**Elevation Data History 1998~2012**

*Lixi Kong updated 3/252012*

***Raw Data***

* ***Elevation data already included in master file***

*Elevation for permanent plot and regular transects collected in 1998, and low-low/high-high/south transects collected in 1999. We don’t know the exact date these data were collected.*

* ***Elevation measured in 2011 in both meters and feet***

*This part of data came with demographic data, and didn’t come with GPS location data. But there is other GPS and elevation collected in 2011 that I got from PAP later, see below.*

* ***Elevation data got from PAP in 2012:***

*R:\MOOSHUBB\longterm\lixi kong\GPS\_ELEV\ MoosilaukeGPSpoints4\_17\_12.xls*

*There are some duplicates in this file, also some new data. When there is an elevation, there is always GPS location data, but NOT vice versa.*

* ***Elevation collected by Trimble in 2012 for LE and ME segments***

*R:\MOOSHUBB\longterm\Rawdata2012 \Moosilauke\_Low\_MidE\_contour2012.txt*

*This file comes with GPS location data too.*

***SAS program***

*R:\MOOSHUBB\longterm\lixi kong\GPS\_ELEV\GPSELEV041712.sas*

*R:\MOOSHUBB\longterm\lixi kong\GPS\_ELEV\ELEVMAS12.sas*

***Master data set:***

*R:\MOOSHUBB\longterm\lixi kong\GPS\_ELEV\elevmas12.ssd*

*R:\MOOSHUBB\longterm\lixi kong\GPS\_ELEV\ELEVMAS12.csv*

*\* When there is more than one measurement for the same plot, multiple rows with elevation and year when elevation was collected were included.*

* PPLOT
* TRAN
* TPLOT
* CONTNAM
* STPACE
* ELEV: elevation in m.
* AVEELEV: if there are more than 1 measurement for the same plot, an average was taken, if only 1 measurement, AVEELEV=ELEV.
* NOTE: if ELEV was converted from field measurement in feet, it has a NOTE of “converted from feet”
* YR: year in which elevation was measured
* Date: detailed date when elevation was measured.
* ELEVCL

***Elevation range according to AVEELEV in the data:***

LL: 611~797m

L: 762~922m

M: 925~1066m

H: 1010~1218m

HH: 1224~1385.5m

***Permanent plots:***

* 1998: Elevation in meters was collected for all permanent plots in 1998 using GPS.
* 2011: Plot 5 and 6 were re-measured for elevation in 2011 in meters.

***Transect plots:***

* *Regular plots:*
* Elevation was first collected in 1987
* And then in 1998 using GPS in meters. Data we keep in our data set are from 1998 considering the precision of using GPS to measure elevation.
* Some plots got re-measured for elevation in 2008, 2010, or 2011.
* Some plots we haven’t done any re-measurements after 1998.
* *Plots established in 1999:*
* Elevation was first collected in 1999 in meters.
* Some plots were re-measured for elevation in 2008, 2010, or 2011 (some both in meters and feet in the same year; some have more than one measurement in meters in the same year).
* Some plots we haven’t done any re-measurements after 1999.
* N26 P 21-24 were not sampled for trees/saplings, but elevation data were first collected in 2008:
* *Plots we haven’t done re-measurements after 1998/1999:*

E320 P1~P15

E330: P1-P16

E334: P-3; P1~P15; P17~P20

E335: P9-14;

W32: P2-10; P13-15; P18

W46: P-1; P2; P5-15

W60: P-3~P-1; P1-15; P20

W70: P6; P17; P19; P21

S26: P15

S344: P8, P20, P24

* Corrections made:
* For all plots where remeasurements were made, box plots were produced to see the variation in measurements and they were used to identify errors. Possible errors are

|  |  |  |  |
| --- | --- | --- | --- |
|  | ELEV1 | ELEV2 | ELEV3 |
| E335 P-4 | **533.3** | 637 | 633 |
| E335 P17 | **1226.72** | 1310 | 1334 |
| W32 P1 | **782** | **844** |  |

* 14 transect plots has both 2011 re-measurements in meters and feet. Values measured in feet were consistently larger than those in meters.
* For those which also have GPS data, we can compare DEM extracted elevation with measured elevation.

***Segment***

Only four plots were collected for elevation in 2008/2011; every other pace point on LE and ME were collected for elevation on 2012, but data for pace points after ME780 are missing. No re-measurements were done.

|  |  |
| --- | --- |
|  | Num of segments sampled for ELEV |
| LE1860 | 48 |
| ME2020 | 23 |
| HE460 | 1 |
| HE1080 | 1 |

***Other points***

Points which are not permanent, transect, or segment plots, such as the access to certain plots.

***ELEV and GPS data***