L0 speedup with xts, May 2017

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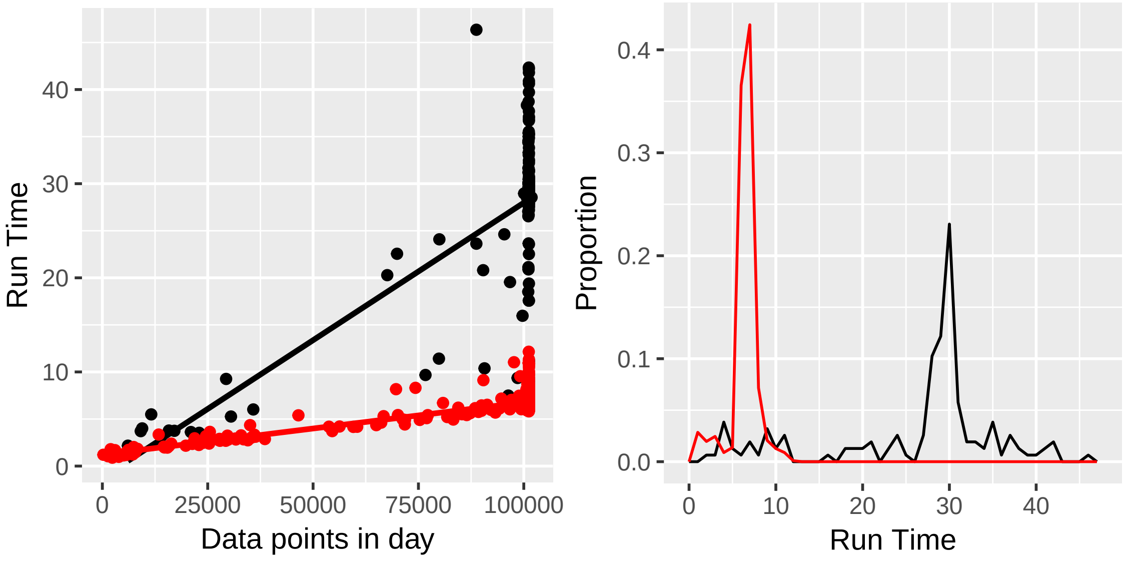
Updates to L0 algorithms for version 1.1.0.

Code speed was a bit of a limiting factor in previous versions of this code, particularly for the L0 script. Even after extensive optimization, one day of data still took 30 seconds to concatenate, divide into ambient and calibration files, and average the ambient file to 1 minute means. If the WBB data needs to be reprocessed, for example, due to a bug or a strucutral code change, this requires ~12 hours to process 4 years of data. Replacing the averaging algorithm (in the *reduce.ambient.data* function) with functions from the xts package (https://github.com/joshuaulrich/xts), which are C++ based and much faster. This change has reduced processing time to ~7 seconds per day:

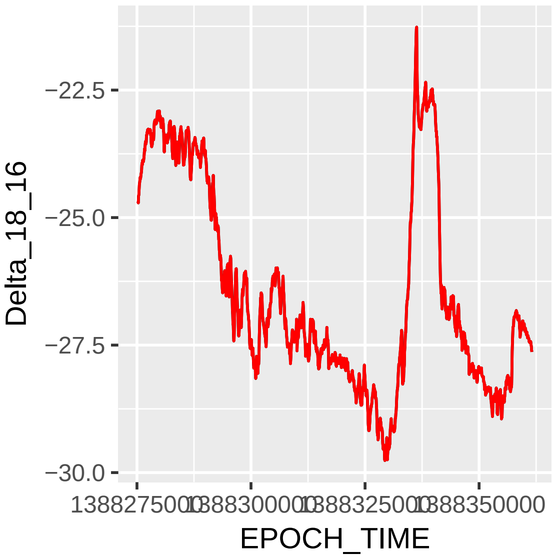


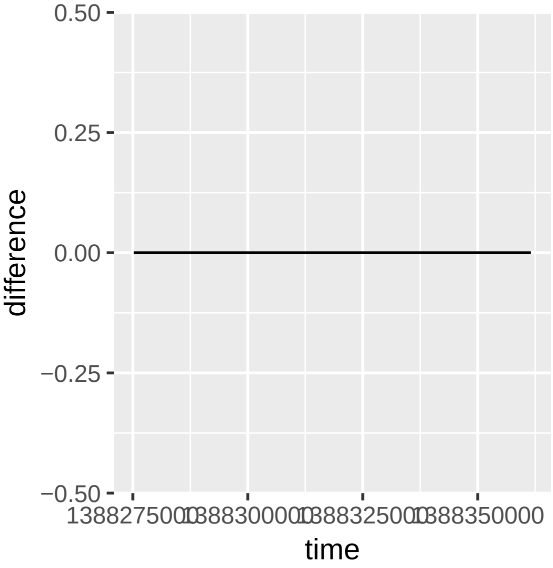
To use the new code, users must install the xts package. The code *should* still run without it and just use the slower, old algorithms, but I haven't tested this. It also should needle users to download the xts package to take advantage of the faster algorithms.

Comparison of output data between old and new algorithms.

Are the two data files equivalent? Here are plots of the L0 version of d18O for 12/29/2013 to show that the algorithm changes aren't altering the output data.

```r
# load v1.0.0 version of 12/29/2013 L0 data
old <- read.table("old_L0_2013_12_29.dat",stringsAsFactors=FALSE,sep=",",header=TRUE)

# load v1.1.0 version of 12/29/2013 L0 data
new <- read.table("new_L0_2013_12_29.dat",stringsAsFactors=FALSE,sep=",",header=TRUE)

# make plots
library(ggplot2)

p1 <- ggplot(old,aes(x=EPOCH_TIME,y=Delta_18_16)) + geom_line() +
  geom_line(data=new,aes(x=EPOCH_TIME,y=Delta_18_16),col="red")

difference <- new$Delta_18_16 - old$Delta_18_16
diff.data <- data.frame("time"=old$EPOCH_TIME,"difference"=difference)

p2 <- ggplot(diff.data,aes(x=time,y=difference)) + geom_line()

print(p1); print(p2)
```


Delta_18_16
EPOCH_TIME


difference
time