



## PROFESSIONAL EXPERIENCE

2005–present	Senior Scientist, Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado.
2000–2005	Scientist III, Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado.
1996–2000	Scientist II, Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado.
1993–1996	Scientist I, Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado.
1989–1993	Visiting Scientist, Mesoscale and Microscale Meteorology Division, National Center for Atmospheric Research, Boulder, Colorado.
1987–1989	Postdoctoral Fellow, Advanced Study Program, National Center for Atmospheric Research, Boulder, Colorado.
1987	Adjunct Professor, Institute of Geophysics, Polish Academy of Science, Warsaw, Poland.
1986–1987	Research Fellow, Institute of Geophysics, Polish Academy of Science, Warsaw, Poland
1983–1986	Graduate Research Assistant (Ph.D. Program), University of Warsaw and Polish Academy of Science, Poland
1981–1983	Research Assistant, Division of Atmospheric Physics, Institute of Meteorology and Water Management, Warsaw, Poland

## HONORS AND AWARDS

2005	Royal Meteorological Society Reviewer Award
1999	Habilitation, Institute of Geophysics, Polish Academy of Sciences, Warsaw, Poland.
1999	NCAR/MMM Outstanding Paper of the Year Award
1995	NCAR Publication Award nominee

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## OTHER ACTIVITIES

- 2006–present Associate Editor for *Journal of the Atmospheric Sciences*.
- 2005 Guest Editor, 14th International Conference on Clouds and Precipitation Special Issue of *Atmospheric Research*.
- 2004 organizer and co-chair of the International Cloud Modeling Workshop, Hamburg, Germany
- 2004 Guest Editor, EUROCS Special Issue of *Quarterly Journal of the Royal Meteorological Society*.
- 2003–present member of the Editorial Board of *Acta Geophysica Polonica*
- 2002–present Affiliate Faculty, Colorado State University
- 2001–present Adjoint Professor of Mechanical Engineering, University of Delaware
- 2001–2004 Chair, Working Group 4 (Precipitating Convective Cloud Systems), GEWEX (Global Energy and Water-cycle Experiment) Cloud System Study.
- 2001–present Associate Editor for *Quarterly Journal of the Royal Meteorological Society*.
- 2001–present Member of the Geophysical Turbulence Program, NCAR
- 2000–present Member of the International Commission on Clouds and Precipitation (ICCP), International Association of Meteorology and Atmospheric Sciences (IAMAS), International Union of Geodesy and Geophysics (IUGG).
- 2000–present Associate Editor for *Atmospheric Science Letters* (electronic journal of the Royal Meteorological Society).
- 1999–2001 MMM Seminar coordinator.
- 1995–1998 Member of the Committee on Cloud Physics of the American Meteorological Society.
- 1981–present Invited speaker and participant in numerous international and national conferences and workshops in the fields of geophysics, numerical modeling, cloud physics, cloud modeling, tropical meteorology, turbulence and diffusion, forecasting and nowcasting (North and South America, Europe, Asia, Australia).

## PUBLICATIONS

(Refereed)

- Grabowski, W. W., 1983: Measurement of the size and position of aerosol droplets using holography, *Optics Laser Tech.*, 199–205.

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- Grabowski, W. W., 1985: On the influence of microphysics parameterization on the rainfall rates in numerical models of clouds, *Pure Appl. Geophys.*, **123**, 941–950.
- Grabowski, W. W., 1988: On the bulk parameterization of snow and its application to the quantitative studies of precipitation growth, *Pure Appl. Geophys.*, **127**, 79–92.
- Grabowski, W. W., 1989: On the influence of small scale topography on precipitation, *Quart. J. Roy. Met. Soc.*, **115**, 633–650.
- Grabowski, W. W., 1989: Numerical experiments on the dynamics of the cloud-environment interface: small cumulus in a shear-free environment, *J. Atmos. Sci.*, **46**, 3513–3541.
- Smolarkiewicz, P. K. and W. W. Grabowski, 1990: The multidimensional positive definite advection transport algorithm: Nonoscillatory option, *J. Comput. Phys.*, **86**, 355–375.
- Grabowski, W. W. and P. K. Smolarkiewicz, 1990: Monotone finite difference approximations to the advection-condensation problem, *Mon. Wea. Rev.*, **118**, 2082–2097.
- Grabowski, W. W. and T. L. Clark, 1991: Cloud-environment interface instability: Rising thermal calculations in two spatial dimensions. *J. Atmos. Sci.*, **48**, 527–546.
- Brenguier, J-L. and W. W. Grabowski, 1993: Cumulus entrainment and cloud droplet spectra: A numerical model within a two-dimensional dynamical framework. *J. Atmos. Sci.*, **50**, 120–136.
- Grabowski, W. W. and T. L. Clark, 1993: Cloud-environment interface instability, Part II: Extension to three spatial dimensions. *J. Atmos. Sci.*, **50**, 555–573.
- Grabowski, W. W. and T. L. Clark, 1993: Cloud-environment interface instability, Part III: Direct influence of environmental shear. *J. Atmos. Sci.*, **50**, 3821–3828.
- Grabowski, W. W., 1993: Cumulus entrainment, fine-scale mixing and buoyancy reversal. *Quart. J. Roy. Met. Soc.*, **119**, 935–956.
- Grabowski, W. W., and H. Pawłowska, 1993: Entrainment and mixing in clouds: the Paluch mixing diagram revisited. *J. Appl. Meteor.*, **32**, 1767–1773.
- Grabowski, W. W., 1995: Entrainment and mixing in buoyancy reversing convection with applications to cloud-top entrainment instability. *Quart. J. Roy. Met. Soc.*, **121**, 231–253.
- Grabowski, W. W. and P. K. Smolarkiewicz, 1996: On two-time-level semi-Lagrangian modeling of precipitating clouds. *Mon. Wea. Rev.* **124**, 487–497.
- Grabowski, W. W., M. W. Moncrieff, and J. T. Kiehl, 1996: Long-term behavior of precipitating tropical cloud systems: a numerical study. *Quart. J. Roy. Met. Soc.*, **122**, 1019–1042.
- Grabowski, W. W., X. Wu, and M. W. Moncrieff, 1996: Cloud resolving modeling of tropical cloud systems during Phase III of GATE. Part I: Two-dimensional experiments. *J. Atmos. Sci.* **53**, 3684–3709.

- Vaillancourt, P. A., M. K. Yau, and W. W. Grabowski, 1997: Upshear and downshear evolution of cloud structure and cloud properties. *J. Atmos. Sci.* **54**, 1203–1217.
- Malinowski, P. S., W. W. Grabowski, 1997: Local increase in concentration of cloud droplets and water content resulting from turbulent mixing. *J. Tech. Phys.* **38**, 397–406.
- Szumowski, M. J., W. W. Grabowski, and H. T. Ochs, 1998: Simple two-dimensional kinematic framework designed to test warm rain microphysical models. *Atmos. Res.* **45**, 299–326.
- Wu, X., W. W. Grabowski, and M. W. Moncrieff, 1998: Long-term behavior of cloud systems in TOGA COARE and their interactions with radiative and surface processes. Part I: Two-dimensional modeling study. *J. Atmos. Sci.*, **55**, 2693–2714.
- Grabowski, W. W., X. Wu, M. W. Moncrieff, and W. D. Hall, 1998: Cloud resolving modeling of tropical cloud systems during Phase III of GATE. Part II: Effects of resolution and the third spatial dimension. *J. Atmos. Sci.*, **55**, 3264–3282.
- Grabowski, W. W., 1998: Toward cloud resolving modeling of large-scale tropical circulations: A simple cloud microphysics parameterization. *J. Atmos. Sci.*, **55**, 3283–3298.
- Grabowski, W. W., and P. Vaillancourt, 1999: Comments on “Preferential concentration of cloud droplets by turbulence: effects on the early evolution of cumulus cloud droplet spectra” by Shaw et al. *J. Atmos. Sci.*, **56**, 1433–1436.
- Grabowski, W. W., X. Wu, and M. W. Moncrieff, 1999: Cloud resolving modeling of tropical cloud systems during Phase III of GATE. Part III: Effects of microphysical parameterizations. *J. Atmos. Sci.*, **56**, 2384–2402.
- Grabowski, W. W., 1999: A parameterization of cloud microphysics for long-term cloud-resolving modeling of tropical convection. *Atmos. Res.*, **52**, 17–41.
- Grabowski, W. W., and P. K. Smolarkiewicz, 1999: CRCP: A Cloud Resolving Convection Parameterization for Modeling the Tropical Convecting Atmosphere. *Physica D*, **133**, 171–178. (Special Issue: *Predictability: Quantifying Uncertainty in Models of Complex Phenomena*, 18th Annual Conference of the Center for Nonlinear Studies, Los Alamos, NM, USA, 11-15 May 1998).
- Wu, X., W. D. Hall, W. W. Grabowski, M. W. Moncrieff, W. D. Collins, and J. T. Kiehl, 1999: Long-term behavior of cloud systems in TOGA COARE and their interactions with radiative and surface processes. Part II: Effects of cloud microphysics on cloud-radiation interaction. *J. Atmos. Sci.*, **56**, 3177–3195.
- Grabowski, W. W., J.-I. Yano, and M. W. Moncrieff, 2000: Cloud-resolving modeling of tropical circulations driven by large-scale SST gradients. *J. Atmos. Sci.*, **57**, 2022–2039.
- Grabowski, W. W., 2000: Cloud microphysics and the tropical climate: cloud-resolving model perspective. *J. Climate*, **13**, 2306–2322.

- Yano, J.-I., W. W. Grabowski, G. L. Roff, and B. E. Mapes, 2000: Asymptotic approaches to convective quasi-equilibrium. *Quart. J. Roy. Met. Soc.*, **126**, 1861–1887.
- Grabowski, W. W., 2000: Dynamics of cumulus entrainment. in *Geophysical and Astrophysical Convection*, Edited by R. Kerr and P. Fox, Gordon and Breach Science Publishers, 107–127.
- Grabowski, W. W., and M. W. Moncrieff, 2001: Large-scale organization of tropical convection in two-dimensional explicit numerical simulations. *Quart. J. Roy. Met. Soc.*, **127**, 445–468.
- Liu, C., M. W. Moncrieff, and W. W. Grabowski, 2001: Hierarchical modeling of tropical convective systems using resolved and parameterized approaches. *Quart. J. Roy. Met. Soc.*, **127**, 493–515.
- Grabowski, W. W., 2001: Coupling cloud processes with the large-scale dynamics using the Cloud-Resolving Convection Parameterization (CRCP). *J. Atmos. Sci.*, **58**, 978–997.
- Vaillancourt, P., M. K. Yau, and W. W. Grabowski, 2001: Microscopic approach to cloud droplet growth by condensation. Part I: Model description and results without turbulence. *J. Atmos. Sci.*, **58**, 1945–1964.
- Liu, C., M. W. Moncrieff, and W. W. Grabowski, 2001: Explicit and parameterized realizations of convective cloud systems in TOGA COARE. *Mon. Wea. Rev.*, **129**, 1689–1703.
- Grabowski, W. W., and P. K. Smolarkiewicz, 2002: A multiscale anelastic model for meteorological research. *Mon. Wea. Rev.*, **130**, 939–956.
- Yano, J.-I., M. W. Moncrieff, and W. W. Grabowski, 2002: Walker-type mean circulations and convectively-coupled tropical waves as an interacting system. *J. Atmos. Sci.*, **59**, 1566–1577.
- Yano, J.-I., W. W. Grabowski, and W. M. Moncrieff, 2002: Mean-state convective circulations over large-scale tropical SST gradients. *J. Atmos. Sci.*, **59**, 1578–1592.
- Xu, K.-M., R. T. Cederwall, L. J. Donner, W. W. Grabowski, F. Guichard, D. E. Johnson, M. Khairoutdinov, S. K. Krueger, J. C. Petch, D. A. Randall, C. J. Seman, W. K. Tao, D. Wang, S. C. Xie, J. J. Yio, and M.-H. Zhang, 2002: An intercomparison of cloud-resolving models with the ARM summer 1997 IOP data. *Quart. J. Roy. Met. Soc.*, **128**, 593–624.
- Grabowski, W. W., 2002: Large-scale organization of moist convection in idealized aquaplanet simulations. *Int. J. Numer. Methods in Fluids*, **39**, 843–853.
- Grabowski, W. W., and M. W. Moncrieff, 2002: Large-scale organization of tropical convection in two-dimensional explicit numerical simulations: Effects of interactive radiation. *Quart. J. Roy. Met. Soc.*, **128**, 2349–2375.
- Vaillancourt, P. A., M. K. Yau, P. Bartello, and W. W. Grabowski, 2002: Microscopic approach to cloud droplet growth by condensation. Part II: Turbulence, clustering and condensational growth. *J. Atmos. Sci.*, **59**, 3421–3435.

- Grabowski, W. W., 2003: Impact of ice microphysics on multiscale organization of tropical convection in two-dimensional cloud-resolving simulations. *Quart. J. Roy. Met. Soc.*, **129**, 67–81.
- Grabowski, W. W., 2003: MJO-like coherent structures: Sensitivity simulations using the Cloud-Resolving Convection Parameterization (CRCP). *J. Atmos. Sci.*, **60**, 847–864.
- Grabowski, W. W., 2003: Impact of cloud microphysics on convective-radiative quasi-equilibrium revealed by Cloud-Resolving Convection Parameterization (CRCP). *J. Climate*, **16**, 3463–3475.
- Randall, D., M. Khairoutdinov, A. Arakawa, and W. Grabowski, 2003: Breaking the cloud-parameterization deadlock. *Bull. Amer. Meteor. Soc.*, **84**, 1547–1564.
- Andrejczuk, M., W. W. Grabowski, S. P. Malinowski, and P. K. Smolarkiewicz, 2004: Numerical simulation of cloud-clear air interfacial mixing. *J. Atmos. Sci.*, **61**, 1726–1739.
- Grabowski, W. W., 2004: An improved framework for superparameterization. *J. Atmos. Sci.*, **61**, 1940–1952.
- Grabowski, W. W., and M. W. Moncrieff, 2004: Moisture-convection feedback in the Tropics. *Quart. J. Roy. Met. Soc.*, **130**, 3081–3104.
- Guichard, F., J. C. Petch, J.-L. Redelsperger, P. Bechtold, J.-P. Chaboureau, S. Cheinet, W. Grabowski, H. Grenier, C. J. Jones, M. Kohler, J.-M. Piriou, R. Tailleux, and M. Tomasini, 2004: Modelling the diurnal cycle of deep precipitating convection over land with CRMs and SCMs. *Quart. J. Roy. Met. Soc.*, **130**, 3139–3172.
- Geresdi, I., R. Rasmussen, W. Grabowski, and B. Bernstein, 2005: Sensitivity of freezing drizzle formation in stably stratified clouds to ice processes. *Meteor. Atmos. Physics*, **88**, 91–105.
- Wang, L.-P., O. Ayala, and W. W. Grabowski, 2005: Improved formulations of the superposition method. *J. Atmos. Sci.*, **62**, 1255–1266.
- Ziemianski, M. Z., W. W. Grabowski, and M. W. Moncrieff, 2005: Explicit convection over the western Pacific warm pool in the Community Atmospheric Model. *J. Climate*, **18**, 1482–1502.
- Wang, L.-P., O. Ayala, S. E. Kasprzak, and W. W. Grabowski, 2005: Theoretical formulation of collision rate and collision efficiency of hydrodynamically-interacting cloud droplets in turbulent atmosphere. *J. Atmos. Sci.*, **62**, 2433–2450.
- Wang, L.-P., C. N. Franklin, O. Ayala, and W. W. Grabowski, 2006: Probability distributions of angle-of-approach and relative velocity for colliding droplets. *J. Atmos. Sci.*, **63**, 881–900.
- Grabowski, W. W., P. Bechtold, A. Cheng, R. Forbes, C. Halliwell, M. Khairoutdinov, S. Lang, T. Nasuno, J. Petch, W.-K. Tao, R. Wong, X. Wu, and K.-M. Xu, 2006:

- Daytime convective development over land: a model intercomparison based on LBA observations. *Quart. J. Roy. Met. Soc.*, **132**, 317-344.
- Grabowski, W. W., 2006: Comments on "Preliminary tests of multiscale modeling with a two-dimensional framework: sensitivity to coupling methods" by Jung and Arakawa. *Mon. Wea. Rev.*, **134**, 2021-2026.
- Grabowski, W. W., 2006: Impact of explicit atmosphere-ocean coupling on MJO-like coherent structures in idealized aquaplanet simulations. *J. Atmos. Sci.*, **63**, 2289-2306.
- Grabowski, W. W., 2006: Indirect impact of atmospheric aerosols in idealized simulations of convective-radiative quasi-equilibrium. *J. Climate*, **19**, 4664-4682.
- Wang, L.-P., Y. Xue, O. Ayala, and W. W. Grabowski, 2006: Effects of stochastic coalescence and air turbulence on the size distribution of cloud droplets. *Atmos. Res.*, **82**, 416-432.
- Wang, L.-P., O. Ayala, Y. Xue, and W. W. Grabowski, 2006: Comments on "Droplets to drops by turbulent coagulation" by Riemer and Wexler. *J. Atmos. Sci.*, **63**, 2397-2401.
- Pawlowska, H., W. W. Grabowski, and J.-L. Brenguier, 2006: Observations of the width of cloud droplet spectra in stratocumulus. *Geophys. Res. Lett.*, **33**, L19810, doi:10.1029/2006GL026841.
- Andrejczuk, M., W. W. Grabowski, S. P. Malinowski, and P. K. Smolarkiewicz, 2006: Numerical simulation of cloud-clear air interfacial mixing: Effects on cloud microphysics. *J. Atmos. Sci.*, **63**, 3204-3225.
- McFarlane, S. A., and W. W. Grabowski, 2007: Optical properties of shallow tropical cumuli derived from ARM ground-based remote sensing. *Geophys. Res. Lett.*, **34**, L06808, doi:10.1029/2006GL028767.
- Barstad, I., W. W. Grabowski, and P. K. Smolarkiewicz, 2007: Characteristics of large-scale orographic precipitation: evaluation of linear model in idealized problems. *J. Hydrology*, **340**, 78-90.
- Wang, L.-P., O. Ayala, and W. W. Grabowski, 2007: Effects of aerodynamic interactions on the motion of heavy particles in a bidisperse suspension. *J. Turbulence*, doi:10.1080/14685240701233426.
- Morrison, H., and W. W. Grabowski, 2007: Comparison of bulk and bin warm rain microphysics models using a kinematic framework. *J. Atmos. Sci.*, **64**, 2839-2861.
- Grabowski, W. W., 2007: Representation of turbulent mixing and buoyancy reversal in bulk cloud models. *J. Atmos. Sci.*, **64**, 3666-3690.
- Ayala, O., W. W. Grabowski, and L.-P. Wang, 2006: A hybrid approach for simulating turbulent collisions of hydrodynamically-interacting particles. *J. Comput. Phys.* (in press).

- Wang, L.-P., Y. Xue, and W. W. Grabowski, 2007: Bin integral method for solving the kinetic collection equation. *J. Comput. Phys.* (accepted).
- Morrison, H., and W. W. Grabowski, 2007: Modeling supersaturation and subgrid-scale mixing with two-moment bulk warm microphysics. *J. Atmos. Sci.* (accepted).
- Grabowski, W. W., and H. Morrison, 2007: Toward the mitigation of spurious cloud-edge supersaturation in cloud models. *Mon. Wea. Rev.* (accepted).
- Slawinska, J., W. W. Grabowski, H. Pawlowska, and A. A. Wyszogrodzki, 2007: Optical properties of shallow convective clouds diagnosed from a bulk-microphysics large-eddy simulation. *J. Climate* (accepted).
- Morrison, H., and W. W. Grabowski, 2007: A novel approach for representing ice microphysics in models: description and tests using a kinematic framework. *J. Atmos. Sci.* (accepted).
- Xue, Y., L.-P. Wang, and W. W. Grabowski, 2007: Growth of cloud droplets by turbulent collision-coalescence. *J. Atmos. Sci.* (submitted).

(Unrefereed)

- Grabowski, W. W., 1987: On the role of snow in the redistribution of precipitation by small scale topography, Proceedings of the Symposium on Mesoscale Analysis and Forecasting, Vancouver, Canada, August 17-19, 176-171.
- Grabowski, W. W., 1988: On the small scale topographical influences on precipitation, Proceedings of the 10th International Conference on Cloud and Precipitation, Bad Homburg, FRG, August 15-21, 344-346.
- Grabowski, W. W. and T. L. Clark, 1990: Cloud-environment interface instability and entrainment in convective clouds: Rising thermal calculations in two spatial dimensions, Proceedings of the AMS Conference on Cloud Physics, San Francisco, CA, July 23-27, 713-715.
- Grabowski, W. W. and T. L. Clark, 1991: Cumulus entrainment: cloud-environment interface instability in two and three spatial dimensions, Proceedings of the 8th AMS Conference on Atmospheric Waves and Stability, Denver, CO, October 14-18, 312-314.
- Grabowski, W. W. and T. L. Clark, 1992: Cloud-environment interface instability and the dynamics of cumulus entrainment. Proceedings of the 11th International Conference on Clouds and Precipitation, Montreal, Canada, August 17-21, 433-435.
- Grabowski, W. W. and T. L. Clark, 1992: Transition to turbulence in numerical experiments with three-dimensional thermals. Proceedings of the 10th Symposium on Turbulence and Diffusion, Portland, Ore., September 29 - October 2, 127-129.
- Grabowski, W. W., 1993, On the stability of buoyancy reversing systems with applications to cloud-top entrainment instability. Proceedings of the 9th AMS Conference

on Atmospheric and Oceanic Waves and Stability, San Antonio, Texas, May 10-14, 238-240.

- Kiehl J. T., M. W. Moncrieff, J. J. Hack, W. W. Grabowski, and V. Ramaswamy, 1994: A hierarchical approach to improve cloud radiation parameterization for climate models through the Atmospheric Radiation Measurement Program. Proceedings of the 3rd Atmospheric Radiation Measurement (ARM) Science Team Meeting, Norman, Oklahoma, March 1-4 1993, 179-182.
- Grabowski, W. W., J. T. Kiehl, and M. W. Moncrieff, 1994: Numerical studies of cloud population over the tropical ocean. Abstracts of Oral and Poster Sessions, European Conference on the Global Energy and Water Cycle, Royal Meteorological Society, London, 18-22 July.
- Grabowski, W. W., J. T. Kiehl, and M. W. Moncrieff, 1995: Numerical study of convective-radiative equilibrium with explicit two-dimensional moist convection: Effects of high-level clouds. Proceedings of the AMS Conference on Cloud Physics, Dallas, January 15-20, 393-395.
- Grabowski, W. W., 1995: Cumulus entrainment and cloud-top entrainment instability: Does it work? Proceedings of the AMS Conference on Cloud Physics, Dallas, January 15-20, 72-73.
- Smolarkiewicz, P. K. and W. W. Grabowski, 1995: Semi-Lagrangian/Eulerian cloud model. Proceedings of the AMS Conference on Cloud Physics, Dallas, January 15-20, 466-467.
- Grabowski, W. W., X. Wu, and M. W. Moncrieff, 1995: Numerical studies of cloud population over the tropical ocean. Proceedings of the AMS Conference on Hurricanes and Tropical Meteorology, Miami, April 24-28, 597-599.
- Moncrieff, M. W., X. Wu and W. W. Grabowski, 1995: Cirrus-producing tropical convective cloud systems as a process in large-scale models. Proceedings of the Workshop on Cloud Microphysics Parameterizations in Global Atmospheric Circulation Models, Kananaskis, Alberta, 23-24 May, 1995. WCRP-90, World Meteorological Organization, Geneva.
- Wu X., W. W. Grabowski, and M. W. Moncrieff, 1995: Interaction of cloud systems with the large-scale environment: numerical simulation. Abstracts of the IUGG XXI General Assembly, Boulder, July 2-14.
- Malinowski, P. S., W. W. Grabowski, 1995: Local increase in concentration of cloud droplets and water content resulting from turbulent mixing. International Conference on Nonlinear Dynamics, Chaotic and Complex Systems, Zakopane, Poland, 7-12 November.
- Barth, M. C., and W. W. Grabowski, 1996: Preliminary results of cloud effects on the photochemistry in and around stratocumulus. Proceedings of the 4th WMO Cloud Modeling Workshop, Clermont-Ferrand, France, August 14-23, 1996.
- Grabowski, W. W., X. Wu, and M. W. Moncrieff, 1996: Cloud-resolving modeling of tropical cloud systems and its application to the cloud-climate interactions Proceedings of

the 12th International Conference on Clouds and Precipitation, Zurich, Switzerland, August 19-23, 770–773.

Smolarkiewicz, P. K., W. W. Grabowski, and V. Grubisic, 1996: Semi-Lagrangian/Eulerian cloud model. Proceedings of the 12th International Conference on Clouds and Precipitation, Zurich, Switzerland, August 19-23, 882–884.

Gadian, A. M., J-L Brenguier, and W. W. Grabowski, 1996: Parameterization of Cloud Droplet Condensational Growth. Proceedings of the 12th International Conference on Clouds and Precipitation, Zurich, Switzerland, August 19-23, 1244–1246.

Szumowski, M. J., H. T. Ochs III, R. M. Rauber, and W. W. Grabowski, 1996: Lagrangian Calculations of Raindrop Growth in Shallow Convective Clouds Based on Kinematic Fields Obtained From both a Cloud Model and Dual-Doppler Data Syntheses. Proceedings of the 12th International Conference on Clouds and Precipitation, Zurich, Switzerland, August 19-23, 65–66.

Szumowski, M. J., W. W. Grabowski, R. M. Rauber, and H. T. Ochs III, 1996: A Statistical Study of Warm Rain Formation in Shallow, Tropical Convection. Proceedings of the 12th International Conference on Clouds and Precipitation, Zurich, Switzerland, August 19-23, 756–757.

Vaillancourt, P. A, M. K. Yau, and W. W. Grabowski, 1996: Microscopic approach to condensational growth of cloud droplets. Proceedings of the 12th International Conference on Clouds and Precipitation, Zurich, Switzerland, August 19-23, 105–108.

Wu, X., W. W. Grabowski, and M. W. Moncrieff, 1996: Coupling of physical processes in the cloud-resolving modeling of TOGA-COARE cloud systems. Proceedings of the 7th Conference on Mesoscale Processes, Reading, United Kingdom, September 9-13, 274–276.

Grabowski, W. W., and X. Wu, 1997: Tropical climate and cloud microphysics: How do they connect? Proceedings of the 22nd AMS Conference on Hurricanes and Tropical Meteorology, Fort Collins, Colorado, May 19-23, 488–489.

Wu, X., W. W. Grabowski, and M. W. Moncrieff, 1997: Three-dimensional cloud-resolving modeling of tropical convection on a time scale of one week. Proceedings of the 22nd AMS Conference on Hurricanes and Tropical Meteorology, Fort Collins, Colorado, May 19-23, 65–66.

Grabowski, W. W., 1998: Cloud microphysics and the tropical climate. Proceedings of the AMS Conference on Cloud Physics, Everett, Washington, August 17-21, 183–184.

Vaillancourt, P. A, M. K. Yau, and W. W. Grabowski, 1998: Microscopic approach to condensational growth of cloud droplets in the presence of turbulence. Proceedings of the AMS Conference on Cloud Physics, Everett, Washington, August 17-21, 546–549.

Grabowski, W. W., and P. K. Smolarkiewicz, 1999: Towards cloud-resolving modeling of larg-scale tropical circulations: Cloud-resolving convection parameterization. Proceedings of the 23rd AMS Conference on Hurricanes and Tropical Meteorology, Dallas, Texas, January 10-15, 879–880.

- Grabowski, W. W., and P. K. Smolarkiewicz, 1999: Cloud-resolving convection parameterization (CRCP): A novel approach for modeling convecting atmospheres. Proceedings of the AMS Conference on Atmospheric and Oceanic Fluid Dynamics, New York, NY, June 5–11, 48–49.
- Grabowski, W. W., P. K. Smolarkiewicz, and M. Andrejczuk, 2000: Cloud-resolving tropical convection and large-scale equatorial disturbances: Results from 2D cloud-resolving and 3D CRCP global modeling. Proceedings of the 24th AMS Conference on Hurricanes and Tropical Meteorology, Fort Lauderdale, FL, 91–92.
- Andrejczuk, M., W. W. Grabowski, S. P. Malinowski, and P. K. Smolarkiewicz, 2000: Numerical investigation of turbulent mixing of clouds with clear air in small scales: interactions of turbulence and microphysics. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, NV, 152–154.
- Smolarkiewicz, P. K., W. W. Grabowski, and A. Wyszogrodzki, 2000: Toward cloud-resolving modeling of climate: A global cloud model. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, NV, 481–483.
- Grabowski, W. W., P. K. Smolarkiewicz, and M. Andrejczuk, 2000: Toward cloud-resolving modeling of climate: Application of the cloud-resolving convection parameterization (CRCP) to global modeling. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, NV, 484–485.
- Liu, C., M. W. Moncrieff, and W. W. Grabowski, 2000: Evaluation of the Kain-Fritsch cumulus parameterization through hierarchical modeling of tropical convective systems. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, NV, 569–572.
- Szumowski, M. J., D. L. Mitchell, and W. W. Grabowski, 2000: A consistent microphysical parameterization for multiphase clouds. Proceedings of the 13th International Conference on Clouds and Precipitation, Reno, NV, 597–599.
- Grabowski, W. W., 2001: Organization of moist convection in idealized aquaplanet simulations. Proceedings of the European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS) Computational Fluid Dynamics Conference 2001, Swansea, Wales, UK (CD-ROM).
- Grabowski, W. W., and M. W. Moncrieff, 2002: Large-scale organization of tropical convection in two-dimensional explicit numerical simulations. Proceedings of the 25th AMS Conference on Hurricanes and Tropical Meteorology, San Diego, CA (CD-ROM).
- Grabowski, W. W., 2002: MJO-like coherent structures in idealized aquaplanet simulations. Proceedings of the 25th AMS Conference on Hurricanes and Tropical Meteorology, San Diego, CA (CD-ROM).
- Grabowski, W. W., and M. W. Moncrieff, 2002: Large-scale organization of tropical convection in idealized numerical simulations: Impact of radiative processes. 11th AMS Conference on Atmospheric Radiation, Ogden, UT (CD-ROM).

- Grabowski, W. W., 2002: Cloud microphysics and the tropical climate: Idealized aquaplanet simulations using the cloud-resolving convection parameterization (CRCP). AMS Conference on Cloud Physics, Ogden, UT (CD-ROM).
- Andrejczuk, M., S. P. Malinowski, W. W. Grabowski, and P. K. Smolarkiewicz, 2002: Dynamics of the small-scale turbulent mixing in clouds: numerical experiment. AMS Conference on Cloud Physics, Ogden, UT (CD-ROM).
- Grabowski, W. W., 2003: Toward cloud-resolving modeling of atmospheric general circulation. Proceedings of the 2nd Workshop on Regional Climate Modeling for Monsoon System, March 4-6, 2003, Yokohama, Japan, GAME Publication No. 39, 121-126.
- M. Andrejczuk, W. W. Grabowski, S. P. Malinowski, P. K. Smolarkiewicz, 2003: Small-scale turbulent mixing in clouds. EGS-AGU-EUG Joint Assembly, Nice, France, 07-11 April (CD-ROM).
- Grabowski, W. W., D. Randall, M. Khairoutdinov, A. Arakawa, 2003: Toward cloud-resolving modeling of atmospheric general circulation. XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Grabowski, W. W., 2003: Cloud microphysics and climate: are we deadlocked? XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Grabowski, W. W., 2003: Daytime convective development over land. XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Derbyshire, S., W. W. Grabowski, I. Beau, P. Bechtold, J.-Y. Grandpeix, J.-M. Piriou, J.-L. Redelsperger, and P. Soares, 2003: Impact of free-tropospheric humidity on deep convection. XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Moncrieff, M. W., and W. W. Grabowski, 2003: MJO-like systems in idealized aquaplanet simulations. XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Andrejczuk, M., W. W. Grabowski, S. P. Malinowski, P. K. Smolarkiewicz, 2003: Small-scale turbulent mixing in clouds. XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Ayala, O., W. W. Grabowski, L.-P. Wang, and Y. Xue, 2003: Effects of turbulence on the coagulation rate of cloud droplets. XXIII General Assembly of IUGG, Sapporo, Japan (abstract; CD-ROM).
- Wang, L.-P., O. Ayala, Y. Xue, and W. W. Grabowski, 2003: Effects of Turbulence on the Coagulation Growth of Cloud Droplets - An Overview and Recent Results. Publications of the Ninth International Symposium on Gas-Particle Flows, Fluids Engineering Division Summer Meeting, Honolulu, Hawaii, July 6-10 (CD-ROM).
- Grabowski, W. W., 2003: MJO-like systems and moisture-convection feedback in idealized aquaplanet simulations. In "Current issues in the parameterization of convection", 15th annual BMRC Modelling Workshop, October 13-16, BMRC Research Report No. 93, 101-104.

- Grabowski, W. W., 2003: MJO-like systems and moisture-convection feedback in idealized aquaplanet simulations. ECMWF Workshop on Simulation and Prediction of Intra-Seasonal Variability, Reading, United Kingdom, November 3-6. (<http://www.ecmwf.int/newsevents/>)
- McFarquhar G. M., H. Wang, and W. Grabowski, 2004: Cloud resolving model simulations of water and energy budgets for the Indian Ocean region: Effects of aerosols on trade wind cumuli. Proceedings of the 15th Symposium on Global Change and Climate Variations, Seattle, January 12-15. (<http://www.ametsoc.org/pubs/index.html>).
- Grabowski, W. W., 2004: Moisture-convection feedback in the Tropics. Proceedings of the 26th AMS Conference on Hurricanes and Tropical Meteorology, Miami, FL, May 3-7, 467-468.
- Wang, L.-P., O. Ayala, S. E. Kasprzak, and W. W. Grabowski, 2004: Effect of turbulence on collision efficiency of cloud droplets. Proceedings of the 5th International Conference on Multiphase Flows, May 30- June 4, 2004 (Paper NO. 311, CD-ROM).
- Coals, A., A. M. Blyth, J.-L. Brenguier, A. M. Gadian, and W. W. Grabowski, 2004: Condensational growth of droplets in warm cumulus clouds. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 503-505.
- Wang, H., G. M. McFarquhar, and W. Grabowski, 2004: Cloud resolving model simulations of water and energy budgets for the Indian Ocean region: Effects of aerosols on trade wind cumuli. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 335-338.
- Andrejczuk, M., W. W. Grabowski, S. P. Malinowski, and P. K. Smolarkiewicz, 2004: Numerical modelling of moist decaying turbulence: cloud-clear air mixing at resolution better than 1cm. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 1457-1460.
- Wang, L.-P., Y. Xue, O. Ayala, and W. W. Grabowski, 2004: Effects of stochastic coalescence and airturbulence on the size distribution of cloud droplets. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 690-693.
- Wang, L.-P., O. Ayala, S. E. Kasprzak, and W. W. Grabowski, 2004: Effect of turbulence on collision efficiency of cloud droplets. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 686-689.
- Grabowski, W. W., 2004: Clouds and climate: progress and prospects. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 1320-1323.
- Grabowski, W. W., M. Khairoutdinov, and D. A. Randall, 2004: Super-parameterization: global context for cloud-scale processes. Proceedings of the 14th International Conference on Clouds and Precipitation, Bologna, Italy, 1352-1353.
- Grabowski, W. W., 2006: Superparameterization and mesoscale dynamics. Extended abstracts, International Conference on Mesoscale Processes in Atmosphere, Ocean and Environmental Systems, 14-17 February, Delhi, India.

- Grabowski, W. W., 2006: Impact of explicit atmosphere-ocean coupling on tropical intraseasonal oscillations. 27th Conference on Hurricanes and Tropical Meteorology, 2428 April 2006, Monterey, CA; extended abstract (paper 1D.8, CD-ROM).
- Grabowski, W. W., 2006: Indirect impact of atmospheric aerosols in idealized simulations of convective-radiative quasi-equilibrium. 12th Conference on Cloud Physics/12th Conference on Atmospheric Radiation, 1014 July 2006, Madison, WI; extended abstract (paper J1.2, CD-ROM).
- Malinowski, S. P., M. Andrejczuk, W. W. Grabowski, P. Korczyk, T. A. Kowalewski, and P. K. Smolarkiewicz, 2006: Cloud-clear air interfacial mixing: Anisotropy of turbulence generated by evaporation of liquid water. Laboratory observations and numerical modelling. 12th Conference on Cloud Physics, 1014 July 2006, Madison, WI; extended abstract (paper 11.4, CD-ROM).
- Morrison, H., and W. W. Grabowski, 2006: Comparison of bulk and bin warm rain microphysics models using a kinematic framework. 12th Conference on Cloud Physics, 1014 July 2006, Madison, WI; extended abstract (P1.64, CD-ROM).
- Pawlowska, H., and W. W. Grabowski, 2006: Observations of the width of cloud droplet spectra in stratocumulus. 12th Conference on Cloud Physics, 1014 July 2006, Madison, WI; extended abstract (paper 4.2, CD-ROM).
- Rasinski, P., H. Pawlowska, and W. W. Grabowski, 2006: Drizzle formation in marine stratocumulus cloud - experimental and modeling studies. 12th Conference on Cloud Physics, 1014 July 2006, Madison, WI; extended abstract (paper P1.36, CD-ROM).
- Rosa, B., L.-P. Wang, and W. W. Grabowski, 2006: A hybrid computational approach for turbulent collision-coalescence of cloud droplets. 12th Conference on Cloud Physics, 1014 July 2006, Madison, WI; extended abstract (paper 14.1, CD-ROM).
- Xue, Y., L.-P. Wang, and W. W. Grabowski, 2006: Growth of cloud droplets by turbulent collision-coalescence. 12th Conference on Cloud Physics, 1014 July 2006, Madison, WI; extended abstract (paper 12.3, CD-ROM).
- Grabowski, W. W., 2006: Sixth WMO International Cloud Modeling Workshop. *Bull. Amer. Meteor. Soc.*, **87**, 639642.