

Methane Studies and Management

WESTAR Spring Business Meeting

April 8, 2015



Why minimize methane emissions?

- Reduce GHG emissions
- Reduce waste of federal mineral estate
- Promote conservation of resources
- Collection of royalties

BLM Venting and Flaring Rule

Options for rule requirements:

- Well completions
- Production tests
- Liquids unloading – Well Purging
- Casing head and associated gases
- Gas conservation plans
- Storage vessel/tank emissions
- Pneumatic devices
- Leak detection and repair

NPRM out April 2015; final rule April 2016

The Biggest Methane Leak in America Is in New Mexico

Projects to harvest natural gas from a coal mine in the Four Corners region is spewing the potent greenhouse gas

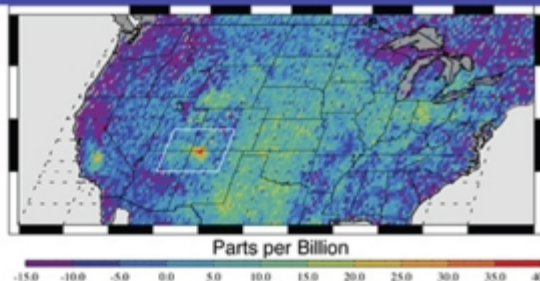
ClimateWire

October 10, 2014 | By [Gayathri Vaidyanathan](#) and ClimateWire

Researchers using satellite data have pinpointed New Mexico's San Juan Basin as a major source of leaking methane in the United States.

The region was responsible for 10 percent of all the methane emissions from the natural gas sector in the country, according to a [study](#) published yesterday in *Geophysical Research Letters*. If gas, coal mining and petroleum sectors are included, the San

Satellite Methane Signal Averages 2003-2009



Satellites sweeping over the United States found the most intense methane leakage (indicated in bright red) over the Four Corners area of the Southwest.

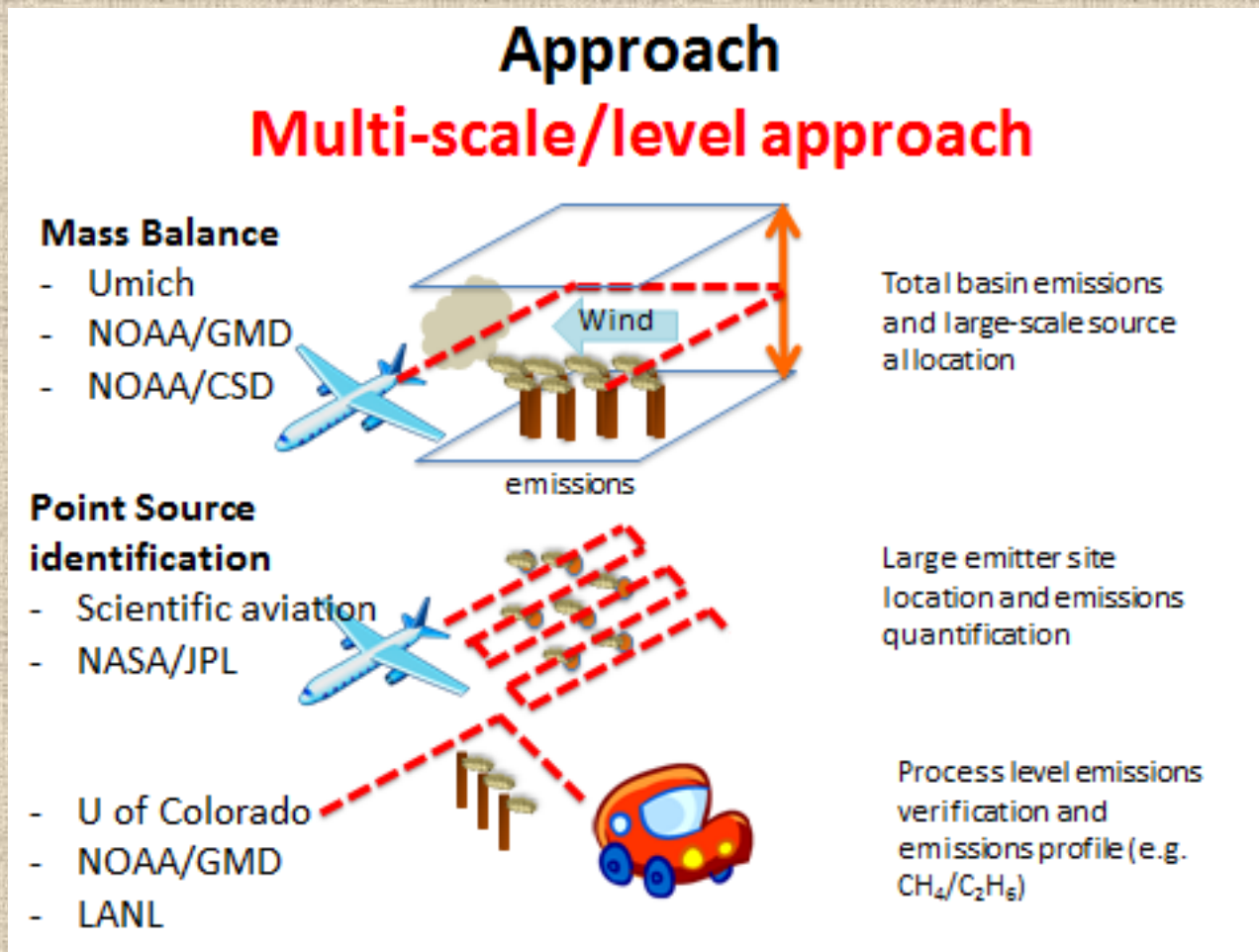
Findings of the Kort, et al Research

- Four Corners exhibits largest US methane anomaly seen from space.
- Methane signal is seen since 2003.
- Kort, et al did not show large anomalies over other oil and gas basins.
- Study pioneers the use of space-borne methane retrievals to identify localized emissions.

What Kort, et al cannot tell us

- Which sources (coal mining, pipelines, natural seeps, oil and gas development, transport) are contributors to the methane anomaly?
- Are the emissions from sources of methane uniform throughout the source sector?
- What is the leakage rate from oil and gas production in the Four Corners region?
- What are the effects of shale oil and natural gas emissions on climate and air quality?
- What controls or reductions in emissions might be most effective in reducing the methane anomaly?

NOAA/NASA, et al spring methane verification campaign



Four Corners Air Quality Group Collaboration

- Four Corners Air Quality Group=states, tribes, local governments, federal agencies, industry, citizens, environmental groups
- Goals for Four Corners Methane project:
 - Convene researching entities to discuss collaboration opportunities, streamline efforts, avoid duplication;
 - provide information and data to improve scientific understanding and research; and
 - Provide the public with information about methane concentrations and sources in the San Juan Basin.

Public Outreach

- Science Forum April 17th from 9 am to 12:15 pm at San Juan College.
- NOAA outreach/assistance to Ft. Lewis College (Durango), San Juan College (Farmington) and New Mexico Tech (Socorro) to further involve communities.
- NOAA/NASA demonstrations of aircraft and ground monitoring equipment for the public.

Questions

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