Missouri Ozarks Hourly Mean CO_2 Mixing Ratio Data

FILE NAMES:
mo_2007_hourly
mo_2008_hourly
mo_2009_hourly

DATA FORMAT: .csv

DATA VERSION: 20091217

STATION NAME: Missouri Ozarks

STATE: Missouri

COUNTRY/TERRITORY: USA

LATITUDE: 38.7441 N

LONGITUDE: -92.2000 W

ELEVATION: 219 m AMSL

CONTRIBUTOR: Pennsylvania State University (PSU)/Oak Ridge National Laboratory (ORNL)

OBSERVATION CATEGORY: Air sampling observation

NUMBER OF SAMPLING HEIGHTS: 1

SAMPLING HEIGHT: 30 m AGL

PARAMETER: CO_2 dry mole fraction

TIME PERIOD: 2007 - 2009 (inclusive; all available data)

ACTUAL SAMPLING DATES:

Site Code	Full Name	Latitude (degrees N)	Longitude (degrees W)	Elevation (m AMSL)	Sampling Heights (m AGL)	Sampling Dates
MO	Missouri Ozarks, Missouri	38.7441	-92.2000	219	30	01/01/2007-03/05/2009

MISSING DATA: -999 [NOTE: The missing value -999 denotes missing CO_2 data or when error is estimated to be > 0.5 ppm (not recommended to be used).]

TIME INTERVAL: hourly mean [NOTE: Mixing ratio data were recorded every 10 seconds and 1 min of data was ignored while the system flushed. Data are averaged to hourly concentrations.]

MEASUREMENT UNIT: ppm

MEASUREMENT METHOD: NDIR (Licor 820) (NOTE: Calibrations using 4 field tanks were performed every 4 hours, a target tank was sampled every hour, and an archive tank was sampled every 23 hours. Two nafion driers were used, ensuring that the difference in water vapor concentration between the dried sample and the moistened calibration gases was less than 300 ppm (corresponding to an error in the CO_2 measurement of 0.1 ppm). Flow control, such that the flow rate changes by less than 4 cc/min between the sample air and calibration gases, was achieved using a mini-regulator. Leak tests were automated. For details, see Stephens, B.B., N.L. Miles, S.J. Richardson, A.S. Watt, and K.J. Davis. 2001. Atmospheric $C0_2$ monitoring with single-cell NDIR-based analyzers. Atmos. Meas. Tech. 4: 2737-2748. doi:10.5194/amt-4-2737-2011

SAMPLING TYPE: in situ

LOCAL TIME ZONE: CST (reported as UTC)

TIME BASIS FOR REPORTING DATES AND TIMES: Coordinated Universal Time (UTC)

REFERENCE SCALE: Traceable to NOAA scale

CREDIT FOR USE:

TECHNICAL CONTACT: co2@meteo.psu.edu

DATA COLUMN HEADINGS:

Year: Year (YYYY)

DOY: Day of Year (DD). DOY = 1 is January 1.

Hour: Hour of collection (HH_UTC). Hour 0 = midnight UTC.

CO2 (ppm): Hourly mean CO_2 dry mole fraction in ppm

QualityFlag:
1: error estimated to be < 0.3 ppm
2: error estimated to be > 0.3 ppm but < 0.5 ppm

3: error estimated to be > 0.5 ppm (not recommended to be used; CO2 listed as -999)

Please contact PSU Department of Meteorology CO_2 group (co2@meteo.psu.edu) if you have any questions regarding the data.