Christchurch, New Zealand, Nov. 24-25

The last two days I’ve been in Christchurch, NZ which is a city of about 300,000. Getting here was a relief after dealing with 1.5 days and 4 layovers of airports and airlines. Christchurch is beautiful and in full bloom due to it being summer down here and after coming out of single digit temps in Montana, it’s a nice quick break from the cold before heading to Antarctica. There are a lot of old buildings here, many being repaired from the 7.1 earthquake that hit months earlier, and it’s easier to spend your free time just walking around with no particular place to go. My hotel is the Windsor B&B and is perfectly located for its walking distance to the museum, the botanical garden, and cathedral square. I went down to the botanical garden and was pretty amazed at how large and varied it was.

The second day in Christchurch was delegated as the day we go get our gear from the CDC (clothing distribution center). They supply all the survival clothing you will need for your trip down south including parkas, long johns, goggles, and snow pants. Everything is tried on so that there are no surprises (stories of broken zippers on parkas and wrong sizes) when you get to the ice. After that its back to the hotel with the evening to kill before we are shuttled away at 0615 the next day.

The Widsor B&B
A game of chess in Cathedral Square

Cathedral Square

One of many bridges in a park

Old town Christchurch
Me in the botanical garden

Fountain at entrance to botanical garden

CDC
Nov. 26

I finally got to Antarctica today and after a six and a half hour flight in a cargo plane. After landing everyone on the plane was shuttled to McMurdo by Ivan the Terra Bus which is the standard transportation from the runway, which is one the ice, to the base.

After getting checked in and finding my luggage again I went to find my dorm room. This wasn’t the best experience as they moved me twice and my keys never seemed to work. After a long day I was ready for a hike up to the top of Observation Hill where I could view my new home for the next week.

The “Big Red”      First view of Antarctica

DC17 on the ice runway     Ivan the Terra Bus
McMurdo station from Ob Hill
Nov 29-30

Happy Camper School

This week started with a course called Snow School 1 (better known as Happy Campers). It was designed as a basic survival course for the Antarctic environment. We started with some classroom talk about things to wear and things to always have with us when leaving the protection of the base. We then took our ECW (Extreme Cold Weather) gear that we had been issued in Christchurch and rode out on the Delta bus to a place just past Scotts Base. There, we were geared up with personal overnight bags that consisted of a sleeping bag, fleece bag liner, and a sleeping mat. As a group we also were given 5 MSR Whisperlight stoves (the same kind I backpack with), some freeze-dried instant meals, shovels, tents, snow saws, and a radio. For the rest of the afternoon we went over several things including stove use and troubleshooting, how to set up different types of tents including Scott tents (floorless pyramid tents that can hold 3-4 people), and how to build snow shelters. Although I felt like I knew a lot of this there was several things I learned and lots of useful tips that I didn’t know. Towards evening the instructors left and we began the art of surviving.

After eating dinner, the first thing I tackled was a snow shelter. Most people started building snow trenches to sleep in. A snow trench is exactly what it sounds like and consists of a trench in the snow that is big enough to lie down in and roofed with snow blocks to shelter a person from the elements. I, on the other hand, have always wanted to build a successful igloo so, after finding a used snow trench from a previous class to call a backup plan, I began my shelter. My first layout ended up being too big and I had to scrap the site entirely and start again. My second site was better but still quickly became a two person job. Another classmate of mine (Chris Stubbs) had had similar igloo dreams, and we quickly decided to join forces. With a little help from a third person (Paul) the igloo was finished and slept two quite comfortably (roomy and warm) for the rest of the night. Dream fulfilled.

The next day was spent talking about the previous night on our own and practicing rescue scenarios. A quick video on helicopter safety ended the day and left us all a bit worn out. However the experience was great and the knowledge gained was very practical. Not a bad way to go to school.

 Leaving the Delta bus
 Melting snow for water on Whisperlight stoves
Igloo layout

Igloo entrance

There’s no place like dome

Happy camper
Finally made it to field camp! Arrived at F6 camp today in what would be my first of many helo rides. Met Josh, Steven, and Deb, a few of the people I will be working with this season. Josh showed me around camp and then helped me set up my tent, which was hard because it was pretty windy when we tried to tackle it. I think my tent is missing a length of pole too because when set up and staked down, the front doesn’t look right. I got all my stuff situated and am looking forward to see some of our sites tomorrow.
My camp site
12-3-2010

F6 Camp

Today when I got up there was a call from Helo Opps that said they were canceling our flight due to weather at McMurdo. The weather in our valley (Taylor Valley) was fine and since none of the streams around here are flowing yet we decided to climb Mt. Falconer which is right out our front door. Took us about 2 hours to get to the top where we could get a good look at the valley as a whole. There were some very large ventifacts near the top and on our hike down we spent a little time poking around inside them. Ventifacts are rocks that have been carved out by the wind which creates a very unusual looking design. Then back to camp where we’ll hopefully have a helo tomorrow.
Josh and Steven taking a break in the ventifacts
Dec. 5-6

Lake Hoare Camp

Yesterday was another no fly day due to weather which meant that we couldn’t get to the sites we needed to get to. We ended up hiking to Lake Hoare camp to spend the weekend instead. On the way we went by several of our gages and all appeared to be dry. I met some of the other folks staying at Lake Hoare including Rae, the camp manager. That night we had homemade lasagna and topped it off with cake and ice cream for Deb’s birthday.

The next day was Sunday and everyone uses it as a day of rest. It is also the only day the showers are running and everyone made use of this. Steven and I ended up going on a hike that took us to the top of a mountain called Nussbaum Reigel and then down past Mummy Pond, though a gap between Suess Glacier and the mountain called The Defile, and then over Lake Chad and along the shore of Lake Hoare back to camp. On the way back we were also able to swing in and check on H2 House Gage. It turned out that it was completely frozen and might be awhile before it starts to flow again. The hike ended up being about an 11.5 mile hike and when we got back we were pretty exhausted. Had a lot of fun though and ready to start chasing water Monday.

Along the edge of Canada Glacier to Lake Hoare
My tent in the Lake Hoar tent city

Me on top of Nussbaum Reigel

H2 House gage

Hiking through The Defile
Blood Falls to Lawson and Prisca

Helicopters in the sky! Good weather today made it possible to finally get airborne and see some of our sites that are a bit too far to easily hike to. Our first stop was the B3 Lawson gage and there was again, no water running. We ran levels for the site and then went to get a water sample from the base of Blood Falls.

Blood Falls is a large red orange area at the head of Taylor Glacier that is pretty unique. The odd color is caused by salt water, high in iron, trapped underneath the glacier. The weight of the glacier forces this water up though the ice and as the water comes into contact with the air, the iron quickly oxidizes and produces rust, therefore giving the area the red rust color. Check out more at [http://en.wikipedia.org/wiki/Blood_Falls](http://en.wikipedia.org/wiki/Blood_Falls).

After collecting the sample we went along the side of the glacier to a cave that some glaciologists had put in years before. The cave was inaccessible but interesting to see. As we started hiking back we noticed that in the time it had taken us to go look at the cave (about half an hour), Lawson Gage had started flowing. Crunch time. Not expecting this turn of events, we had to grab samples and get a discharge before our helo arrived. We were able to do this and with time to spare, but not much.

After Lawson we were delivered to another one of our gages, B1 Prisca, which was definitely not flowing. We tackled a small gas leak, which we found and fixed, and then ran levels to the site. This site in particular is one that is heavily affected by sand and the flume in the center of our control is at this moment of no use because of how it has moved. With the entire channel and control sanded in there isn’t much we can do right now. Hopefully it won’t be long before we get some flow here to.

Lawson (dry) as we get ready to run levels  Lawson (running) as we take a flume measurement
Blood Falls on the Taylor Glacier

Prisca gage
Dec. 7-8

We’ve got water! Or at least the begging’s of it. Tuesday we went to catch 3 of our sites. We started by hiking to our Lost Seal gage. This gage happened to be dry and the orifice line was buried and couldn’t be found. We tried to move some of the sandbags that were on top of the orifice in order to unclog it but the bags were frozen solid and would not budge without tearing. Not much we could do so we thought we would try again next time when things had warmed slightly. We then hiked around the face of Commonwealth Glacier and to Commonwealth gage site. This gage was flowing and we were able to take a measurement with our Baski flume. From there it we headed to our last gage for the day, Aiken. This gage was dry so all we could do was note it and move on. From Aiken it was back to camp. All in all we hiked about 9 miles, which doesn’t really feel like it when you break it up with a couple of gage stops, so a pretty good day.

The next day (Thursday) was used to head back to Lost Seal and try to uncover our orifice and see if it was flowing. It was flowing so we were able to get a measurement. The orifice must have been plugged instead of just frozen like we originally thought so we are going to head that way first thing tomorrow and put in a temporary orifice so that we can start getting some data. At this point, even if we could unbury the orifice, we probably don’t want to because we would have to tear down our sandbag wall in order to get to it, which would change our control and essentially discredit our pervius gage data. The control (in this case the sandbag wall) is what we use to take the readings our field instrumentation is logging and convert it into a know discharge of the stream. After discussing this and deciding to come back tomorrow to run our temporary line, we headed back to camp. On our way back another one of our streams had started flowing. This gage is called Vongurard and, as it is right next to our camp, we had checked it before we left. With streams coming off of glaciers right out our back door, water can start and stop rapidly. We were able to get a measurement here too. We’ll see what knew things wait for us tomorrow.
Vongurard stream now flowing after being dry half an hour ago.

A sun that never sets. (Taylor Valley at approximately midnight).
Dec 9

Busy day today with seven sites visited in all. Our first stop was Lost Seal where we were able to run a new orifice line to the flume. The other line was both frozen and buried and it was much easier just to run a new one. Plus, because the old orifice had pulled out of the hole in the flume, the new one could just be pushed in and we knew it was at the right elevation. The new gage height was correct when compared to our secondary reference (a staff plate that shows you the water level) so we should be in the clear.

![Running a new orifice line under the sandbag control.](image)

From there it was a counter clockwise hike around Lake Fryxell, which is the lake in front of our camp, to all our other sites in the area (Huey, Canada, Green, Delta, Cresent, and Harnish). All except the last two gages (Cresent and Harnish) were flowing so we were able to get a bunch of measurements. We were also able to get our camps 6 wheeled ATV today which made our approximate 7 mile loop go by much faster. ATVs are only allowed to drive on the ice down here so we couldn’t take it off the lake but it still saved us a lot of hiking.

Tomorrow we take a helo to the Wright Valley visit two of our gages. I haven’t seen this Valley yet and am looking forward to it.
Canada Glacier on the edge of Lake Fryxell.  Celebrating a full day by making cake with power tools.
Dec. 10-11

Today we went to the Onyx River in a valley I haven’t been to yet, the Wright Valley. The Wright Valley is another **dry valley** in that it doesn’t have a glacier or glaciers running down the middle of it, though it’s pretty clear that that is how it was formed. This valley doesn’t have near as many field camps in it either, so it has a different feeling as a more desolate area than the Taylor Valley (where we are living and primarily working). We have two gages in this valley, both of which can be seen with live data at any time the season allows. See real-time streamflow data at: [http://wy.water.usgs.gov/projects/antarctica/index.htm](http://wy.water.usgs.gov/projects/antarctica/index.htm)

We were only able to get to the first site, the Onyx R at Lower Wright Weir, due to high winds which made flying any further up the valley next to impossible. Our pilot (Scotty) said that we were fighting a steady 50 mph head wind but we were still able to land and measure our first site. We headed back to camp, which at this point in the week is the camp at Lake Hoare, where we were able to measure one more of our sites and also run levels. We run levels so that we can see if our controls, flumes, and instrumentation have moved. If they have (which happens a lot in the sandy and often frozen conditions of the dry valleys, we can figure out by how much and then compensate for it so as to still obtain good data.

![Josh and Steven working in the Wright Valley](image1.jpg)  ![Our gage at Lake Hoare (Andersen)](image2.jpg)

The next day was still a little windy, but not nearly as bad as the previous day so we were able to fly out to the Wright Valley again in order to get the other gage we couldn’t the day before, the Onyx River at Lake Vanda Weir. This gage was not yet flowing but we were able to work some kinks out of the instrumentation so that everything should be ready when the flows start. As we were waiting for our helo ride back, we ended up walking to the head of the lake that would eventually spill into the channel and past our gage. As we got there we realized that the lake had just started spilling over and we were able to walk along with the River as it formed and started to make its way down the valley. It was pretty exciting to see a river forming beneath my feet and it happened to be the one day I forgot my camera.
From the Wright Valley we then flew back to Lake Hoare camp in the Taylor Valley. We went and ran levels at House gage, taking another discharge measurement as well. We also have two sites near the House gage that don’t have our normal gage box set-up but that we still try to measure. These two ended up being immeasurable because of the condition of the channel. In order to get a good measurement we need to be able to find a place (or even several places) where we can get to the majority of the flow in a somewhat tranquil and uniform location. This is ideal but not always possible. Both sites we saw were so shallow and braided that we could have spent the rest of the day diverting water into a measurable channel and we still wouldn’t have gotten great results, so we had to abandon measuring these locations.

At the end of the day I slipped out of camp to walk along the edge of the Canada Glacier and see some of the waterfalls that are coming off the top. Everything has been melting very fast lately, and the tops of glaciers are no exception.
Dec. 13-14

Did a lot of measuring the last two days and now we are almost done with levels as well. We have two more to do tomorrow and then we will have all the gages finished for the season. We said goodbye to Josh on Monday and he will be missed. Another stream team member, Chris, will arrive tomorrow but for the next two days it will be me and Steven.

One problem we run into a lot in the Dry Valleys is the shifting sediment moving our flumes and filling our gage pools. This flume is supposed to be level but it has obviously lifted on the upstream side, which makes the stage of water difficult to interpret. You can see that the overflow to the right of the flume is running. During low stages all water usually flows through the flume alone. At higher stages an overflow area on the control (sandbag wall) comes into effect in order to alleviate some of the water pressure that would otherwise, all be put on the flume and possibly cause a blowout.

Steven (on the level) and Deb (on the rod) running levels at our Crescent gage.
Dec. 15

Today we were able to run levels on Huey Creek, which finishes our opening levels for the season on all our sites. We ended up using a Baski flume on Huey Creek which was flowing at the peak capacity for using a flume that size. A fume measurement is often the easiest and most accurate way to obtain a discharge measurement from a stream when there is not very much flow. The way a flume measurement works is that a portable flume is placed level in the stream and all flow is directed through it. The water level needs a little time to fill the pool the flume creates and then a measurement can be taken by reading the ruler at water level which is mounted on the inside of the flume. The heights on the ruler are already pre-calculated for a discharge amount so, once we have read the water level several times and noted that it’s remaining stable, we can look up what the discharge is.

A Baski Flume setup

Chris Jaros reading the water level on a Baski flume

Shooting final levels for Huey Creek (Chris and Steve)

Our transportation on the lake ice when not hiking
From Huey Creek we took our 6 wheeled ATV to our Canada Stream gage. ATVs can be used in the Dry Valleys but only on ice so as not to leave permanent tracks anywhere. Anything that can’t be driven to has to be reached by either helicopter or by hiking. At this time of year the lake ice gets a bit thin near the shore and is often open water so sometimes an ATV can’t be used just because we can’t reach the shore from the ice.

Canada Stream is one of our better gages in that it is much lower maintenance than other gages that often have blowouts, moving flumes, and sand issues. Notice the difference between the Canada gage versus the Priscu gage below. The Canada gage has a nice tranquil gage pool which is ideal, a staff plate that is easy to read because the water line is level, and no movement from the flume due to high flows and sand.

![Canada Stream flume (ideal)](image1) ![Priscu Stream flume (posing problems)](image2)

From Canada Stream we hiked upstream a little ways and were able to see one of the many waterfalls coming off of the Canada glacier. At the time we were there the waterfall wasn’t dumping a lot but you can see the potential for a warm streak to really make the falls unload. Hopefully I’ll get to see it in high action.
The waterfall with very little flow

Me and the Canada glacier
Dec. 16

Today Steve and I went and took measurements on Aiken, Lost Seal, and an ungaged (meaning no permanent structure) stream, McKnight. Nothing too eventful happened other than that we forgot our boots and rather than walking back the 15 minutes it would take to get them, I opted to do the measurement barefoot. Next time I think I’ll hike back and get the boots.

Arriving at Lost Seal it was immediately obvious that the sand had been working against us. In a week’s time we had gone from a mostly open gage pool (the pool of water upstream of the control) to a mostly filled. Nothing we can do out here except make a note of the change and take a measurement. That being done we headed home.

*The sand changing things at Lost Seal in the course of a week (before and after)*

*When making a bootless measurement in Antarctica, don’t forget to bring a towel*
Dec. 17

Today we flew into the Write Valley to measure our two Onyx River sites, Vanda and Brownsworth. We only go to the Write Valley about every other week so it’s a nice change from the Taylor Valley as far as something new to see. We were flown in by one of the Kiwi pilots in a helo we dub the *Sky Porsche*. Seeing the sites we get to see from the air is starting to spoil me and I don’t know how easy it’s going to be to convert back to automobile travel.

Pretty amazing country with incredible views of the Write Valley and other surrounding valleys (Write on left)

Once we got on the ground we were able to make two measurements at each site. We wouldn’t normally do this but being that we get to these gages as little as we do, a check measurement never hurts. The views here are incredible and we’re never in a hurry to leave the Onyx.

Me making a measurement on the Onyx River  Our transportation to the Write Valley
Dec. 18

Today we are at Lake Hoare after flying here last night from the Write Valley. From Lake Hoare we have two main sites (House and Andersen) and two ungaged sites (Worten and McKay). We were able to get all four of these sites today, although we had to spend some time with a shovel and a Baski flume to get Worten and McKay. All in all, a good day.

Can you guess what kind of creature this is? It was near the shore of Lake Chad, seen through a window in the ice.
Dec. 19

Today was another Sunday at Lake Hoare which meant that Steve and I could sneak in another hike we’ve wanted to do. We ended up hiking to the top of Voslips peak, which was about 5 miles and 4000’ of elevation to reach. From there we had spectacular views of the Taylor Valley as well as our first peak at Ferrar Glacier. Ferrar is a glacier that fills a valley roughly the same size as our own (Taylor). It is huge, stretching 35 miles long and over 4 miles wide. We could also see out to the ocean, the impressive Mount Lister, and views all around were stunning. From there it was the fast descent back to camp for our weekly showers.
The Taylor Glacier of the Taylor Valley

Ferrar Glacier and Mount Lister (back right)
Tonight Steve, Chris, and I stayed at Lake Bonney, which is a camp I haven’t visited till now. Normally we would fly in and then fly out the same day to take measurements at Bonney but because we had a lot to do here today, we thought it better just to stay over. We measured at Lawson and were also able to measure at three of our ungaged sites. After completing all of our measurements on the west side of Lake Bonney, we hiked along the north side of the Taylor Glacier where Santa Fe stream runs alongside the glacier and into the lake. The Santa Fe was flowing very high and at times the entire stream would go under the glacier or even under the ground we were walking on before coming back out several hundred feet down the valley. It was pretty nerve racking and we kept our distance in some spots.

From there it was a painfully bumpy ride down the lake to the other end where we could measure our Priscu stream gage. Then another rough ride back to camp to get some sleep and leave in a helo the next morning.
Hiking along the Santa Fe we could see the creak disappear (left) and reappear (right) from underneath us
Dec. 22

Today started a little differently than most, with the arrival of a helo full of Santa impersonators. It was part of the yearly tradition of folks from McMurdo bringing presents out to the teams in the Dry Valleys. Our camp received a box with fresh bread, cookies, and various other goodies. The folks that get to come out as Santas are from McMurdo and have very seldom, if ever, gotten to ride in a helo and see some of the sights that we get to see every day. You could tell they were excited to be in the field and it was a reminder to me of how unique our job really is out here, and how neat it is that we can just call all of this the norm. Who else uses a helo as their primary mode of transportation?

Today we decided to get some things done around camp in the morning and take our measurements later in the evening. Chris made a big dent in getting the camp organized while me and Steve setup the Zodiac inflatable boat which we will soon need to get to our ATV on the ice. A moat of water has formed around the lake and getting to transportation can often be tricky and time consuming.

We headed to Commonwealth stream today, which is about 4 miles from camp, and got there around 6:30 pm. We don’t really structure our day around an 8 to 5 schedule but rather we try and hit the peaks of flow at a lot of our sites. Many of our sites hit their peaks later and with darkness never around the corner and no real rush to get up early in the morning, evening measurements are not uncommon. Often we’ll go back to camp and have dinner and then go back out and get a couple more close measurements.

Everything is flowing high right now and we timed it perfectly for the high flow of the day as well. From Commonwealth we headed back, splitting up along the way to get our Lost Seal, McKnight, and Aiken streams. I may have fallen in at Aiken and that leaves me some pants and boots to dry out tonight.
The hike along Commonwealth Glacier

Steve getting a 9:00 pm measurement at Aiken Creek
Today was Christmas and Steve and I ended up hiking to Lake Hoare camp to spend Christmas with 15 other Dry Valley inhabitants. In order to hike there, now that Lake Hoare is getting to thin to cross, is to instead cross the Canada Glacier. This is my first time ever hiking over a glacier and I have to say it was a pretty neat experience. It did take some time and this was mostly due to the fact that the glacier is getting a little soft on top. As you hike there are all sorts of places that you can break through the crust and into about a foot of water. Still an enjoyable hike though, just slow going.

At camp we ended up having a large ham and crab leg feast followed by bread pudding and all types of chocolates. We also had a gift exchange and, for not getting to be home for Christmas, it was a pretty good way to spend the holidays.
Dec. 26

Today was a somewhat easier day than most. Chris and I hiked to our House gage at the east end of Lake Hoare to take a measurement. We also got one of our two ungaged sites, with the other probably not being measureable any more this year due to the rising lake levels. While we were at the House gage we were able to move the gage box to a level position and re-anchor it down. It was something that had needed to be done for some time now and fixing it was another check on our to-do-list.

*Before and after pictures of our gage house at House Stream*

Lake Hoare on the hike home
Dec. 28

Over the last few weeks we’ve been noticing a potential problem creeping up rather rapidly. The lakes in the Taylor Valley all seem to be rising pretty significantly. Christmas weekend was the big wakeup call, with Fryxell Lake (the one we’re camped at) rising approximately 4 to 6 inches in three days. I have now had to move my tent two times and I’m already starting to second guess my third placement. Others have had to move their tents as well, with more probably on the way. The rising levels also create potential problems for at least one (and probably two) of our gages. Our Von Guerard gage has lake levels nearing the control which, if levels get high enough, could turn our stream level gage into a lake level gage. Today we decided to try and head this potential problem off.

We ended up splitting into two groups, with Steve heading off to measure four sites (Green, Delta, Crescent, and Harnish) and Chris and I building a temporary gage that we will place further upstream on Von Guerard. The idea is that once we have two gage boxes on the same stream, we can start correlating water levels at both sites so that if the main gage floods, we will have some type of backup we can use. It’s not the ideal solution but then the lake flooding a gage isn’t exactly ideal either.

The red circle indicates where the river ends and Lake Fryxell begins. When I got here the river went all the way around the bend, over a beach that’s now submerged, and into the lake. The lake edge went from being about 150 feet from our control (seen as the underwater black tarp near the piece of rebar sticking out) to maybe 30 feet.

We found an old truck tool box that looked like it had been used as a temporary gage box before. We then spent the rest of the day trying to find all the equipment we would need and assembling and testing it in the kitchen. Once we had everything working the way it was supposed to we moved it to the tool box and moved the box to our chosen site upstream. After running our bubbler air line down to the water we started a note on the differences between the two sites gage heights and we’ll keep updating this over the next several days. Best case scenario is the water level never affects our first gage but it’s good to be ready.
Our equipment being put together and then mounted in our temporary gage box.

Chris standing quite proud by our temporary gage

Staff gage for noting lake levels

Before I finished the day I put a staff plate out near my tent so that I could start noting how much the lake level is rising each day. We’ll see what happens.
My tent's original location then (Dec. 2) and now (Dec. 29)
Dec. 30

Today Steve and I had to address an issue that had come up with our Aiken gage. Our control on this site had been partially blown out from higher flows earlier this week. Our control on this gage is constructed of sandbags, heavy tarps, and large rocks which can and did move during the recent high flow. With our control now changed, we can’t interpret the gage height we’re getting into discharge of the stream. This essentially makes any data we’re getting useless and we needed to correct this as quickly as possible.

After taking a before construction measurement, we rebuilt the control as best we could, taking care to replicate the pre-damaged control as closely as possible. The flow had changed so that most of the water was flowing over the spillway and the PZF (point of zero flow) was in the overflow and not the gaged flume. This means that when the water gets too low it will go over only the spillway (which is really only there to keep some pressure off of the flume at higher flow) instead of through the flume, giving us a no-flow reading by bypassing our gage when the water is in fact, still flowing.

A partially blown out flume looking upstream (left) and downstream (right)

To rebuild the control we brought out some new sandbags and a new tarp. We were able to rebuild the control fairly close to what it was originally and with that done we took another measurement. Hopefully this rebuilt control will mirror the old, otherwise the past history and measurements of this gage will no correlate with anything done today or in the future.
A newly rebuilt control
Dec. 31 2010 – Jan. 03 2011

The past several days have been no fly days due to weather, changing our plans significantly. It all started on Wednesday with dark clouds rolling in during the evening. The clouds have stuck around for quite awhile. Originally our plan was to go to the Wright Valley on Friday but with low clouds (near fog conditions) no helos were flying Thursday or Friday. Eventually a helo did make it to our camp Friday afternoon but by that time weren’t going to be able to get a ride anywhere. We ended up hiking to Lake Hoare to spend New Year’s Eve. As we crossed the Canada glacier the clouds were still low but were getting lighter.

Low clouds over seen over the Canada Glacier made for a no-fly-day

No fly days on Saturday and Sunday because of the holiday. We enjoyed a mostly quite New Years at Lake Hoare after the comparably busier (17 people) Christmas weekend and we were able to get our two sites in the area done.

One of the nice things about weekends at Lake Hoare is our weekly shower. This is done in a building designated as the shower house with a camping shower bag. The bag is mixed with hot and cold water by the user and to their preference. Any water used during the shower is caught in a pan that is then emptied into the grey water bucket, which is then transferred to the grey water barrel outside. The shower room quickly becomes a sauna that is hard to stay in for very long and I’ve never taken a shower in that room that I didn’t sweat through. Still, it always feels great at the end of a long week.
Monday was another day of changed plans due to weather. We were scheduled to fly to Lake Bonney this morning and measure several of our sites before being dropped off at our home base at F6. I knew things weren’t going to work that way when I woke up this morning and for the first time since I’ve been in the Dry Valleys, heard snow falling on my tent. As I surmised, all flights had been temporarily been put on hold. It looked like it was going to be another day at Lake Hoare but later in the afternoon the skies did finally break enough for us to get a ride back to F6. We had to scrap the Bonney sites today because of our lack of time. This sets us back on measurements quite a bit but there isn’t much we can do about the weather. We are going to reschedule our trips out to Bonney and the Wright Valley and hope the weather is a bit more accommodating this coming week.
Dec. 4-5

Tuesday we split up to try and get a bunch of sites visited in a short amount of time. I went west along the lake and measured at Harnish, Crescent, Delta, and Green. Things went pretty quick because the flows were down and I could use a Baski flume for all the sites. The Baski essentially turns a ½ an hour measurement into a ten minute measurement. At Green I met up with Mike and Jen, two scientists that have been staying at our camp for about two weeks. They were waiting for a helo and I was able to leave my pack with them. That made the 4 mile hike back to camp a bit quicker and easier. Chris and Emily crossed Lake Fryxell and were able to measure Huey and Canada. At the Canada site they witnessed a penguin try to commit suicide, falling from the top of the Canada Glacier about 60 to 70 feet onto the rocks below. He got up and was looking at them but they were pretty sure he’d still be there next week when we go back.

Wednesday we spent getting the Aiken and Lost Seal site measured. We also spent some time at Lost Seal rebuilding the control which had partially blown out at higher flow.

An obviously disgruntled Chris Jaros views a blown out control

We rebuilt the control and our work on the wall should be a pretty good representation of what it was before the blowout. It took about thirty sandbags and we might need to bring a few more out next time but for now it should be pretty bomb proof. After supper tonight (hamburgers with bacon, whoohoo) I’ll go get a measurement on Von Geurard. This one is easy because it’s only 50 feet from our front door.
Looking downstream at the before and after control. The opening to the left of the flume is the overflow that is supposed to be in place, the hole that is patched to the right was new. We thought it a little amazing that the flume actually stayed in place, being that the water during the high flow was pouring over the top of all the sandbags seen in this picture (left).
Jan. 6

Today was Thursday and with everything completed around Fryxell Lake and no helo flights coming due to cloudy weather, we were left with a bit of free time. Thomas and Steve have been staying at F6 this week while updating some of their stations in the area, and they had the idea to climb Mt Falconer from the eastern side. Josh, Steven, and I had done the mountain earlier in the season, but from the western side, and Chris, Emily, and I happily agreed to join them.

Commonwealth glacier and Lake Fryxell  
Lake Fryxell during our accent

From the top of the first ridge leading up to Mt Falconer, I quickly realized that eastern side we were on now was much more spectacular and had huge ventifacts (wind shaped rocks) all over. We spent most of our time exploring and climbing all over these natural wonders before starting on the final leg of Mt Falconer. On this hike, the coolest part is the eastern ridge, not the top of Falconer. When we did reach the top, the clouds started socking in and the temperature cooled, so we made a quick descent and headed back to camp. Hopefully tomorrow we’ll have flying weather as all the low clouds have been putting us behind on sites we need to fly to.

Me on an unusual bird looking ventifact  
Chris at the top of the east ridge of Falconer
Me taking an enjoyable break

Thomas taking a photo
Jan. 7

Today I woke up to snow and clouds. This means that the plans we had of flying to the Wright Valley are going to change. On days like this (we've had a bunch lately) we pretty much need to sit tight and listen to the radio to see when and if they'll get a break in the weather. This also means that most of our creeks aren't running because everything’s frozen up.

Later in the afternoon the clouds finally did break enough to get a helo to us. By this point however, we didn’t have enough time left in the helo schedule to go anywhere so all that happened was that Thomas and Steve Wilson were flown to Lake Hoare, and Steven Crisp was finally able to get back out to F6 from McMurdo.

A view from my tent door this morning
Jan. 8

Today we have a helo schedule but with low clouds predicted later this afternoon, we weren’t able to fly all the way out to the Wright Valley. At this point we are hoping to catch the Wright Valley sites on Monday but as with everything in Antarctica, weather is the governing factor to any plans. We did have enough time to fly to Lake Bonney (largely because we were able combine with another group’s flight) so it was by no means a wasted day.

*Our pilot Flo with the Taylor (closer) and the Rhone Glacier*  
*Flo landing to pick us up near Blood Falls*
Jan. 10

Today, after numerous days of cancelled flights due to weather, we finally had a gorgeous day to fly to the Wright Valley and visit our two Onyx River sites. We were also able to stop at our Commonwealth site which we’ve often hiked to but today were saved the eight mile trek. We were able to get our measurements taken and then it was a quick flight home.

Our day was wrapped up fairly early and, after a long lunch, Steve and I decided to tackle some of our other sites within hiking distance from camp. We took off towards Crescent, Delta, and eventually Green. After measuring Green we wandered around and discovered a nice sandy beach right next to where Canada Glacier meets Lake Fryxel. We took a bit of a beach break before we started hiking the 4-5 miles home.
Jan. 13

This week will be my last week in the Dry Valleys. I’m scheduled to fly back to McMurdo and catch a plane back to New Zealand and, after a little time devoted to hiking around, start the processes of flying back home. This whole journey however, begins with a helo flight and lately we’ve been striking out on them pretty consistently. Weather is the ultimate factor. Low clouds especially, have seemed to hurt our flights over the last two weeks. A canceled day due to weather often has us at a standstill, especially when all our sites within hiking distance have already been visited. A cancelled day also adds to problems of scheduling. If all flights are cancelled on a Monday, not only do you lose your Monday travel, your Tuesday now needs to be refigured. This would be tough enough if you were the only one that needed to travel, but in the valley helos are the only long distance method of transportation. That means that everyone else that needs to fly also needs to reschedule their plans. Put on top of that the reality that there is no way to know if the weather will permit this new Tuesday schedule and you’re faced with one of our biggest problems in the Dry Valleys, transportation. I am usually amazed at how well the folks back at Helo Opps. (helicopter operations), the pilots, and the people scheduling the flights keep up with things as well as they do. They are an amazing support team. That being said, sometimes you just can’t fly.

Clouds coming in during the evening, days like this keep us grounded

As my week wraps up I’m hoping the weather will break. I have enjoyed my time down here immensely and I’m glad that I got the opportunity to contribute and be part of the stream team. Antarctica is a beautiful place and it was truly the chance of a lifetime to be here.
The calmest day since I've been here (a view near my tent looking across Lake Fryxel towards Commonwealth Glacier)