Living Carbon update

6\_29\_23

Goals:

I: 6-8 sampling campaigns for photosynthetic efficiency

II: Monthly monitoring of drought conditions

III: Diurnal response pre-drought and post drought

IV: Sampling for leaf gene expression

V: Limited metabolite sampling during heat event

VI: Leaf collections for SPAD, SLA, and possibly isotopic analysis

VII: Coordination with Cory on drone analysis

VIII: Height and diameter measurements

Progress

I:

Completed 2 sampling campaigns. Light response and CO2 response curves taken for 16 trees total.

II:

Have midday water potential measurements on 8 trees for 6/16 and 15 trees on 6/28

Took soil moisture readings on 48 trees across events on 6/27

No pre-dawn water potential measurements yet.

III:

Diurnal response measurements on 6/27. Included assimilation for 32 trees every two hours. Stomatal conductance and fluorescence data taken on 48 trees every two hours.

Indications that stomata are closing earlier in the day than last year. Individually watered trees may be best hope for a well-watered reference condition.

Need to procure low O2 gas and run calibration curves to infer on proportion of electron flux going to photorespiration. Data is ready for this though.

IV:

Tubes for collecting leaf disks received. Have enough for 12 trees/event.

Deciding whether to collect all samples in one day or to collect under conditions of differing photorespiratory stress and pair with metabolite collections.

V:

Should sample soon – on as mild of a day as possible and then repeat sampling again during a hot day.

VI:

To be done in late August or early September

VII:

Will measure ~40 trees on the ground/hour while Cory is flying. Next week or week following.

VIII:

Mid-summer measurements of diameter in July by a student or two.