

m2M conference call

7/13/11

Agenda

- Staff updates
- Update on climate equipment order
- Teakettle logistics
- Other business

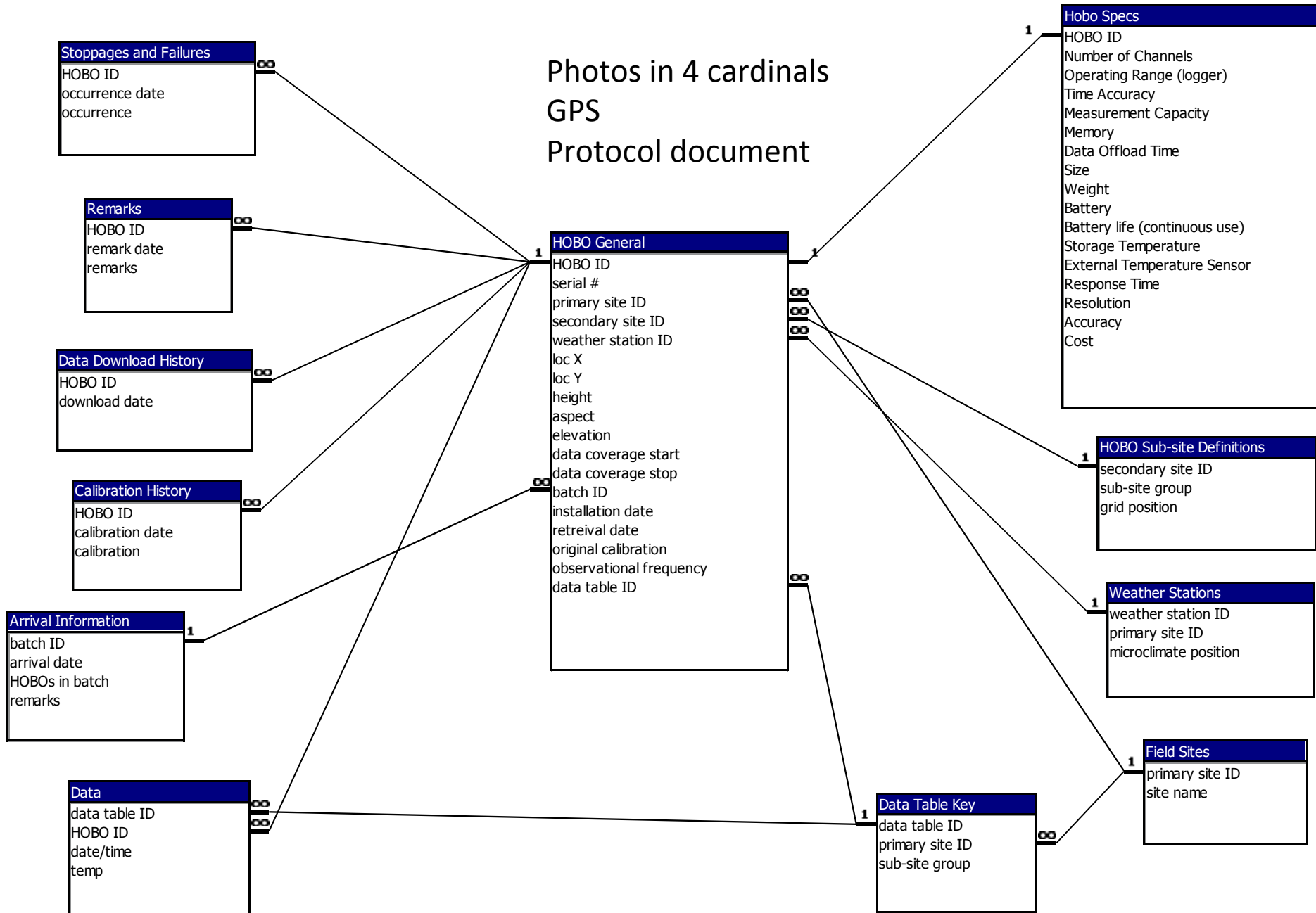
Staff updates

- Postdoc applications
 - 10 so far, several promising in ecology. Climate?
 - How involved do others want to be in the selection?
- Current staff
 - Andy Shepard
 - Andy MacDonald

Equipment order

- Onset is now processing the purchase order
- Will ship enough to instrument Teakettle asap
- Andy S. is managing equipment inventory, calibration, and information flow
 - Data model in development
 - Work flow model will also be developed

Photos in 4 cardinals
GPS
Protocol document

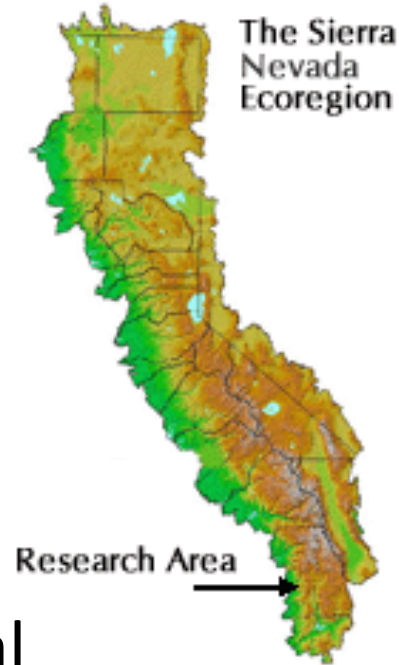


Teakettle Experimental Forest

- Logistics, 7/19-21
 - Who? When? How?
 - Lee, Max, Janet, Malcolm, Andy, FD, Andy M
 - FD, AS and AM will depart 6 AM, arrive Fresno ca. 11:00 AM
 - Food?
- Work plan
 - Recon to select sites for weather stations and gardens
 - Post photos and GPS on internet for those who can't be there
 - Finalize strategy for layout of dataloggers
 - Height above ground?
 - Ground vs above snowpack during winter?
 - Contact Roger Bales
 - Begin deploying data loggers
- Complete installation 7/25-29

History

- 1938: 1,300-ha area surrounding Teakettle Creek was designated the Teakettle Experimental Area and five drainages were chosen for study to explore how the Central Valley of California's water supply might be increased through management of Sierra Nevada watersheds
- In the 1940's 5 drainages were chosen for study and stream-gauging stations and sediment basins were built



Background Information

- Old growth forest comprised primarily of mixed-conifer and red fir forest common to the western slope of the Sierra Nevada
- 2,000-2,800m in elevation
- Located 80 km east of Fresno, CA between Yosemite and King's Canyon National Parks
- There is a bunkhouse cabin, dry laboratory, and storage garage
- The 1,300 ha area gated and relatively remote

Climate

- Hot, dry summers; mild, moist winters
- Most annual precipitation falls as snow between November and May and snow persists until early June (mean maximum snow depth—114 cm; mean annual precipitation—1,250 mm/yr.)
- Soil surface temperatures can reach 60 C in open-canopy areas in summer and be as low as 28 C in closed-canopy forest

Soils

- The most common soils are granitic, have a coarse sandy loam texture, and are highly permeable with very low water-holding capacity
- Very low clay content and patchy distribution of fine organic matter (influences water and nutrient-holding capacity) – creates important micro-site differences in plant species composition and biomass
- Soils, elevation, and moisture contribute to the fine-scale mosaic of 4 patch types: closed-canopy, shrub patches dominated by mountain whitehorn, open gaps, and areas of rock or shallow soils

Vegetation

- Jeffrey Pine, black oak, live oak, or manzanita generally occur where soil depth is less than 50 cm
- Closed-canopy forest and mountain whitethorn dominate where soil depths reach 1 m
- Mixed conifer forest covers 65% of forest (1,900-2,300 m elevation)
- Jeffrey Pine is prevalent on shallow soil within the mixed conifer stands (5.5% of forest)
- Red fir (28% of forest) dominates higher elevations (>2,300m) except for moist locations where lodgepole pine dominates (0.5% of forest)

Research

- Stream flow and sedimentation data are available for 1958-1979
- Bird census data have been collected since 1997
- Long-term study of snag distribution and turnover began in 1997
- Long-term study comparing the effects of fire and thinning on the mixed-conifer ecosystem began in 1997



Directions to the Site

- **From Highway 99:**

- Take Herndon Ave. exit.
- Head east (left) at first light on Herndon Ave.
- Drive for about 10 miles (pass under hwy 41) until Herndon intersects Highway 168, head east on 168.

- **From Herndon Ave. and hwy 168 intersection:**

- Turn left on hwy 168 and drive for 40.5 miles to the town of Shaver Lake.
- As you enter the town of Shaver Lake, take a right on Dinkey Creek Road (just past the Shaver Lake Inn).
- Follow Dinkey Creek Road to McKinley Grove Road. There is a sign for McKinley Grove Road, but it is difficult to see at night (Dinkey Creek Road Dead ends at a small general store approx 1 mile past the intersection).
- At 12.6 miles turn right on FS 11S12 where a sign indicates Sawmill Flat, Blackrock and Pine Flat Reservoir are (it is easy to miss). You've passed the turnoff if the McKinley Grove road becomes a long (1.2 miles) straight stretch, in a few miles the road will cross the Wishon Dam this is your second indicator that you have gone too far.
- At 3.1 miles you will pass Sawmill Flat Campground and then will shortly pass an overlook of the North Fork of the Kings River.
- At 4.7 miles from the McKinley Grove Rd. there is a gate straight ahead as the FS 11S12 Rd. curves downhill to the left. On the gate are signs that read: "Road Closed" and "Teakettle Experimental Watershed". This is the entrance to Teakettle. You will need a key or lock combination to get through the gate. Please keep the gate locked at all times and PLEASE keep the locks in the order you unlocked them, think of the locks as links in a chain. Locking out one or more of any of the locks results in someone else not being able to get in (or out) of Teakettle.
- From the gate, drive 0.9 mile to the cabin.

From Santa Barbara

- Take US 101 N. (for about an hour)
- Take exit 219 toward California 41 (0.1 miles)
- Turn left onto El Camino Real (0.1 miles)
- Take first right onto Mercedes Ave. (1 mile)
- Continue onto CA-41 N/Morro Rd. (22 miles)
- Turn right onto W. Centre St. (2.7 miles)
- Keep left at the fork
- Turn right onto CA-41 N/CA-46 E (6.5 miles)
- Turn left onto CA-41 N/CA-41 S—follow CA-41 N (84 miles)
- Take exit 128A and merge onto CA-180 E toward King's Canyon (1.2 miles)
- Take exit 60A to merge onto CA-168 E toward Huntington Lake/Clovis (33 miles)
- Turn left to stay on CA-168 E (15 miles)
- Follow directions **From Herndon Ave. and hwy 168 intersection** on previous slide

From the Fresno Airport

- Upon exiting the airport, turn left on Clinton and drive for about 0.4 mile to McKinley Ave.
- Turn left and drive on McKinley for about 1 mile to Clovis Ave.
- Turn left on Clovis and drive for about 4 miles to Herndon Ave.
- Turn right on Herndon and drive for 1.5 miles to the intersection of Herndon and Highway 168.
- **Follow directions from Herndon Ave. and hwy 168 intersection (on previous slides)**

From Northern California

- Head south on Hwy 99 to the town of Madera
- Exit at the Millerton Lake and Yosemite exit
- At the end of the freeway ramp, turn left and get in the right hand lane
- Turn right on Cleveland Ave (perhaps the 3rd right)
- In about 2-3 m turn left on hwy 145
- In about 15 m hwy 145 crossed hwy 41 (which heads toward Yosemite)
- 3.2 m after hwy 41 turn right onto hwy 206
- In about 2.2 turn left onto Millerton rd
- In 5.6 m turn left onto Auberry rd
- In 9.3 m turn left on hwy 168
- In about 2 m come to a stop, follow hwy 168 toward Shaver Lake by turning left
- In about 15 m
- As you enter the town of Shaver Lake, take a right on Dinkey Creek Road (just past the Shaver Lake Inn).
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Links to Useful Information

- <http://www.fs.fed.us/psw/ef/teakettle/> - Forest Service Pacific Southwest Research Station site
- <http://teakettle.ucdavis.edu/index.htm> - UC-Davis Teakettle Ecosystem Experiment site