Rosemount Hourly Mean CO_2 Mixing Ratio Data

FILE NAMES:
rm_2007_hourly
rm_2008_hourly
rm_2009_hourly

DATA FORMAT: .csv

DATA VERSION: 20131028

STATION NAME: Rosemount

STATE: Minnesota

COUNTRY/TERRITORY: USA

LATITUDE: 44.6886 N

LONGITUDE: -93.0728 W

ELEVATION: 290 m AMSL

CONTRIBUTOR: T. Griffis, University of Minnesota

OBSERVATION CATEGORY: Air sampling observation

NUMBER OF SAMPLING HEIGHTS: 2

SAMPLING HEIGHTS: 200 m AGL (column 5), 100 m AGL (column 6)

PARAMETER: Hourly mean CO_2 dry mole fraction in ppm

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
RM	Rosemount, Minnesota	44.6886	-93.0728	290	200 m	05/22/2007-12/31/2009 (CST)
					100 m	05/22/2007-12/31/2009 (CST)

MISSING DATA: -999 = missing data values. -888 = data values out of biophysical limits (< 335 and > 435 ppm) were removed by ORNL DAAC and replaced with missing value code -888.

TIME INTERVAL: hourly average. Within each hour the concentration was measured 5 times. The sample duration was 11 minutes. The TDL analyzer was calibrated between each cycle. The raw concentration data were recorded at 10 Hz.

MEASUREMENT UNIT: ppm

MEASUREMENT METHOD: TDL (tunable diode laser) (TGA100A, Campbell Scientific)

SAMPLING TYPE: in situ

LOCAL TIME ZONE: UTC (= 6 hours from CST)

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

REFERENCE SCALE: Traceable to NOAA scale

CREDIT FOR USE:

TECHNICAL CONTACT: timgriffis@umn.edu

DATA COLUMN HEADINGS:

Year: YYYY

DOY: Day of year (DD)

Time: HHMM_UTC. The first time value represents the end of the first hour of data on January 1 (UTC).

Day_Time: Fractional day of year, decimal time (UTC). Hourly values. The first time value represents the end of the first hour of data on January 1 (UTC).

CO2_200_m_AGL Hourly mean CO_2 dry mole fraction at approximately 200 m above ground level (AGL). Unit: ppm. -999 = not available.

CO2_100_m_AGL: Hourly mean CO_2 dry mole fraction at approximately 100 m above ground level (AGL). Unit: ppm. -999 = not available.

QualityFlag1: If > 0 mass flow controller is less than set point then isotope ratio data are lower quality. -999 = not available.

QualityFlag2: If > 0 TDL calibration values are not within expected range then isotope ratio data are lower quality. -999 = not available.

QualityFlag3: If > 0 values appear to be out of biophysical limits. -999 = not available.

NOTE: The quality of the Rosemount tower data for 2009 may not be as good as that of data from previous years because of some calibration issues with the TDL and vacuum pump failure during the growing season of 2009." Extended pump failures occurred from DOY 145-195 and DOY 254-260.

Please contact Dr. Tim Griffis (timgriffis@umn.edu) if you have any questions regarding the data.