DISCOVER-AQ Data Status

All project funded final data are submitted and merged data products are available, the DISCOVER-AQ Level 1 requirements for data are met.

Thank you!!!

STIPULATIONS_ON_USE Issue:

- According to NASA data policy, all project funded measurement data should be open to the public
- The "STIPULATIONS_ON_USE Issue" state for the final data files should be consistent with the "Guidance for Data Users" prominently displayed on the archive webpage:

"For responsible scientific use of the data sets provided in this archive, data users are strongly encouraged to carefully study the file headers and directly consult with the instrument PIs. Please acknowledge the data source and offer co-authorship to relevant instrument PIs when appropriate".

DISCOVER-AQ Data Product Status

- DISCOVER-AQ data products:
  - Merge files (AQS Site flags and P-3B profile sequence number available in merge files):
    - 1, 15, and 60 sec, LARGE SP2/WSOC and PILsIC
  - Boundary layer height estimates:
    - Meteorological BL and BuL heights based on potential temperature
    - Mixing layer heights: HSRL PBL height
  - HYSPLIT model back-trajectories plots and data
  - P-3B vertical profile plots for 17 species/parameters for quick comparison between sites and flights:

    Temperature, potential temperature, specific humidity, O_3, CO, CO_2, NO, NO_2(NCAR), NO_2(LIF),NO_Y, CH_2O, scattering coefficient (550 nm), absorption coefficient (532 nm), CN(>3nm), Vol(<1µm), BC, and WSOC.

DISCOVER-AQ Data Product Status

- DISCOVER-AQ data products (cont.):
  - Highway traffic data provided by MDE
  - MDE ground site data:
    - 1-min final data available for O_3, NO, NO_2, and NOy (species availability varies with sites)
    - Hourly final data will soon become available
  - Intercomparison plots: P-3B vs. UMD Cessna 402B
  - P-3B aircraft videos
  - Column density estimates for O_3, CO_2, NO_2, CH_2O, scattering (550 nm), and absorption (532 nm)
  - Gridded vertical profiles for 16 species:

    Temperature, potential temperature, specific humidity, O_3, CO, CO_2, NO, NO_2(NCAR), NO_Y, CH_2O, scattering coefficient (550 nm), absorption coefficient (532 nm), CN(>3nm), Vol(<1µm), BC, and WSOC

DISCOVER-AQ Data Transfer to ASDC
— Science Data —

- The data transfer to LaRC ASDC for all project funded measurements is required within 9 months from the end of the field deployment, i.e., due on May 1, 2012
- The DISCOVER-AQ science data will be archived in 10 collections:
  - Aircraft navigational measurements
  - Aircraft in-situ trace gas measurements
  - Aircraft remote sensing trace gas measurements
  - Aircraft in-situ aerosol measurements
  - Aircraft remote sensing aerosol measurements
  - Ground-based in-situ trace gas measurements
  - Ground-based remote sensing trace gas measurements
  - Ground-based in-situ aerosol measurements
  - Ground-based remote sensing aerosol measurements
  - Ozonesonde/tethered-balloon data

DISCOVER-AQ Data Transfer to ASDC
— Documentation —

- Definition: instrument description, primary instrument output data (i.e., raw data) and ancillary data
  - **Instrument description:**
    - a write-up focused on the details or modifications specific to the instrument operation and data revision records during this deployment
    - a reference of peer-reviewed publication describing: the measurement principle, instrument description, calibration procedures and standards (if applicable), data processing procedure (including software if necessary), data validation (if applicable), and uncertainties/detection limits.
- Goal: to maintain data reprocessing capability and transparency of the data processing – required by NASA data policy
- The program scientist (Maring), PI (Crawford), project scientist (Pickering), and PM (Kleb), in consultation with the Co-I and an assigned representative from LaRC ASDC (Lindsay Parker), will determine the appropriate documentation requirements for each instrument on a case-by-case basis
- Documentation files are available **by request only**

DISCOVER-AQ Data Transfer to ASDC — Documentation —

- Documentation file naming convention:

  DISCOVERAQ_PILastName_Instrument… (date, volume, etc)

  - ICARTT format is not required for documentation files
  - Recommendation: If possible, place all files within a single (or minimal number) of zip files, which can be named according to the convention; thus bundling original files without requiring filenames to be altered
  - Temporary repository will be setup for documentation files soon
- Target Due date: April 1, 2012