

Publications related to the National Air Quality Forecast Capability (NAQFC) are separated into sections by the component of the capability that they are most closely associated with: ozone, smoke, dust or fine particulate matter (PM2.5) predictions, and system overview.

Ozone prediction:

- 1) Delle Monache, Luca, James Wilczak, Stuart Mckeen, Georg Grell, Mariusz Pagowski, Steven Peckham, Roland Stull, John Mchenry, Jeffrey Mcqueen (2008), A Kalman-filter bias correction method applied to deterministic, ensemble averaged and probabilistic forecasts of surface ozone, *Tellus Ser B*, 60(2), 238.
- 2) Eder, B., Kang, D., Mathur, R., Pleim, J., Yu, S., Otte, T., and Pouliot, G. (2009), A performance evaluation of the National Air Quality Forecast Capability for the summer of 2007, *Atmos. Environ.*, 43, 2312–2320.
- 3) Kang, D., R. Mathur, S. T. Rao, and S. Yu (2008), Bias adjustment techniques for improving ozone air quality forecasts, *J. Geophys. Res.*, 113, D23308, doi:10.1029/2008JD010151.
- 4) Kang, Daiwen, Rohit Mathur, and S. Trivikrama Rao (2010), Real-time bias-adjusted O3 and PM2.5 air quality index forecasts and their performance evaluations over the continental United States, *Atmosphere Environment*, 44(18), 2203.
- 5) Lee, P., D. Kang, J. McQueen, M. Tsidulko, M. Hart, G. DiMego, N. Seaman, and P. Davidson (2008), Impact of Domain Size on Modeled Ozone Forecast for the Northeastern United States. *J. Meteo. and Climate.*, 47, 443–461.
- 6) Lee, P., Y.-H. Tang, D. Kang, J. McQueen, M. Tsidulko, H.-C. Huang, S. Lu, M. Hart, H.-M. Lin, S. Yu, G. DiMego, I. Stajner and P. Davidson (2009), Impact of Consistent Boundary Layer Mixing Approaches Between NAM and CMAQ, *Enviromental Fluid Mechanics*, 9:23-42. doi:10.1007/s10652-008-9089-0.
- 7) Lee, Pius, Fantine Ngan, Hyuncheol Kim, Daniel Tong, Youhua Tang, Tianfeng Chai, Rick Saylor, Ariel Stein, Daewon Byun and Marina Tsidulko, Jeff McQueen, Ivanka Stajner (2012), Incremental Development of Air Quality Forecasting System with Off-Line/On-Line Capability: Coupling CMAQ to NCEP National Mesoscale Model, *NATO/ITM Air Pollution Modeling and Its Application XXI*, Douw G. Steyn & Silvia Trini Castelli (ed.), Springer, Netherlands, pp 187-192, DOI: 10.1007/978-94-007-1359-8_32.
- 8) McKeen, S., et al. (2005), Assessment of an ensemble of seven real-time ozone forecasts over eastern North America during the summer of 2004, *J. Geophys. Res.*, 110, D21307, doi:10.1029/2005JD005858.
- 9) McKeen, S., et al. (2009), An evaluation of real-time air quality forecasts and their urban emissions over eastern Texas during the summer of 2006 Second Texas Air Quality Study field study, *J. Geophys. Res.*, 114, D00F11, doi:10.1029/2008JD011697, [printed 115(D7), 2010].
- 10) Otte, T. L., G. Pouliot, J. E. Pleim, J. O. Young, K. L. Schere, D. C. Wong, P.C. Lee, M. Tsidulko, J. T. McQueen, P. Davidson, R. Mathur, H. Y. Chuang, G. DiMego and N. Seaman (2005), Linking the Eta Model with the Community Multiscale Air Quality (CMAQ) modeling system to build a national air quality forecasting system. *Wea. Forecasting*, 20, 367-384.

- 11) Pagowski, M., and G. A. Grell (2006), Ensemble-based ozone forecasts: Skill and economic value, *J. Geophys. Res.*, 111, D23S30, doi:10.1029/2006JD007124.
- 12) Saylor, R. D. and Stein, A. F. (2012), Identifying the causes of differences in ozone production from the CB05 and CBMIV chemical mechanisms, *Geosci. Model Dev.*, 5, 257-268, doi:10.5194/gmd-5-257-2012.
- 13) Tang, Y., P. Lee, M. Tsidulko, H.-C. Huang, J. T. McQueen, G. J. DiMego, L. K. Emmons, R. B. Pierce, H.-M. Lin, D. Kang, D. Tong, S. Yu, R. Mathur, J. E. Pleim, T. L. Otte, G. Pouliot, J. O. Young, K. L. Schere, P. M. Davidson, I. Stajner (2009), The Impact of Chemical Lateral Boundary Conditions on CMAQ Predictions of Tropospheric Ozone over the Continental United States, *Environmental Fluid Mechanics*, 9 (1), 43-58, doi:10.1007/s10652-008-9092-5.
- 14) Tong, Daniel Q., Rohit Mathur, Daiwen Kang, Shaocai Yu, Kenneth L. Schere, and George Pouliot (2009), Vegetation exposure to ozone over the continental United States: Assessment of exposure indices by the Eta-CMAQ air quality forecast model, *Atmosphere Environment*, 43(3), 724.
- 15) Wilczak, J., et al. (2006), Bias-corrected ensemble and probabilistic forecasts of surface ozone over eastern North America during the summer of 2004, *J. Geophys. Res.*, 111, D23S28, doi:10.1029/2006JD007598.
- 16) Wilczak, J. M., I. Djalalova, S. McKeen, L. Bianco, J.-W. Bao, G. Grell, S. Peckham, R. Mathur, J. McQueen, and P. Lee (2009), Analysis of regional meteorology and surface ozone during the TexAQS II field program and an evaluation of the NMM-CMAQ and WRF-Chem air quality models, *J. Geophys. Res.*, 114, D00F14, doi:10.1029/2008JD011675, [printed 115(D7), 2010].
- 17) Yu, Shaocai, Rohit Mathur, Kenneth Schere, Daiwen Kang, Jonathan Pleim, and Tanya L. Otte (2007), A detailed evaluation of the Eta-CMAQ forecast model performance for O₃, its related precursors, and meteorological parameters during the 2004 ICARTT study, *J Geophys Res*, 112, D12S14.
- 18) Yu, Shaocai, Rohit Mathur, Daiwen Kang, Kenneth Schere, and Daniel Tong (2009), A study of the ozone formation by ensemble back trajectory-process analysis using the Eta-CMAQ forecast model over the northeastern U.S. during the 2004 ICARTT period, *Atmosphere Environment*, 43(2), 355.
- 19) Yu, S., Mathur, R., Sarwar, G., Kang, D., Tong, D., Pouliot, G., and Pleim, J. (2010), Eta-CMAQ air quality forecasts for O₃ and related species using three different photochemical mechanisms (CB4, CB05, SAPRC-99): comparisons with measurements during the 2004 ICARTT study, *Atmos. Chem. Phys.*, 10, 3001-3025, doi:10.5194/acp-10-3001-2010.

Prediction of smoke from wildfires:

- 20) Christopher, S., P. Gupta, U. Nair, T. A. Jones, S. Kondragunta, Y-L Wu, J. Hand, and X. Zhang (2009), Satellite Remote Sensing and Mesoscale Modeling of the 2007 Georgia/Florida Fires, *IEEE J. of Selected Topics in Applied Earth Sciences and Remote Sensing*, 2 (3), 163-175, doi:10.1109/JSTARS.2009.2026626.

- 21) Green, Mark, Shobha Kondragunta, Pubu Ciren, Chuanyu Xu (2009), Comparison of GOES and MODIS Aerosol Optical Depth (AOD) to AEosol RObotic NETwork (AERONET) AOD and IMPROVE PM_{2.5} mass at Bondville, Illinois, *Journal of the Air & Waste Management Association*.
- 22) Kondragunta. S., et al. (2008), Air quality forecast verification using satellite data, *J. of Applied Meteorology and Climatology*, doi:10.1175/2007JAMC1392.1.
- 23) O'Neill, S., N. Larkin, J. Hoadley, G. Mills, J. Vaughn, R. Draxler, G. Rolph, M. Ruminski, and S. Ferguson (2008), Regional real-time smoke prediction systems, in *Wildland Fires and Air Pollution*, A. Bytnerowicz et al., Eds., *Developments in Environmental Science Series*, Vol. 8, Elsevier, 499-534.
- 24) Prados, A., S. Kondragunta, P. Ciren, K. Knapp (2007), The GOES Aerosol/Smoke Product (GASP) over North America: Comparisons to AERONET and MODIS Observations, *J. of Geophys. Res.*, 112, D15201, doi:10.1029/2006JD007968.
- 25) Rolph et al. (2009), Description and Verification of the NOAA Smoke Forecasting System: The 2007 Fire Season. *Weather and Forecasting*, Volume 24, pp 361-378.
- 26) Stein et al. (2009), Verification of the NOAA Smoke Forecasting System: Model sensitivity to the injection height. *Weather and Forecasting*, Volume 24, pp. 379-394.
- 27) O'Neill, S., N. Larkin, J. Hoadley, G. Mills, J. Vaughn, R. Draxler, G. Rolph, M. Ruminski, and S. Ferguson (2008), Regional real-time smoke prediction systems, in *Wildland Fires and Air Pollution*, A. Bytnerowicz et al., Eds., *Developments in Environmental Science Series*, Vol. 8, Elsevier, 499-534.

Prediction of dust from dust storms:

- 28) Draxler, R. R., and G. D. Hess (1998), An overview of the HYSPLIT_4 modelling system for trajectories, dispersion, and deposition, *Aust. Meteorol. Mag.*, 47, 295–308.
- 29) Draxler, D, P Ginoux, and A F Stein (2010), An empirically derived emission algorithm for wind-blown dust. *Journal of Geophysical Research*, 115, D16212, doi:10.1029/2009JD013167.
- 30) Ginoux, P, D Garbuzov, and N C Hsu (2010), Identification of anthropogenic and natural dust sources using Moderate Resolution Imaging Spectroradiometer (MODIS) Deep Blue level 2 data. *Journal of Geophysical Research*, 115, D05204, doi:10.1029/2009JD012398.

Prediction of fine particulate matter (PM_{2.5}):

- 31) Mathur, Rohit, Shaocai Yu, Daiwen Kang, and Kenneth L. Schere (2008), Assessment of the wintertime performance of developmental particulate matter forecasts with the Eta-Community Multiscale Air Quality modeling system, *J Geophys Res*, 113, D02303.
- 32) McKeen, S., et al. (2007), Evaluation of several PM_{2.5} forecast models using data collected during the ICARTT/NEAQS 2004 field study, *J. Geophys. Res.*, 112, D10S20, doi:10.1029/2006JD007608.

- 33) Pagowski, M., G. A. Grell, S. A. McKeen, S. E. Peckham, and D. Devenyi (2010), Three-dimensional variational data assimilation of ozone and fine particulate matter observations: some results using the Weather Research and Forecasting-Chemistry model and Grid-point Statistical Interpolation, *Q J R Meteorol Soc*, 136(653), 2013.
- 34) Yu, S., R. Mathur, K. Schere, D. Kang, J. Pleim, J. Young, D. Tong, G. Pouliot, S. A. McKeen, and S. T. Rao (2008), Evaluation of real-time PM_{2.5} forecasts and process analysis for PM_{2.5} formation over the eastern United States using the Eta-CMAQ forecast model during the 2004 ICARTT study, *J. Geophys. Res.*, 113, D06204, doi:10.1029/2007JD009226.

NAQFC system overview:

- 35) Davidson, P., K. Schere, R. Draxler, S. Kondrangunta, R. A. Wayland, J. F. Meagher, R. Mathur (2008), Toward a US National Air Quality Forecast Capability: Current and Planned Capabilities, *Air Pollution Modeling and Its Application XIX*, C. Borrego and A.I. Miranda (Eds.), 496-504, ISBN 978-1-4020-8452-2, Springer, The Netherlands.
- 36) Stajner, I., P. Davidson, D. Byun, J. McQueen, R. Draxler, P. Dickerson, J. Meagher (2012), US National Air Quality Forecast Capability: Expanding Coverage to Include Particulate Matter, *NATO/ITM Air Pollution Modeling and Its Application XXI*, Douw G. Steyn & Silvia Trini Castelli (ed.), Springer, Netherlands, pp 379-384, DOI: 10.1007/978-94-007-1359-8_64.