

Special Issue

Atmospheric Emissions from Unconventional Oil and Gas Development: Measurements and Modeling

Message from the Guest Editors

The rapid development of unconventional oil and gas production and the expanded use of oil and gas products have raised air quality and climate concerns. Atmospheric emissions from unconventional oil and gas operations, including greenhouse gases, criteria air pollutants, and hazardous air pollutants, need to be accurately quantified and their impacts need to be assessed to meet regulation requirements and to develop mitigation strategies. This Special Issue aims to advance knowledge on the measurements and modeling of atmospheric emissions from unconventional oil and gas operation activities. We welcome research on the topics including, but not limited to, the following:

- Field measurements: technology, data, and methodology.
- Emission detection, quantification, reconciliation of emission inventories with atmospheric measurements, and uncertainty analysis.
- Temporal and regional variability of atmospheric emissions.
- Application of dispersion and chemical transport models in oil and gas production regions: comparison and applications.
- Emission reduction strategies and policy implications.

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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