



Jessica G. Klobas, PhD

Air Quality Data Scientist

Dr. Klobas rejoined Sonoma Technology in 2024, after nine years of working at the California Air Resources Board (CARB). She has extensive experience working on environmental projects and programs surrounding climate change, short-lived climate pollutants, community-focused environmental justice, inventory development, regulatory development and economic analysis, data science and visualization, and software development.

Dr. Klobas was instrumental in her work on the California Short Lived Climate Pollutant (SLCP) Plan, focusing methane and black carbon mitigation. She became well versed on methane emissions from California's dairy farms, and developed advanced economic and spatial analyses to estimate the cost effectiveness and feasibility of mitigation options in California. This work led to over \$200 million in State funding to support 230 dairy methane reduction projects. As part of the SLCP plan, Dr. Klobas also built California's first official black carbon inventory and analyzed the feasibility and costs of meeting black carbon targets by 2030.

Education

- PhD, Agricultural and Environmental Chemistry, University of California, Davis
- BS, Chemistry, University of California, San Diego

For a list of publications, see sonomatech.com/ResPub/JGKpub.pdf.

Dr. Klobas worked on the California greenhouse gas (GHG) inventory, where she co-lead the development of improved methodology for nitrous oxide (N₂O) emissions from California cropland by employing the Denitrification-Decomposition Model (DNDC) and incorporating spatially resolved input data. This work resulted in multiple peer-reviewed publications.

Dr. Klobas spent two years as the manager of CARB's Office of Economic Policy and Analysis, which oversees economic analyses for each regulation. As such, she collaborated on many landmark regulations, including the Innovative Clean Transit regulation, the Low-Emission Vehicle III GHG regulation, the Low Carbon Fuel Standard, and the Oil and Gas regulation. In this role she led analyses of regulatory costs and benefits, social costs of climate pollutants, and cost effectiveness.

Dr. Klobas is passionate about data management and transparent access to data. She spent four years developing CARB's Technology Clearinghouse prototype system. This new software system, required by California Assembly Bill 617 (AB 617), focuses on increased transparency for stationary source permitting and regulatory tracking. The system includes an interactive repository of rules from all 35 Local Air Districts, supporting documentation, and historical amendments. As part of the Community Air Protection Program, Dr. Klobas became well versed in environmental justice considerations.

Dr. Klobas's PhD dissertation in Professor Cort Anastasio's lab at the University of California, Davis, focused on particulate matter and health impacts by investigating the chemical components of particulate matter that elicit oxidative stress in the lungs using chemical assays and high performance liquid chromatography (HPLC). Her undergraduate research in Professor Kimberly Prather's lab at the University of California, San Diego, focused on the composition of sea salt aerosol using Aerosol Time of Flight Mass Spectrometry (ATOF-MS).