**Ongoing and Future Field and Airborne Cal/Val efforts – part II – Crystal**

Reminder of TLS intercomparison effort planned for Aug 2017.

Feb/Mar – Terrestrial Laser Scanning meeting – Royal Society of London

In biomass community the Australians are leading the way.

TERN – sites have taken a hit on funding – monitoring will continue, perhaps less frequently. They have put together a nice biomass and vegetation height structure map. Available on TERN site. They are looking to combine SAR, Landsat, GLAS, to come up with biomass measures and estimates based on height and structure. Also have put together a national description of the tree and shrub data that they have, and making these data available.

Airborne – a lot of the community depends on G-Lite, data are easy to download and work with. Lots of work in AK right now, but also have 38 scans in NEngland.

NEON – supposed to have twenty 30m towers distributed throughout ecosystems in the US. Each site will have phenocams, met data, flux data, field data around tower. Supposed to be another 20 mobile towers. Status – ~6 sites currently.

Airborne platform, carbon airborne observatories, hyperspectral and lidar. Plan was for airborne to hit each of the 20 sites at least once every other year. Under pressure as we have all heard from the reorganization, but CS feels the airborne group is stable and things moving forward. Summer campaigns will take place as planned. They are returning to Harvard this summer.

Instruments – see slide

Martin showed Regal (Mercedes of TLS)

CS showed the other end - smaller more portable versions, light, fast-scanning. coarser resolution, shorter range (30-40m), good enough for most dense ecosystems.

TLS used to refine the airborne data.

Some collaboration with EcoSAR program.

Collected lidar in mangroves in Corcovado, Costa Rica

Community works well together. Need the coordination of LPV to bring things together. Need expertise that can work across all these instruments.

NEON data flow, a bit slow. Airborne data can be downloaded, LAI took a little more effort. Tower data took a bit of poking. Web site does at least show what’s there, even if you have to pick up the phone sometimes to get it. CS impression is that NEON could use a few more seasoned scientists to help guide things and make sure effort isn’t wasted reinventing the wheel and that are more stable, as opposed to post-docs who leave after a few years.