Bianca Adler

Curriculum Vitae

last updated: April 2017

Personal Data

Date and Place of Birth: 16 November 1983 in Speyer, Germany
Address Institute of Meteorology and Climate Research
Karlsruhe Institute of Technology (KIT)
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Employment

Since 07/2014 **Research associate**, *Institute of Meteorology and Climate Research at KIT*, Karlsruhe, Germany.
Prepare and conduct meteorological field campaigns (e.g. DACCIWA) with the mobile observation platform KITcube; analyse data and and publish 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.

Peer-reviewed Publications

[1] B. Adler, N. Kalthoff, and L. Gantner. "Nocturnal low-level clouds over southern West Africa analysed using high-resolution simulations". In: *Atmos. Chem. Phys.* 17.2 (2017), pp. 899–910.

[2] B. Adler, N. Kalthoff, M. Kohler, J. Handwerker, A. Wieser, U. Corsmeier, C. Kottmeier, D. Lambert, and O. Bock. "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.

[3] B. Adler and N. Kalthoff. "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.

[4] C. Barthlott, B. Adler, N. Kalthoff, J. Handwerker, M. Kohler, and A. Wieser. "The role of Corsica in initiating nocturnal offshore convection". In: *Q. J. R. Meteorol. Soc.* 142 (S1 2016). doi: 10.1002/qj.2415, pp. 222–237.

[5] M. Lehner, C. D. Whiteman, S. W. Hoch, E. T. Crosman, M. E. Jeglum, N. W. Cherukuru, R. Calhoun, B. Adler, N. Kalthoff, R. Rotunno, et al. "The METCRAX II Field Experiment: A Study of Downslope Windstorm-Type Flows in Arizona's Meteor Crater". In: *Bull. Amer. Meteorol. Soc.* 97.2 (2016), pp. 217–235.

[6] B. Adler and N. Kalthoff. "Multi-scale transport processes observed in the boundary layer over a mountainous island". In: *Boundary-Layer Meteorol.* 153 (2014), pp. 515–537.

[7] N. Kalthoff, K. Träumner, B. Adler, S. Späth, A. Behrendt, A. Wieser, J. Handwerker, F. Madonna, and V. Wulfmeyer. "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.

[8] N. Kalthoff, B. Adler, A. Wieser, M. Kohler, K. Träumner, J. Handwerker, U. Corsmeier, S. Khodayar, D. Lambert, A. Kopmann, N. Kunka, G. Dick, M. Ramatschi, J. Wickert, and C. Kottmeier. "KITcube – a mobile observation platform for convection studies deployed during HyMeX". In: *Meteorol. Z.* 22.6 (2013), pp. 633–647.

[9] B. Adler, C. D. Whiteman, S. W. Hoch, M. Lehner, and N. Kalthoff. "Warm-air intrusions in Arizona's Meteor Crater". In: *J. Appl. Meteor. Climatol.* 51.6 (2012), pp. 1010–1025.

[10] B. Adler, N. Kalthoff, and L. Gantner. "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.

[11] B. Adler, N. Kalthoff, and L. Gantner. "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.

[12] N. Kalthoff, M. Kohler, C. Barthlott, B. Adler, S. Mobbs, U. Corsmeier, K. Träumner, T. Foken, R. Eigenmann, L. Krauss, S. Khodayar, and P. Di Girolamo. "The dependence of convection-related parameters on surface and boundary-layer conditions over complex terrain". In: *Q. J. R. Meteorol. Soc.* 137.S1 (2011), pp. 70–80.

[13] C. Barthlott, J. W. Schipper, N. Kalthoff, B. Adler, C. Kottmeier, A. Blyth, and S. Mobbs. "Model representation of boundary-layer convergence triggering deep convection over complex terrain: a case study from COPS". In: *Atmos. Res.* 95.2-3 (2010), pp. 172–185.

[14] N. Kalthoff, B. Adler, C. Barthlott, U. Corsmeier, S. Mobbs, S. Crewell, K. Träumner, C. Kottmeier, A. Wieser, V. Smith, and P. Di Girolamo. "The impact of convergence zones on the initiation of deep convection: a case study from COPS". In: *Atmos. Res.* 93.4 (2009), pp. 680–694.

Awards and Scholarships

02/2017 **Invited speaker** at the International Conference on Meteorology and Climatology of the Mediterranean & Challenges in Meteorology in Zagreb, Croatia

10/2014 **Invited talk** 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 – 04/2011 **Scholarship** by "Deutscher Akademischer Austauschdienstes (DAAD)" for a stay as a visiting scientist in Salt Lake City, UT, USA

07/2010 – 01/2011 **Scholarship** by "Karlsruhe House of Young Scientists (KHYS)" for a stay as a visiting scientist in Salt Lake City, UT, USA

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

Languages

German	mother tongue
English	fluent

Skills

Operating system	Linux, Microsoft Windows
Scripting language	Matlab, IDL, GrADS
Numerical model	COSMO-model of German weather service (participated in COSMO training course in 2015)
Applications	LaTeX, Microsoft Office, Libre Office