

# ICE article

## New Zealand Snow and Ice Research Group (SIRG)

Andrew Mackintosh<sup>1</sup>, Brian Anderson<sup>1</sup> and Wendy Lawson<sup>2</sup>

<sup>1</sup>Victoria University of Wellington, New Zealand

<sup>2</sup>Canterbury University, New Zealand

Contact: [Andrew.Mackintosh@vuw.ac.nz](mailto:Andrew.Mackintosh@vuw.ac.nz)

### New regional branch of IGS

In 2007, the International Glaciological Society council unanimously agreed that a new regional branch of the IGS would be formed for New Zealand. The new branch incorporates the New Zealand Snow and Ice Research Group (SIRG), comprising about 40 researchers and students from universities and research institutions ([www.sirg.org.nz](http://www.sirg.org.nz)). SIRG hosts an annual 2 or 3 day workshop during the austral summer (usually early February), and holds a monthly meeting by video conference. The workshops are held in the tradition of IGS regional branch meetings; informal, inexpensive and with an emphasis on student talks and work in progress. A visit to a nearby glacier usually occurs.

The next meeting will be held from February 4-6<sup>th</sup>, 2008 at the Cass Field Centre, Canterbury Southern Alps within a few hours drive of Christchurch. International contributions are welcome. To receive information including conference circulars, subscribe to the SIRG email list at the following link

<http://lists.vuw.ac.nz/mailman/listinfo/sirg>

### Report on 2007 meeting at Mt. Ruapehu, New Zealand

The 2007 workshop was hosted by Victoria University of Wellington at a ski lodge on Mt. Ruapehu, the highest mountain in the North Island (2797 m). The workshop consisted of 20 presentations, a half-day discussion and a field trip. The programme and abstracts are available at Andrew Mackintosh's website:

<http://www.vuw.ac.nz/geo/people/andrew-mackintosh/index.html>

Research on New Zealand glacier mass balance has developed in vigour over the last few years, and many contributions focussed on fresh empirical data collection and modelling. Wendy Lawson discussed a new glacier mass balance project which will involve collaboration with Chilean scientists.

Two presentations stood out: Trevor Chinn discussed the vulnerability of tropical glaciers of Kilimanjaro and Rwenzori in a superbly illustrated and often hilarious mixture of science and travelogue. And Harry Keys from the Department of Conservation delivered an excellent after-dinner talk about hazards on Mt. Ruapehu, which primed us for the field trip.

### Field trip to Crater Lake, source of the 18<sup>th</sup> March 2007 Lahar

A climb to Crater Lake, Mt. Ruapehu is one of New Zealand's best day walks under normal circumstances, but our trip was timed to precede a lahar which drained the lake basin only a few weeks after our visit. Crater Lake is perched at ~2500 m, and is ~1 km in diameter. Small glaciers terminate in the lake, which maintains a year-round temperature of ~30 °C. The mountain last erupted through Crater Lake in 1996,

and a geologically-weak tephra dam was created, raising the spectre of a future lahar. Catastrophic draining of the lake in 1953 caused a devastating flood, resulting in the Tangawai Disaster in which 151 people lost their lives. Although warning systems currently protect against such loss of life, there is still potential for lahars to cause extensive damage to property.

Around 30 participants climbed 600 vertical metres to Dome Shelter where Crater Lake looked very full and threatening, with sulphur deposits floating on the surface. Energetic participants helped out with Victoria University field work by assisting with the installation of a climate station and by re-drilling ablation stakes on a nearby glacier. The day was concluded by glissading down a soft snow slope and drinking wine on the deck of the ski lodge.

On 18<sup>th</sup> March 2007 the Crater Lake tephra dam burst, sending an estimated 1.3 million cubic metres of water and volcanic debris down the Whangaehu River. Good management resulted in no loss of property or life, and an extensive scientific dataset on the flood was collected by several research institutions and universities.



**Climbing up to Crater Lake, Mt. Ruapehu.**



**Crater Lake constitutes a serious lahar hazard to the region surrounding Mt. Ruapehu. Maintaining a year-round temperature of 30 °C, the lake is partly dammed by a weak tephra deposit. Glaciers terminate at the lake margin to the right of the photograph.**



**The SIRG group poses for a photo on Dome (2672 m), Mt. Ruapehu.**



**A view of Crater Lake several weeks after the SIRG visit. Shorelines in the centre of the photograph indicate a drop in lake level of 7 m associated with the 18<sup>th</sup> March lahar.**

**All photos by Andrew Mackintosh**