

## FY18 AC4 Information Sheet

### Title: The Role of Reactive Nitrogen in Biogenic VOC Oxidation and Aerosol Formation

Aerosols and aerosol formation have a significant influence on both climate and air quality. There are, however, a number of uncertainties in fully understanding and representing reactive nitrogen processes in the atmosphere as they relate to aerosol formation. A particular example is the production of secondary organic aerosols (SOA) due to the interaction of anthropogenic NO<sub>x</sub> and biogenic emissions. The resulting production and abundance of aerosols is not well understood in a potentially changing chemical regime, as NO<sub>x</sub> emissions continue to decrease throughout US. This is particularly the case in the Southeast US due to its large biogenic emissions in close proximity to large anthropogenic emissions. Several recent field campaigns have addressed the interaction between anthropogenic and biogenic emissions in distinct geographical regions and seasons (e.g. SAS, CALNEX, FRAPPE etc.), and significant data is available to address uncertainties.

In FY18, as part of a continuing interest in the nitrogen cycle, the Atmospheric Chemistry, Carbon Cycle and Climate (AC4) program announcement focuses on laboratory, modeling, and analysis studies (of existing field data) that address one or more of the following priorities:

1. Investigate the mechanisms of BVOC oxidation involving reactive nitrogen species in yielding organic nitrogen aerosols and/or their role in NO<sub>x</sub> removal.
2. Perform complementary chamber and/or laboratory studies to better constrain NO<sub>3</sub>-BVOC reaction mechanisms and organic aerosol formation.
3. Use relevant satellite products or develop new ones (e.g. formaldehyde), particularly from SNPP/JPSS-1 and their predecessors.

Projects can be 2 or 3 years long, and total project costs cannot exceed \$600,000, over the lifetime of the project. PIs are strongly encouraged to submit Letters of Intent following the guidance in the Federal Funding Opportunity (FFO). Letters of Intent should be emailed to AC4 Program Managers Monika Kopacz ([Monika.Kopacz@noaa.gov](mailto:Monika.Kopacz@noaa.gov)) and Kenneth Mooney ([Kenneth.Mooney@noaa.gov](mailto:Kenneth.Mooney@noaa.gov)).

#### Data Management Guidance

Responsible NOAA Official for questions regarding this guidance and for verifying accessibility of data produced by funding recipients: Monika Kopacz ([Monika.Kopacz@noaa.gov](mailto:Monika.Kopacz@noaa.gov)).

Data Accessibility: The AC4 Program requires that public access to grant/contract-produced data be enabled in the following way:

Funding recipients will establish their own data hosting capability (describe in proposal)

Technical recommendations: There is no specific technical guidance, however, proposals are to describe their proposed approach. Use of open-standard formats and methods is encouraged.

Resources: Proposals are permitted to include the costs of data sharing or archiving in their budgets.