

WRANGELL-ST. ELIAS NATIONAL PARK AND PRESERVE

CENTRAL ALASKA NETWORK

Vegetation Monitoring Program

Summary Trip Report: Sanford River Mini-grid

16 July – 24 July, 2008



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PURPOSE:

The purpose of this trip was to establish permanent plots for vegetation sampling at the Sanford River mini-grid according to the Central Alaska Network (CAKN) vegetation monitoring protocols. We completely sampled each point.

PERSONNEL:

Fleur Nicklen - crew leader, vascular collections/id, plot/quadrat variable estimates, transects
Kara Thies - non-vascular collections/id, soils data
Christina Thompson – plot photos, tree and sapling data, tree cores, transect data

ACCESS TO MINI-GRID AND CAMPING POSSIBILITIES:

The Sanford River mini-grid is located north of Mount Drum and west of Mount Sanford. It is a 15-20 minute helicopter ride from the Gulkana airport. The flight is a straight shot from the airport with no obstacles save weather.

We had the most perfect camp spot possible (62.3018981,-144.6286314, (lat, long in DD)). It is about 250 m from point 13 and located on an open ridge (the only place the pilot can land in that area). Down the slope to the east is a nice clear stream. We placed our cook tent halfway between the ridge and the stream. Note that all tents had to be tied down extremely well because of very strong winds. When the weather is clear (ha!) there are outrageous views of Mt. Drum and Sanford and you can see the Chugach and Alaska Range as well.



Photo 1. Camp spot with Mt. Drum in the background.

HIKING:

Hiking within the Sanford River mini-grid is easy. The mini-grid consists of a series of low ridges that look lumpy and have many lakes in the shallow valleys. The “lumpy” topography is the result of old moraines. Despite the many lakes, we were able to sample all of the points. There is some hiking through dwarf birch, willow and alder, but with no elevation gain to deal with, it is easy. There are no major stream crossings and the bogs are not very tussock-y.

WEATHER AND ENVIRONMENTAL CONDITIONS:

The Sanford River mini grid is sandwiched between Mt. Sanford and Mt. Drum and consequently has extreme weather patterns. Mt. Sanford is notorious for producing hurricane force winds, and the grid is located in somewhat of a wind tunnel between the two mountains. The first day was mostly sunny with heavy winds. The wind was especially fierce at night when we were inside the tents. It was difficult to get the cook tent to remain standing, and it acted more like a parachute than a shelter. Days two and three had scattered showers and cooled down to the 40s and 50s. At some point the wind died and revealed some very thirsty mosquitoes—probably the strongest and most fierce mosquitoes we experienced. We preferred the wind. Days four and five were overcast with showers on and off and cold temps in the mid 40s. It cleared up for part of day 6 to reveal the awe-inspiring Wrangell volcanoes, but was then followed by a difficult day of freezing rain. The remainder of the week was mostly cloudy with no rain and calmer winds.

We saw little wildlife at this mini-grid. I saw only one moose with my binoculars. The only notable wildlife sightings were some slugs that surprised us.

SAFETY CONSIDERATIONS:

We had no major safety concerns here. Our visibility was excellent at our campsite and we saw very little evidence of bears anyway. We had little trouble getting to any of the points and the terrain posed no safety issues. Potentially the most hazardous thing we encountered (besides the helicopter) was the weather. It was extremely variable, with intense wind and even freezing rain. Future crews should be ready for all weather conditions, including freezing temperatures.

It is possible to contact Gulkana dispatch on channel 1 (direct).

PHENOLOGY OBSERVATIONS:

Ledum groenlandicum, *Rosa acicularis*, *Pedicularis interior*, *P. labradorica*, *Tofieldia coccinea*, *T. pusilla*, and *Polygonum bistorta* were flowering. Most of the sedges had flowers or had developed perigynium. *Calamagrostis spp.* and *Arctrogrostis latifolia* were flowering. *Polygonum viviparum* and *Lupinus arcticus* had both flowers and fruit. *Empetrum nigrum*, *Vaccinium uliginosum* and *Arctostaphylos spp.* were just beginning to fruit. *Salix spp.* and *Senecio atropurpureus* were fruiting.

GENERAL NOTES ON PLOT-WORK AND PLOT OBSERVATIONS:

I collected 64 vascular plant specimens from the Sanford mini-grid; I began on collection number EFN-08-123 and ended on EFN-08-186 (Table 1). Kara collected 190 nonvascular plants (KT-08-180 to KT-08-368, 520) (Table 1). The number of the first photo taken at Sanford River was 100-0469 and the last number was 100-0820 (Table 1). Kara collected soil samples from every plot. Christina measured trees at 10 plots and saplings at all but 2 plots (11,21). Christina cored at least one tree at 19 points (not at 3, 5, 12, 14, or 21).

Table 1. Collection series for the Bull River mini-grid.

Collector	Identifier	Series
Nicklen	Vascular plants	EFN-08-123 to EFN-08-186
Thompson	Photos	100-0469- 100-0820
Thies	Nonvascular collections	KT-08-180 to KT-08-368, KT-08-520

ACTIVITIES:

Wednesday, July 16

On Wednesday we arrived at the Gulkana airport and weighed our gear for the helicopter. We had to wait for another helicopter to take off, so we didn't head out to the plot until 11:30am. We were all at the site by 1pm. We set up the cooking area and tents and headed to point 14 at 3:30pm. The plot only took us 2.5 hours and we were back to camp at 6:30pm.

Weather: It was mostly sunny in the morning with a few sprinkles as we flew to our mini-grid. It was partly cloudy for the rest of the day. By late afternoon the wind was ripping. It easily blew over our cook tent, which we had to secure with ropes. Our tents had enough weight with all our gear that they stayed put. The intense wind continued all night long.

Thursday, July 17

On Thursday we sampled points 6, 2, and 1. Point 6 is moderately brushy with few trees. Point 2 is on a top of one of the little old moraine hills. Point 1 has thick spruce and is near a larger lake. We finished sampling by 7pm and were back to camp at 8pm.

Weather: It was still windy early in the morning, but the wind died down and it started to drizzle en route to our first point. We had mist and light rain for the rest of the day.

Friday, July 18

On 18 July we sampled points 22, 21, and 16. Point 22 crosses a seep and has some sphagnum. Point 21 is very open with no trees. I found some *Salix arctica* at 21. Point 16 is on an east facing slope above a lake. This point has a mix of open, dry patches, open grown spruce, and dwarf birch. At point 16 we saw an airplane circling over our camp. Unfortunately, I had been told the wrong channel to contact dispatch (later I figured out that channel 1 worked great). Since I thought the radio didn't work very well, I had been

carrying the satellite phone instead. This meant I could not directly contact the airplane. I called dispatch and indirectly communicated with Tom and Eric who were flying over. From this point on we carried both the sat phone and a radio during the day.

Weather: Today was wet in the morning from the previous day's rain, but soon was sunny and breezy. By evening it was extremely windy again.



Photo 2. Mt. Sanford. Note lenticular clouds; it was very windy.

Saturday, July 19

On Saturday we sampled points 5, 4, and 3. We were on our way to point 5 by 8:30am. This is a sphagnum rich point with a few tussocks and mostly black spruce. Point 4 was not memorable. In contrast, point 3 is a very odd point. The center fell on this narrow ridge in the middle of what looked like an old lake bed or a fen area. This point has some standing water and a stream is not too far away (photo 3). We were back to camp by 7:20pm.

Weather: The morning was a little drizzly and chilly. By the time we had eaten lunch and moved to the next point, it was a little warmer and no longer wet. The sun almost came out as we headed to point 3. By 6pm at point 3 some very ominous clouds moved over us and I rushed like mad to get all the collections I needed at this sedge-rich point. A downpour started as we finished the point and headed back to camp.



Photo 3. View of point 3 from above.

Sunday, July 20

On Sunday we sampled points 9, 8, and 7. We started a little late and decided to do some closer plots on this day because of the bad weather. Point 9 has a stream running through it; it has fairly high vascular plant diversity along the stream (36 species). Point 8 has a seep in the plot. Plot 7 has low diversity and is dominated by blueberry and dwarf birch. We were back to camp at 8pm.

Weather: It rained all night and was raining very hard in the morning. For the rest of the day we had rain and drizzle and cool temps.

Monday, July 21

We sampled points 25, 24, and 23. Point 25 is near a nice, big, old spruce stand by a creek. The plot actually falls more in a vascularly un-diverse black spruce stand. It was a nice easy walk to point 24, which is a mix of moist areas with dry lichen-rich patches. We had another nice walk to point 23, which is in an *Equistem sylvaticum* rich bog on a gradual hill that has scattered rocks (photo 4). We did bunny plots at all three of these points and found no poop. We arrived back in camp at 6:45pm.

Weather: When we left camp it was sunny, windy and cold. By lunch time it was again extremely windy with high lenticular clouds. By evening it was beginning to cloud over more completely and we had a few sprinkles.

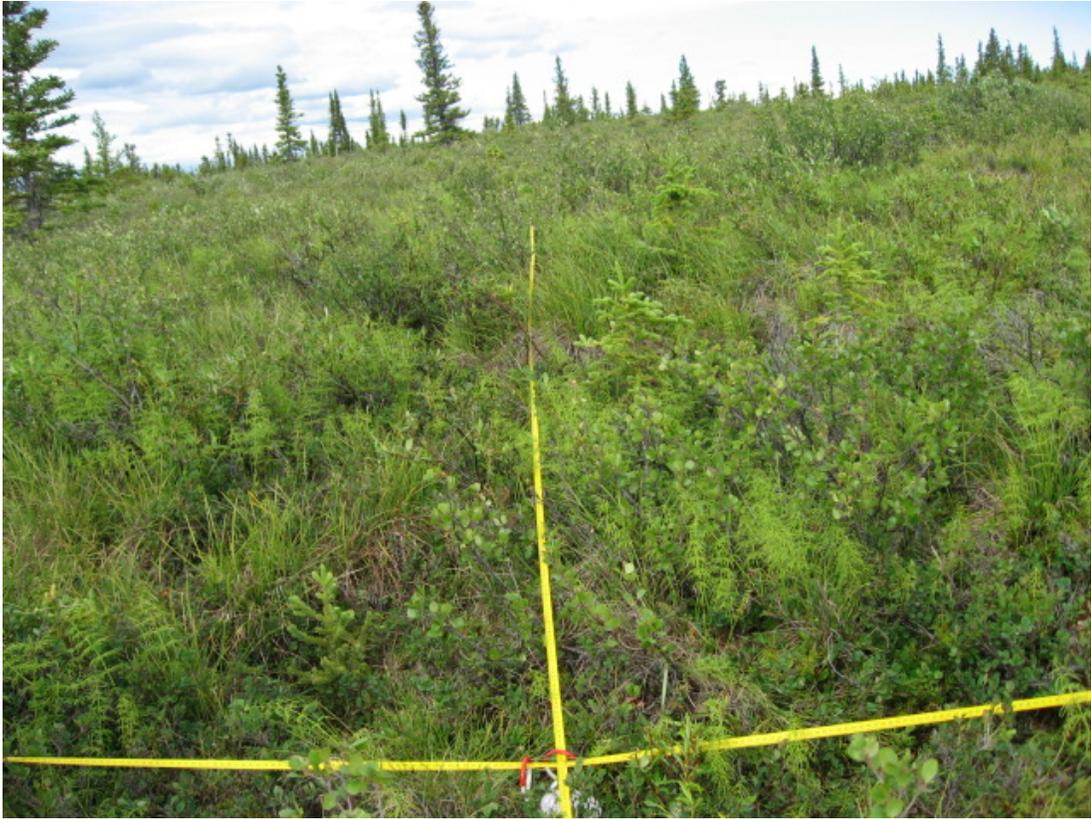


Photo 4. Plot 23 was in a horsetail-rich bog with scattered rocks (rocks not visible in photo).

Tuesday, July 22

On Tuesday we did points 10, 15, and 20. We started at 9am because of the weather. Point 10 has a good amount of alder. Point 15 and point 20 were not terribly memorable. I did find *Loiseleuria procumbens* at 20, which was nice. We did a bunny plot at point 20 and found no scat. We were back to camp by 7:30

Weather: We had freezing rain all morning with temperatures in the mid to upper 30s. It was almost unworkable; our hands were totally numb and we were wet. By afternoon the freezing rain had stopped but it was still overcast, breezy, and in the forties.

Wednesday, July 23

On this day we sampled 4 point: 19, 18, 17, and 13. We had discussed with Eric Veach about us going to Horsfeld on our off days to survey some land for rare plants (so a building could be moved there). By doing 4 points on Wednesday, we could get out Thursday night instead of Friday and have a day to prepare for this next trip on our off days. In the end, it turned out we postponed the trip to Horsfeld because of bad weather. Point 19 is a nice open plot, 18 is in a forested bog, 17 is on a hillslope above a lake, and 13 is in a mix of extremely dense stunted spruce and open lichen patches. We ran a bunny transect at point 19 and again found no scat. We left camp at 7:45am and returned at 8:45pm.

Weather: It was cold in the morning with dark clouds. Amazingly, it never really rained on us. By evening the wind picked up to an incredible speed—it must have been a steady 30mph with faster gusts. At 8:30 the sun peaked through the clouds and it was glorious.

Thursday, July 24

On our final day at Sanford we only had points 11 and 12 left (since we did 4 the previous day). Point 11 is a really nice, nearly alpine point with a tremendous view of Mt. Sanford and Drum if it is clear (photo 5). Point 12 is a steep willow/sphagnum plot. We returned to camp at 3pm and packed for our flight out. The helicopter arrived around 7:30pm. Christina and Kara flew first. We were all back to Gulkana by 8:45pm.

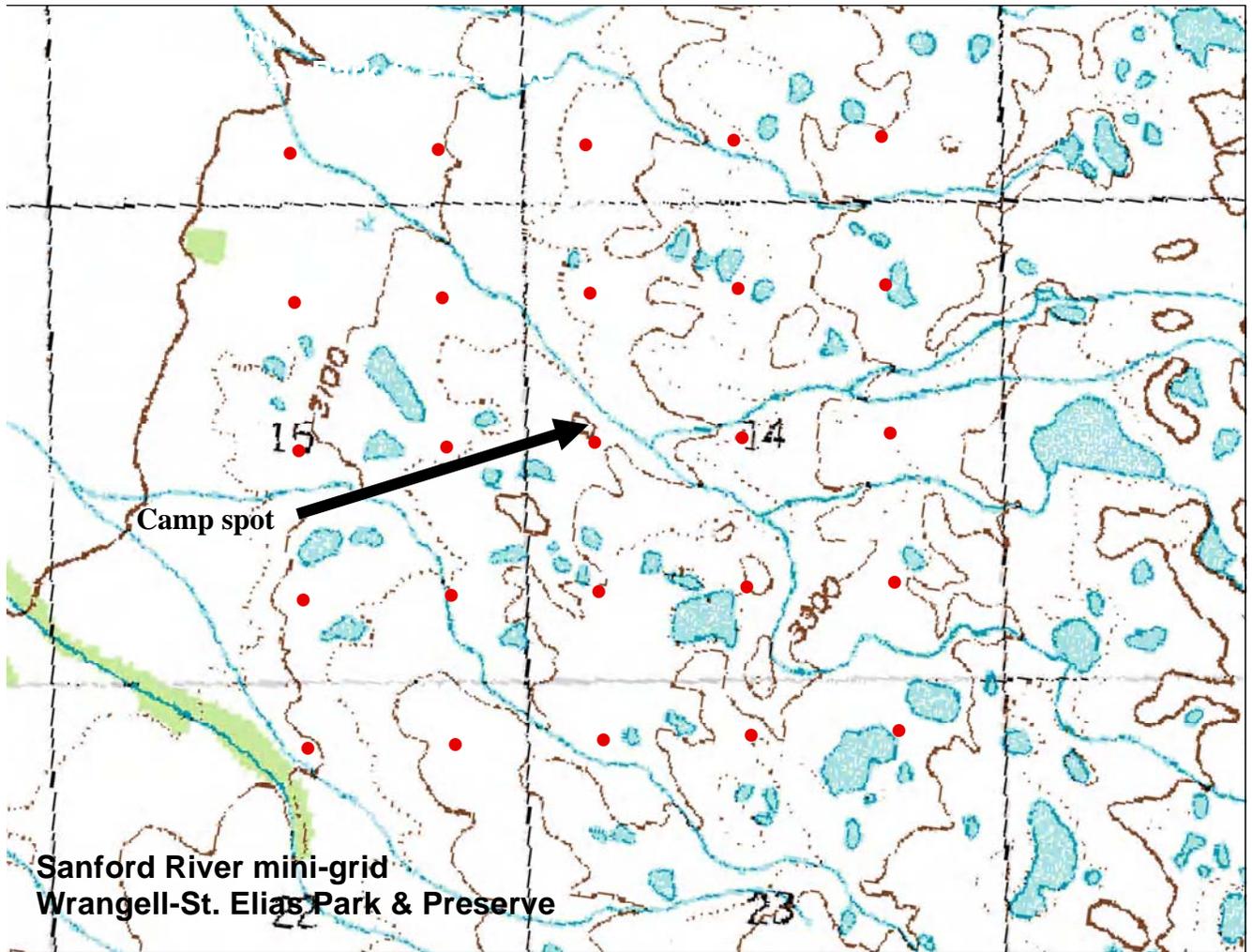


Photo 5. Christina took this picture of me calling into dispatch at point 11 with Sanford emerging from the clouds.

Weather: Almost sunny in the morning. No rain until evening when we had packed all the gear up. Cold drizzle waiting for final helicopter pick-up.

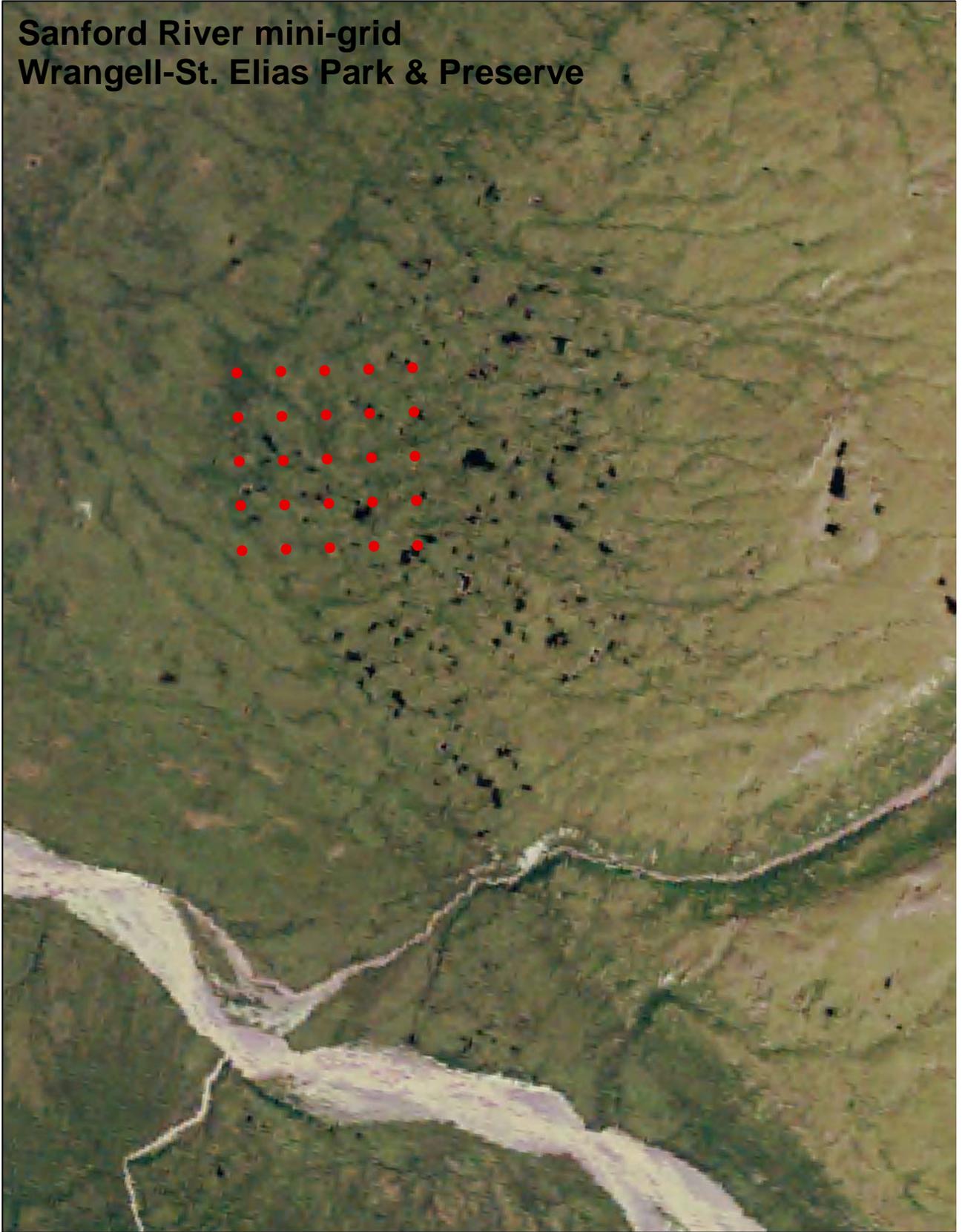
CONCLUSIONS AND FUTURE CONSIDERATIONS:

The sampling of this mini-grid went very smoothly and I would suggest doing basically what we did. Our camp spot should be used again—it was perfect. Future crews should be prepared for high winds, rain, and cold weather. Being between Mt. Drum and Mt. Sanford for 10 days really makes you appreciate these mountains. Each morning we would wonder what weather these two beasts would bring us.

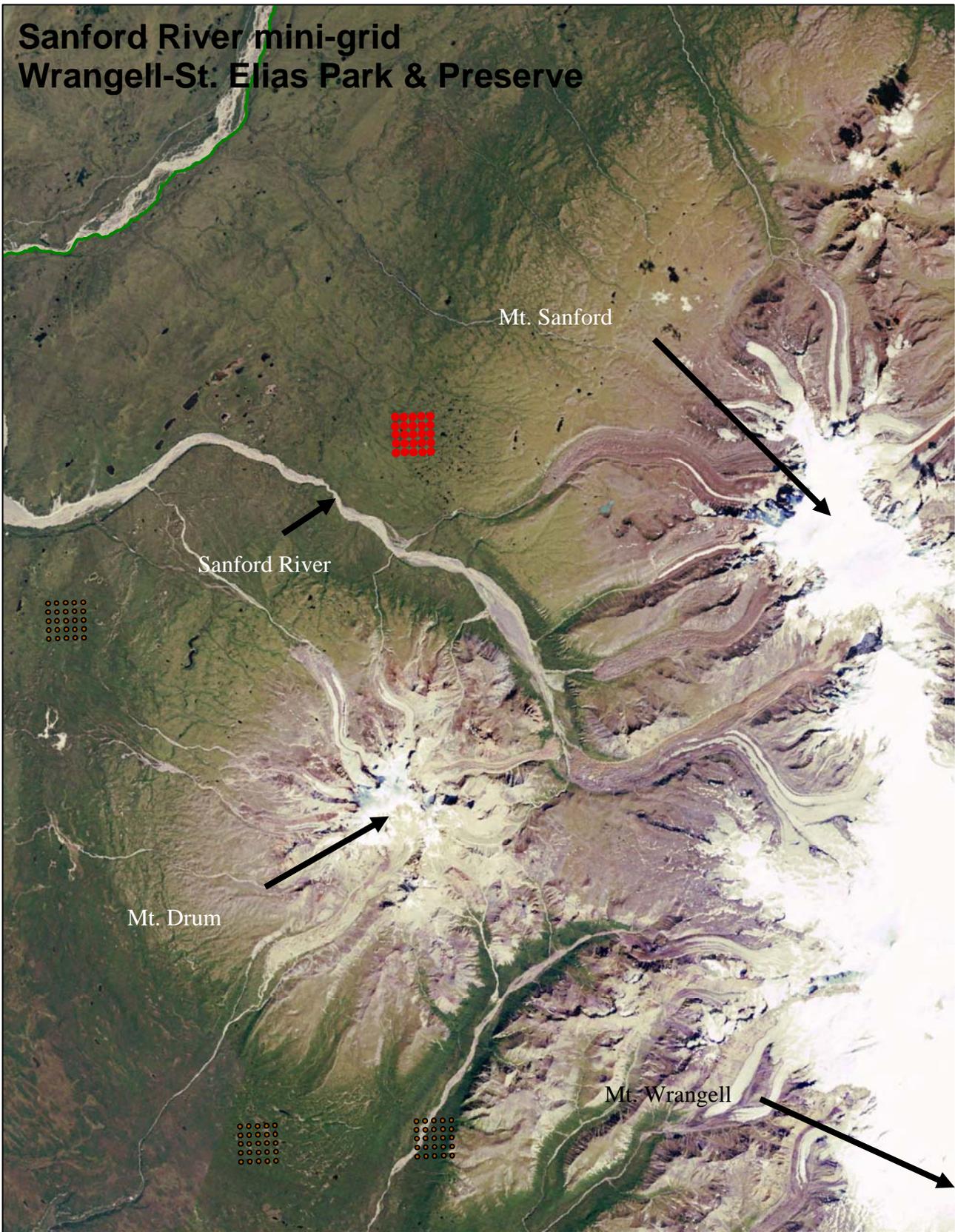


Map 1. Topo map of Sanford River mini-grid, 1_15K

**Sanford River mini-grid
Wrangell-St. Elias Park & Preserve**



Map 2. Satellite image of Sanford River mini-grid.



Map 3. Satellite image of Sanford River Mini-grid (bright red dots).