

## Ski Areas Close Due to Climate Change

by Emilio Trampuz

**Quick quiz:** How many ski areas have already closed due to global warming? It's hard to count them all.

**Chacaltaya**, the world's highest ski area, at 17,785 feet, in the Bolivian Andes has closed in 2009 due to the melting of the glacier. The ski area was built in 1939. Today, all that remains of the glacier is a few small patches of ice and snow near the top of the mountain. Must see video from 2009 at: <http://www.youtube.com/watch?v=BspJfnwGynw>

**The Alps** have been hit too. Due to melting glaciers, many summer skiing locations have closed for summer skiing.

**Abondance** in the French Alps closed altogether in 2007.

**Belle Mountain** ski area in New Jersey closed in 1998 for lack of snow.

**Pal-Arinsal**, the lowest of several ski areas in Andorra is under threat. If the temperatures rise by just 2°C, even snowmaking equipment won't be enough to save the ski area.

So far, the affected ski areas are mostly smaller ones that cannot afford snowmaking equipment.

The usual pattern is that the ski area starts losing a lot of money due to less snow and fewer operating days, until it finally goes out of business.

Among the larger ski areas in the United States, the most at risk are **Aspen, CO**, and **Park City, UT**. According to one study, Aspen might have to triple its snowmaking capabilities over the next few decades, ... and finding sufficient water supplies for that may be difficult.

By 2100, the snowline at both Aspen and Park City will move up 2,400 feet higher, unless the greenhouse gas emissions such as carbon-dioxide are reduced from current levels.

A study by Oregon State University researchers predicts that the **Willamette Pass Ski Area** could go from seeing warm, rainy winters 3 percent of the time now to 67 percent of the time 40 years from now. That would leave the area with little or no snow 22 times more often than today, the study suggests.

**Hoodoo Ski Area** would have warm winters almost 10 times as often as today, or 67 percent of the time, while **Timberline Resort** on Mount Hood would have them six times as often.

Mount Buller, Australia



Chris Daly, director of OSU's Spatial Climate Analysis Service, said the study, which covers Oregon, Washington, Idaho and Montana, found that more than half of the area at risk is in the Western Oregon Cascades.

That's because winters in our part of the Northwest would take only a small amount of warming to tip the scales from snow to rain.

"It turns out that on the west slope of the Cascades, the precipitation that falls as snow (today) is falling right near the freezing mark," Daly said. "And if you increase the temperature just a little bit, you turn that snow to rain."

According to a recent 2012 report from the Natural Resources De-

fense Council, if current levels of greenhouse gas emissions continue, temperatures on the already warming planet might rise by anywhere between 4° and 10° Fahrenheit. Ski seasons will get shorter, snow levels will move higher, and the 38 U.S. states with ski industries will lose \$1 billion in revenue and 27,000 jobs because of decreasing snow.

The ski industry response to climate change has largely been to increase snowmaking and increase water storage. But that is just a temporary fix. Not much is being done to become more energy efficient or to stop the emissions of greenhouse gases.

But the ski industry is taking climate change seriously, and is looking for solutions. For example:

**Jiminy Peak** in northern Massachusetts has invested \$2 million to make the ski area the first in the country with its own wind turbine. Some other resorts are installing solar panels.

**Mammoth Mountain**, California, has embarked on an energy revamp in recent years. Since 2000, the ski area has reduced electricity needs by 9 percent and cut propane use by 70,000 gallons per year, thus using less energy than it did in the past.

Lisa Isaacs, Mammoth's director of environmental programs, says: "All the people I talk to in this industry, they're scared. Global warming trumps everything. If it continues, we won't even be able to make snow. We make our living off the environment, so we have to take care of it."

Proving that she is not alone in having such concerns, during 2012 alone, 80 to 100 resorts sent letters to Congress in support of clean-energy legislation, power plant carbon emissions standards and the wind energy production tax credit.