

EARTH OBSERVATION SYMPOSIUM (B1)
Interactive Presentations (IP)

Author: Ms. Casey Bray
North Carolina State University, United States, cdbray@ncsu.edu

EVALUATION OF THE IMPACT OF BIOMASS BURNING ON AMMONIA CONCENTRATIONS IN
THE UNITED STATES USING SATELLITE AND GROUND BASED MEASUREMENTS**Abstract**

This study will utilize satellite observations of ammonia and wildfires as well as ground level observations of ammonia and ammonium across much of the Continental United States (CONUS) over a five-year period (2010-2014). Ground based ammonia concentrations will be obtained from the Ammonia Monitoring Network (AMoN), NASA's Fire Information for Resource Management System (FIRMS) will be utilized to obtain archived fire locations obtained from the Moderate Resolution Imaging Spectroradiometer (MODIS) sensor on NASA's Earth Observing System satellites (Terra and Aqua) and Tropospheric ammonia concentrations will be measured using the Tropospheric Emission Spectrometer (TES) on NASA's Aqua satellite. Both satellite and ground based measurements of ammonia will be analyzed over the period to determine trends in the concentrations both over each season and over the past 5 years. In addition to this, this data will also be compared with observed wildfires in order to speculate as to the impact that the wildfires had on ammonia concentrations. With the increase in wildfires plaguing the western US over the past decade, it is expected that ammonia concentrations will have increased over the past five years due to the additional emissions into the atmosphere.