

# MCM LTER Benchmarks For Manual Lake Level Surveys



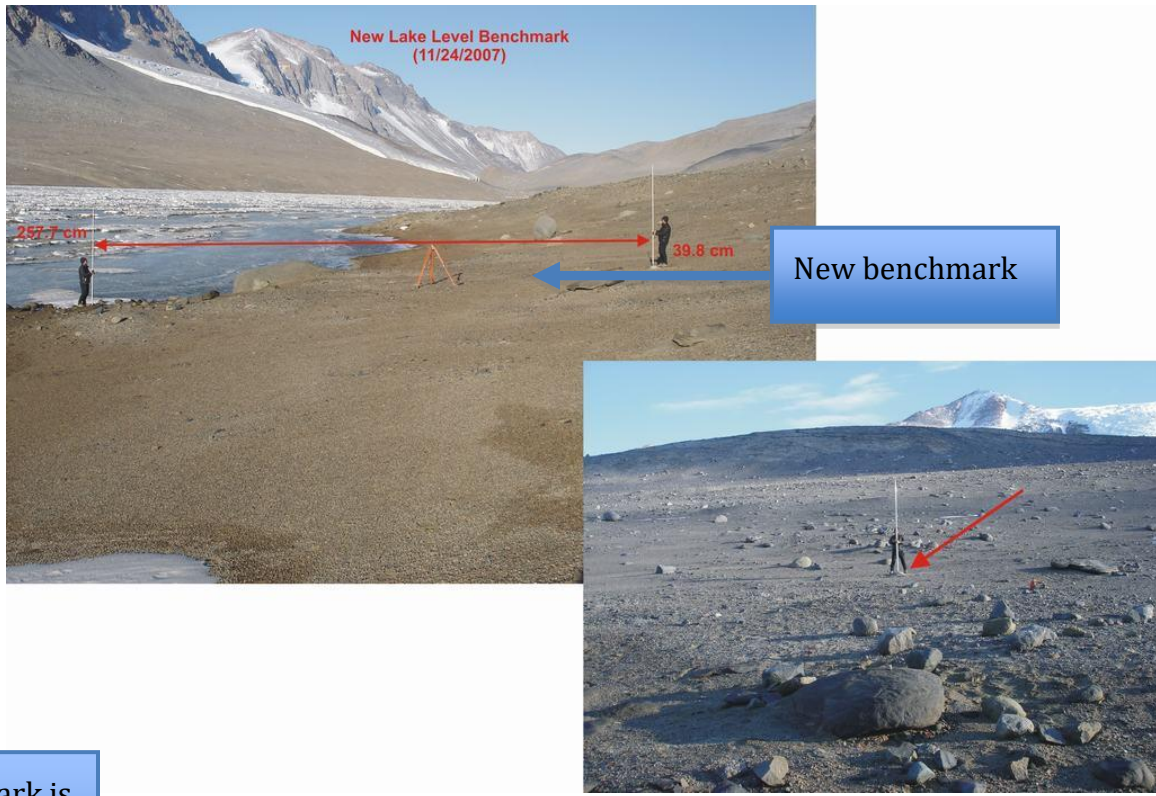
Updated 2/27/2019  
by Krista Myers (kristafmyers@gmail.com)

## Lake Bonney

East lobe Lake Bonney, south shore. Benchmark is a pin in a rock labeled 'medved1' on a cooper tag, located down slope of the Lake Bonney met station (BOYM).

Lat/Long: S 77.71453°, E 162.46480°

Elevation: 66.535 meters above sea level



## Lake Fryxell

Benchmark is a rebar in a small rock just east of the old Fryxell Jamesway location. Benchmark is very close to Huey Creek on the north side of Lake Fryxell.

Elevation: 19.773 meters above sea level



**Alternative/newer benchmark** is located upslope of the old Jamesway location on a huge rock (impossible to miss). Pin is flush with the rock as we drilled too deep. This may become primary benchmark if lake levels inundate benchmark above.

Lat/Long: S 77° 36.334' E 163° 07.166'

Elevation: 23.448 meters above sea level



## Lake Hoare

There are quite a few BMs around the Lake Hoare camp – the one used in the most recent years is called LH 11 BM, and is located just east of camp near the tent camping sites.

Lat/Long: S 77 37'23.8" E 162 54'17.5"

Elevation: 76.218 meters above sea level



## Lake Vida

The most recent benchmark used since the 2018/19 season is called LVI 11 which was installed in 2010. Benchmark is located on south shore of Lake Vida pretty high up on the shore, installed in a large boulder. Not super easy to spot, and pretty far away from current lake level.

Lat/Long: S 77 22.935, E 161 49.071

Elevation: 355.322 meters above sea level

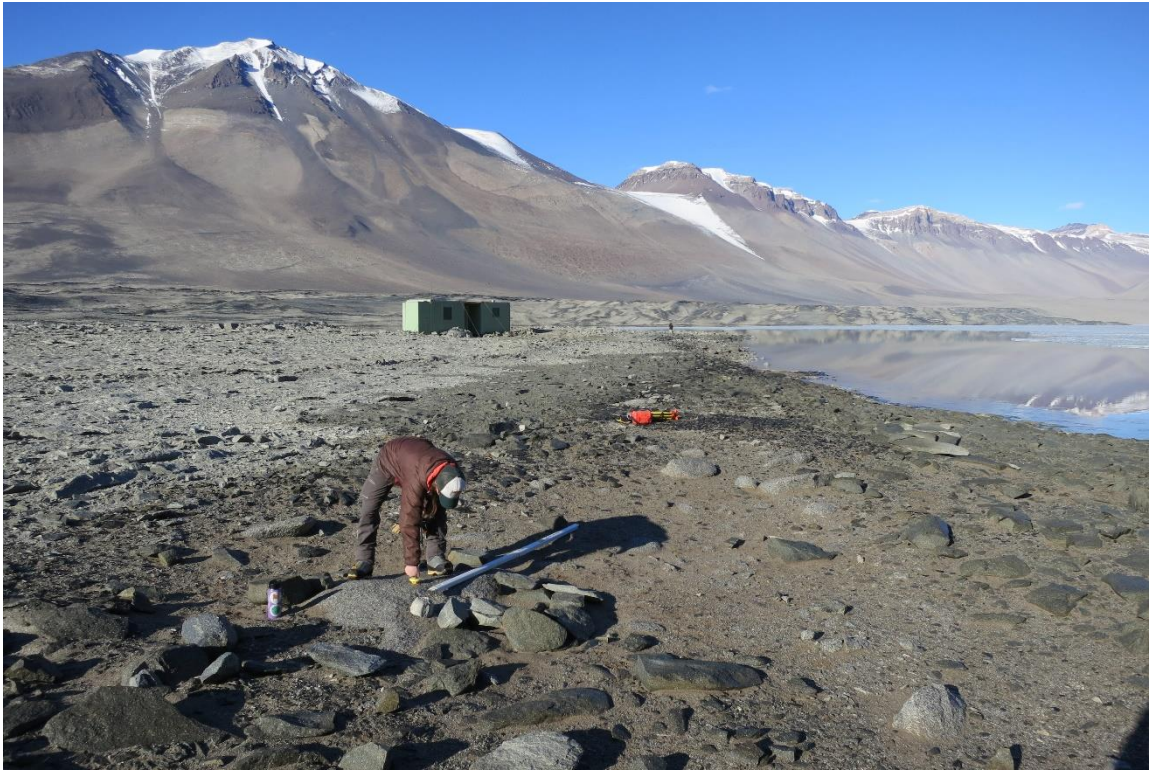


## Lake Vanda

The UNAVCO benchmark (**VANO**) is located just to the north of the Kiwi camp. *This is the one that teams have been using most recently as of 2018/19.* It has a cap on the top of the benchmark which should be removed before shooting lake level. Photo below (facing south).

Lat/Long: 77° 31.348' S, 161° 41.383' E

Elevation: 95.774528 meters above sea level



The old BM (**ASTRO A?**) is only accessible during the early season before the melt. It is an official monument pin in a rock, well-marked with a spray-painted orange circle around it.

Lat/Long: 77° 31.61637924 S, 161° 40.80068724 E

**LVA 11 BM** is a pin in bedrock located on the east shore of the lake, south of the Kiwi camp. There is a dead seal between the lake and the new BM

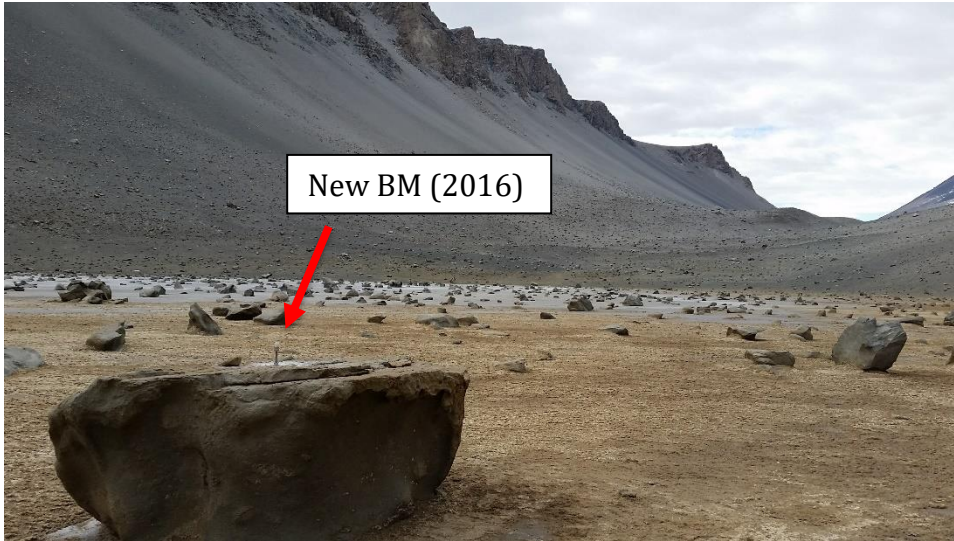
Lat/Long: S 77° 31'34.4", E 161° 41'19.7"

## Don Juan Pond

New BM installed on 12/8/2016 by UNAVCO (Thomas Nylen) on large bolder on southern side of lake. The new BM was installed because the DVDP borehole is a cap which can be twisted off, and the borehole is slightly wobbly. New BM is also closer to the helo landing site, which as of 2016/17 season, is located on the east side of DJP, denoted by a rock circle. Please allocated an additional hr of helo support for the hike over.

New BM Lat/Long: -77.56383 161.19483

Elevation: 117.989 meters above sea level



The old BM is top of the borehole from Dry Valleys Drilling Project (DVDP), established in the 1970s.

Old DVDP BM Lat/Long: -77.56336 161.18000

Old DVDP BM Elevation: 118.69 meters above sea level

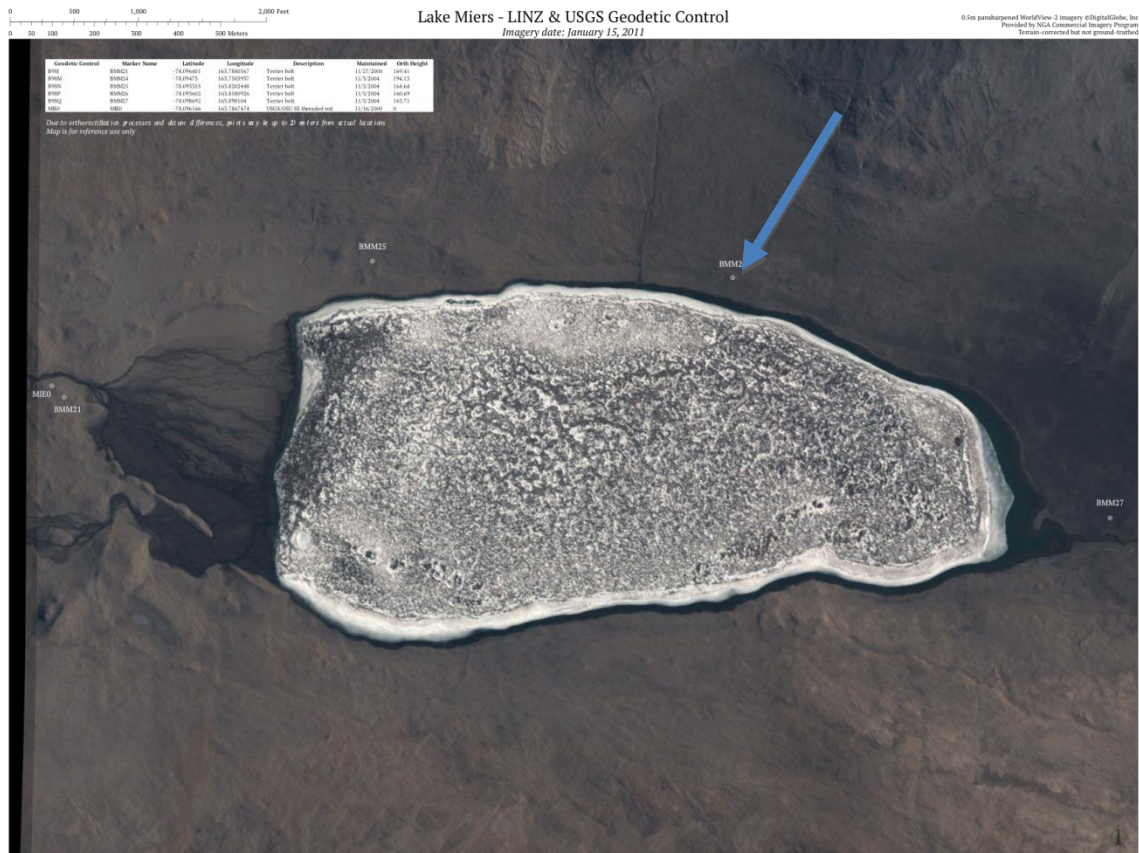


## Lake Miers

The BM is a terrier bolt located on the north shore of the lake (indicated by an arrow on the map below). Kiwis established the BM and its official name is BMM26. There is a bolt in the rock which is 50 centimeters tall, and the elevation is referenced to the \*top of the bolt\*. When shooting lake levels, the survey rod should be placed on top of bolt.

Lat/Long: S 78.093602°, E 163.8580926

Elevation: 160.69 meters above sea level



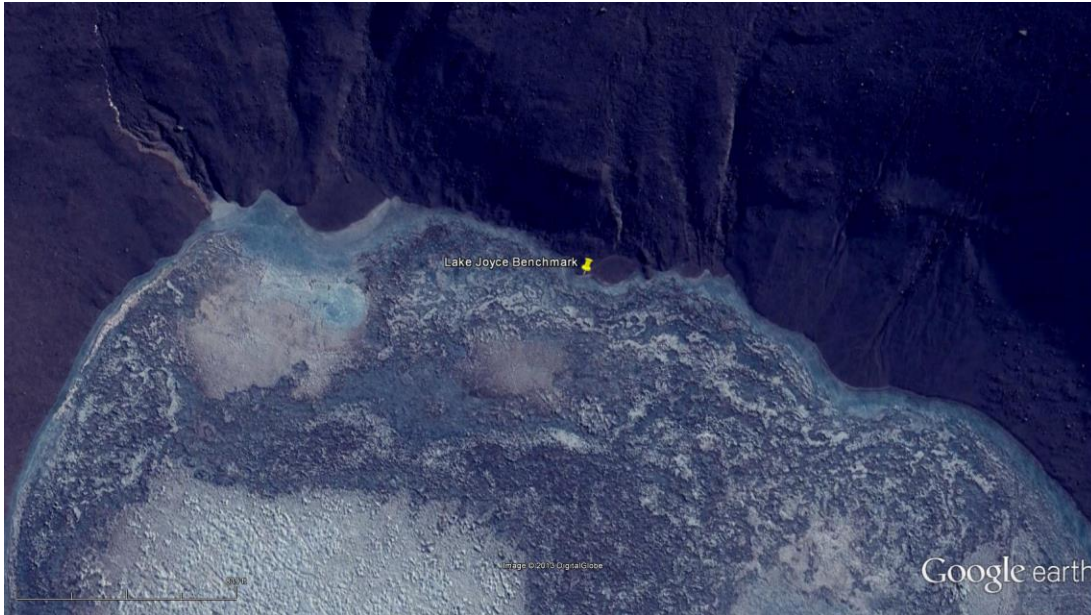


## Lake Joyce

Latitude: -77.715403°

Longitude: 161.634699°

**Benchmark** is a large bolt in a rock, with orange “NSF-USAP-USGS” marker. Benchmark is just west of a small delta formation (which could be submerged) centrally located on the North shore of the lake. This delta should not be assumed safe to land on should it be visible. There is a larger delta about 100 meters to the west of the bolt that was safe to land on in January 2015. Other landing sites are limited to the lake ice itself. Alternatively, prepare for a hike!



## Lake House

Latitude: -77.701587°

Longitude: 161.452423°

**Benchmark** is a large bolt in a rock, with orange “NSF-USAP-USGS” marker. Benchmark is located East of Lake House, near known landing sites, within 100 m of the lake.

