

Air Quality Champion in Our Community

Name: Dr. Lewis Linker

Title: Modeling Coordinator and Team Leader for Science & Analysis

Organization: U.S. Environmental Protection Agency, Chesapeake Bay Program Office

How does your work relate to air quality?

I lead a team that creates models and simulations of the Chesapeake's airshed, watershed, and estuary so decision-makers can make a plan for how to clean up the Chesapeake Bay watershed and tidal waters. The plan is called a Watershed Implementation Plan (WIP) and it's a road map of all the actions we all need to do, from New York to Virginia to get healthy and safe air and waters in the Chesapeake region. Without computer simulations of the airshed and watershed we wouldn't know what a restored Chesapeake looks like or what would be the best way to get there. By problem solving, and communicating, we help decision-makers to deal with challenges like population growth and climate change in the Chesapeake region.



Photograph courtesy of Chesapeake Quarterly, a magazine from Maryland Sea Grant. Credit: Michael W. Fincham.

What motivates you to come to work every day?

Restoring the Chesapeake Watershed and Bay is a really, really big deal to me. When I was growing up, the Rouge and Cuyahoga rivers were catching on fire, the Potomac River next to the Nation's Capital stank in the summer heat, and the Chesapeake seemed to be in a death spiral. Now it's all coming back, very slowly, bit-by-bit, but coming back, and it's very satisfying that my Modeling Team has played our very small part in the Chesapeake recovery. Also, I know that my Modeling Team depends on me to do my job and to support them every day, and I depend on them too, so that's a big motivator - being there to support a team with an important mission.

What education and career path did you pursue to have the position that you have today?

My early career path was all over the place! At first, I thought I would go into medicine and I completed a biology and chemistry undergraduate degree at Towson State. Then I became very interested in marine biochemistry research. In the end, I decided that I really wanted to do something that had more promise of immediate, concrete, and significant results that I could point to, so I switched to environmental engineering and I have made that my career ever since. It now sounds all very thought out and methodical, but at the time it really was more of a hot mess! Ultimately though, my broad diversity of technical and scientific training prepared me well for a modeling background. I guess it shows that you never know how it's going to turn out. But if you are fortunate enough to really go after learning something that interests you, and if you can find a way for that learning to make a contribution to the general public, then things will turn out alright.

What is your workspace like?

Our Modeling Team works with computer simulations of air and water quality, so really our office can be anywhere! We could work on the far side of the moon as long as we had a good internet connection (and good snacks, of course!). Our Modeling Team runs our experiments and tests just like other scientists, but they are all run in a virtual computer space. In fact, our Airshed Model is simulated in North Carolina, the Watershed Model is done in Annapolis, Maryland, and our Estuary Model was run by in Vicksburg, Mississippi. So our Modeling Team is really all over the place - but not yet on the far side of the moon!

What accomplishment are you most proud of?

When my two boys were very young, they knew my work was to clean up the Bay. So naturally they assumed that once I got to work, I put on an orange jump suit, picked up a bag, and started cleaning up the Chesapeake Bay. Even though my Modeling Team is very accomplished, and have received many awards, I'm most satisfied in being able to join with my Team and with the all of the citizens in the watershed to "pick up a bag" in order to clean up the Chesapeake's airshed and watershed.