



THE WITNESS: MONITORING THE LACK OF WINTER.

## The Big Melt Down

Snow hydrologist Mark Williams sheds light on climate change and how it will affect the fate of snow and skiing/snowboarding.

From running a backcountry lodge in the Sierra, to studying snow and glacier melt in the Himalaya, hydrologist Mark Williams knows snow. As a fellow at the Institute of Arctic and Alpine Research in Boulder, Williams has studied the interactions between snow, climate and ecology across the globe.

#### What got you into studying snow?

Skiing. I tried to be a ski bum but I kept getting good jobs and took them seriously. I wasn't very good as a bum. One day, I had some people come by my ski lodge who wanted to do a big research project, so I helped them. That was a light bulb—I didn't realize that was part of science. So I went back to school.

# How is climate change going to affect the ski industry in the West?

If the air temperatures today at your ski resort are close to freezing, you're in bad shape. In Colorado, our resorts are at high elevation, so our temperatures are, to use a technical term, "butt cold." And because they're butt cold we have champagne powder. The Sierras are much warmer so you get Sierra cement. A small increase in air temperature in the Sierras moves you from snow to rain. In Colorado, it moves you from champagne powder to skiing in bikinis, but you're still skiing.

#### How much will temperatures change?

If we know what the air temperature's going to be in thirty years, we can forecast what's going to happen to snow. We have a good idea of how air temperatures will change if we increase greenhouse gases. What we don't know is how much greenhouse gases humans are going to emit. It's not a science question.

#### What does that mean for skiing?

We did a study for Aspen in 2006 with three scenarios: the earth gets its act together and emissions decrease, business as usual and the "bad" scenario, which was about as bad as people could think. With the better case scenario, in 2100 there's skiable snow at high elevation. With the bad scenario—and things are worse than that today—there's no skiable snow. What that means is what we do today, what we do in the next ten years, really has a difference in 2050 or 2070. The question is do we care?

—Casey Flynn

## **SCHOOL OF SHRED**

With more than 23 years of traveling the world and filming with the Warren Miller team, Chris Anthony has a thing or two to say about chasing big dreams. This season, the Colorado native will once again address elementary school students as part of his Youth Initiative Project, a joint venture with Vail Resorts. Anthony's highly visual classroom presentation is built around the theme of pursuing goals, and takes students on a global journey that includes geography, history and science—at no cost to the school. "When I was a kid growing up in Denver, I remember how powerful it was for me when an iconic athlete came and spoke," he says.

chrisanthony.com/youth-initiative

Total number of huts in the 10th Mountain Division Hut System, after the addition of the brand new Opa Taylor hut located in the Aspen area roughly halfway between the Friends Hut and the Goodwin-Green Hut. The 850-square-foot Opa Taylor hut has three bedrooms and sleeps eight. **huts.org** 

### MEETTHE MINI KEG

Breckenridge Brewery's annual hearty holiday beer, Christmas Ale, will come in a new package this year: a 5-liter mini-keg that was made in Germany. "It's relatively new in the U.S., but there's a lot of synergy with craft beer drinkers here," says Todd Thibault, the brewery's director of marketing. Christmas Ale, a hearty beer with rich flavors of caramel and chocolate, will also be available in 12-oz bottles and 1/2-barrel kegs.

breckbrew.com

