Multi-Sensor Data From A-Train Instruments Brought Together for Atmospheric Research

The A-Train is comprised of a series of instruments, developed independently, that measure highly related atmospheric components along the same flight path. In order to intercompare data from this multitude of sensors, researchers must access, subset, visualize, analyze and correlate distributed atmosphere measurements from the various A-Train instruments. The A-Train Data Depot (ATDD) has been operational for over a year, successfully performing the aforementioned functions on behalf of researchers, thus providing co-registered data from the Cloudsat, CALIOP, AIRS, and MODIS instruments for further intercomparisons. Of late, significant data from OMI and POLDER are now included in the ‘depot’. By specifying the desired spatial and temporal range, the researcher can subset, visualize, co-register, and access multi-sensor A-Train data related to: Cloud, aerosol, atmospheric temperature, and water vapor parameters (vertical profile visualizations); Cloud Pressure, cloud top temperature, water vapor, cloud optical thickness, and aerosol products (horizontal strips subsetted +/- 100km from the profile visualizations), and; Cloud pressure parameters (2-D line plots overlayed on the vertical profiles). All data is plotted using the GIOVANNI data exploration tool. A new feature of GIOVANNI is its ability to have collocated and subsetted data sets as well as PNG image files downloaded to the researcher’s computing facility. By providing a convenient way to visualize and acquire multi-sensor data, ATDD affords users more time and effort to further their research.

Number of authors: 6
Number of different affiliations: 2
Index Terms: 320, 350, 365, 368, 3311
Discipline Atmospheric Science AS A

Affiliation:
GES DISC/DAAC
Code 610.2, NASA/GSFC
Greenbelt, Maryland 20771
USA

NASA/LaRC
MS/75
Langley, Virginia 23681
USA

Colorado State University
Department of Atmospheric Science
Ft. Collins CO 80523
USA

Peter Smith
1-301-614-5325
Peter.M.Smith@nasa.gov

Steven J. Kempler
1-301-614-5765
Steven.J.Kempler@nasa.gov

Greg Leptoukh
1-301-614-5253
leptoukh@daac.gsfc.nasa.gov

Andrey Savtchenko
1-301-614-5705
asavtche@pop600.gsfc.nasa.gov

Graeme Stephens
1-970-491-8550
limi@atmos.colorado.edu

Dave Winker
1-757-864-6747
david.m.winker@nasa.gov

FAX: 1-301-614-5268
A21

Authors:

 Steven Kempler (PI)
 NASA’s Goddard Space Flight Center (GSFC), Greenbelt, MD 20771

 Peter Smith
 NASA’s Goddard Space Flight Center (GSFC), Greenbelt, MD 20771

 Andrey Savtchenko
 NASA’s Goddard Space Flight Center (GSFC), Greenbelt, MD 20771

 Greg Leptoukh
 NASA’s Goddard Space Flight Center (GSFC), Greenbelt, MD 20771
Graeme Stephens
Colorado State University, Fort Collins, CO 80523

Dave Winker
NASA’s Langley Research Center (LaRC), Hampton, VA 23681