## Goldman: No escaping climate change

## By Kathryn Reed

INCLINE VILLAGE - "Climate change is going to affect the whole
world in a variety of fashions and most are negative."

That was the message Charles Goldman delivered to nearly 100 people on Tuesday night at the Tahoe Environmental Research Center. Goldman is a renowned limnologist who has been studying Lake Tahoe since the 1950s.

Goldman said that climate is changing so fast that the models created to track it are having a hard time keeping up.

He equated the climate change deniers to the tobacco company chiefs who used to say smoking was good for your health — it's just not true.



Glaciers are melting throughout the world, including the Moreno Glacier in Argentina. Photo/LTN file

The reality, he said, is signs of climate change are already prevalent. Flooding in the Midwest this spring made it difficult for farmers to get corn in the ground at the time they were used to. Puffins are dying off because the fish they are feeding to their young are too big to swallow. The smaller fish they used to feed the young are gone. Temperatures are rising throughout the world and records keep being broken.

"You can only make snow if it's cold enough," Goldman said. "That will be more and more difficult."

This, he pointed out, could be a problem for Lake Tahoe.

Beyond the diminishing snowpack in the Sierra, scientists most often point to the melting of glaciers.

The Arctic ice pack reflects heat back into the atmosphere. When they are gone that heat goes back into the ocean.

"If it's extreme enough, the Gulf Stream could lose its oomph. If that happens, Europe freezes over," Goldman said.

The release of methane gases is another concern as the ice melts and the permafrost recedes on the tundra. Goldman said methane gas is 22 times more potent than greenhouse gas.

Goldman said he first realized how air pollution was impacting Lake Tahoe when he saw the billowing lead spewing from buses at the Stateline casinos. He said atmospheric deposition is a greater problem for the lake than stream runoff.

"The world should recognize air pollution is a global problem, not just a local problem," Goldman said. He pointed out how researchers have tracked dust from the Gobi Desert reaching Lake Tahoe.

Fresh water is likely to disappear and be one of the biggest concerns with climate change. The increasing world population — which is now more than 7 billion people — contributes to this. Some forecasts are that there will be 14 billion by midcentury.

The world cannot sustain that many people, Goldman said, because the food supply isn't adequate enough.