DATE: 18 December 2023

TO: Climate B2025 Small Group

FROM: Emily Majcher, USGS, Vice-Chair Toxic Contaminant Workgroup and Research Outcome Lead; Greg Allen, USEPA CBPO, Vice-Chair Toxic Contaminant Workgroup and Policy and Prevention Outcome Lead

CC: Ken Hyer, USGS, Steering Committee Member Beyond 2025

SUBJECT: Feedback regarding Climate-relevant, toxic contaminant science need

In response to the request for climate-relevant science need received on 30 November 2023, we are providing input for your consideration in your response to the Climate Change Directive (5 July 2022) and for the Beyond 2025 Small Group.

Most of the science needs highlighted in the presentation to STAR in November 2022 have cross-cutting influences related to changes in climate. For example, extreme precipitation events that result in increased stormwater runoff can enhance transport of toxic contaminants from the landscape, as well as from point sources such as wastewater effluents, to waterbodies. Sea level rise and flooding can also scour toxic contaminants off the land and contaminate surface water and bottom sediments.

Prioritized, current science needs from the workgroup related to climate includes:

- Improved understanding of BMP effectiveness for removal of PCBs in a climate-impacted system, (expanded to include PFAS, and other prioritized toxic contaminants) (Policy and Prevention)
- Evaluate and enhance consistent, coordinated monitoring of PFAS to assess status and change over time (Research)

A new science need that we would propose specifically related to climate:

- The impact of climate-related physiochemical changes (e.g., temperature, salinity, acidity) in risk from toxic contaminants due to influence on mechanisms such as pollutant transformations, persistence, synergistic effects when multiple pollutants are present.

Thank you for the opportunity to contribute to your charge. Feel free to reach out with any questions.