**Please read this document**

**before you download the files and start working**

<https://www-air.larc.nasa.gov/missions/ACT-America/index.html>

* Some of the information on this archive is still in a preliminary state. This is denoted by the alphabetic revision numbers in the filename (e.g., RA, RB, etc.). The preliminary data is NOT adequate for any publication use. Please contact the PI for any use of the preliminary data (see a list of the PIs at the end).
* **Most important** information about revision number (R#) present in the **merged** file names:

**For preliminary merged data**: Revision number (R#) starts from letter “A”, e.g., RA, RB, RC, RD; These data are **not** ready for publications. However, please note that since these are merged files with variables from a number of instruments, some variables are already final and could be used for publications. Thus, please see the **README** file which contains a list of all the files used for the merge to check whether individual datasets or variables where field (RA, etc.) or not. An example filename “ACTAMERICA-mrg01-b200\_merge\_20160711\_RD.ict” Although the filename extension is RD, some of the variables are already final.

**Also, README files provide important information about** the variables which have been merged in the merged files.

**For summer 2016 water vapor in-situ measurements on C-130:** These data sets have been merged already on the merged files. Please note that due to erroneous measurements and/or sensor problems, water vapor measurements the flights over MA region (till 30 July 2016), data sets are unavailable.

**For final merged data**: Numerical values were used in the file names e.g., R1, R2, R3 … etc. These data sets were undergone QA/QC and are considered appropriate for scientific analysis and could be used for journal and conference publications. However, please note that as the algorithm development progresses in time, **we will revise and improve** the files from R1 to R2 etc. as they become available from the instrument PIs. An example file name: ACTAMERICA-mrg05-c130\_merge\_20160718\_**R1**.ict. In future, the same file could be available with a filename ACTAMERICA-mrg05-c130\_merge\_20160718\_**R2**.ict

Also note, extension: “ict” will be the file extension for ICARTT files, “h5” will denote HDF5 files.

* **Some** **existing discrepancies** in the ICARTT files produced for B-200 and C-130 aircraft for summer 2016 and winter 2017 field experiments

Location (w.r.t. column numbers) and number of variables (# of columns) in the files vary between aircraft and campaigns. For instance, number of variables (thus columns) of B-200 files for winter and summer campaigns are **NOT** same. In addition, number of variables (thus columns) of B-200 and C-130 files are also **NOT** same.

Users are **highly recommended** to go through the corresponding **README files** to find locations of appropriate variables in two aircraft data even during the same campaign.

Wind speed and directions reported in C-130 files follow standard ICARTT format. However, wind reported for B-200 aircraft use polar co-ordinate so that (r, theta) values are available rather than horizontal wind direction and speed.

Names for the same variables (CO\_PICARRO vs. CO\_MixingRatio\_PICARRO) are inconsistent between two aircraft merges

* **Please go through the README files** before you start using the data sets; this is highly recommended for both **preliminary** (e.g. RA, RB, etc.) and **final** (e.g. R0, R1, etc.) data sets.
* **Use of final datasets**: Finalized ACT-America data sets released on LaRC site are considered **free** and available for **public use**. However, users are **highly encouraged** to contact the instrument PIs and the PI of ACT-America project (Ken Davis) for fruitful scientific applications. Use of the data must include an acknowledgment (i.e., citation or ACT-America project).
* Commercial use of the data is prohibited at any stage; the data may be used for research only.

**Important contact information regarding data sets and applications for scientific purposes**

* Principal Investigator of ACT-America Project: **Kenneth J. Davis** (Email: kjd10@psu.edu)
* PICARRO and Ozone data sets: **Joshua DiGangi** (email: joshua.p.digangi@nasa.gov )
* Multifunctional fiber laser lidar (MFLL): **Bing Lin** (email: bing.lin@nasa.gov)
* NASA GSFC Cloud Physics Lidar- PBL, Clouds, Aerosols: **Matthew McGill** (Email: matthew.j.mcgill@nasa.gov)
* Measurement of Aircraft and Meteorological Parameters: **Melissa Yang** (Email: m.yang@baeri.org)
* Flask sampling - Portable Flask Packages: **Colm Sweeney** (Email: colm.sweeney@noaa.gov)
* Data management and merging issues: **Gao Chen** (Email: gao.chen@nasa.gov) and **Michael A. Shook** (Email: michael.a.shook@nasa.gov)
* LaRC website: **Ali Aknan** (Email: ali.a.aknan@nasa.gov)

**Link of other important resources**

ICARTT Data Format: <https://www-air.larc.nasa.gov/missions/etc/IcarttDataFormat.htm>

ACT-America project proposal: <https://www-air.larc.nasa.gov/missions/ACT-America/docs/ACT-America_sections1-3.pdf>

ACT-America data management plan: <https://www-air.larc.nasa.gov/missions/ACT-America/docs/data_management_final.pptx>

Reports: Flight / Status / Outlook / Quick Look: <https://www-air.larc.nasa.gov/missions/ACT-America/reports.2016/index.html>