Notes on Metabolism QA/QC, Denise Bruesewitz 02-18-2016

Mangstrettjarm 2013

**QA/QC overview**

Files generated:

DO concentration (‘Mangstrettjarm\_doobs.txt’)

Wind Speed (‘Mangstrettjarm \_wnd.txt’)

Temperature Profile (‘Mangstrettjarm \_wtr.txt’)

PAR (‘Mangstrettjarm \_par.txt’)

\*Data was downloaded from Klaus\_Gleon\_metabolism\_lake\_data folder from Dropbox GLEON Catchment & Lake Metabolism Folder.

Metadata note: DO signal was corrected for drift, assuming linear change (0% drifted by 0.81 and 100% by 2.40 during the 5 month deployment time).

**METADATA**

*Mangstrettjarn DO sensor depth* = 1 m #Metadata file says DO sensor @0.5 m, but doobs.txt file says 1 m?

*atmPres* <- #average atmospheric pressure at local elevation, mmHg

*windHeight* <- 10 #height above lake at which wind speed is measured in meters

*timeStep* <- 10 #number of minutes between DO measurements

*lat*<- 64.2505 #latitute of Langtjern

**DO file**

Column A header: dateTime

Column A format: YYYY-MM-DD h:mm

Right click in excel 🡪Format cells🡪custom🡪enter in the “Type:” box:

yyyy-mm-dd h:mm

Column B header: DO

Column B units: mg L-1

Graph the data points to see if there are any abnormalities or missing data.

Save the file as a tab-delimited file with LakeName\_YYYY\_DO.txt as the file name:

1. DO data provided for 1.0 m (but metadata form says 0.5 m sensor?)
2. Data in 10 min intervals from 5/10/2013 to 10/15/2013
3. Switches from recording on the :05’s to the :02’s on 5/28/2013 at 15:00 and then to the 07’s on 7/11/2014 at 15:37 then to the :03’s on 9/27/2012 at 10:03, but there are no missing gaps
4. Decreased variability and fewer low DO data after early July
5. Overall range from 3.89 to 8.97 mg/L

**DO Saturation file**

No DO saturation file provided

**Wind speed file**

Column A header: dateTime

Column A format: YYYY-MM-DD h:mm

Right click in excel 🡪Format cells🡪custom🡪enter in the “Type:” box:

yyyy-mm-dd h:mm

Column B header: windSpeed

Column B units: m s-1

Graph and look for negative numbers or unrealistically high numbers

1. Wind speed data presented in 5 minute intervals from 5/8/2013 to 10/15/2013.
2. Wind speeds ranged from 0 to 7.05 m/s.

**Wind Direction file**

Wind direction data not provided

**PAR file**

Column A header: dateTime

Column A format: YYYY-MM-DD h:mm

Right click in excel 🡪Format cells🡪custom🡪enter in the “Type:” box:

yyyy-mm-dd h:mm

Column B header: PAR

Column B units: uE m-2 s-1

Minimum value is 0, Maximum is 2449.15

No outliers removed

Data in 5 minute intervals from 5/8/13 to 10/15/2013

**Thermistor data file**

Column A header: dateTime

Column A format: YYYY-MM-DD h:mm

Right click in excel 🡪Format cells🡪custom🡪enter in the “Type:” box:

yyyy-mm-dd h:mm

Column headers: Each temp sensor should have its own column named temp0.0 or temp4.0 or temp10.0

Temp0, temp0.5, temp1.0, temp1.5, temp2.0, temp2.5, temp3.0, temp4.0 temp6.0 temp8.0

Temp0.0 range 5.51-25.67

Temp0.5 range 5.59-22.61

Temp1.0 range 5.28-20.27

Temp1.5 range 4.45-17.30

Temp 2.0 range 4.30-14.84

Temp 2.5 range 4.09-11.98

Temp 3.0 range 4.06-10.22

Temp4.0 range 4.01-8.07

Temp6.0 range 4.04-4.69

Temp 8.0 range 4.14-4.32

Column B-I units: °C

Check the min and max of each column to make sure they are in good range

Graph the data points to see if there are any abnormalities or missing data.

