

## **AQRP PRIORITY RESEARCH AREAS 2014-2015**

A primary goal of the State of Texas Air Quality Research Program (AQRP) is to support scientific research related to Texas air quality, in the areas of emissions inventory development, atmospheric chemistry, meteorology and air quality modeling. The research needs in these areas are significant and continuing. Because AQRP resources are limited, proposed research projects should focus on high priority, targeted areas.

For the 2014-2015 biennium, the targeted areas for AQRP research are:

- Improving the understanding of ozone and particulate matter (PM) formation, and quantifying the characteristics of emissions in Texas through analysis of data collected during the DISCOVER-AQ and SEAC4RS campaigns;
- Biogenic emission estimates from measurements, including satellites, aircraft, and field campaign data collected in the United States, and comparison to biogenic emission modeling in an effort to improve the models and the underlying data;
- Improving the simulation of clouds in air quality modeling, especially sub-grid-scale clouds, so that modeled ozone and PM formation will be driven by more accurate photochemistry;
- Global and regional transport of pollutants into Texas, using data collected by aircraft, ozonesondes, and satellites, and modeling analyses, with an emphasis upon analysis of data collected during recent field campaigns;
- Analysis of field campaign and other appropriate data to investigate transformation of gas-phase pollutants to particulate matter impacting Texas air quality, and to identify the sources of PM pollution impacting Texas;
- Measurements, analyses, and modeling that identify and describe industrial flare operating regimes that provide both high combustion efficiency and minimal smoke formation;