



U.S. Department of the Interior
Bureau of Land Management

BLM Regional Air Modeling Study





Objective

Provide a quantitative estimate of how the authorization of Federal oil, gas, and coal development potentially contributes to regional air quality.





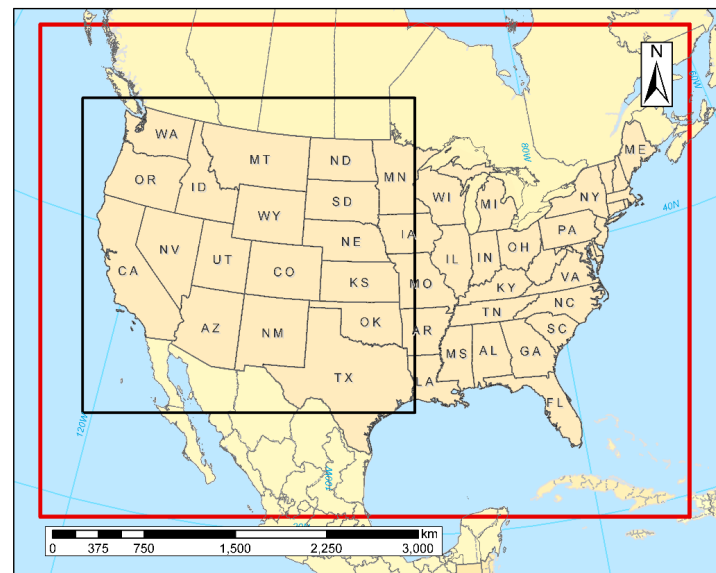
Overview of the Study

- Reusable Modeling Framework
 - Leverage modeling products prepared under other studies (e.g. North Dakota RMP, EPA 2016 v2 and WRAP/WAQS Regional Haze)
 - Reusable for multiple BLM decisions.
- Modeling products emissions inventories kept as-is and supplemented / replaced with BLM reasonably foreseeable projections of future Federal oil, gas, and coal development
- Utilize model source apportionment capabilities to tease out the Federal contribution to regional air quality.
- Consider the effects on air quality over the next decade, out to circa 2032.
- Provide Regional assessment in single model as opposed to multiple local models



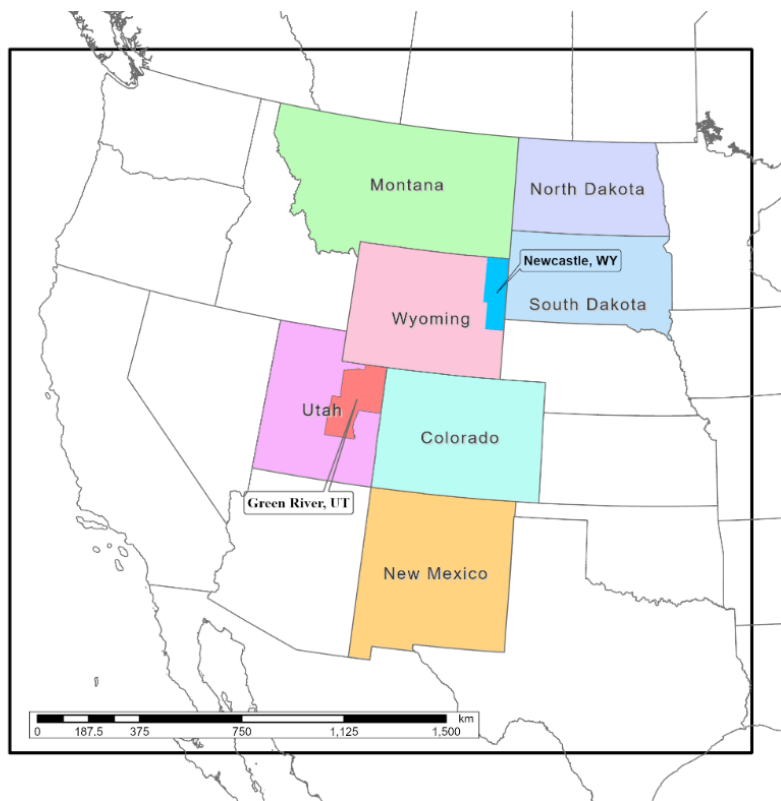
Model Setup

- Comprehensive Air Quality Model with Extensions (CAMx)
- 36km and 12km domains two-way nested grid
- 36 vertical layers
- WRAP/WAQS 2014





Source Categories



- Coal Sources
 - EGU's in WRAP States
 - Other Coal Combustion
 - Coal mining
- Oil & Gas – Existing & New
 - Federal
 - Non-Federal
 - Tribal
 - Non-Coal EGU
- Other
 - Natural
 - Other Anthropogenic
 - Boundary Conditions

- Added source areas for Farmington, Western CO, and Upper Green River WY.



Scenarios

Circa 2028 Scenario

- Modeled Circa 2028
- Previously Completed for North Dakota RMP
- Extensively uses data from WRAP, EPA, BLM

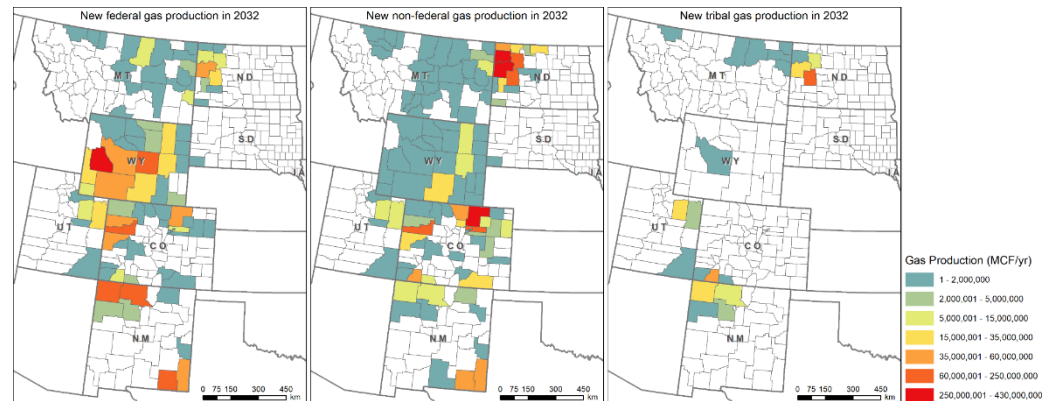
Circa 2032 Scenario

- Modeled Circa 2032
- EPA 2016v2 dataset
- Oil, Gas, Coal projections supplemented based on BLM projections



Oil and Gas Emissions

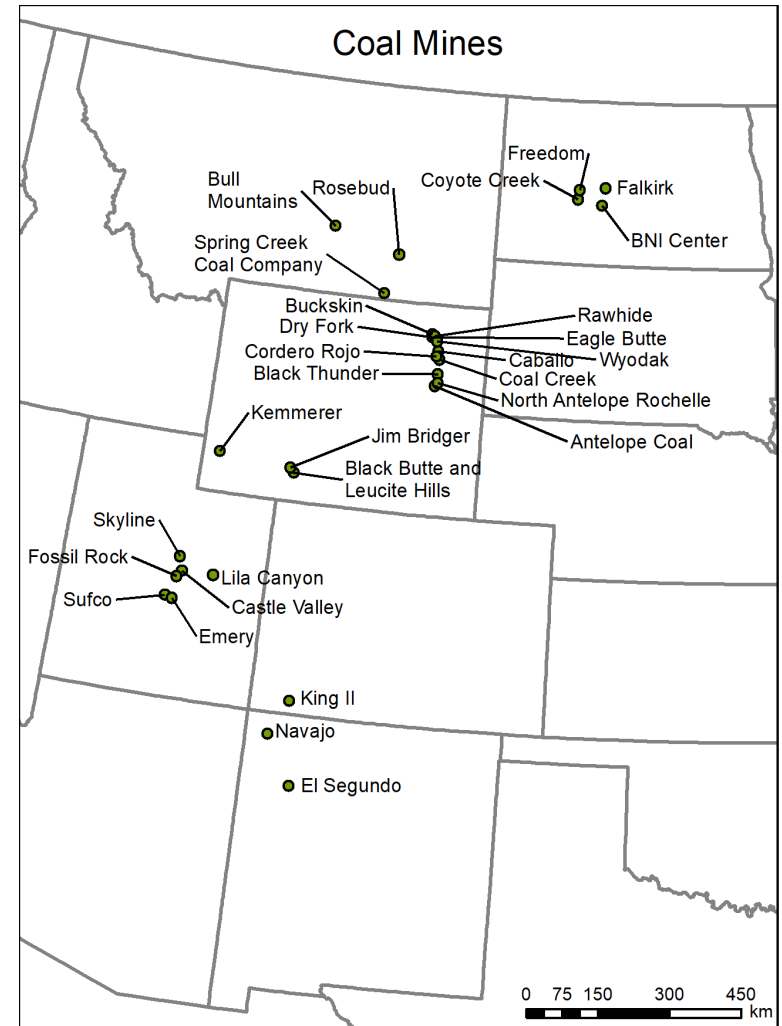
- Federal direct emissions sources (source apportionment) include wellsite and midstream subsectors (production, gathering and boosting, processing) while Federal indirect sources (downstream end-use) are accounted for in cumulative inventories.
- Oil and Gas Production estimates based on EIA Annual Energy Outlook supply cases that best match BLM reasonably foreseeable development scenarios
- Split production into Federal, nonfederal, and tribal.





Coal Emissions

- Mining Production based on BLM Projections
- Coal combustion sources from EPA's 2032
- Removed sources with announced retirement





Review Agencies

- Environmental Protection Agency
- National Park Service
- Forest Service
- Fish and Wildlife Service
- Office of Surface Mining Reclamation & Enforcement
- Bureau of Ocean Energy Management
- Bureau of Indian Affairs
- Navajo Nation
- MHA Nation
- Ute Tribe
- Ute Mountain Ute
- Southern Ute
- Shashone-Bannock Tribes
- Bishop Piute Tribe
- Nez Perce Tribe
- Colorado
- Montana
- New Mexico
- North Dakota
- South Dakota
- Utah
- Wyoming
- Colorado Regional Air Quality Council
- Westar



Summary

- The BLM is undertaking an air modeling study to estimate the Federal mineral contribution to regional air quality
- Modeling is intended to be use for various NEPA analysis and decisions (Planning Area RMP, leasing, projects)
- Consider the effects on air quality over the next decade, out to circa 2032.
- Source areas provide estimate of impacts from the authorization in various states, including Four Corners (Western CO, Farmington NM, and Western UT source areas)
- Part of iteratives air modeling process (i.e. more modeling in the future)