Webinar Summary Report: Air Quality National Chapter

Introduction

The Fourth National Climate Assessment (NCA4), currently in development, will assess the science of climate change and its impacts across the United States. It will document climate change-related impacts and responses for various sectors and regions, with the goal of better informing public and private decision-making at all levels.

To ensure that the assessment is informed by and useful to stakeholders, engagement activities were planned for many of the 17 National Chapters. These activities provided stakeholders an opportunity to provide input to and exchange ideas with the chapter author team on key message formulation, share relevant resources, and give individual feedback on issues of importance to the chapter topic.

Webinar Structure

National chapter webinars were organized and hosted by the coordinating lead authors (CLA) and chapter leads (CL) with coordination from NCA4 staff from the U.S. Global Change Research Program (USGCRP). Invitations to the webinars were distributed by the hosts, author team, and USGCRP staff to their stakeholder networks.

Air Quality Engagement Webinar

On May 8, 2017, the NCA4 Air Quality chapter team held a public engagement webinar. The objectives of the webinar were to gather input from stakeholders, including authors of the regional chapters, to help inform the writing and development of NCA4, and to raise awareness of the process and timeline for NCA4.

Chapter Author Team

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Overview and Topics of Discussion

Dr. Dave Reidmiller opened the webinar by providing an overview of USGCRP, the structure of NCA4, and timeline for completion, as well as the sustained National Climate Assessment process. Next, Dr. Chris Nolte walked through the Key Messages from the 2016 Climate and Health Assessment as a reminder of what was covered in past reports and to prime the audience to consider new advancements or topics for NCA4. Then, he explained why air quality is being covered in a standalone chapter for NCA4 and reviewed the current direction and scope of the chapter. While the preliminary scope of the chapter is subject to change throughout the assessment process, Dr. Nolte presented on a few emerging focal areas for the chapter.

Preliminary focal areas:

- **Ozone:** Assess the science (spatial variability, mediating factors, etc.) of the "climate penalty," which refers to increased ozone concentrations for a given level of anthropogenic (human-induced) air pollutant emissions due to increased frequency of meteorological conditions that enhance ozone formation.
- **Particulate Matter (PM):** Assess the impacts of climate change on PM, including changes in wildfire smoke emissions and changes in precipitation.
- **Temperature Effects on Air Pollution Sensitivity:** Preliminary assessment of the literature suggests health effects of a given level of air pollution (both ozone and PM) worsen at higher temperature.
- **Pollen and other Aeroallergens:** Assess where the science on pollen/aeroallergens has advanced since the 2016 Climate and Health Assessment.
- **Adaptation**: Assess what additional/modified emissions control options may be necessary to meet national air quality standards in a changing climate.
- **Mitigation/Co-benefits**: Assess the health benefits from improving air quality through reductions of ozone and PM precursors that are co-emitted with greenhouse gases, as well as reducing the climate penalty.

Key Takeaways

Participants raised many questions and provided comments regarding the chapter's scope and how it connects with the broader report. The key takeaways for the air quality chapter from the discussion are listed below. These questions and perspectives will be taken into consideration in the chapter development.

Wildfires

- Participants had several questions regarding impacts from wildfire smoke. Topics of these questions ranged from smoke drifting from neighboring states or countries, to cumulative impacts from wildfire smoke and extreme heat (i.e., the 2010 heatwave in Russia), to vulnerable populations (i.e., children and first responders).

Social Equity

- While the 2016 Climate and Health Assessment covered select populations of concern who are more vulnerable to air quality impacts, one participant asked if the author team would explore issues of environmental justice and social equity, more specifically (e.g., air quality impacts in urban settings, where low-income housing is often located next to high-traffic freeways).

Adaptation

- There were questions about adaptation options related to air quality in terms of building resilience to future impacts, including impacts due to a changing climate. For example, one participant inquired about potential upstream controls to reduce exposure to pollen.