Muddy Slopes

With less snow falling and warmer temperatures making artificial snow an expensive alternative, World Cup races are being canceled and ski resorts from the Alps to the Poconos are suffering


By David Epstein

Julia Mancuso has been skiing since she was two, winning an Olympic gold medal last year in Turin when she was 21. Yet on Jan. 6, at the U.S. Women's Ski Team base in Kirchberg, Austria, Mancuso did something on a slope that she had never done -- drive a car up one.

"The hill was green," says Mancuso. "We were training on just a strip of snow." The team could not practice the giant slalom because the 20-foot-wide swath of white was too narrow to place the gates.

Two weeks later, at nearby Kitzbühel, more than 100,000 cubic feet of snow had to be hauled by helicopter, at a cost of $389,000, and dumped on verdant slopes so the world-famous Hahnenkamm downhill could be held.

Skiers are hoping that this season -- with its eight canceled World Cup races -- will be a one-time thing.
with its eight canceled World Cup events through Sunday -- is an anomaly, but it is more likely a taste of Alpine winters to come.

Climate warming is most pronounced at high latitudes and over land. Since the mid-1980s, the temperature in the Alps has risen at about three times the global average. Over the last 500 years, 1994, 2000, 2002 and 2003 were the warmest on record in the Alps.

While there is considerable variability year to year, since 1970 the average amount of winter snow cover in North America has decreased almost 4 percent -- 205,000 square miles, an area larger than the state of Washington. More winter precipitation is falling as rain instead of snow. Ski resorts are making artificial snow earlier in the season, and warm nights make that an even more expensive exercise.

Some Alpine resorts have begun "wrapping" glaciers -- draping football-field-sized foil sheets around them in the summer to keep sunlight out and cold in. Low-lying resorts are pushing their runs higher up mountains, or using more slopes that face north to avoid the sunlight, leaving skiers in the dark.

Data and analysis courtesy of J. VanDorn, K. Hayhoe and E. Maurer, ATMOsresearch.

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