

# Publications until 2019

## Peer-reviewed publications:

1. Bachmann, K., C. Keil, **M. Weissmann**, 2019: Impact of radar data assimilation and orography on predictability of deep convection. *Q. J. R. Meteorol. Soc.*, 145, 117-130.
2. Camus C., P. Offermann, **M. Weissmann**, C. Buerhop, J. Hauch, C. J. Brabec, 2019: Site-Specific Assessment of Mechanical Loads on Photovoltaic Modules from Meteorological Reanalysis Data. *Solar Energy*, 188, 1134-1145.
3. Gustafsson, N., T. Janjic, C. Schraff, D. Leuenberger, **M. Weissmann**, H. Reich, P. Brousseau, T. Montmerle, E. Wattrelot, A. Bucanek, M. Mile, R. Hamdi, M. Lindskog, J. Barkmeijer, M. Dahlbom, B. Macpherson, S. Ballard, G. Inverarity, J. Carley, C. Alexander, D. Dowell, S. Liu, Y. Ikuta and T. Fujita, 2018: Survey of data assimilation methods for convective-scale numerical weather prediction at operational centres. *Q. J. R. Meteorol. Soc.*, 144, 1218-1256.
4. Necker, T., **M. Weissmann** and M. Sommer, 2018: The importance of an appropriate verification metric for the assessment of observation impact. *Q. J. R. Meteorol. Soc.*, 144, 1667-1680.
5. Scheck, L., **M. Weissmann** and B. Mayer, 2018: Efficient methods to account for cloud top inclination and cloud overlap in synthetic visible satellite images. *J. Atmos. Oceanic Technol.*, 35, 665-685.
6. Folger, K. and **M. Weissmann**, 2016: Lidar-based height correction for the assimilation of atmospheric motion vectors. *J. Appl. Meteor. Climatol.*, 55, 2211-2227.
7. Sommer, M. and **M. Weissmann**, 2016: Ensemble-based approximation of observation impact using an observation-based verification metric. *Tellus A*, 68, 27885.
8. Harnisch, F., **M. Weissmann** and A. Perianez, 2016: Error model for the assimilation of cloud-affected infrared satellite observations in an ensemble data assimilation system. *Q. J. R. Meteorol. Soc.*, 142, 1797-1808.
9. Simmer, C., G. Adrian, S. Jones, V. Wirth, M. Göber, C. Hohenegger, T. Janjic, J. Keller, C. Ohlwein, A. Seifert, S. Trömel, T. Ulbrich, K. Wapler, **M. Weissmann**, J. Keller, M. Masbou, S. Meilinger, N. Riss, A. Schomburg, C. Stein and A. Vormann, 2016: HErZ - The German Hans-Ertel Centre for Weather Research. *Bull. Amer. Soc.*, 97, 1057-1068.
10. **Weissmann, M.**, M. Göber, C. Hohenegger, T. Janjic, J. Keller, C. Ohlwein, A. Seifert, S. Trömel, T. Ulbrich, K. Wapler, C. Bollmeyer and H. Deneke, 2014: Initial phase of the Hans-Ertel Centre for Weather Research – A virtual centre at the interface of basic and applied weather and climate research. *Meteorologische Zeitschrift*, 23, 193-208.

11. Baker, W., R. Atlas, C. Cardinali, A. Clement, G. Emmitt, B. Gentry, M. Hardesty, E. Källén, M. Kavaya, R. Langland, M. Masutani, W. McCarty, B. Pierce, Z. Pu, L. P. Riishojgaard, J. Ryan, S. Tucker, **M. Weissmann** and J. Yoe, 2014: Lidar-Measured Wind Profiles – The missing link in the global observing system. *Bull. Amer. Soc.*, 95, 543-564.
12. Folger, K., and **M. Weissmann**, 2014: Height correction of atmospheric motion vectors using satellite lidar observations from CALIPSO. *J. Appl. Meteor. Climatol.*, 53, 1809-1819.
13. Kostka, P. M., **M. Weissmann**, R. Buras, B. Mayer and O. Stiller, 2014: Observation operator for visible and near-infrared satellite reflectances. *J. Atmos. Oceanic Technol.*, 31, 1216-1233.
14. Sommer, M. and **M. Weissmann**, 2014: Observation impact in a convective-scale Localized Ensemble Transform Kalman Filter. *Q. J. R. Meteorol. Soc.*, 140, 2672-2679.
15. **Weissmann, M.**, K. Folger and H. Lange, 2013: Height correction of atmospheric motion vectors using airborne lidar observations. *J. Appl. Meteor. Climatol.*, 52, 1868-1877.
16. Grams, C. M., S. C. Jones, C. Davis, P. Harr and **M. Weissmann**, 2013: The impact of Typhoon Jangmi (2008) on the midlatitude flow. Part I: upper level ridgebuilding and modification of the jet. *Q. J. R. Meteorol. Soc.*, 139, 2148-2164.
17. Kühnlein, C., A. Dörnbrack and **M. Weissmann**, 2013: High-resolution Doppler lidar observations of transient downslope flows. *Mon. Wea. Rev.*, 141, 3257-3272.
18. **Weissmann M.**, R. H. Langland, P. M. Pauley, S. Rahm and C. Cardinali, 2012: Influence of airborne Doppler wind lidar profiles on ECMWF and NOGAPS forecasts. *Q. J. R. Meteorol. Soc.*, 138, 118-130.
19. **Weissmann, M.**, F. Harnisch, C.-C. Wu, P.-H. Lin, Y. Ohta, K. Yamashita, Y. Kim, E.-H. Jeon, T. Nakazawa and S. Aberson, 2011: The influence of dropsondes on typhoon track and mid-latitude forecasts. *Mon. Wea. Rev.*, 139, 908-920.
20. Chou, K.-H., C.-C. Wu, P.-H. Lin, S. D. Aberson, **M. Weissmann**, F. Harnisch and T. Nakazawa, 2011: The Impact of Dropwindsonde Observations on Typhoon Track Forecasts in DOTSTAR and T-PARC. *Mon. Wea. Rev.*, 139, 1728-1743.
21. Harnisch, F., **M. Weissmann**, C. Cardinali and M. Wirth, 2011: Experimental assimilation of DIAL water vapour observations in the ECMWF global model. *Q. J. R. Meteorol. Soc.*, 137, 1532-1546.
22. Harnisch, F., and **M. Weissmann**, 2010: Sensitivity of typhoon forecasts to different subsets of targeted dropsonde observations. *Mon. Wea. Rev.*, 138, 2664-2680.
23. Hill, M., R. Calhoun, H. J. S. Fernando, A. Wieser, A. Dörnbrack, **M. Weissmann**, G. Mayr and R. Newsom, 2010: Coplanar Doppler Lidar Retrieval of Rotors from T-REX. *J. Atmos. Sci.*, 67, 713-729.
24. **Weissmann, M.**, A. Dörnbrack and J. D. Doyle, 2009: Vorticity from line-of-sight lidar velocity scans. *J. Atmos. Oceanic Technol.*, 26, 2683-2690.

25. Doyle, J. D., V. Grubišić, W. O. J. Brown, S. F. J. De Wekker, A. Dörnbrack, Q. Jiang, S. D. Mayor and **M. Weissmann**, 2009: Observations and Numerical Simulations of Subrotor Vortices during T-REX. *J. Atmos. Sci.*, 66, 1229-1249.
26. Drechsel, S., M. Chong, G. J. Mayr, **M. Weissmann**, R. Calhoun and A. Dörnbrack, 2009: Three-dimensional wind retrieval: application of MUSCAT to dual-Doppler lidar. *J. Atmos. Oceanic Technol.*, 26, 635-646.
27. Grubišić, V., J. D. Doyle, J. Kuettner, S. Mobbs, R. B. Smith, C. D. Whiteman, J. A. Moore, S. Czyzyk, S. A. Cohn, S. Vosper, **M. Weissmann**, S. Haimov, S. De Wekker, L. Pan and T. K. Chow, 2008: The Terrain-induced Rotor Experiment. *Bull. Amer. Soc.*, 89, 1513-1533.
28. **Weissmann, M.** and C. Cardinali, 2007: The impact of airborne Doppler lidar measurements on ECMWF forecasts. *Q. J. R. Meteorol. Soc.*, 133, 107-116.
29. Koch, R., M. Ehrendorfer and **M. Weissmann**, 2007: Key analysis errors and airborne wind lidar observations. *Meteorologische Zeitschrift*, 16, 711-723.
30. Mayr, G. J., A. Gohm, G. Zängl, L. Armi, D. R. Durran, C. Flamant, S. Gabersek, S. Mobbs and **M. Weissmann**, 2007: Gap flows: Results from Mesoscale Alpine Programme. *Q. J. R. Meteorol. Soc.*, 133, 881-896.
31. **Weissmann, M.**, F. J. Braun, L. Gantner, G. Mayr, S. Rahm and O. Reitebuch, 2005: The Alpine mountain-plain circulation: airborne Doppler lidar measurements and numerical simulations. *Mon. Wea. Rev.*, 133, 3095-3109.
32. **Weissmann, M.**, R. Busen, A. Dörnbrack, S. Rahm and O. Reitebuch, 2005: Targeted observations with an air-borne wind lidar. *J. Atmos. Oceanic Technol.*, 22, 1706-1719.
33. **Weissmann, M.**, G. Mayr, R. Banta and A. Gohm, 2004: Observations of the temporal evolution and structure of gap flow in the Wipp Valley on 2 and 3 October 1999. *Mon. Wea. Rev.*, 132, 2684-2697.

#### **Other publications**

1. Aberson, S., C.-C. Wu, M. Bell, J. Halverson, C. Fogarty, J. Cione, and **M. Weissmann**, 2010: *Aircraft observations of tropical cyclones, in Global Perspectives on Tropical Cyclones: From Science to Mitigation, 2nd edition*, World Scientific Publishing Company Ltd, J.C.L. Chan and J. Kepert, editors , pp 227-240.
2. Majumdar, S. J., S. D. Aberson, C. H. Bishop, C. Cardinali, J. Caughey, A. Doerenbecher, P. Gauthier, R. Gelaro, T. M. Hamill, R. H. Langland, A. C. Lorenc, T. Nakazawa, F. Rabier, C. A. Reynolds, R. Saunders, Y. Song, Z. Toth, C. Velden, **M. Weissmann** and C.-C. Wu, 2011: Targeted observations for improving numerical weather prediction: an overview. WWRP/THORPEX report no. 15.