James W. Boylan, Ph.D.

Dr. James Boylan has over 33 years of regulatory air quality experience. He is currently the Chief of the Air Protection Branch at the Georgia Environmental Protection Division with management responsibilities for over 150 full-time employees in six Programs (Ambient Monitoring Program, Planning & Support Program, Mobile and Area Sources Program, Stationary Source Permitting Program, Stationary Source Compliance Program, and Radiation Protection Program).

He has expertise in: (1) air dispersion modeling with AERMOD and CALPUFF required for PSD permit applications (SO2, NO2, CO, PM2.5, and lead); (2) photochemical grid modeling with CMAQ and CAMx required for ozone, PM2.5, and regional haze State Implementation Plans (SIPs); (3) meteorological modeling with MM5 and WRF; (4) emissions modeling with SMOKE and MOVES; (5) emissions inventory development for criteria air pollutants; (6) risk assessments for criteria and hazardous air pollutants; (7) ambient monitoring data analysis; (8) cost-benefits analysis to meet air quality standards; and (9) emissions control strategies for nonattainment areas (including, but not limited to ozone, PM2.5, lead, and SO2).

He has a B.S. in Chemical Engineering from the University of Notre Dame, a M.S. in Chemical Engineering from Auburn University, and a M.S. and Ph.D. in Environmental Engineering from the Georgia Institute of Technology. Dr. Boylan's Ph.D. research included the development of the first comprehensive three-dimensional Eulerian photochemical grid model (URM-1ATM) that included full ozone chemistry, heterogeneous sulfate chemistry, aerosol thermodynamics, wet deposition and scavenging, and the decoupled direct method (DDM) for ozone and particulate matter. In 2002, he was awarded the "Outstanding Ph.D. Thesis Award" for the best Ph.D. dissertation in the Georgia Tech School of Civil and Environmental Engineering. Later, he developed and published the first model performance goals and criteria for PM2.5 which has become the benchmark for most PM2.5 modeling projects both nationally and internationally. Dr. Boylan has authored or co-authored over 30 peer-reviewed journal articles and conference papers on ozone and PM2.5 formation, and has presented research findings at over 300 national, regional, and local conferences/meetings. In 2001, Dr. Boylan was inducted into the Sigma Xi Scientific Research Honor Society.

In 2014, Dr. Boylan was selected to participate in the Clean Air Scientific Advisory Committee (CASAC) review panel for the primary SO2 NAAQS. He was appointed to the Chartered CASAC by the EPA Administrator in 2017 and re-appointed in 2020. He was actively involved in the 2020 review of the PM and ozone NAAQS as well as the recent PM and ozone NAAQS reconsiderations. He was assigned as lead reviewer on multiple chapters and appendixes related to ambient measurements, emissions, and modeling. Dr. Boylan published several papers related to CASAC in AWMA's *EM magazine* including "CASAC Review of the PM and Ozone NAAQS" (December, 2020) where he compared the traditional CASAC review approach to the newly implemented streamlined approach, "The Importance of Risk and Exposure Assessments in Setting the Ozone NAAQS" (December, 2023), and "The Need for a Balanced CASAC in the NAAQS Review Process" (June, 2024).

Over the past several years Dr. Boylan has held leadership positions within many regional and national workgroups. Currently, he serves as the Vice President of the Association of Air Pollution Control Agencies (AAPCA) which represents 53 state and local air pollution control agencies.