C Plot

Description

Similar to the P plot, the C plot is a hybrid of the pixel and modified Whittaker plots. The basic idea is to be approximately the same size, have three levels of nesting, have a scattered arrangement of subplots, and to be representative of an area similar to the nested pixel and Modified-Whittaker plots. In addition, this plot incorporates the idea of square subplots scalable to a satellite photo pixel and is always oriented North. The C plot is trimmed down and easier to sample than the P plot. A C plot measures 10 meters on a side (10m x 10m or 100m$^2$). Nested within are four 1m$^2$ (1m x 1m) plots and one 10m$^2$ (3.16m x 3.16m).

Previous Uses
- Used for calibration to the pixel size of satellite imagery.

Notes
- Repeatability of subplots difficult due to layout design, especially in areas with bushes, rocks, and rough terrain.

Equipment Needed

- 50m tape (2) (tapes “1” and “2” respectively) (or one 50m tape and one 10m$^2$ subplot frame)
- Ground stakes (8)
- Meter stick
- 100cm$^2$ disc (optional; represents 1% of 1m$^2$ subplot)
- 1m$^2$ (1m x 1m) subplot frame
- Compass
- GPS unit
- Palm PDA with EcoNab
- Reference materials (floristic keys, etc.)

Plot Set Up

1. Identify origin (0,0) (or SE corner) using GPS unit and predetermined UTM coordinate.
2. From the origin (0,0), walk out 50m tape (tape “1”) to 10m at 270$^\circ$ (or west). This SW corner is point (10,0). When walking out tape, be careful to walk on the left
(outside) side of tape to avoid trampling subplots along inside of tape. (Note: it is advisable to walk “wide” left with the tape and at 10 meters line up tape using back-azimuth with previous point to ensure no disturbance of subplots.)

3. From point (10,0), lay out the tape another 10 meters to 20m at 0° (or north). This NW corner point is point (10,10). Take same precautions as above to avoid nested subplots.

4. From point (10,10), lay out tape another 10 meters to 30m at 90° (or east). This NE corner point is point (0,10). Take same precautions as above to avoid nested subplots.

5. From point (0,10), lay out tape another 10 meters to 40m at 180° (or south) back to origin. Take same precautions as above to avoid nested subplots.

6. From origin (0,0) measure 4.84 meters at 315° azimuth (NW) to origin of nested D-plot (3.42,3.42).

7. From (3.42,3.42), run second 50m tape (tape “2”) 3.16 meters to point (6.58,3.42) on 270° azimuth. (Or setup prefabricated 10m² subplot frame)

8. From point (6.58,3.42) walk tape another 3.16 meters along 0° azimuth to point (6.58,6.58).

9. From point (6.58,6.58) walk tape another 3.16 meters along 90° azimuth to point (10,20). To avoid disturbing 1m² subplots, follow procedure noted in step 7.

10. From point (3.42,6.58) walk tape another 3.16 meters along 180° azimuth to point (3.42,3.42), the origin of D-plot. This encloses the D-plot.

11. The four 1m² subplots are located at fixed points along the first tape. The locations of the subplots are 1-0m, 1-9m, 1-19m, and 1-29m. These subplots are setup while sampling.

**Methodology**

The four 1m² subplots are sampled the most intensively. For each subplot, all unique biological crusts, plant species and abiotic cover types are identified. Biological crusts are categorized based on development and for each cover type, percent cover (foliar, basal, or both) is estimated within the subplot. Average height within subplot is also estimated for each plant species. For the 10m² subplot (D-plots), presence of all biological crusts, plant species and abiotic cover types is recorded. Neither cover nor
height is estimated. The C-plot is only searched for the presence of new (to plot) cover types and species. Again, neither percent cover nor height is estimated.

Figures