

## Summary of Product and Output Information for the Air and Energy 2019-2022 StRAP

Last Updated: January 27, 2021

This table summarizes the Air and Energy (A-E) Products and Outputs completed and delivered in FY19 and FY20 supporting the 2019-2022 A-E Strategic Research Action Plan (StRAP).<sup>1</sup> Publicly available Product and Output materials can be accessed via links. Drafts of papers that have been submitted, but not yet published, and internal reports are only available to those within EPA. Related links in the final column contain general, publicly available information related to the Product or Output.

Research Area	Product or Output Number <sup>2</sup>	Product or Output Title	Product or Output Materials and Related Links <sup>3</sup>
1	AE.1.1	Output: Release of CMAQ v5.3 and Instrumented Versions Supporting Source Apportionment	<a href="#">CMAQ Website</a> ; <a href="#">CMAQ Fact Sheet</a>
1	AE.1.2.1	Product: Evaluation of CMAQv5.3	Appel et al, 2020 (submitted); <a href="#">Presentation, 2019 CMAS</a> ; <a href="#">CMAQ Website</a> ; <a href="#">CMAQ Fact Sheet</a>
1	AE.1.5.1	Product: Development of Algorithm for Solid Noise Barrier for Use in Dispersion Models	Heist et al, 2020 (submitted); <a href="#">AMS 2020 Presentation</a> ; <a href="#">Near Roadway Website</a> ; <a href="#">Science Matters Barriers</a>
1	AE.1.5.6	Product: Spatial Analysis of Volatile Organic Compounds in Rubbertown Area of Louisville, Kentucky using Passive Samplers	<a href="#">Mukerjee et al, 2020</a> .
1	AE.1.6.2 (formerly AE.4.2.2)	Product: Summary of Implications of VCPs for Ozone and PM in Urban Atmospheres (California and the Northeast US)	<a href="#">Qin et al, 2020</a> ; <a href="#">Presentation, 2019 CMAS</a> ; <a href="#">CMAQ VCP Webpage</a>
2	AE.2.1.1	Product: Description of carbonaceous particle emissions from a pellet-burning biomass boiler	<a href="#">Hays et al, 2019</a>
2	AE.2.2.1	Product: Comparison of Ozone Measurement Methods in Biomass Burning Plumes	<a href="#">Long et al, 2020</a>
2	AE.2.2.4	Product: FY20 Activity Report of ORD's Reference and Equivalent Methods Designation Program	Internal Report; <a href="#">AMTIC Website</a> ; <a href="#">Criteria Pollutants Webpage</a>

<sup>1</sup> Products and Outputs from the 2016-2019 StRAP are not included here in order to focus on implementation of the existing plans.

<sup>2</sup> Two-digit numbers identify Outputs and three digit numbers identify Products.

<sup>3</sup> Includes Websites, Webpages, Fact Sheets, and/or articles from ORD's public newsletter Science Matters containing related information.

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2	AE.2.4	Output: Summary of research advancements to characterize emissions, exposures, and related health and environmental impacts associated with solid-fuel combustion for household energy needs (cooking, heating, and lighting) and outline of priorities for future research	State-of-the-Science Webinar <sup>4</sup> ; <a href="#">Household Energy Webpage</a>
2	AE.2.6.1	Product: Summary of Temporal Patterns and Biophysical Controls on Methane Emissions from Reservoirs	Waldo et al, 2020 (submitted)
3	AE.3.1/3.1.1	Output and Product: Synthesis of progress to improve characterization of deposition budgets for North America and identification of remaining critical knowledge gaps related to nitrogen deposition and assessments of critical loads	<a href="#">Walker et al., 2019</a>
4	AE.4.1.10	Product: Summary of Modeling PFAS Air Emissions, Chemistry, and Deposition	<a href="#">D'Ambro et al, 2020</a> ; <a href="#">PFAS Webpage</a>
4	AE.4.3.3	Product: Summary of Field Evaluation of Current EPA Method TO-15A Analysis for Ambient Monitoring of Ethylene Oxide	Internal Report
5	AE.5.2.1	Product: Technical Input White Papers for de novo analyses for the Third Biofuels Report to Congress	Internal Literature Review; Internal Attribution White Paper; Biomass Scenario Model; <a href="#">Second Biofuels Report to Congress</a>
6	AE.6.2.1	Product: Summary of changes in air quality and health impacts in the U.S. at 2050 and 2090 projected using multiple earth system models and emission scenarios	Nolte et al, 2020 (submitted); Fann et al, 2020 (submitted)
7	AE.7.2.1	Product: Report on Stakeholder Needs Assessment for Air Sensors	<a href="#">Presentation</a> ; Internal Report
7	AE.7.3.1	Product: Air Sensor Performance Targets and Test Protocols for PM <sub>2.5</sub> and Ozone	Ozone Internal Report; PM Internal Report; ASIC 2020 <a href="#">Presentation</a> ; <a href="#">Air Sensor Toolbox</a>
7	AE.7.3.5	Product: EPA Wildland Fire Air Sensor Challenge: Summary of Performance and Evaluation of Submitted Sensor Pods	Landis et al, 2020 (submitted); <a href="#">Science Matters: Challenge Winners</a>
7	AE.7.4.1	Product: Summary and Evaluation of MPAS Retrospective Meteorology Applied to Global Air Quality Modeling	Gilliam et al, 2020 (submitted); <a href="#">Advance Air Quality Models Webpage</a>
9	AE.9.1.7	Product: A Framework for Assessing Trade-Offs in Wildland Fire Management	Hall et al, 2020 (submitted)

<sup>4</sup> Slides are not posted but were made available to webinar participants upon request.