Something in the Air/Bridging the Air Quality Data Gap with Satellite Technology: American Lung Association Report

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The American Lung Association ("ALA") issued on October 29th a report titled:

Something in the Air Bridging the Air Quality Data Gap with Satellite Technology ("Report").

The Report reviews the use of satellite-derived data to track particle pollution in areas without ground-based monitors.

The Report examines:

- Opportunities to improve air pollution monitoring.
- Areas lacking official monitors.
- The role that the organization believes satellite technology can play in enhancing the understanding of air quality.

The Report argues by way of introduction:

…While the implementation and strengthening of the NAAQS have led to significant reductions in air pollution nationwide, not all communities have benefited equally… Traditional ground-based monitors serve as the cornerstone of air quality assessments, playing a crucial role in regulating air pollution. However, nearly two-thirds of U.S. counties do not have official monitoring stations. Their distribution and coverage vary, offering reliable and effective data in areas with monitors while highlighting opportunities to enhance data collection in others. With limitations in coverage, many regions are left without comprehensive data. Some of these areas are experiencing high levels of pollution from wildfires, expanded oil and gas extraction and other sources. It is essential to address gaps in official monitoring to ensure communities can access comprehensive air quality data, which will support efforts to clean up pollution and protect public health. A more comprehensive approach to air quality monitoring is achieved by combining ground-based data, satellite-derived data and distributed monitoring, working together to offer a fuller picture of pollution levels.

A key focus of the Report was characterized as spotlighting six counties that are stated to rank among the worst 2% of satellite-derived PM2.5 concentration estimates for unmonitored counties in the United States.

A caveat is noted which states:

…the approach of using satellite-derived data is not intended to replace the well-established "ground truth" of the regulatory monitors, which are proficient and reliable when measuring air within a designated area of examination. But this report shows that satellite data can serve as a powerful management tool to enhance and extend the capability for understanding air quality on a national scale, and in regions without access to monitoring.

The chapters in the Report include:

- Introduction.
- The Importance of Air Quality Data for Health.
- Regulatory Monitors Guide Pollution Control Efforts.
- The Promise of Satellite Data.
- Unmonitored Doesn't Mean Unpolluted.
- Spotlight Counties Reveal Data Gaps.
- Collin Co. TX.
- Forsyth Co. GA.
- Marion Co. OR.
- Mohave Co. AZ.
- St. Charles Co. MO.
- St. Tammany Parish, LA.
- Recommendations for Action.
- Conclusion.
- References.
- Appendix: Methodology and Acknowledgements.

A copy of the Report can be downloaded here.