

2020 EOL-ACOM Joint Seminar (Virtual)

THE SCOAPE (SATELLITE COASTAL AND OCEANIC ATMOSPHERIC POLLUTION EXPERIMENT) CRUISE, MAY 2019: GULF OF MEXICO AIR QUALITY NEAR OIL AND NATURAL GAS OPERATIONS

Dr. Anne Thompson

Senior Scientist, Earth Sciences Division
NASA/Goddard Space Flight Center
anne.m.thompson@nasa.gov



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WEBCAST: <https://operations.ucar.edu/live-eol>

ABSTRACT

NASA/Goddard has an Interagency Agreement with the Bureau of Ocean Energy Management (BOEM, Dept. of Interior) to assess the feasibility of using satellite data to measure Air Quality (AQ) over the US continental shelf and adjacent coast. In May 2019, we conducted an oceanographic cruise on the *Research Vessel Point Sur* to collect trace gas measurements (O₃, NO₂, CH₄, CO₂, VOC, CO) and to validate satellite column NO₂ over the Gulf of Mexico (GOM). I will present an overview of SCOAPE, including evaluations of TROPOMI NO₂ data with ground- and ship-based Pandora spectrometers. Preliminary findings are: (1) general AQ over the area of deepwater operations, which were influenced by tropical air masses early in the cruise (10-14 May 2019), was better than near shore which was influenced by flow from urban areas (15-17 May); (2) Regions of smaller and typically older operations displayed high CH₄ and hydrocarbon readings, presumably from leakage; (3) Satellite NO₂ data with ground- and ship-based Pandora columns are in good agreement with one another. There has been an absence of regular AQ measurements over the GOM, so SCOAPE data constitute a baseline against which future observations can be compared. Continuous monitoring of NO₂ and O₃ from space and with coastal instruments and in the GOM will benefit BOEM's ongoing mission.

EOL Seminar Series Coordinator: Jacquie Witte: jwitte@ucar.edu

This webcast will be recorded and uploaded to the
[NCAR Earth Observing Laboratory YouTube Channel](#)

For more information, contact Melissa Ward: mward@ucar.edu