Assignment #1: Find a data-oriented website in the atmospheric or related sciences which can be posted on the related links page. Write a short, one paragraph, description of the site and types of data found on it. *Due Monday, August 27.*

Database

Data from the Airborne Carbon in the Mountains Experiment (ACME) can be found through the Earth Observing Laborartory (EOL) web-site maintained by the University Center for Atmospheric Research (UCAR).

http://www.eol.ucar.edu/raf/Projects/ACME/

The flight matrix summarizing the different flights is available at:
http://www.eol.ucar.edu/raf/Projects/ACME/FltMatrix.html

Description

The ACME database[1] includes data series of multiple variables sampled with instruments on board the NSF/NCAR C-1300 Hercules aircraft (N130AR). The experiment, leaded by Dr. David Schimel[2] et al., took place in May, July and August 2004. The main goal of the ACME campaign it was to monitor the CO_2 concentrations over the forest region in Colorado, USA. Air samples were collected using the C-130AR aircraft as a way to study and characterize regional-scale isotopic signal of respiration in the residual boundary layer. However, besides the CO_2 and isotopes of O_2 data, the dataset also includes measurements of air temperature, atmospheric pressure, absolute humidity and the components of the wind field along the path of the aircraft. The data was sampled at 1 Hz and also at the high rate of 25 Hz. The aircraft flight plan included long sections (several tens of kilometers) at constant pressure-altitude and constant bearing, as well as incursions from low-to-high altitudes. This makes the database highly relevant to study and characterize the stability of the atmosphere during the flights as well as to conduct turbulence studies and the signature of gravity waves (in those cases when they are present).

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[1] The database is in netCDF format.

[2] Senior Scientist at the Terrestrial Sciences Section (NCAR), Boulder, CO.