

# Dr. Bianca Adler

## Curriculum Vitae

last updated: June 2023

### Employment

- Since 04/2020 **Research associate**, *CIRES University of Colorado Boulder and NOAA Physical Sciences Laboratory*, Boulder, CO.  
Conduct research in boundary layer meteorology with a focus on enhanced process understanding using instrument synergies and application to renewable energy
- 07/2014 – 03/2020 **Research associate**, *Institute of Meteorology and Climate Research at Karlsruhe Institute of Technology (KIT)*, Karlsruhe, Germany.  
Prepared and conducted meteorological field campaigns (e.g. CROSSINN, DACCIWA) with the mobile observation platform KITcube; analysed data and published results
- 07/2010 – 05/2011 **Visiting scientist**, *Department of Atmospheric Sciences at University of Utah*, Salt Lake City, UT, USA.  
Analysed and published data from a meteorological field campaign conducted in a meteor crater in Arizona (METCRAX) dealing with flow patterns in the stable boundary layer
- 03/2010 – 06/2010 **Research associate**, *Institute of Meteorology and Climate Research at KIT*, Karlsruhe, Germany.  
Published results from diploma thesis dealing with mesoscale convective systems in West Africa

### Education

- 06/2011 – 06/2014 **PhD in Meteorology**, *Institute of Meteorology and Climate Research at KIT*, Karlsruhe, Germany.  
PhD thesis: Boundary-layer processes producing mesoscale water-vapour variability over a mountainous island.  
Analysed observational data gathered with the mobile observation platform KITcube on the island of Corsica during the HyMeX field campaign to identify multi-scale processes relevant for the evolution of the atmospheric boundary layer and to evaluate their impact on the spatial variability of water vapour, convection-related parameters and the evolution of deep convection.
- 10/2004 – 02/2010 **Study of Meteorology**, *University of Karlsruhe*, Karlsruhe, Germany.  
Diploma thesis: Der Einfluss von Landoberflächeninhomogenitäten auf die Auslösung und Entwicklung eines mesoskaligen konvektiven Systems: Eine budgetbasierte Modellanalyse. Performed model simulations with the COSMO model to investigate the sensitivity of mesoscale convective systems to soil moisture inhomogeneities in West Africa.

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## Project grants

- 09/2019–08/2022 **Federal Ministry of Education and Research (BMBF)**, "*Evaluation of the urban climate model PALM-4U for the atmospheric boundary layer in cities in mountainous regions*" within the BMBF Research Programme "*Urban Climate Under Change [UC]<sup>2</sup> - Phase 2*".  
Raised funding for postdoctoral researcher. Topic: Evaluation of the three-dimensional wind field and seasonal urban boundary layer characteristics in the urban climate model PALM-4U.
- 11/2018–10/2021 **German Research Foundation (DFG)**, "*Cross-valley flow and its impact on the boundary-layer structure investigated by multiple Doppler lidar measurements (CROSSINN)*".  
PI; raised funding for postdoctoral researcher and a three-month field campaign. Topic: Investigation of the cross-valley flow and its impact on the thermodynamic structure in the valley boundary layer using data from the field campaign in the Inn Valley in Austria with several Doppler lidars, microwave radiometer, radiosoundings and aircraft measurements.

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## Invited Talks, Awards and Scholarships

- 11/2021 **Invited talk** on '*Observed and simulated characteristics of a persistent cold air pool in the Columbia River Basin*' at the Earth Observing Laboratory (EOL) seminar series of the National Center for Atmospheric Research (NCAR) in Boulder, CO (virtual)
- 06/2021 **Invited talk** on '*Boundary-layer flows and cold air pools in the Columbia River Basin*' at the International Conference on Alpine Meteorology (ICAM) online event 2021 in Switzerland (virtual)
- 12/2020 **Invited talk** on '*Wind research in complex terrain with Doppler lidars*' at the Vaisala webinar series
- 10/2020 **Invited talk** on '*Physical processes associated with the formation, maintenance, and erosion of a cold pool in complex terrain*' at the 20th Yosemite Hydroclimate Meeting (virtual)
- 06/2020 **Invited talk** on '*Boundary layer flows in a deep Alpine valley investigated with in situ and remote sensing measurements*' at the NOAA Physical Sciences Laboratory Seminar Series in Boulder, CO (virtual)
- 06/2020 **Invited talk** on '*Boundary-layer flows in a deep Alpine valley investigated with Doppler lidar measurements*' at the National Renewable Energy Laboratory (NREL) in Golden, CO (virtual)
- 11/2017 **Invited talk** on '*Why do nocturnal low-level clouds form over southern West Africa?*' at the graduate seminar of the Institute of Atmospheric and Cryospheric Sciences at the University of Innsbruck in Innsbruck, Austria
- 02/2017 **Invited talk** on '*Challenges and applications of ground-based remote-sensing measurements*' at the International Conference on Meteorology and Climatology of the Mediterranean & Challenges in Meteorology in Zagreb, Croatia
- 10/2014 **Invited talk** on '*Boundary-layer characteristics over homogeneous and inhomogeneous terrain – field measurements with the KITcube*' at the Department of Atmospheric Sciences at the University of Utah, Salt Lake City, UT, USA

- 05/2011 **Best student oral presentation** at the 'International Conference on Alpine Meteorology' in Aviemore, Scotland
- 02/2011 – **Scholarship** by 'Deutscher Akademischer Austauschdienstes (DAAD)' for a stay as a visiting scientist in Salt Lake City, UT, USA
- 04/2011
- 07/2010 – **Scholarship** by 'Karlsruhe House of Young Scientists (KHYS)' for a stay as a visiting scientist in Salt Lake City, UT, USA
- 01/2011
- 10/2008 **Award for an outstanding contribution** by a young scientist at the '7th Workshop of Convective and Orographically-Induced Precipitation Study (COPS)' in Strasbourg, France

## Service to international communities

- since 2023 Editorial board member of the journal Boundary Layer Meteorology
- 2023 Student judge at the 103rd AMS Annual Meeting
- 2022 Session co-chair at the 20th Conference on Mountain Meteorology
- 2021 Panel reviewer for the John R. Evans Leaders Fund (JELF) of the Canada Foundation for Innovation (CFI)
- 2021-2022 Co-organizer of the 20th Conference on Mountain Meteorology
- since 2021 Member of the committee on Mountain Meteorology
- 2021 Organizer of a topical session on 'Remote Sensing over mountainous terrain' at the International Conference on Alpine Meteorology (ICAM) online event 2021 in Switzerland
- 2020 Session co-chair at the 19th Conference on Mountain Meteorology
- 2019 Member of the program committee and student judge at the 35th International Conference on Alpine Meteorology (ICAM) conference and session chair
- 2018 Member of the International Symposium for the Advancement of Boundary-Layer Remote Sensing (ISARS) scientific committee and session chair
- 2018 Co-convener and student judge at the EGU General Assembly of the session "Atmospheric processes in complex terrain" and session chair
- since 2017 Member of the (International Conference on Alpine Meteorology) ICAM steering committee
- since 2015 Reviewer for Boundary-Layer Meteorology, Journal of Geophysical Research: Atmospheres, Quarterly Journal of the Royal Meteorological Society, Journal of Applied Meteorology and Climatology, Monthly Weather Review, Atmospheric Chemistry and Physics, Atmospheric Measurement Techniques, Atmosphere, Frontiers in Earth Science

## Field campaigns and projects

- 2023-2025 Third Wind Forecast Improvement Project (WFIP3), Pacific North-West, US
- 2022 and 2023 Propagation, Evolution and Rotation in Linear Storms (PERiLS) and Verification of the Origins of Rotation in Tornadoes Experiment-Southeast (VORTEX-SE), Southeast United States

- 2021 Study of Precipitation, the Lower Atmosphere and Surface for Hydrometeorology (SPLASH) and Surface Atmosphere Integrated Field Laboratory (SAIL), East River Watershed, Colorado, US
- 2019 Cross-valley flow and its impact on the boundary-layer structure investigated by multiple Doppler lidar measurements (CROSSINN), Inn Valley, Austria
- 2019 Modular Observation Solutions for Earth Systems (MOSES), Müglitztal, Germany
- 2017-2018 Urban Climate under Change ([UC]<sup>2</sup>), Stuttgart, Germany
- 2017 Namib Fog Life Cycle Analysis (NaFoLiCa), Gobabeb, Namibia
- 2016-2017 Wind and Storm Experiment (WASTEX), Karlsruhe, Germany
- 2016 Dynamics-Aerosol-Chemistry-Cloud Interactions in West Africa (DACCIWA), Savè, Benin
- 2015, 2016 Scale-Crossing Land Surface and Boundary Layer Processes in the TERENO-Alpine Observatory (ScaleX), Fendt, Germany
- 2013 The Meteor Crater Experiment II (METCRAXII), Flagstaff, Arizona, US
- 2012 Hydrological Cycle in the Mediterranean Experiment (HyMeX), Corsica, France
- 2007 Convective and Orographically-induced Precipitation Study (COPS), Vosges and Black Forest mountains in France and Germany

## Languages

German mother tongue  
 English fluent

## Skills

Operating system Linux, macOS, Microsoft Windows

Scripting language Python, Matlab (participated in Mathworks training course in 2018), IDL, GrADS

Numerical model COSMO-model of German weather service (participated in COSMO training course in 2015)

Meteorological instruments Atmospheric sounder spectrometer for infrared spectral technology (ASSIST, LRTech), Doppler lidar (Leosphere, Lockheed Martin); microwave radiometer (RPG, Radiometrics); radiosonde (GRAW, MODEM, and VAISALA); sodar (Scintec); ceilometer (Lufft), radar wind profiler and radio acoustic sounding system, cloud radar (Metek); scintillometer (Scintec)

Applications LaTeX, Microsoft Office, Markdown, Libre Office

## Peer-reviewed Publications

- [1] **Adler, B.**, Wilczak, J. M., Kenyon, J., Bianco, L., Djalalova, I. V., Olson, J. B., Turner, D. D., "Evaluation of a cloudy cold-air pool in the Columbia River basin in different versions of the High-Resolution Rapid Refresh (HRRR) model". In: *Geoscientific Model Development* 16.2 (2023), pp. 597–619.

- [2] **Adler, B.**, Wilczak, J., Bianco, L., Bariteau, L., Cox, C. J., Boer, G., Djalalova, I., Gallagher, M., Intrieri, J. M., Meyers, T., Myers, T., Olson, J. B., Pezoa, S., Sedlar, J., Smith, E., Turner, D. D., White, A., "Impact of seasonal snow-cover change on the observed and simulated state of the atmospheric boundary layer in a high-altitude mountain valley". In: *Journal of Geophysical Research: Atmospheres* (2023), e2023JD038497.
- [3] Arthur, R. S., Juliano, T. W., **Adler, B.**, Krishnamurthy, R., Lundquist, J. K., Kosović, B., Jiménez, P. A., "Improved representation of horizontal variability and turbulence in mesoscale simulations of an extended cold-air pool event". In: *Journal of Applied Meteorology and Climatology* 61.6 (2022), pp. 685–707.
- [4] Djalalova, I., Turner, D., Bianco, L., Wilczak, J., Duncan, J., **Adler, B.**, Gottas, D., "Improving thermodynamic profile retrievals from microwave radiometers by including radio acoustic sounding system (RASS) observations". In: *Atmos. Meas. Tech.* 15.2 (2022), pp. 521–537.
- [5] Duncan Jr, J. B., Bianco, L., **Adler, B.**, Bell, T., Djalalova, I. V., Riihimaki, L., Sedlar, J., Smith, E. N., Turner, D. D., Wagner, T. J., Wilczak, J. M., "Evaluating convective planetary boundary layer height estimations resolved by both active and passive remote sensing instruments during the CHEESEHEAD19 field campaign". In: *amt* 15.8 (2022), pp. 2479–2502.
- [6] Kohler, M., Bessardon, G., Brooks, B., Kalthoff, N., Lohou, F., **Adler, B.**, Jegede, O. O., Altstädter, B., Amekudzi, L. K., Aryee, J. N. A., Atiah, W. A., Ayoola, M., Babić, K., Bärffuss, K., Bezombes, Y., Bret, G., Brilouet, P.-E., Cayle-Aethelhard, F., Danuor, S., Delon, C., Derrien, S., Dione, C., Durand, P., Fosu-Amankwah, K., Gabella, O., Groves, J., Handwerker, J., Jambert, C., Kunka, N., Lampert, A., Leclercq, J., Lothon, M., Medina, P., Miere, A., Pätzold, F., Pedruzo-Bagazgoitia, X., Martínez, I. R., Sharpe, S., Smith, V., Wieser, A., "A meteorological dataset of the West African monsoon during the 2016 DACCIWA campaign". In: *Scientific Data* 9.1 (2022).
- [7] Sedlar, J., Riihimaki, L. D., Turner, D. D., Duncan, J., **Adler, B.**, Bianco, L., Lantz, K., Wilczak, J., Hall, E., Herrera, C., Hodges, G. B., "Investigating the impacts of daytime boundary layer clouds on surface energy fluxes and boundary layer structure during CHEESEHEAD19". In: *J. Geophys. Res.* 127.5 (2022).
- [8] **Adler, B.**, Gohm, A., Kalthoff, N., Babić, N., Corsmeier, U., Lehner, M., Rotach, M. W., Haid, M., Markmann, P., Gast, E., Tsaknakis, G., Georgoussis, G., "CROSSINN: A Field Experiment to Study the Three-Dimensional Flow Structure in the Inn Valley, Austria". In: *Bull. Amer. Meteorol. Soc.* 102.1 (2021), E38 –E60.
- [9] **Adler, B.**, Wilczak, J. M., Bianco, L., Djalalova, I., Duncan Jr, J. B., Turner, D. D., "Observational Case Study of a Persistent Cold Pool and Gap Flow in the Columbia River Basin". In: *J. Appl. Meteor. Climatol.* 60.8 (2021), pp. 1071–1090.
- [10] Babić, N., **Adler, B.**, Gohm, A., Kalthoff, N., Haid, M., Lehner, M., Ladstätter, P., Rotach, M. W., "Cross-valley vortices in the Inn valley, Austria: Structure, evolution and governing force imbalances". In: *Q. J. R. Meteorol. Soc.* 147.740 (2021), pp. 3835–3861.
- [11] Kiseleva, O, Kalthoff, N, **Adler, B.**, Kossmann, M, Wieser, A, Rinke, R, "Nocturnal atmospheric conditions and their impact on air pollutant concentrations in the city of Stuttgart". In: *Meteor. Appl.* 28.6 (2021).

- [12] Kottmeier, C., **Adler, B.**, Kalthoff, N., Löhnert, U., Görzdorf, U., “Composite atmospheric profiling”. In: *Springer Handbook of Atmospheric Measurements*. Springer International Publishing, 2021, pp. 1295–1319.
- [13] Wittkamp, N., **Adler, B.**, Kalthoff, N., Kiseleva, O., “Mesoscale wind patterns over the complex urban terrain around Stuttgart investigated with dual-Doppler lidar profiles”. In: *Meteorol. Z.* 30.2 (Apr. 2021), pp. 185–200.
- [14] Zouzoua, M., Lohou, F., Assamoi, P., Lothon, M., Yoboue, V., Dione, C., Kalthoff, N., **Adler, B.**, Babić, K., Pedruzo-Bagazgoitia, X., Derrien, S., “Breakup of nocturnal low-level stratiform clouds during the southern West African monsoon season”. In: *Atmos. Chem. Phys.* 21.3 (2021), pp. 2027–2051.
- [15] **Adler, B.**, Kalthoff, N., Kiseleva, O., “Detection of structures in the horizontal wind field over complex terrain using coplanar Doppler lidar scans”. In: *Meteorol. Z.* 29.6 (Nov. 2020), pp. 467–481.
- [16] Altstädter, B., Deetz, K., Vogel, B., Babić, K., Dione, C., Pacifico, F., Jambert, C., Ebus, F., Bärfuss, K., Pätzold, F., Lampert, A., **Adler, B.**, Kalthoff, N., Lohou, F., “The vertical variability of black carbon observed in the atmospheric boundary layer during DACCIWA”. In: *Atmos. Chem. Phys.* 20.13 (2020), pp. 7911–7928.
- [17] Fersch, B., Senatore, A., **Adler, B.**, Arnault, J., Mauder, M., Schneider, K., Völksch, I., Kunstmann, H., “High-resolution fully coupled atmospheric–hydrological modeling: a cross-compartment regional water and energy cycle evaluation”. In: *Hydrology and Earth System Sciences* 24.5 (2020), pp. 2457–2481.
- [18] Kalthoff, N., **Adler, B.**, Bischoff-Gauss, I., “Spatio-temporal Structure of the Boundary Layer under the Impact of Mountain Waves”. In: *Meteorol. Z.* 29.5 (Nov. 2020), pp. 409–424.
- [19] Lohou, F., Kalthoff, N., **Adler, B.**, Babić, K., Dione, C., Lothon, M., Pedruzo-Bagazgoitia, X., Zouzoua, M., “Conceptual model of diurnal cycle of low-level stratiform clouds over southern West Africa”. In: *Atmos. Chem. Phys.* 20.4 (2020), pp. 2263–2275.
- [20] Pantillon, F., **Adler, B.**, Corsmeier, U., Knippertz, P., Wieser, A., Hansen, A., “Formation of Wind Gusts in an Extratropical Cyclone in Light of Doppler Lidar Observations and Large-Eddy Simulations”. In: *Mon. Wea. Rev.* 148.1 (2020), pp. 353–375.
- [21] Pedruzo-Bagazgoitia, X., Roode, S. R., **Adler, B.**, Babić, K., Dione, C., Kalthoff, N., Lohou, F., Lothon, M., Arellano, J., “The diurnal stratocumulus-to-cumulus transition over land in southern West Africa”. In: *Atmos. Chem. Phys.* 20.5 (2020), pp. 2735–2754.
- [22] **Adler, B.**, Babić, K., Kalthoff, N., Lohou, F., Lothon, M., Dione, C., Pedruzo-Bagazgoitia, X., Andersen, H., “Nocturnal low-level clouds in the atmospheric boundary layer over southern West Africa: an observation-based analysis of conditions and processes”. In: *Atmos. Chem. Phys.* 19.1 (2019), pp. 663–681.
- [23] **Adler, B.**, Kiseleva, O., Kalthoff, N., Wieser, A., “Comparison of Convective Boundary Layer Characteristics from Aircraft and Wind Lidar Observations”. In: *J. Atmos. Oceanic Technol.* 36.7 (2019), pp. 1381–1399.
- [24] Babić, K., **Adler, B.**, Kalthoff, N., Andersen, H., Dione, C., Lohou, F., Lothon, M., Pedruzo-Bagazgoitia, X., “The observed diurnal cycle of low-level stratus clouds over southern West Africa: a case study”. In: *Atmos. Chem. Phys.* 19.2 (2019), pp. 1281–1299.

- [25] Babić, K., Kalthoff, N., **Adler, B.**, Quinting, J. F., Lohou, F., Dione, C., Lothon, M., “What controls the formation of nocturnal low-level stratus clouds over southern West Africa during the monsoon season?” In: *Atmos. Chem. Phys.* 19.21 (2019), pp. 13489–13506.
- [26] Dione, C., Lohou, F., Lothon, M., **Adler, B.**, Babić, K., Kalthoff, N., Pedruzo-Bagazgoitia, X., Bezombes, Y., Gabella, O., “Low-level stratiform clouds and dynamical features observed within the southern West African monsoon”. In: *Atmos. Chem. Phys.* 19.13 (2019), pp. 8979–8997.
- [27] Lehner, M., Whiteman, C. D., Hoch, S. W., **Adler, B.**, Kalthoff, N., “Flow separation in the lee of a crater rim”. In: *Boundary-Layer Meteorol.* 173.2 (2019), pp. 263–287.
- [28] Spirig, R., Vogt, R., Larsen, J. A., Feigenwinter, C., Wicki, A., Franceschi, J., Parlow, E., **Adler, B.**, Kalthoff, N., Cermak, J., Andersen, H., Fuchs, J., Bott, A., Hacker, M., Wagner, N., Maggs-Kölling, G., Wassenaar, T., Seely, M., “Probing the Fog Life Cycles in the Namib Desert”. In: *Bull. Amer. Meteorol. Soc.* 100.12 (2019), pp. 2491–2507.
- [29] Deetz, K., Vogel, H., Knippertz, P., **Adler, B.**, Taylor, J., Coe, H., Bower, K., Haslett, S., Flynn, M., Dorsey, J., Crawford, I., Kottmeier, C., Vogel, B., “Numerical simulations of aerosol radiative effects and their impact on clouds and atmospheric dynamics over southern West Africa”. In: *Atmos. Chem. Phys.* 18.13 (2018), pp. 9767–9788.
- [30] Emeis, S., Kalthoff, N., **Adler, B.**, Pardyjak, E., Paci, A., Junkermann, W., “High-Resolution Observations of Transport and Exchange Processes in Mountainous Terrain”. In: *Atmosphere* 9.12 (2018).
- [31] Flamant, C., Knippertz, P., Fink, A. H., Akpo, A., Brooks, B., Chiu, C. J., Coe, H., Danuor, S., Evans, M., Jegede, O., Kalthoff, N., Konaré, A., Liousse, C., Lohou, F., Mari, C., Schlager, H., Schwarzenboeck, A., **Adler, B.**, Amekudzi, L., Aryee, J., Ayoola, M., Batenburg, A. M., Bessardon, G., Borrmann, S., Brito, J., Bower, K., Burnet, F., Catoire, V., Colomb, A., Denjean, C., Fosu-Amankwah, K., Hill, P. G., Lee, J., Lothon, M., Maranan, M., Marsham, J., Meynadier, R., Ngamini, J.-B., Rosenberg, P., Sauer, D., Smith, V., Stratmann, G., Taylor, J. W., Voigt, C., Yoboué, V., “The Dynamics–Aerosol–Chemistry–Cloud Interactions in West Africa Field Campaign: Overview and Research Highlights”. In: *Bull. Amer. Meteorol. Soc.* 99.1 (2018), pp. 83–104.
- [32] Kalthoff, N., Lohou, F., Brooks, B., Jegede, G., **Adler, B.**, Babić, K., Dione, C., Ajao, A., Amekudzi, L. K., Aryee, J. N. A., Ayoola, M., Bessardon, G., Danuor, S. K., Handwerker, J., Kohler, M., Lothon, M., Pedruzo-Bagazgoitia, X., Smith, V., Sunmonu, L., Wieser, A., Fink, A. H., Knippertz, P., “An overview of the diurnal cycle of the atmospheric boundary layer during the West African monsoon season: results from the 2016 observational campaign”. In: *Atmos. Chem. Phys.* 18.4 (2018), pp. 2913–2928.
- [33] Kirshbaum, D. J., **Adler, B.**, Kalthoff, N., Barthlott, C., Serafin, S., “Moist orographic convection: Physical mechanisms and links to surface-exchange processes”. In: *Atmosphere* 9.3 (2018), p. 80.
- [34] Pantillon, F., Wieser, A., **Adler, B.**, Corsmeier, U., Knippertz, P., “Overview and first results of the Wind and Storms Experiment (WASTEX): a field campaign to observe the formation of gusts using a Doppler lidar”. In: *Advances in Science and Research* 15 (2018), pp. 91–97.

- [35] Serafin, S., **Adler, B.**, Cuxart, J., De Wekker, S. F., Gohm, A., Grisogono, B., Kalthoff, N., Kirshbaum, D. J., Rotach, M. W., Schmidli, J., Stiperski, I., Večenaj, Z., Zardi, D., “Exchange processes in the atmospheric boundary layer over mountainous terrain”. In: *Atmosphere* 9.3 (2018), p. 102.
- [36] Whiteman, C. D., Lehner, M., Hoch, S. W., **Adler, B.**, Kalthoff, N., Haiden, T., “Katabatically Driven Cold Air Intrusions into a Basin Atmosphere”. In: *J. Appl. Meteor. Climatol.* 57.2 (2018), pp. 435–455.
- [37] Whiteman, C. D., Lehner, M., Hoch, S. W., **Adler, B.**, Kalthoff, N., Vogt, R., Feigenwinter, I., Haiden, T., Hills, M. O. G., “The Nocturnal Evolution of Atmospheric Structure in a Basin as a Larger-Scale Katabatic Flow Is Lifted over Its Rim”. In: *J. Appl. Meteor. Climatol.* 57.4 (2018), pp. 969–989.
- [38] **Adler, B.**, Kalthoff, N., Gantner, L., “Nocturnal low-level clouds over southern West Africa analysed using high-resolution simulations”. In: *Atmos. Chem. Phys.* 17.2 (2017), pp. 899–910.
- [39] Wolf, B., Chwala, C., Fersch, B., Garvelmann, J., Junkermann, W., Zeeman, M. J., Angerer, A., **Adler, B.**, Beck, C., Brosy, C., Brugger, P., Emeis, S., Dannenmann, M., Roo, F. D., Diaz-Pines, E., Haas, E., Hagen, M., Hajsek, I., Jacobeit, J., Jagdhuber, T., Kalthoff, N., Kiese, R., Kunstmann, H., Kosak, O., Krieg, R., Malchow, C., Mauder, M., Merz, R., Notarnicola, C., Philipp, A., Reif, W., Reineke, S., Rödiger, T., Ruehr, N., Schäfer, K., Schrön, M., Senatore, A., Shupe, H., Völksch, I., Wanninger, C., Zacharias, S., Schmid, H. P., “The SCALEX Campaign: Scale-Crossing Land Surface and Boundary Layer Processes in the TERENO-preAlpine Observatory”. In: *Bull. Amer. Meteorol. Soc.* 98.6 (2017), pp. 1217–1234.
- [40] **Adler, B.**, Kalthoff, N., Kohler, M., Handwerker, J., Wieser, A., Corsmeier, U., Kottmeier, C., Lambert, D., Bock, O., “The variability of water vapour and pre-convective conditions over the mountainous island of Corsica”. In: *Q. J. R. Meteorol. Soc.* 142 (S1 2016), pp. 335–346.
- [41] **Adler, B.**, Kalthoff, N., “The Impact of Upstream Flow on the Atmospheric Boundary Layer in a Valley on a Mountainous Island”. In: *Boundary-Layer Meteorol.* 158.3 (2016), pp. 429–452.
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- [44] **Adler, B.**, Kalthoff, N., “Multi-scale transport processes observed in the boundary layer over a mountainous island”. In: *Boundary-Layer Meteorol.* 153 (2014), pp. 515–537.
- [45] Kalthoff, N., Träumner, K., **Adler, B.**, Späth, S., Behrendt, A., Wieser, A., Handwerker, J., Madonna, F., Wulfmeyer, V., “Dry and moist convection in the boundary layer over the Black Forest - a combined analysis of in situ and remote sensing data”. In: *Meteorol. Z.* 22 (2013), pp. 445–461.
- [46] Kalthoff, N., **Adler, B.**, Wieser, A., Kohler, M., Träumner, K., Handwerker, J., Corsmeier, U., Khodayar, S., Lambert, D., Kopmann, A., Kunka, N., Dick, G., Ramatschi, M., Wickert, J., Kottmeier, C., “KITcube – a mobile observation platform for convection studies deployed during HyMeX”. In: *Meteorol. Z.* 22.6 (2013), pp. 633–647.



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- [48] **Adler, B.**, Kalthoff, N., Gantner, L., “Initiation of deep convection caused by land-surface inhomogeneities in West Africa: a modelled case study”. In: *Meteorol. Atmos. Phys.* 112.1-2 (2011), pp. 15–27.
- [49] **Adler, B.**, Kalthoff, N., Gantner, L., “The impact of soil moisture inhomogeneities on the modification of a mesoscale convective system: an idealised model study”. In: *Atmos. Res.* 101.1 (2011), pp. 354–372.
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### Selected conference proceedings

- [1] **Adler, B.**, Wilczak, J., Bianco, L., Djalalova, I., Myers, T., Sedlar, J., Turner, D. D., White, A., Bariteau, L., Intrieri, J. M., Smith, E., Olson, J. B., *The atmospheric boundary layer in the East River Valley in the Colorado Rocky Mountains during the seasonal snow-cover change.* 103rd AMS Annual Meeting, Denver CO, United States, 8-12 Jan. 2023.
- [2] **Adler, B.**, Wilczak, J., Bianco, L., Djalalova, I., Kenyon, J., Olson, J. B., Turner, D. D., *Simulations of temperature and clouds in a persistent cold air pool using different versions of the HRRR weather prediction model.* 20th Conference on Mountain Meteorology, Park City UT, United States, 27 June - 1 July. 2022.
- [3] **Adler, B.**, Wilczak, J., Bianco, L., Djalalova, I., Jr, J. B. D., Turner, D. D., *Observational Analysis of Multiscale Processes during a Persistent Cold Pool in the Columbia River Valley.* 101st AMS Annual Meeting, virtual, 10-15 Jan. 2021.
- [4] **Adler, B.**, Kalthoff, N., Wieser, A., Kiseleva, O., Wittcamp, N., Holst, C. C., *Mesoscale and convective flow structures in the urban boundary layer in mountainous terrain investigated by dual-Doppler lidar measurements.* 35rd International Conference on Alpine Meteorology (ICAM), Riva del Garda, Italy, 2-6 September. 2019.
- [5] **Adler, B.**, Kalthoff, N., Babic, K., Lohou, F., Dione, C., Lothon, M., Andersen, H., *Observed characteristics of low-level clouds in the nocturnal boundary layer over southern West Africa.* EGU General Assembly, Wien, Austria, 8–13 April. 2018.
- [6] **Adler, B.**, Kalthoff, N., Wieser, A., Kohler, M., Handwerker, J., Metzger, J., Corsmeier, U., Kiseleva, O., Kottmeier, C., *Research highlights obtained with the mobile observation platform KITcube.* 19th International Symposium for the Advancement of Boundary-Layer Remote Sensing (ISARS), Cologne, Germany, 22–25 May. 2018.

- [7] **Adler, B.**, Kalthoff, N., Bischoff-Gauß, I., *The impact of upstream flow on the boundary layer in a valley - observations and high-resolution simulations*. 34th International Conference on Alpine Meteorology (ICAM), Reykjavik, Island, 18-24 June. 2017.
- [8] **Adler, B.**, Kalthoff, N., Whiteman, C., Hoch, S., Lehner, M., *Upstream conditions controlling downslope-windstorm-type flows in Arizona's Meteor Crater*. 33rd International Conference on Alpine Meteorology (ICAM), Innsbruck, Austria, 31 August–4 September. 2015.
- [9] **Adler, B.**, Kalthoff, N., Lehner, M., Whiteman, C., Hoch, S., Cherukuru, N., Calhoun, R., *The conditions in the luv and lee of Arizona's Meteor Crater during downslope-windstorm-type flows*. 16th Conference on Mountain Meteorology, San Diego, CA, August 18-22. 2014.
- [10] **Adler, B.**, Kalthoff, N., *Boundary-layer characteristics over complex terrain observed by remote-sensing systems during HyMeX*. 32nd International Conference on Alpine Meteorology (ICAM), Kranjska Gora, Slovenia, 3–7 June. 2013.
- [11] **Adler, B.**, Whiteman, C. D., Lehner, M., Hoch, S. W., *Warm air intrusions in Arizona's Meteor Crater – evidence for hydraulic jumps?* 33rd International Conference on Alpine Meteorology (ICAM), Aviemore, UK, 23–27 May. 2011.