

# Himalayan glacier meltdown not so scary?

Himalayan glaciers and ice caps that supply water to more than a billion people in Asia are losing mass up to 10 times less quickly than once feared, according to a new study. Based on an improved analysis of satellite data from 2003 to 2010, the findings offer a reprieve for a region already feeling the impacts of global warming. But they do not mean that the threat of disruptive change has disappeared, the researchers warned.

“The good news is that the glaciers are not losing mass as fast as we thought,” said Tad Pfeffer, a professor at the University of Colorado’s Institute of Arctic and Alpine Research and a co-author of the study. “The bad news is that they are still losing a lot of water. There is still definitely a serious problem for the Himalayas.” Much of that loss, it turns out, is taking place in the huge plains immediately south of the towering mountain range, where pumping from wells is draining ancient aquifers far faster than precipitation can replenish them.

Earlier estimates mistakenly attributed much of the draining of these water tables to glacier melt-off, Pfeffer said in a phone interview. Other calculations now thought to be off the mark were based on scaled-up extrapolations from lower-elevation glaciers that were more accessible to observation, but also more subject to warming trends.

“Many of the high glaciers would still be too cold to lose mass even in the presence of atmospheric warming,” said co-author John Wahr, a physicist at the University of Colorado. The study, published in *Nature* (10-2-12), provides what may be the most accurate global estimate of how much mass Earth’s frozen regions—glaciers, ice caps and the continent-sized icesheets sitting atop Greenland and Antarctica—have shed over the last decade.

From 2003 through 2010, they collectively lost about 4,200 cubic km, enough to raise sea levels by 12 millimetres over that eight year period, the study found. “For high-mountain Asia, we are reporting loss of only four gigatonnes (Gt), or four cubic kilometres, annually,” said Pfeffer. “Other studies have reported loss as high as 50 Gt per year. There’s a big difference.”