# EDI Metadata Template (2016)[[1]](#footnote-1)

Data should be in csv text file. If starting with an Excel spreadsheet, please make sure it does not contain any formulas and comments on cells. If you need comments put them in their own column. If data were used in a database and major table linking is necessary to analyze, please de-normalize into a flat file, not just database table exports.

## Dataset Title

(be descriptive, more than 5 words): Processed eddy covariance time series fluxes from tower located on roof of the CFL building oriented toward Lake Mendota.

## Short name or nickname you use to refer to this dataset:

Lake Mendota CFL eddy flux data

## Abstract

(include what, why, where, when, and how)

We calculated eddy covariance based fluxes of CO2, H2O, heat, and momentum to study lake-atmosphere exchanges since 2012. These data were collected by Ankur Desai from 2012 to present using a CSAT-3 sonic anemometer and LI-7500 gas analyzer located on the roof of the CFL building. A footprint model (Kljun) was used to screen for lake only data.

## Investigators

(list in order as for a paper with e-mail addresses, organization and preferably ORCID ID, if you don’t have one, get it, it’s easy and free: <http://orcid.org/>) add table rows as needed

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| First Name | Last Name | Organization | e-mail address | ORCID ID (optional) |
| Ankur | Desai | University of Wisconsin-Madison | desai@aos.wisc.edu | 0000-0002-5226-6041 |
|  |  |  |  |  |

## Other personnel names and roles

(field crew, data entry etc. with e-mail addresses, organization and ORCID ID)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| First Name | Last Name | Organization | e-mail address | ORCID ID (optional) | Role in project |
| Jonathan | Thom | University of Wisconsin-Madison | jthom@ssec.wisc.edu  |  | Field tech |
|  |  |  |  |  |  |

## Keywords

(list and separate by comma, please check out these resources <http://vocab.lternet.edu>, ) Please determine one or two keywords that best describe your lab, station, and/or project (e.g., Trout Lake Station, NTL LTER, UW Center for Limnology).

Eddy covariance, carbon flux, evaporation,

## Funding of this work:

Add rows to table if several grants were involved, list only the main PI, start with main grant first:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PI First Name | PI Last Name | PI ORCID ID (optional) | Title of Grant | Funding Agency | Funding Identification Number |
| Emily | Stanley |  | NTL-LTER | NSF | DEB-1440297 |
| Ankur | Desai | 0000-0002-5226-6041 | Ameriflux Cheas core site cluster | DOE LBL Ameriflux Network Management Project | 7073056 |

## Timeframe

* Begin date 1/26/2012
* End date 5/23/2017
* Data collection ongoing/completed ongoing

## Geographic location

* Verbal description: Lake Mendota south shore, roof of CFL building
* North bounding coordinates (decimals) 43.077349, -89.402916
* South bounding coordinates (decimals)
* East bounding coordinates (decimals)
* West bounding coordinates (decimals)

## Taxonomic species or groups

n/a

## Methods

(please be specific, include instrument descriptions, or point to a protocol online, if this is a data compilation please specify datasets used, preferably their DOI or URL plus general citation information)

Sonic anemometer: Campbell Scientific, Inc. CSAT-3

Gas analyzer: Licor, Inc. LI-7500

We merged data from the CFL Lake Mendota David buoy for air temperature and water temperature (1st level), and also the AOSS rooftop RIG tower for incoming solar radiation. These data were used in the analysis presented in Reed et al (2017) based on gap-filling conducted with REddyProc.

Methodology: Reed, D.R., Dugan, H., Flannery, A., and Desai, A.R., 2017. The carbon sink and source see-saw of a eutrophic deep lake Limnology and Oceanography Letters, #LOL2-17-0040, submitted.

## Data Table

* Column name: exactly as it appears in the dataset. Please avoid special characters, dashes and spaces.
* Description: please be specific, it can be lengthy
* Unit: please avoid special characters and describe units in this pattern: e.g. microSiemenPerCentimeter, microgramsPerLiter, absoptionPerMolePerCentimeter
* Code explanation: if you use codes in your column, please explain in this way: e.g. LR=Little Rock Lake, A=Sample suspect, J=Nonstandard routine followed
* Data format: please tell us exactly how the date and time is formatted: e.g. mm/dd/yyyy hh:mm:ss plus the time zone and whether or not daylight savings was observed.
* If a code for ‘no data’ is used, please specify: e.g. -99999

Please add rows as needed

Columns are not lableled with header row, comma-saved, one file per day, in ZIP file

Filename: mendotaYYYY.csv (30-minute averages)

|  |  |  |  |
| --- | --- | --- | --- |
| Column name | Description | Unit or code explanation or date format | Empty value code |
| Year | Date and time stamp | “YYYY-MM-DD HH:MM:SS.SS” UTC | -9999 |
| DOY | Wind into sensor | MetersPerSecond | -9999 |
| Hour | Wind across sensor | MetersPerSecond | -9999 |
| NEE | Net Ecosystem Exchange of Carbon Dioxide | microMolePerMeterSqauredPerSecond | -9999 |
| LE | Latent heat flux of water vapor | WattsPerMeterSquared | -9999 |
| H | Sensible heat flux | WattsPerMeterSquared | -9999 |
| Rg | Incoming shortwave solar radiation derived from AOSS RIG rooftop | WattsPerMeterSquared | -9999 |
| VPD | Vapor pressure deficit derived from buoy | kiloPascals | -9999 |
| rH | Relative humidity from buoy | percent | -9999 |
| Tair | Air temperature from buoy | degreesCelcius | -9999 |
| Tsoil | Water temperature at first water sensor level on buoy | degreesCelcius | -9999 |
| Ustar | Friction velocity | metersPerSecond | -9999 |

## Notes and Comments

1. This document liberally borrows from similar documents at SBC and GCE [↑](#footnote-ref-1)