



Air, Climate, and Energy (ACE) Board of Scientific Counselors Subcommittee Meeting Overview

BOSC Subcommittee Meeting, October 12 - 14, 2021
Bryan Hubbell, ACE National Program Director



Air, Climate, and Energy National Research Program

NPD Team



Bryan Hubbell
*National
Program Director*



Sherri Hunt
*Principal Associate
National Program Director*



Andy Miller
*Associate Director
for Climate*



Angie Shatas
*Associate National Program
Director*

Connections to Centers, Offices, and Regions

Center for Environmental Measurement and Modeling (CEMM)



Alice Gilliland
Acting Director

Tiffany Yelverton
*Assistant Center
Director*

Center for Public Health and Environmental Assessment (CPHEA)



Tim Watkins
Director

Tom Long
*Assistant Center
Director*

Darrell Winner
*Senior Science
Advisor*

Peter Beedlow
*Ecologist, Pacific
Ecology Systems
Division*

Center for Environmental Solutions and Emergency Response (CESER)



Greg Sayles
Director

Carlos Nunez
*Assistant
Center Director*

Office of Science Policy and Engagement (OSAPE)



Tim Benner

Serena Chung
*Extramural
Research Lead
for ACE*

Lead Region RSL (R2)



Chau Vu

Office of Resource Management



Hyon Kim

Program Support



Michelle Latham
*Outreach/Engagement Lead for
National Research Programs*



Ann Brown
Communications Lead for ACE



Elizabeth Sams
Program Analyst



Annelise Hill
*Science Support for National
Research Programs*



Elisa Lazzarino
*Engagement & Social Science
(ACE contractor, ORAU)*

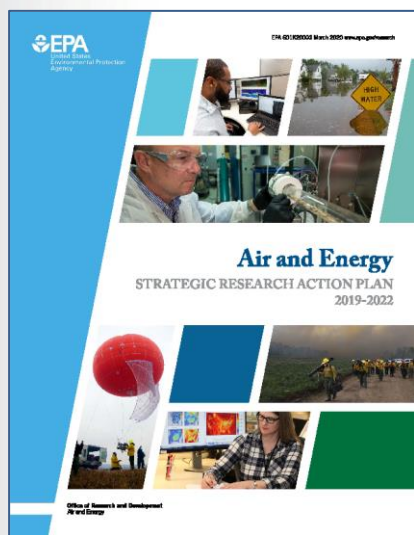


Lynn Tran
*Internal Media Developer (ACE
contractor, ORAU)*

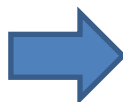


StRAP to Implementation to Delivery

Planning



RACTs

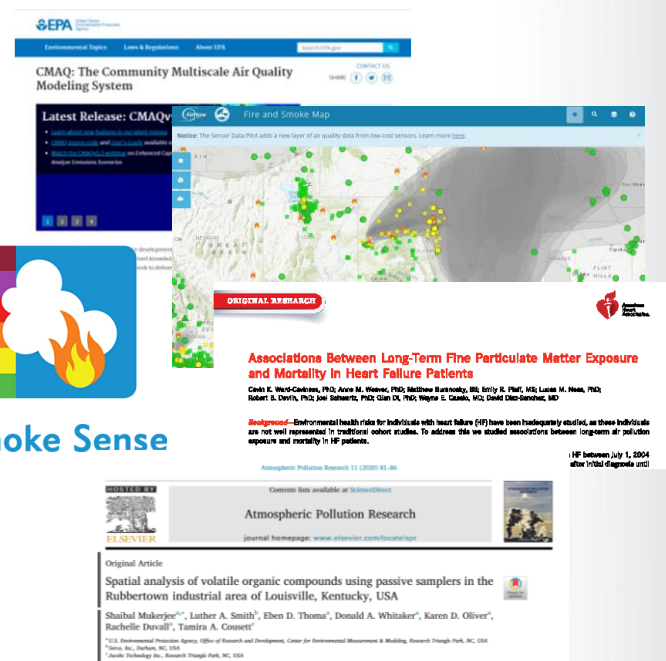


Implementation

Research Area
Implementation Plans



Delivery



- National programs lead
- Strategic focus
- Resources allocated at Research Area level

- Center lead
- Tactical focus
- Resources allocated for specific products

- Includes data, models, methods, EPA and journal publications
- Joint activity of National Programs and Centers

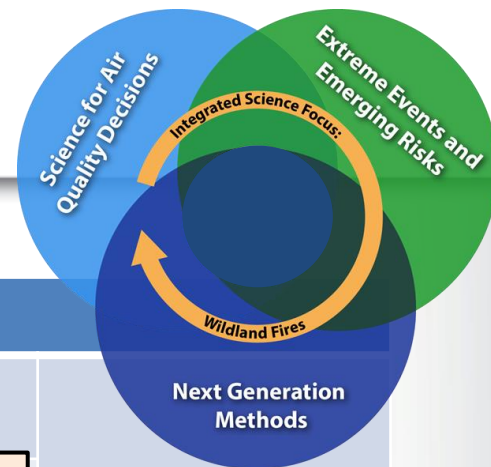


Scope of This Meeting

- Emphasis on implementation phase of the research cycle
- ACE research is highly integrated across scientific disciplines and ORD Research Centers
 - Activities related to a specific focus area often occur across multiple ACE Research Areas (RAs)
- Three focus areas that address priority research needs
 - Developing measurement methods to address both known air toxics and contaminants of emerging concern
 - Enhancing our understanding of approaches to build resilience at multiple levels and adapt to climate change
 - Increasing our ability to plan for dynamic changes in energy and transportation systems
- Focus areas include research activities in RAs 2, 4, 5, and 6



StRAP 3 Program Structure



Topic	Research Areas
Science for Air Quality Decisions	#1: Approaches to support air quality management programs for multiple pollutants at multiple scales
	#2: Approaches for characterizing source emissions, air quality, exposure, and mitigation strategies
Extreme Events and Emerging Risks	#3 Public health and environmental responses to air pollution
	#4: Public health and ecosystem exposures and responses to emerging air pollutants and sources
	#5: Methods to evaluate environmental benefits and consequences of changing energy systems
	#6: Methods to enable resilience to future environmental stressors
Next Generation Methods to Improve Public Health and the Environment	#7: Emerging approaches to improve air quality and exposure characterization
	#8: Novel approaches to assess human health and ecosystem impacts and risks
#9: Wildland Fires (Integrated Science Focus)	



Meeting Format

Days 1, 2, and 3

- Description of key challenges and program response
- General approaches to implementing research to address challenges
- Panel discussions
- Meet the Scientists sessions
- Questions from the BOSC subcommittee
- Working session for the BOSC subcommittee

- Three opening discussions (1 each day) providing:
 - Additional details on current and planned research activities (ORD senior managers)
 - Insights from Regional and Program Office Partners on the usefulness of ACE research deliverables and responsiveness to identified research needs



Meet the Scientist Sessions

- Three sessions to foster small group interactions with researchers
- Each session will have concurrent time blocks/virtual rooms
- Each time block/virtual room will:
 - Focus on a specific topic
 - Include a moderator and 3-4 scientists with 3- to 5-minute presentations
 - Allow for discussion with the subcommittee members
 - Repeat with a different group of subcommittee members
- **Subcommittee members will rotate and attend all three rooms**

- The ACE research program is implementing research to develop new methods to quantify source and near-source emissions, as well as ambient levels of toxic air pollutants and contaminants of emerging concern. These methods are needed to identify pollutant sources and levels of exposure for communities and individuals.
- **What suggestion(s)/recommendation(s) does the Subcommittee have on ORD's implementation of its air toxics and contaminants of emerging concern measurements methods research, and how this research will improve our understanding of these pollution sources and exposures, particularly for disproportionately impacted communities? [RA1, RA2, RA4]**
- CQ1 is addressed in the panel discussion and the Meet the Scientists session on Day 1.



- Climate change is expected to continue to increase the negative environmental and human health impacts of wildfires, flooding, drought, and other extreme events.
- Developing the knowledge and approaches to build resilience and adapt to these events is critical to preparing communities and protecting vulnerable populations and ecosystems.
- **What suggestion(s)/recommendation(s) does the Subcommittee have on ORD's implementation of research to understand effects of climate-driven changes on natural and human systems, adverse impacts on human health and the environment from climate stressors, and approaches to prevent or reduce these impacts? [RA6]**
- CQ2 is addressed in the panel discussion and Meet the Scientists session on Day 2.



Charge Question 3

- Energy and transportation systems are transforming in response to economic drivers and to meet the goal of net-zero carbon emissions by 2050.
- Understanding these dynamic changes is important for understanding the impacts of policies and technologies on emissions of greenhouse gases, air pollutants, and other health and environmental impacts.
- **What suggestion(s)/recommendation(s) does the Subcommittee have on ORD's implementation of its research portfolio to gain a better understanding of how energy and transportation systems may evolve and the consequences for emissions and other impacts. [RA5]**
- CQ3 is addressed in the panel discussion and Meet the Scientists session on Day 3.

