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Books:

Boybeyi Z., Editor (2000): “*Mesoscale Atmospheric Dispersion*”, Wessex Institute of Technology (WIT) Press, Ashurt, Southhampton, UK, 424 pp.

Book Chapters:

Boybeyi, Z., M. Kafatos, & D. Sun (2009): Tropical Storm Modeling. Hurricanes and Climate Change. *Springer*, 400 pp. ISBN-13: 978-0387094090 (Edited by J. Elsner & T. H. Jagger).

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Refereed Journal Publications:

Stofferahn, E. and **Boybeyi, Z.** (2017), Investigation of aerosol effects on the Arctic surface temperature during the diurnal cycle: part 1 – total aerosol effect. *Int. J. Climatol*, 37: 761–774. doi:10.1002/joc.5036

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Ezber, Y., Sen, O. L., **Boybeyi, Z.** and Karaca, M. (2015), Investigation of local flow features in Istanbul. Part I: high-resolution sensitivity simulations. *Int. J. Climatol.*, 35: 3812–3833. doi:10.1002/joc.4248

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- Sun, D. L., W. K. M. Lau, M. Kafatos, **Z. Boybeyi**, G. Leptoukh & C. Yang (2009): Numerical Simulations of the Impacts of African Aerosols and the Associated Saharan Air Layer on Atlantic Tropical Cyclone Development. *Journal of Climate*, **22** (23), 6230-6250.
- Bakosi, J., P. Franzese & **Z. Boybeyi (2009)**: Joint PDF Modeling of Turbulent Flow and Dispersion in an Urban Street Canyon. *Boundary Layer Meteorology*, DOI 10.1007/s10546-009-9370-x.
- Bakosi, J., P. Franzese & **Z. Boybeyi (2008)**: A non-hybrid method for the PDF equations of turbulent flows on unstructured grids. *J. Comput. Phys.*, **227**, 5896-5935.
- Cervone, G., P. Franzese, Y. Ezber & **Z. Boybeyi (2008)**: Risk Assessment of Atmospheric Emission Using Machine Learning. *Nat. Hazards Syst. Sci.*, **8**, 991-1000.
- Lindeman J., D. Broutman, S. D. Eckermann, J. Ma, J. W. Rottman & **Z. Boybeyi (2008)**: Mesoscale Model Initialization of the Fourier Method for Mountain Waves. *Journal of Atmospheric Science*, **65**, 2749-2756 (DOI: 10.1175/2008JAS2541.1).
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- Boybeyi Z.**, E. Novakovskaia, D. P. Bacon, M. Kaplan & R. MacCracken (2007): Targeted GOES Satellite Observations to Improve Hurricane Track Forecast. *Pure and Applied Geophysics*, **164**, 2083-2100.
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- Sun D., M. Kafatos, G. Cervone, **Z. Boybeyi** & R. Yang (2007): Satellite Microwave Detected SST Anomalies and Hurricane Intensification. *Natural Hazards* **43** (2), 273-284.
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- Boybeyi Z. & S. Raman (1993):** Simulation of an Elevated Long-Range Plume Transport Using a Mesoscale Meteorological Model. *Atmospheric Environment*, **29**, 2099-2111.
- Boybeyi Z. & S. Raman (1992):** A Three-Dimensional Numerical Sensitivity Study of Convection over the Florida Peninsula. *Boundary-Layer Meteorology*, **60**, 325-359.
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Conference Preceedings, Abstracts & Presentations:

- Stofferahn E. & **Z. Boybeyi (2015):** Investigation of Aerosol Effects on the Arctic Surface Temperature during the Diurnal Cycle. 19th Annual George Mason University Transport and Dispersion Modeling Conference. July 9-10, Fairfax, Virginia.
- Stofferahn E. & **Z. Boybeyi (2014):** A Study of the semi-direct and indirect aerosol effects on the Arctic region during the ISDAC campaign using WRF-CHEM. American Meteorological Society Annual Meeting, February 2-6, Atlanta, Georgia.
- Stofferahn E. & **Z. Boybeyi (2013):** A Study of the semi-direct and indirect aerosol effects on the Arctic region during the ISDAC campaign using WRF-CHEM. The 2013 Science Team Meeting will be March 18-21, Potomac, MD.
- Boybeyi Z. & P Roy (2012):** A Numerical Investigation of the Aerosol Effects on a Mesoscale Convective System. Presented at 3rd Atmospheric System Research (ASR) Science Team Meeting. Arlington, VA.
- Stofferahn E. & **Z. Boybeyi (2012).** A Study of the Semi-Direct and Indirect Aerosol Effects on the Arctic Region during the ISDAC Campaign Using WRF-CHEM. Presented at Fall American Geophysical Union Meeting, San Francisco, CA.
- Boybeyi Z. (2011):** WRF/Chem simulations of aerosol transport and dispersion for the ISDAC field campaign. DOE Atmospheric System Research (ASR) Science Meeting, September 12-16, Annapolis, Maryland.
- Lindeman J. & **Boybeyi Z., (2011):** Aerosol Semi-Direct effect on surface energy balance. 15th Annual George Mason University Transport and Dispersion Modeling Workshop. July 12-14, Fairfax, Virginia.
- Roy P. & **Z. Boybeyi (2011):** Numerical Study of the Impact of Aerosol-Could Interactions during Mesoscale Convective. 91st Annual AMS Meeting, 23-27 January, Seattle, WA.

- Boybeyi Z.**, J. Lindeman, P. Roy, E. Stofferhan & I. Gultepe (2010): WRF/Chem simulations of aerosol transport and dispersion for the ISDAC field campaign. DOE Atmospheric System Research (ASR) Science Meeting, October 11-15, Boulder, Colorado.
- Boybeyi Z.**, J. Lindeman, Eric Stofferahn, Priyanka Roy & I. Gultepe (2010): Numerical Studies of Aerosol Effects During the ISDAC Experiment. First Science Team Meeting of the Atmospheric System Research (ASR) Meeting. March 15-19, Bethesda, Maryland.
- Roy P. & **Boybeyi Z.**, (2010): A Numerical Study of Aerosol-Cloud Interaction Over CONUS Area During a Deep Convective Episode. First Science Team Meeting of the Atmospheric System Research (ASR) Meeting. March 15-19, Bethesda, Maryland.
- Lindeman J. & **Boybeyi Z.**, (2010): Effects of Black Carbon Concentration on the Surface Energy Budget. First Science Team Meeting of the Atmospheric System Research (ASR) Meeting. March 15-19, Bethesda, Maryland.
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- Bakosi J., P. Franzese & **Z. Boybeyi** (2008): PDF Modeling of Turbulence. 12th Annual George Mason University Transport and Dispersion Modeling Workshop. July 8-10, Fairfax, Virginia.
- Lindeman J., D. Broutman, S. D. Eckermann, J. Ma, J. W. Rottman & **Z. Boybeyi** (2008): Mesoscale model initialization of a linear model for mountain waves. 12th Annual George Mason University Transport and Dispersion Modeling Workshop. July 8-10, Fairfax, Virginia.
- Boybeyi Z.** & M. Kafatos (2007): Hurricanes and Climate Change. First International Conference on Tropical Storms and Climate Change. May 27 – June 3, Crete, Greece.
- Lindeman J., D. Broutman, S. D. Eckermann, J. Ma, J. W. Rottman & **Z. Boybeyi** (2007): Far-Field Mountain Waves Radiated from Nonlinear Orographic Flow Regimes. 11th Annual George Mason University Transport and Dispersion Modeling Workshop. July 10-12, Fairfax, Virginia.
- Boybeyi Z.**, Y. Ezber, G. Cervone & M. Karaca (2007): A Risk Assessment Study for the Strait of Istanbul. 11th Annual George Mason University Transport and Dispersion Modeling Workshop. July 10-12, Fairfax, Virginia.
- Bakosi J., P. Franzese & **Z. Boybeyi** (2007): Development of a Finite-Element/Particle Method for PDF Modeling of Turbulent Dispersion with Unstructured Grids. 11th Annual George Mason University Transport and Dispersion Modeling Workshop. July 10-12, Fairfax, Virginia.
- Cervone G., P. Franzese, Y. Ezber & **Z. Boybeyi** (2007): Mesoscale Transport and Dispersion Uncertainty Assessment using Data Mining. 11th Annual George

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- Chang J. C., H. Tang & **Z. Boybeyi (2007)**: Evaluation of JEM with Historical Live Agent Test Data. 11th Annual George Mason University Transport and Dispersion Modeling Workshop. July 10-12, Fairfax, Virginia.
- Harris T., C. Dougherty, R. Vernet, J. Brazel, **Z. Boybeyi**, J. Moussafir & O. Oldrini (2007): Micro SWIFT/SPRAY (MSS) Status. 11th Annual George Mason University Transport and Dispersion Modeling Workshop. July 10-12, Fairfax, Virginia.
- Bakosi J., P. Franzese & **Z. Boybeyi (2007)**: Probability Density Function (PDF) Modeling of Scalar Mixing From a concentrated source in turbulent channel flow. (England meeting)
- Bakosi J., **Z. Boybeyi** & P. Franzese (2006): Probability Density Function (PDF) Modeling of Homogenous and Inhomogeneous Turbulence. 10th Annual George Mason University Transport and Dispersion Modeling Workshop. August 1-3, Fairfax, Virginia.
- Bakosi J., **Z. Boybeyi** & P. Franzese (2006): Probability Density Function (PDF) Modeling of Homogenous and Inhomogeneous Turbulence. 10th Annual George Mason University Transport and Dispersion Modeling Workshop. August 1-3, Fairfax, Virginia.
- Boybeyi Z.** & Y. Ezber (2006): A Risk Assessment Study for the City of Istanbul. 10th Annual George Mason University Transport and Dispersion Modeling Workshop. August 1-3, Fairfax, Virginia.
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- Boybeyi Z.**, M. Kafatos, N. N. Ahmad, R. Gautam, G. Cervone & D. Sun (2006): The use of dynamic grid adpattaion technique in tropical storm prediction. 27th Conference on Hurricanes and Tropical Meteorology. American Meteorological Society. 24-28 April, Monterey, California.
- Sun, D., M. Kafatos, **Z. Boybeyi**, R. Gautam, G. Cervone & R. Yang (2006): Warm gulf waters and geophysical parameter impacts on the development of hurricane katrina. AGU Joint Assembly. 23-26, Baltimore, Maryland.
- Kafatos M., **Z. Boybeyi**, D. Sun, C. Yang & R. Yang (2005): Web-based Services for Earth Observing and Model Data in National Applications and Hazards. AGU Fall Meeting, December 5-9, San Francisco, California.
- Boybeyi Z.** (2005): Mesoscale to fine scale weather modeling in fire applications. EastFIRE Conference, May 11-13, Fairfax, Virginia.
- Wong D. & **Z. Boybeyi (2005)**: Integrating Atmospheric Dispersion Model with GIS to Perform Exposure Analysis. 9th Annual George Mason University Transport and Dispersion Modeling Workshop. July 18-20, Fairfax, Virginia.

- Ahmad N. & **Z. Boybeyi (2005)**: [Advection-Diffusion Equation on Unstructured Adaptive Grids](#). NOAA/EPA Symposium on Air Quality Modeling and Its Applications. September 20-21, Durham, North Carolina, 54 - 62.
- Ahmad N. & **Z. Boybeyi (2005)**: Application of the HLLC Riemann Solver for Atmospheric Flow Simulations. 15th Conference on Atmospheric and Oceanic Fluid Dynamics. June 13-17, Cambridge, Massachusetts.
- Ahmad N. N. & **Z. Boybeyi (2005)**: Solution-Adaptation Applied to Eulerian Transport. Atmospheric Science and Air Quality (AASQ) Conference. April 27-29, San Francisco, California.
- Ahmad N. N. & **Z. Boybeyi (2005)**: Solution-Adaptation Applied to Eulerian Transport. 9th Annual George Mason University Transport and Dispersion Modeling Workshop. July 18-20, Fairfax, Virginia.
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- Ma Y., **Z. Boybeyi**, S. Hanna & K. Chayantrakom (2005): Plume dispersion from the MVP field experiment: analysis of surface concentration and its fluctuations. EastFIRE Conference, May 11-13, Fairfax, Virginia.
- Ahmad N. N., **Z. Boybeyi**, R. Lohner & A. Sarma (2004): A Higher-order Upwind Scheme on Unstructured Grids for Nonhydrostatic Atmosphere. 8th Annual George Mason University Transport and Dispersion Modeling Workshop. July 13-15, Fairfax, Virginia.
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- Schintler L. & **Z. Boybeyi** (2004): Usefulness of Urban Scale GIS Databases for Emergency Response Planning. 8th Annual George Mason University Transport and Dispersion Modeling Workshop. July 13-15, Fairfax, Virginia.
- Bacon D. P. & **Z. Boybeyi (2004)**: Impact of the urban parameterization on plume transport. 8th Annual George Mason University Transport and Dispersion Modeling Workshop. July 13-15, Fairfax, Virginia.
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- Boybeyi Z.**, J. Chang, P. Franzese, R. Fry, S. Hanna, N. Platt & S. Warner (2003): An Overview of Coordinated Independent Evaluation of Urban HPAC. 8th Annual George Mason University Conference on Transport and Dispersion Modeling, July 13-15, Fairfax, Virginia.
- Chang J., S. R. Hanna, **Z. Boybeyi** & P. Franzese (2003): Sensitivities of Evaluation Results to Data Acceptance and Pairing Criteria. 8th Annual George Mason University Conference on Transport and Dispersion Modeling, July 13-15, Fairfax, Virginia.
- Hanna S. R., J. C. Chang, **Z. Boybeyi** & P. Franzese (2003): Statistical and Scientific Evaluation of Urban HPAC Using Urban 2000 Field Data. 8th George Mason University Conference on Transport and Dispersion Modeling, July 13-15, Fairfax, Virginia.
- Hou D. & **Z. Boybeyi (2003)**: Sensitivity in Simulations of Weakly Forced Circulations to the Initial Conditions in Soil Variables. 8th Annual George Mason University Conference on Transport and Dispersion Modeling, July 13-15, Fairfax, Virginia.
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- Ahmad N. N., D. P. Bacon, **Z. Boybeyi**, T. Dunn, S. Gopalakrishnan, M. Hall, P. Lee, D. Mays, A. Sarma, M. Turner & T. Wait (2002): Unstructured Adaptive Grid Generation for Geophysical Flow Simulations. Numerical Grid Generation in Computational Field Simulations, Proceedings of the 8th International Conference held at Honolulu, Hawaii. 457-466.
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- Boybeyi Z. (2001):** Urban Scale Dispersion Modeling (Computational Fluid Dynamics Modeling) Research at the CHARM program. Urban Dispersion Model Working Group Workshop. 19-20, June, Salt Lake City, Utah.
- Boybeyi Z., D. P. Bacon & R. A. Sarma (2000):** : An Evaluation of OMEGA against ETEX. 4th Annual George Mason University Transport and Dispersion Modeling Workshop. July 11-12, Fairfax, Virginia.
- Bacon D. P., **Z. Boybeyi** & R. A. Sarma (2000): Weather and dispersion modeling with OMEGA. Programs and Abstracts of the 7th International Conference on Atmospheric Sciences and Applications to Air Quality, October 31 - November 3, 2000, Taipei, Taiwan.
- Boybeyi Z., D. P. Bacon, Agritellis C., Ahmad N., Dunn T. J., Hall M., Mays E. D., Sarma R. A. & Turner M. D. (1999):** Recent Validation of The Operational Multi-Scale Environment Model With Grid Adaptivity. 79th American Meteorological Society Annual Meeting, 13th Conference on Boundary Layers and Turbulence. January 10-January 15, Dallas, Texas.

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- Boybeyi Z.**, Bacon D. P., Ahmad N., Dunn T. J., Hall M., Sarma R. A., Turner M. D., Young S. & Zack J. (1997): Recent Validation of The Operational Multi-Scale Environment Model With Grid Adaptivity. 12th Symposium on Boundary Layers and Turbulence. Preprints of the 12th Symposium on Boundary Layers and Turbulence .July 28-August 1, Vancouver, Canada.
- Boybeyi Z.**, Bacon D. P., Dunn T. J., Hall M., Sarma R. A. & Turner M. D., (1997): Numerical Simulation of Long-Range Transport and Diffusion of the ETEX experiment with OMEGA. May 12-16, Vienna, Austria.
- Bacon D. P., Agritellis C., **Boybeyi Z.**, Dunn T. J., Hall M., Sarma R. A., Turner M. D., Young S. & Zack J. (1997): Validation of OMEGA for Hazardous Dispersal Simulation. Preprints of the 6th Topical Meeting on Emergency Preparedness and Response. April 22-25, San Francisco, California, pp 369-372.
- Bacon D. P., **Boybeyi Z.**, Boris P., Dunn T. J., Hall M., Sarma R. A., Young S. & Zack J. W. (1996): An Overview of the Operational Multi-Scale Environment Model with Grid Adaptivity. 11th Conference on Numerical Weather Prediction. August 19-23, Norfolk Virginia.
- Boybeyi Z.**, Bacon D. P., Boris P., Dunn T. J., Hall M., Sarma R. A., Young S. & Zack J. W. (1996): System Aspect of the Operational Multi-Scale Environment Model with Grid Adaptivity. 15th Conference on Weather Analysis and Forecasting. August 19-23, Norfolk Virginia.
- Bacon D. P., P. R. Boris, **Z. Boybeyi**, T. J. Dunn, Y-L. Ho, M. D. McCorcle, S. E. Peckham, S. Young & J. Zack (1995): Simulation of Hazardous Atmospheric Releases using OMEGA." Preprints of the 5th Topical Meeting on Emergency Preparedness and Response, April 18-21, 1995, Savannah, GA. American Nuclear Society, LaGrange Park, IL. 1995.
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