Planning meeting
11 Jan 2017

* New proposal development
	+ New solicitation will be similar to the previous, NSF is working on it
	+ Long-term datasets make LTER unique, our research and proposal should reflect that
	+ Eda will work to make long-term datasets easily visible on the website
* Conceptual diagrams
	+ Change “drought experiment” on diagram to “throughfall experiment” (or whatever they decide)
	+ Terrestrial/stream boxes – can make them look more similar in terms of word placement for easier comparison
	+ Pictures from Katie Yost
		- Divide diagram into two halves, one half what is happening now and other half what we expect in 2100?
		- Diagrams important to illustrate linkage between stream and terrestrial
		- Diagrams for each question – drought yr/wet yr, pre and post hurricane, and land use interactions
		- Foley 2003 Frontier paper shows similar design for forested vs deforested areas
		- Hybrid approach of diagrams and descriptions will be necessary for more conceptual ideas
* Long term datasets assignment
	+ 25 year canopy structure – resistance and resilience
	+ 27 years canopy arthropods – Drought, hurricane response
	+ Tree census data – Microbial signatures, land use
	+ LFDP – species coexistence, disturbance response, metacommunity structure
	+ Stream chemistry data – Coupled cycling of C and N
	+ Fern data – ecology, disturbance response
	+ Invert populations in microhabitats – Disturbance response
	+ Aquatic insects, leaf litter, water level, shrimp, algae – Stream dynamics
	+ Distribution and demography of tree species – regeneration dynamics, distribution due to moisture, hurricane impacts on ED2
	+ Precip and weather data, soil O2 – redox dynamics and drivers of greenhouse gases
	+ Algal primary producers – resistance and resilience
	+ Walking sticks – Large scale and intense disturbance
	+ Water budgets
	+ Terrestrial gastropods – large scale disturbance
	+ Phenology
	+ Litterfall
	+ Building LTD for microbial communities with CTE and LTEP – change in functional groups due to disturbance
* Up the mountain discussion
	+ Should map trees >10 cm in each plot for georeferenced
	+ Tana interested in collecting soil around trees to link canopy and ground microbes
	+ Replicate micromet sensors at each elevation in case of failure
	+ May be a slope or aspect bias with mixed forest plots because they are all on same side of Sonadora
	+ Whendee interested in putting oxygen sensors in plots, or doing campaigns with static chambers for gas samples
		- Best to sample every 2 weeks, which would be difficult
	+ Long-scale measurement of moisture
		- Soil moisture meters or ibuttons?
		- Take gravimetric soil measurements when changing temperature hobos (every 6 months)?
	+ Need to standardize how we refer to plots and subplots – Mike working on draft of this
		- Also need consensus on keywords and labelling of files
	+ Should consult with Eda before collecting data so she can help with metadata and organization of data collection
	+ Need to take GPS coordinates at the corners of each strata
* Misc discussion
	+ No one is responsible for climate data. Some proofing of data for individual sites, but not between sites and not extensive enough
		- Maria, Sarah, Bill, and Jess going to work on this issue
		- Monthly meeting can be used to discuss this issue

12 JAN 2017

 **OVERVIEW TALK**

* White text in the first slide, cant see (why LTER slide)
* Litterfall graph – TS Erika, not Emily, caused 2nd peak
* Need description of bars on hurricane graph
* Weak on theory, modelling, aquatic and terrestrial linkages. Not “business as usual”
	+ “We have greatly invigorated our modelling approach..”
	+ Be more aggressive about addressing criticisms
	+ Introduce all the models at once
* Needs general slide at end or beginning to show the key findings/overarching ideas
	+ Use this to structure the rest of the talk, needs more organization
* Can cut down details of the CTE section since we have a field presentation and posters
* Place talk in larger context – how does this relate to the rest of the world?
	+ Teleclimates
	+ Puerto Rico is not an outlier; it is typical of the tropics despite size
	+ What are the key questions related to these questions? (Doesn’t have to focus on PR)
* Biggest unknown in climate research is in disturbance regime – wind is a big disturbance in all tropics
* Make sure to consistently use the term “tipping point” - use “inflection point” or “threshold” instead in cases where it returned. Tipping point implies no return
	+ We haven’t observed any tipping points yet – system is incredibly resilient
	+ May not be good to emphasize stability – past is not going to be the same as the future
* Give them a list of definitions as we are using them as part of their booklet?
* Hugo challenged idea of what the forest was like – some original predictions from 1st proposal did not happen
* Baselines not available for most sites in tropics
* Put photo from CTE next to photo from Hugo to show similarity
* Roots dead during Hugo due to pre-hurricane drought
* Removal of canopy leads to decreased demand for nitrogen
* With new CTE – nutrient flux occurs 3-5 weeks from debris to soil, was picked up in lysimeters
* Nitrogen flux only seen if you do both trim and debris, not just one or other
* Talk about synthesis – special issues, books, etc
* Drivers of productivity and carbon sequestration would help to tie in to other LTER sites
* Timeline showing why we are an LTER site – before NSF, why we ended up in Luquillo
* Longest record of water chemistry, litterfall, etc
* Talk more about the variability instead of average responses – one of “fingerprints” of climate change is a large variability in responses
	+ Look at long term variance instead of long term trends

**SITE REVIEW**

* Arrive no later than March 27th for prep on March 28th.
* Day 1 – EV and El Portal, Day 2 – Mt Britton and Sabana
	+ Rental vehicles will need to be able to drive up Mt Britton Road – Possibly use van to access gate and then use other vehicles to get people up the hill
* Stream monitoring talk better on 2nd day due to time, but can point out monitoring station on Day 1
* Each step – LTER funding and other funding sources
* Day 1:
	+ Start at Whendee’s array – also log decomp and Wadsworth plot
	+ Elevation plot and throughfall exclusion
	+ Stream drought experiment & Lunch
	+ LFDP
	+ Radiation center
	+ CTE Block B
* Change start time to 8:30
* Talk about change to land use history
* Map could be useful to show in the field – Use tablet with GPS locations for interactive map
* 3-5 slides about what each person is going to talk about at the stops, or a laminated post, or combination
* **ARRAY (20 MIN)**
	+ WHENDEE
		- Explanation of array and relation to hypothesis 2
			* DOE funded project
		- Interactions with NGEE tropics group
			* Helps link our site with Costa Rica, Amazon, Panama
	+ JEAN
		- Log decomp
* **BRIDGE (20 MIN)**
	+ LTER, CZO. Sonadora spot with longest record and most intensively studied
	+ Stop over bridge at first good spot
* **THROUGHFALL EXP (15 MIN)**
	+ Explain experiment – measurements, pre-post treatment, thermos with coffee
* **350 LTEP PLOT (SAME 15 MIN)**
	+ Developing synoptic network, 2 transects
	+ Predicted changes for future
	+ Expand LTEE to elevation gradient in future
		- Mixing observational and experimental data
* **FLOW REDUCTION EXP (1 HOUR WITH LUNCH)**
	+ Tarp for eating under, water refill station, snacks beforehand
	+ If people want, they can go see pool 0 or diversion site, but they will have to eat lunch faster
	+ Emphasize the long term data from the Prieta
	+ Explanation of manipulation, pre-data
	+ Linkage to terrestrial – litter inputs, emergence
	+ Poster with map of two branches of Prieta
* **LFDP (15 MIN) 2:45 leaving**
	+ History of LFDP
	+ Chronosequence plots
	+ CTFS, NGEE collaboration
	+ Animal and microbal long term monitoring
	+ Volunteer involvement
* **RADIATION CENTER**
	+ Historical context
* **CTE**
	+ 1ST trim in field, talk about 2nd trim results at El Portal?
	+ Nitrogen flux from debris to soil to water
	+ Fungi shift
	+ Whendee or Omar to talk about soil? Or Just mentioned by other
	+ Experimental design – overview and history
	+ Posters in field – Bioscience diagram
* Point out schoolyard LTER demonstration plot
* Back to station by 4:30, shower and change at apartments (Bring soap and towels!), then to El Portal

**EL PORTAL (~5:30)**

* Poster session
	+ “Approach” from proposal – have an overview poster
	+ Long-term datasets
	+ Modeling
	+ History of LUQ-LTER
	+ “Phylogeny of concepts”
	+ Climate
	+ Posters making sure to address areas of past “weakness”
	+ Educational outreach – REU, schoolyard
	+ Bisley experimental watersheds
	+ LFDP, StreamFRE, CTE, LTEP – points of integration
		- Need to also show spatial coverage integration across the mountain
		- Met data from IITF
		- Show how mountain changes (maybe include this in booklet and not a poster)
	+ Make sure posters have link to their part of LTER – ask them to identify this ahead of time so people can review
	+ PDF of poster titles and abstract available online beforehand for reviewers
* Opportunity to meet with students
	+ Social for the students the night before so they can meet and look at each other’s posters (Tuesday).
	+ Auditorium for use with meeting is possible
* Can point out important posters in introductory remarks

**DAY 2**

* 8:30 – reach the top of mountain
* **MT. BRITTON (1 HOUR)**
	+ Importance and uniqueness of cloud forest
	+ Palm breaks
	+ Top part of elevation gradient
	+ Natural history and cloud forest ecology
	+ Climate downscaling
	+ Tamara
* **191 GATE (20 MIN)**
	+ LCZO
	+ Drought effects – remote sensing
* **PUENTE ROTO**
	+ Bisley experimental watersheds
	+ Mameyes
* **SABANA FIELD STATION –** NSF lunch by themselves
	+ Talk about what goes on at Sabana field station – history, facilities
* **EDUCATION/OUTREACH**
* **WARMING EXPERIMENT (30 MIN)**
* **WRAP UP TALK (15 MIN)**
	+ Remind them that projects they have seen are in various stages and part of a longer project
* Management committee needs to be in town on Friday morning to answer any questions from the review team
* Readout at hotel

**SITE REVIEW BOOKLET**

* Timeline or gap chart to show “milestones”
	+ What we have done from the proposal, where we are now, and what we will do in the next 3 years
	+ Can clarify any decisions we have made regarding scheduling and shows we are looking into the future
* Tana has a booklet prepared from the NGEE tropics visit, can use that for text and ideas
* List of significant cross site interactions/allied projects
	+ Reviewers can decide if they want to hear more about these interactions or not during the visit
* 5 core areas of LTER should be addressed
	+ Could organize LTD in terms of core areas
* List of ongoing continuous datasets
	+ Eda can make a table with LTDs, core areas they relate to, and PI associated with them. Hypotheses from the proposal can be added

**MISC**

* Monthly meetings will be the 3rd Wednesday of each month at 2 pm EST