**Seed Source Movement Trial data notes**

Dataset: buckhorn\_daily\_precip.csv

Daily precipitation data in mm taken from a Hobo weather station at the Buckhorn field site in Washington, USA. Data were “cleaned” by replacing NA values (when station wasn’t working) with interpolated data from nearby weather stations

Dataset: buckhorn\_daily\_temps.csv

Daily mean temperatures (averaged over 30 minute temps) in C from a Hobo weather station at 1 meter height at the Buckhorn field site in Washington, USA. Data were “cleaned” by replacing NA values (when station wasn’t working) with interpolated data from nearby weather stations.

Dataset: buckhorn\_growth\_2007\_2018.csv

This dataset is limited to one site: Buckhorn (site\_num 2), located in Southern Washington. The site has 46 plots with ~ 20 trees from per plot (some have more – in rows or columns ending with .5), for a total of 970 trees. Heights were recorded in cm at the end of each growing season from 2009-2018, \*except\* in 2017 where a gap in funding resulted in no end of year measurements. The ‘tag\_num’ is the individual tree ID.

Here’s the key to the ALIVE column:

y = yes alive

n = no alive

NP = not planted (these are the replacement trees for dead trees in the early years)

NM = not measured (to get this code, this means no repro, veg or EOY visit was made for this tree (no chance of knowing status)

CT = cut down (not true mortality)

UNK = unknown if alive or dead (a few had missing data (accidentally or purposely) and then recorded as dead the following year. That prior year is either alive or dead but cannot determine)

Other notes and info:

Trees can have BBR/BBT codes with ALIVE status equal “n”.   This happens whenever

1. Tree was coded dead at end of year (EOY) measurement.
2. Tree was replaced by another tree before EOY measurement (assumption always is tree was dead when replaced)
3. Good examples showing four different conditions are trees 7168, 11351, 1051, 175.

Special case for 2017.  We went out to do special damage/mortality coding at all sites during fall (EOY measurements though). I made the assumption that if tree was alive prior year and not coded as dead then it was alive “y”

Another special case for 2017.  No EOY measurements were done but…. In  2018, the contracted crew (except for Doorstop) did do a back-sight of 2017 heights along with 2018 heights.   I think they did this for only a subsample, not all the 2018 ht trees. I need to check. I do know that our crew only did a subsample at Doorstop.

I thought you may appreciate the code/comments from all years.  I’ve combined them into one column called CODES\_NOTES.  Due to the nature of combining in R, the separator I used was a comma.  That’s why you’ll see cells with just a comma.  That just means there was no code/comments.

I did not include Buffer trees as that was only measured one year only for BB (2010).  If you want Buffer trees please let me know!  (KEY for Type:  S = Study   E = Extra)

What you had referred to TREE\_NO is now called LOC\_ID which is what I prefer to call it. It is basically a location id.  This means a location id could have had multiple trees over time due to replacements (but only one tree per location per year).  Good example of this is LOC\_ID 10027 (two trees over time).  If you want to do work separately for each tree then use the SITE, PLT, TAG columns (not LOC\_ID).

I made this data have a record for each year (2009 – 2018) whether it was replaced or dead or cut.  There will be many blank records for these trees in subsequent years.  However, the REPLACED\_YEAR, CUT\_YEAR, AND DDD\_YEAR columns will be filled in to indicate the reason.

Due to the way you wanted the HTs and DBH (I included BD for you) to be joined with the BB measurements, you will see duplicated HTs,DBHs,BDs for the each year that was repeated with the different BB recorded (i.e. BBR,BBA,BBT,M,F)

The Replaced trees that were planted in 2010 and 2011 will have NP (not planted) in the ALIVE column for the prior years.

A dead tree over time did not always get coded DDD in subsequent years by the EOY crews.  But the tree always was recorded as DDD the first time it was found that way and therefore the DDD\_YEAR always uses that first one.

Consistent BB measurements began to deteriorate around 2013 and thereafter.  Best sites 2013-on are Buckhorn, Doorstop and Stone.  But even that isn’t always the case (e.g. 2017 had 3 regions done at Buck, none done and all plots for Doorstop!)  I am making a matrix of what was done from 2009 to 2018.  I figured you would want to know what was actually measured so that no or low BB activity means something (or nothing if not visited!).

Sometimes a DBH was done on a dead tree by the contractors.  Pretty rare though.

Random thoughts of mine.  Hope it helps. 

Good luck on your analysis!  Hope you have a lot of fun with it.

As always, let me know if you have questions or other requests!