

## LIST OF PUBLICATIONS

### Peer-reviewed publications:

**Bengtsson, L.**, Magnusson, L., Källén, E., 2008: Independent Estimations of the Asymptotic Variability in an Ensemble Forecast System. *Monthly Weather Review*, Volume 136, Issue 11 pp. 4105-4112.

**Bengtsson, L.**, Körnich, H., Källén, E., Svensson, G., 2011: Large-Scale Dynamical Response to Subgrid-Scale Organization Provided by Cellular Automata. *Journal of the Atmospheric Sciences* Volume 68, Issue 12 pp. 3132-3144.

**Bengtsson, L.**, Tijm, S., Váňa, F., Svensson, G., 2012: Impact of flow-dependent horizontal diffusion on resolved convection in AROME. *Journal of Applied Meteorology and Climatology* Volume 51, No.1, pp 54-67.

**Bengtsson, L.**, M. Steinheimer, P. Bechtold, and J.-F. Geleyn, 2013: A stochastic parameterization for deep convection using cellular automata, *Quarterly Journal of the Royal Meteorological Society*, 139 (675) .

**Bengtsson, L.**, Körnich, H., 2016: Impact of a stochastic parameterization of cumulus convection, using cellular automata, in a meso-scale ensemble prediction system. *Quarterly Journal of the Royal Meteorological Society. Q.J.R. Meteorol. Soc.*, 142: 1150–1159. doi: 10.1002/qj.2720

Berner, J., U. Achatz, L. Batté, **L. Bengtsson**, A.d. Cámara, H.M. Christensen, M. Colangeli, D.R. Coleman, D. Crommelin, S.I. Dolaptchiev, C.L. Franzke, P. Friederichs, P. Imkeller, H. Järvinen, S. Juricke, V. Kitsios, F. Lott, V. Lucarini, S. Mahajan, T.N. Palmer, C. Penland, M. Sakradzija, J. von Storch, A. Weisheimer, M. Weniger, P.D. Williams, and J. Yano, 2017: [Stochastic Parameterization: Toward a New View of Weather and Climate Models.](https://doi.org/10.1175/BAMS-D-15-00268.1) *Bull. Amer. Meteor. Soc.*, 98, 565–588, <https://doi.org/10.1175/BAMS-D-15-00268.1>

Olsson, J., Pers, C., **Bengtsson, L.**, Pechlivanidis, I., Berg, P., Körnich, H., 2017: Distance-dependent depth-duration analysis in high-resolution hydro-meteorological ensemble forecasting: A case study in Malmö City, Sweden. *Environmental Modelling & Software*, Volume 93, 2017, Pages 381-397, ISSN 1364-8152.

**Bengtsson, L.**, U. Andrae, T. Aspelien, Y. Batrak, J. Calvo, W. de Rooy, E. Gleeson, B. Hansen-Sass, M. Homleid, M. Hortal, K. Ivarsson, G. Lenderink, S. Niemelä, K.P. Nielsen, J.

Onvlee, L. Rontu, P. Samuelsson, D.S. Muñoz, A. Subias, S. Tijm, V. Toll, X. Yang, and M.Ø. Køltzow, 2017: [The HARMONIE-AROME Model Configuration in the ALADIN-HIRLAM NWP System](https://doi.org/10.1175/MWR-D-16-0417.1). *Mon. Wea. Rev.*, 145, 1919–1935, <https://doi.org/10.1175/MWR-D-16-0417.1>

Yano, J., M.Z. Ziemiański, M. Cullen, P. Termonia, J. Onvlee, **L. Bengtsson**, A. Carrassi, R. Davy, A. Deluca, S.L. Gray, V. Homar, M. Köhler, S. Krichak, S. Michaelides, V.T. Phillips, P.M. Soares, and A.A. Wyszogrodzki, 2018: [Scientific Challenges of Convective-Scale Numerical Weather Prediction](https://doi.org/10.1175/BAMS-D-17-0125.1). *Bull. Amer. Meteor. Soc.*, 99, 699–710, <https://doi.org/10.1175/BAMS-D-17-0125.1>

**Bengtsson, L.**, J. Bao, P. Pegion, C. Penland, S. Michelson, and J. Whitaker, 2019: [A Model Framework for Stochastic Representation of Uncertainties Associated with Physical Processes in NOAA's Next Generation Global Prediction System \(NGGPS\)](https://doi.org/10.1175/MWR-D-18-0238.1). *Mon. Wea. Rev.*, 147, 893–911, <https://doi.org/10.1175/MWR-D-18-0238.1>

**Bengtsson, L.**, J. Dias, M. Gehne, P. Bechtold, J. Whitaker, J. Bao, L. Magnusson, S. Michelson, P. Pegion, S. Tulich, and G.N. Kiladis, 2019: [Convectively Coupled Equatorial Wave Simulations Using the ECMWF IFS and the NOAA GFS Cumulus Convection Schemes in the NOAA GFS Model](https://doi.org/10.1175/MWR-D-19-0195.1). *Mon. Wea. Rev.*, 147, 4005–4025, <https://doi.org/10.1175/MWR-D-19-0195.1>

Björg Jenny Kokkvoll Engdahl, Gregory Thompson & **Lisa Bengtsson** (2020) Improving the representation of supercooled liquid water in the HARMONIE-AROME weather forecast model, *Tellus A: Dynamic Meteorology and Oceanography*, 72:1, 1-18, DOI: [10.1080/16000870.2019.1697603](https://doi.org/10.1080/16000870.2019.1697603)

Björg Jenny Kokkvoll Engdahl, Bjørn Egil Kringlebotn Nygaard, Vemund Losnedal, Gregory Thompson, **Lisa Bengtsson** (2020): Effects of the ICE-T microphysics scheme in HARMONIE-AROME on estimated ice loads on transmission lines, *Cold Regions Science and Technology*, Volume 179, <https://doi.org/10.1016/j.coldregions.2020.103139>.

**Bengtsson, L.**, Dias, J., Tulich, S., Gehne, M., & Bao, J.-W. (2021). A stochastic parameterization of organized tropical convection using cellular automata for global forecasts in NOAA's Unified Forecast System. *Journal of Advances in Modeling Earth Systems*, 13, e2020MS002260. <https://doi.org/10.1029/2020MS002260>

**Bengtsson, L.**, Gerard, L., Han, J., Gehne, M., Li, W., & Dias, J. (2022). A prognostic-stochastic and scale-adaptive cumulus convection closure for improved tropical variability and convective gray-zone representation in NOAA's Unified Forecast System (UFS)., *Monthly Weather Review* (published online ahead of print 2022). <https://doi.org/10.1175/MWR-D-22-0114.1>

### **Survey papers, books, chapters in books:**

**Bengtsson, L.**, 2012: On the convective scale predictability of the atmosphere.

PhD thesis, Stockholm University, Sweden. ISBN 978-91-7447-494-7. Department of Meteorology, Stockholm University.

R. S. Plant, **L. Bengtsson** and M. A. Whitall. Stochastic aspects of convective parameterization. In R. S. Plant and J.-I. Yano, editors, *Parameterization of Atmospheric Convection. Volume 2: Current Issues and New Theories*, chapter 20, pages 135-172. Imperial College Press, 2015.

J.-I. Yano, **L. Bengtsson**, J-F. Geleyn, and R. Brozkova. Towards a unified and self-consistent parameterization framework. In R. S. Plant and J.-I. Yano, editors, *Parameterization of Atmospheric Convection. Volume 2: Current Issues and New Theories*, chapter 6. Imperial College Press, 2015.

### **Peer-reviewed conference proceeding:**

**Bengtsson, L.**, 2011: A stochastic parameterization of deep convection organization using cellular automata. *ECMWF Workshop Proceedings on Representing Model Uncertainty and Error in Numerical Weather and Climate Prediction Models*. Pages 263–269.