

# Risk Assessment Challenges Associated with Atmospheric Transport of PFAS

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**Background/Objectives.** Per- and polyfluoroalkyl substances (PFAS) are ubiquitous in ambient (outdoor) air, with elevated concentrations observed in urbanized areas nearest to emission sources, such as manufacturing facilities. For example, long-range transport (LRT) processes are responsible for the wide distribution of PFAS across the globe, as evidenced by their occurrence in surface snow, ice cores, seawater, and other environmental media in remote regions as far as the Arctic and Antarctic. This presentation will discuss the factors that influence atmospheric fate and transport of PFAS, and the risk assessment challenges associated with this transport pathway.

**Approach/Activities.** PFAS exposure associated with atmospheric transport is difficult to quantify from a risk perspective. However, EPA's traditional risk assessment process can still be utilized to understand PFAS exposure related to ambient air exposure, as well as deposition of airborne PFAS within the airshed of the emission source. Therefore, the focus of this presentation will be on three primary components, (1) fate and transport of PFAS; and (2) health effects of PFAS, and (3) investigation tools to understand the nature and extent of PFAS related to emission sources.

**Results/Lessons Learned.** Because PFAS is an emerging contaminant, it is important to emphasize that potential changes in toxicity and risk-based standards may occur. In addition, information associated with atmospheric transport and deposition of PFAS from an emission source could impact sampling strategy (e.g., nature and extent of emission source airshed / deposition area), data quality objectives, screening levels, and remedial goals at a site.