

This information is available at https://www.eol.ucar.edu/field_projects/niwot07
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NIWOT07

In support of a NSF-supported project to investigate the use of sensor networks for biogeoscience research, NCAR and CU deployed additional equipment at the Univ. Colo. Flux Facility (CUFF) in the [Univ. Colo. Mountain Research Station \(MRS\)](#). Initial equipment setup started in Summer 2006, with the majority of measurements to be made in Spring/Summer 2007.

This was the first real deployment of the new NCAR/EOL TRAnsect Measurement (TRAM) system. Two TRAM transects currently are planned for this study. The first crosses Como Creek and a few other minor drainages from north to south. It is about 105~m each way along one line of 11 towers, with measurements at 1m above ground (low trunk space) one way and 5m above ground (middle of dense foliage) returning. This transect supports the study of nocturnal transport of CO₂ by drainage flows.

The second transect will span the 150m distance between the CUFF main tower and the USGS tower to the West.

Hydra Dataset

The hydra is a CO₂ measurement system, capable of multiplexed sampling of 18 inlets and four calibration gases. Air is continuously drawn in from the inlets, and a valve system allows a closed-path Licor 7000 to sample each inlet in succession, as well as the calibration gases. The hydra was similar to that used in 2002, as described in <https://www.eol.ucar.edu/system/files/hydra.pdf>.

See also http://www2.mmm.ucar.edu/abl/cme/data_hydra/. For a calibrated version of the dataset, see http://www2.mmm.ucar.edu/abl/cme/data_hydra/hydra_cme07_co2.dat

Hydra Port	Inlet Name	Latitude	Longitude	Height (m)
A1	T1-L	40.035327776	105.545123627	1.22
A2	T4-U	40.035052558	105.545148437	4.90

A3	T11-L	40.034513597	105.545444384	1.22
A4				
A5	T11-U	40.034513597	105.545444384	3.58
A6				
A7	U-COMO2	40.034603513	105.546720428	1.22
A8	CUFF (at 1m)	40.032875056	105.546970780	1.00
A9	US2	40.034287807	105.546270761	1.22
B1	T1-U	40.035327776	105.545123627	3.38
B2	T4-M	40.035052558	105.545148437	3.23
B3	T4-L	40.035052558	105.545148437	1.22
B4	COMO1	40.034892639	105.545460794	1.0
B5	US1	40.034135377	105.546698535	1.22
B6	UN-2	40.034999959	105.545547832	1.22
B7	UN-1	40.035063261	105.547343401	1.22
B8	T9-L	40.034631299	105.545239229	1.22
B9	T9-U	40.034631299	105.545239229	5.89

Hydra Port	Calibration Gas
C1	not used
C2	N ₂ or JA02103 or JJ16850
C3	not used
C4	JJ14766

Tank	ppm
JA02103	349.215
JJ14766	383.639
JJ16850	417.131

The NIWOT07 hydra dataset consists of NetCDF files containing 30 minute averages of the CO₂ mixing ratio from the inlets as well as the calibration gases.

The values of the CO₂ mixing ratios are as reported by the Licor-7000, and have not been corrected by the calibration gas values.