-729
- Zhang, H., Werner, J.P., Garcia-Bustamante, E., González-Rouco, F.J., Wagner, S., Zorita, E., Fraedrich, K., Jungclaus, J., Zhu, X., Xoplaki, E., Chen, F., Duan, J., Ge, Q., Hao, Z., Ivanov, M., Talento, S., Schneider, L., Wang, J., Yang, B., and **Luterbacher, J.**, 2018: East Asian warm season temperature variations over the past two millennia. *Nat. Sci. Reports*, **8**, **7702**; doi:10.1038/s41598-018-26038-8
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- Brázdil, R., Kiss, A., **Luterbacher, J.**, Nash, D. J., and Řezníčková, L., 2018: Documentary data and the study of the past droughts: an overview of the state of the art worldwide. *Clim. Past*, **14**, 1915-1960
- Esper, J., St. George, S., Anchukaitis, K., D'Arrigo, R., Ljungqvist, F., **Luterbacher, J.**, Schneider, L., Stoffel, M., Wilson, R., and Büntgen, U., 2018: Large-scale, millennial-length warm season temperature reconstructions from tree-rings, *Dendrochronologia*, **50**, 81-90
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- Dafka, S., Toreti, A., **Luterbacher, J.**, Zanis, P., Tyrlis, E., and Xoplaki, E., 2018: Simulating extreme Etesians over the Aegean and Implications for Wind Energy Production in Southeastern Europe. *J. Appl. Meteorol. Climatol.*, **57**, 1123-1134

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- Wang, F., Ge, Q., Chen, D., **Luterbacher, J.**, Tokarska, K.B., Hao, Z., Wu, M., 2018: An updated estimate of global and regional climate responses to national-committed emission reductions under the Paris Agreement. *Geografiska Annaler, Series A*, **100**, 240-253
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- Jungclaus, J. H., Moreno-Chamarro, E., and **Luterbacher, J.**, 2018: Dynamische Untersuchungen der extrem kalten Winter während der "Kleinen Eiszeit" in Europa. In J. L. Lozán, S.-W. Breckle, H. Grassl, D. Kasang, & R. Weisse (Eds.), *Warnsignal Klima: Extremereignisse - wissenschaftliche Fakten* (pp. 259-264). Hamburg: Wissenschaftliche Auswertungen.
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2017

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- Obermeier, W.A., Lehnert, L.W., Kammann, C.I, Müller, C., **Luterbacher, J.**, Erbs, M., Yuan, N., and Bendix, J., 2017: Reduced CO₂ fertilization in temperate C3 grasslands towards more extreme weather conditions, *Nature Clim. Change*, **7**, 137–141
- Duan, J., Esper, J., Büntgen, U., Li, L., Xoplaki, E., Zhang, H., Wang, L., Fang, Y., and **Luterbacher, J.**, 2017: Weakening of annual temperature cycle over the Tibetan Plateau since the 1870s. *Nature Comm.*, **8:14008** | DOI: 10.1038/ncomms14008
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Jungclauss, J.H., Bard, E., Baroni, M., Braconnot, P., Cao, J., Chini, L.P., Egorova, T., Evans, M., González-Rouco, J.F., Goosse, H., Hurtt, G.C., Joos, F., Kaplan, J.O., Khodri, M., Klein Goldewijk, K., Krivova, N., LeGrande, A.N., Lorenz, S.J., **Luterbacher, J.**, Maycock, A.C., Man, W., Meinshausen, M., Moberg, A., Muscheler, R., Nehrbass-Ahles, C., Ottera, O.H., Otto-Bliesner, B.I., Phipps, S.J., Pongratz, J., Rozanov, E., Schmidt, G.A., Schmidt, H., Schmutz, W., Schurer, A., Shapiro, A.I., Sigl, M., Smerdon, J.E., Solanki, S.K., Toohey, M., Timmreck, C., Usoskin, I.G., Wagner, S., Wu, C.-J., Yeo, K.L., Zanchettin, D., Zhang, Q., and Zorita, E. 2017: The PMIP4 simulations of the last millennium (PMIP past1000). *Geosci. Model Dev.*, **10**, 4005–4033

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Dafka S., Toreti, A., **Luterbacher, J.**, Zanis, P., Tyrlis, E., and Xoplaki, E., 2017: Do RCMs Accurately Simulate the Etesians Climatology? In: Karacostas T., Bais A., Nastos P. (eds) *Perspectives on Atmospheric Sciences*. Springer Atmospheric Sciences. Springer, Cham. https://doi.org/10.1007/978-3-319-35095-0_84

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