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## CO<sub>2</sub> CARBON ISOTOPE RATIOS AT THE NIWOT RIDGE AMERIFLUX SITE

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Data were collected using a tunable diode laser absorption spectrometer as described in these publications:

Bowling DR, Burns SP, Conway T, Monson R, White JWC (2005) Extensive observations of CO<sub>2</sub> carbon isotope content in and above a high-elevation subalpine forest, *Global Biogeochemical Cycles*, 19, GB3023, doi:10.1029/2004GB002394.

Bowling DR, Sargent SD, Tanner BD, and Ehleringer JR (2003) Tunable diode laser absorption spectroscopy for stable isotope studies of ecosystem-atmosphere CO<sub>2</sub> exchange, *Agricultural and Forest Meteorology*, 118, 1-19.

Zobitz JM, Keener JP, Schnyder H, Bowling DR (2006) Sensitivity analysis and quantification of uncertainty for isotopic mixing relationships in carbon cycle research, *Agricultural and Forest Meteorology*, 136:56-75.

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Data Version History:

Version 1: released May 2007  
2003 data used in Bowling et al. (2005) and Zobitz et al. (2006)

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## POLICY REGARDING USE OF THIS DATA

(This is primarily the data-sharing policy of the National Oceanic and Atmospheric Administration, Global Monitoring Division, Carbon Cycle Greenhouse Gases Group, with which we are not affiliated. However, we have adopted their policy and they deserve credit for the text below.)

These data are made freely available to the public and the scientific community in the belief that their wide dissemination will lead to greater understanding and new scientific insights. The availability of these data does not constitute publication of the data. We rely on the ethics and integrity of the user to assure that we receive fair credit for our work. If the data are obtained for potential use in a publication or presentation, Dave Bowling should be informed at the outset of the nature of this work. If the data are essential to the work, or if an important result or conclusion depends on our data, co-authorship or acknowledgement in publications may be appropriate. This should be discussed at an early stage in the

work. Manuscripts using our data should be sent to Dave Bowling for review before they are submitted for publication so we can ensure that the quality and limitations of the data are accurately represented.

Use of these data implies an agreement to reciprocate. Laboratories making similar measurements agree to make their own data available to the general public and to the scientific community in an equally complete and easily accessible form. Modelers are encouraged to make available to the community, upon request, their own tools used in the interpretation of the data, namely well documented model code, transport fields, and additional information necessary for other scientists to repeat the work and to run modified versions. Model availability includes collaborative support for new users of the models.

Every effort is made to produce the most accurate and precise measurements possible. However, we reserve the right to make corrections to the data based on recalibration of standard gases or for other reasons deemed scientifically justified. We are not responsible for results and conclusions based on use of these data without regard to this warning.

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#### DATA DESCRIPTION AND FILE FORMATS

All files are tab-delimited text files, one per year. There may be up to 9 heights measured during a given measurement cycle, including these heights above ground:

0.1, 0.5, 1.0, 2.0, 5, 7, 9, 11, and 21.5 m

The 21.5m height is co-incident with the eddy covariance measurement height on the AmeriFlux tower (PI Russ Monson, University of Colorado). During 2003, a complete cycle (all heights) was measured every 6 minutes, during 2005 and later, a complete cycle was measured every 10 minutes. The period of record is:

2003, day 184 to day 289  
2004, no data  
2005, day 257 to day 365  
2006, day 1 to day 365  
2007, day 1 and continuing

Yearly data files have the following columns, in order:

Decimal day  
CO2 21.5m (ppm)  
CO2 11m  
CO2 9m  
CO2 7m  
CO2 5m  
CO2 2m  
CO2 1m  
CO2 0.5m  
CO2 0.1m  
d13C 21.5m (permil)  
d13C 11m  
d13C 9m  
d13C 7m  
d13C 5m  
d13C 2m  
d13C 1m  
d13C 0.5m  
d13C 0.1m

Missing data are indicated by NaN.