

## Observations from the Mendenhall Glacier

February 5, 2009

### Upcoming ... Fireside lectures

Friday, February 6 \* 6:30 & 8pm  
**Glaciers of Alaska**

See glaciers from space! More on this page.

Friday, February 13 \* 6:30 & 8pm  
**Juneau's Winter Whales**

National Oceanic and Atmospheric Administration researcher John Moran studies humpback whales in Juneau. Do they all swim to Hawaii for the winter? Plunge into the information on where they are, what they are doing, and why scientists are studying them. NOAA's website to identify local whales is [www.afsc.noaa.gov/ABL/Humpback/JuneauCatalog.htm](http://www.afsc.noaa.gov/ABL/Humpback/JuneauCatalog.htm)

Friday, February 20 \* 6:30 & 8pm  
**Black Bears for Neighbors**

Alaska Department of Fish and Game biologist Ryan Scott and his associates have radio-collared several Juneau black bears over the past five years. Dig into the behavior and habits of our urban black bear neighbors with data collected from the radio collars. See how this information will be used in the future management of Juneau's black bears.

Friday, February 27 \* 6:30pm & 8pm  
**Giant Pacific Octopus:  
The Elusive Cephalopod**

Sherry Tamone and her colleagues at the University of Alaska have marked and recaptured giant Pacific octopus in Kachemak Bay. Sherry will share details about the population of these marine super cephalopods and their migrations in the Gulf of Alaska.

More at [www.mendenhallglacier.org](http://www.mendenhallglacier.org)

Fireside lectures are free and occur on Friday nights in January, February and March. Visitor center doors open at 5:45pm with the first lecture at 6:30pm and repeat at 8pm.

# “Baked Alaska” Our Shrinking Ice

On Friday, February 6, U.S. Geological Survey geologist Bruce Molnia, Ph.D., will present a Fireside program titled “Baked Alaska.” The presentation will compare before-and-after images of several Alaska glaciers. He will also show comparison photos of the polar ice cap.

Dr. Molnia has been tracking Alaska's glaciers for more than 35 years. He has worked with Maynard Miller who in 1946 began research that became the famous Juneau Icefield Research Program (JIRP). Bruce travels to Juneau every summer and continues to serve as faculty and researcher with the JIRP group.

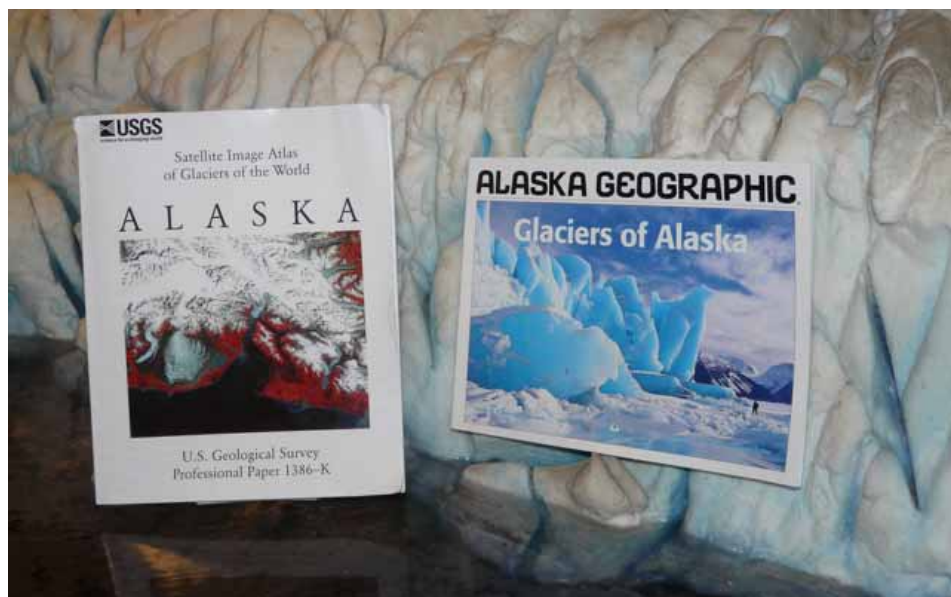
Dr. Molnia lives in Virginia and works in Washington, D.C. as a geologist for the U.S. Geological Survey. He has authored numerous scientific articles including two

recent publications on Alaska's glaciers. (See photo below)

He has done extensive research in Glacier Bay and other areas of the state. One of his projects has been the retaking of old glacier photographs from the same camera locations to reveal the vast changes over years.

USGS in 2008 published a 525-page volume on Alaska's glaciers. Contained within are color and black-and-white photos from ground level plus numerous satellite views. The book includes a thoroughly researched text explaining the changes to icesheets and glaciers.

To view the online version of the latest publication, see the website [www.usgs.gov/global\\_change/glaciers/default.asp](http://www.usgs.gov/global_change/glaciers/default.asp)



Two recent publications by Fireside speaker Dr. Bruce Molnia, scheduled for Friday, February 6. His topic is the glaciers of Alaska.



*Sunday's warm temperature melts frozen lake ice into a circular pool surrounding an iceberg without melting all of the eight inches of snow that fell the previous night.*

## Naturalist's Notebook

I tackle the driveway snow in a grumpy mood. Portions are two feet thick. I want to be skiing in the fresh snow but the roadside berm of wet dirty snow is too thick to drive through. My 26-inch wide snow blower clears the length of forested driveway but cannot budge the state's snowplowed berm. It requires the basics: shovel and labor.

There has been so much snow this winter that my narrowed driveway reminds me of the Gaza tunnels we hear about on the news. Piles on each side are four to five feet high. Despite turning into the same driveway for 26 years, I can barely find the entrance from the highway.

I heft and carry shovelfuls of heavy dense snow. One lump is the size of a small pig. Or a four-month-old bear cub. The tiny cubs we see near the glacier are usually that age the first time we see them. As I shovel, my mind wanders to Mendenhall's black bears. Right about now pregnant females are giving birth in snug dens. Bear cubs are born blind and nearly hairless, weighing less than a pound. Yet they are capable of crawling around on their mother's warm fur and finding nipples to suckle while the sow sleeps.

I think about my favorite bear. She's the mother bear that has become so well known in recent years as she foraged along Steep Creek with her cubs. I wonder if she has given birth to two cubs again this year. Will they have brown colored fur like her pair of cubs born in 2005, or will one cub be black and the other one be brown as she had in 2007? Her exceptional tolerance of humans permitted us to watch her family in summer during some of their most intimate moments. I have stood on the elevated platforms with a crowd of 120 awed people as we watched the mother bear nurse her contented cubs in the grassy brush below. The visitors were so quiet we could hear the cubs slurp.

Most bears in our area den at about 1500 feet elevation. That is high enough to avoid the freeze-thaw cycle that could

flood a den with meltwater. Dens are often made in hollow trees, root wads, or in cave-like niches under large rocks. Bears are not true hibernators. Their body temperature drops only a few degrees and their heart rate slows. They do not eat, drink, urinate or defecate during their five to six months of winter sleep. Bears may get up and exit the dens occasionally and are capable of being roused, but mostly they just snuggle down in the soft material they raked into their dens in October or November.

Bears will remain sequestered in their dens until April. Then they emerge, lethargic for awhile, before slowly regaining the use of their muscles and their appetites. By May, when the first cruiseship visitors arrive, we'll be seeing bears daily in the tops of cottonwood trees as they eat the tender emerging leaves.

My mind returns to my snow shoveling chore suddenly at the sound of a loud sharp crack. It sounds like a gunshot. Across the road in the spruce and hemlock forest a tree has broken and split under the weight of snow. It shatters and cracks again. I cannot see the tree but recognize the sound. I've heard it twice this winter, deep in the woods behind my house.

My thoughts of bears distracted me enough that I have shoveled down to last week's ice layer. I'll ski later. Now at least I can drive to work.

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Superbowl Sunday is usually a quiet day at the Mendenhall Glacier Visitor Center. That gives us the opportunity to spend more time with everyone who comes through our doors. The addition of stormy and windy weather further reduced our expectations of seeing many people.

Thus, when the woman's voice responded in an English accent her voice prompted my inquiry as to her country of origin.

"The U.K.," she said pleasantly. Invited to see the 11-minute movie about the glacier and icefield, the woman demurred, saying she was waiting for her husband who was taking a walk in the snow. The woman wandered through the exhibits, occasionally glancing out the observatory windows to track her husband's progress.

An hour later he had joined his wife and we had all become friends as the couple revealed to Jane and I the details of their visit to Alaska in January.

Prior to working year round at the visitor center I was unaware that so many people come here during the cold, dark months. Most of our winter visitors are in Juneau for work. During Christmas holidays, a surprising number of people from Outside come to see what life is like on our shortest days.

This middle-age couple live in Wales. They had flown to Anchorage via Amsterdam a few days earlier. They had spent time in Fairbanks, with the highlight of their stay in the Interior being a day's flight on the mailplane to three remote Arctic villages. We pulled out an Alaska map and the man traced their route with his finger.

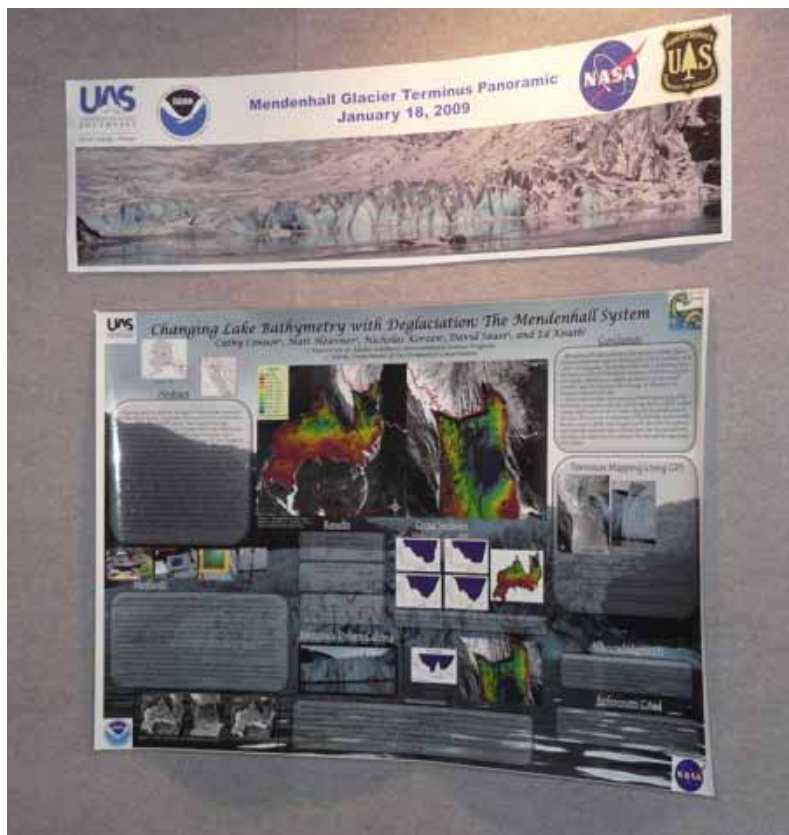
I asked what enticed them to fly all the way from Great Britain.

"We came because of Sarah Palin," the gentleman replied. "She's done a lot for Alaska to draw attention here," he said.

The couple purchased some items in the Alaska Geographic bookstore to take home for their grandchildren and a map for themselves to remember where they had been in Alaska.

The photo at right shows a free standing panel erected in the visitor center lobby to display scientific posters and other information created by our Fireside speakers.

For their January 30 Fireside presentation, University of Alaska Southeast faculty brought a large panoramic photo of the glacier's terminus taken on January 18. Below the photo is a poster presenting the latest research on Mendenhall Glacier and lake.



# Mendenhall is melting fast

## Glacier at a glance

### 2000-2008

Glacier area lost to the lake (calved off as icebergs or melted) 0.15 square miles

Greatest observed retreat distance over 8 year time span: 2,142 feet

### Summer 2007:

Greatest observed retreat distance: 734 feet  
Retreat of 400 feet along the lake front/glacier terminus, with 140 feet land-based loss

### Summer 2008:

Greatest observed retreat distance: 572 feet  
The glacier's southeastern terminus margin detached completely from the bedrock valley walls.

Source: University of Alaska Southeast faculty and researchers

How much ice did the glacier lose in 2008? It's a common question year round.

According to University of Alaska researchers Drs. Matt Heavner, Eran Hood and Cathy Connor, the maximum loss in 2008 was 572 feet.

UAS faculty presented the latest information at the Friday, January 30 Fireside lecture.

How fast does the glacier move?

The answer depends on where on the glacier the flow is measured. The ice is always flowing downslope.

Behind the Mendenhall Towers, the movement is about 40 feet per year.

Just down from the confluence of the South Branch and the North Branch -- near the middle of the glacier's 12-13 mile length -- the Mendenhall speeds forward at about 400 feet per year.

As it levels out near the terminus, the glacier moves about 160 feet per year.

Recent years' calving has been the result of buoyancy at the terminus. The glacier has been floating. Lake bottom studies show two channels of water flowing under the glacier and a central rocky pinnacle.

In addition to their own research, revealed with an amazing number of sunny day photos taken on the glacier, the UAS speakers presented video footage of dramatic glacier calvings in Greenland.

The Greenland calving footage is part of a two-year project conceived by photographer James Balog. In conjunction with Nikon and National Geographic, Balog's team placed 30 time-lapse cameras around the northern polar region to record glacial movement. Cameras are in Greenland, Iceland, the Alps, U.S. Rockies, one in South America, one at Alaska's Columbia Glacier, and three at Mendenhall Glacier.

The ice survey is now a documentary that will be aired next month.

"Extreme Ice," Balog's two-year project, will be presented in a two-hour television special planned for March 24 on most PBS stations on the program NOVA. AlaskaOne, the state's public television station, will offer the program on the same date, which coincides with the 20th anniversary of the Exxon Valdez oil spill.

The visitor center recently received a DVD copy from the Extreme Ice Survey with time-lapse views of Mendenhall Glacier from both the east and west cameras. If you come into the visitor center and would like to view this on the large screen, please ask.

Here are two links for more information.

[www.seamonsterak.com](http://www.seamonsterak.com) to view glacier and icefield UAS research

[www.extremeicesurvey.org](http://www.extremeicesurvey.org) for time-lapse video and other information about the Extreme Ice Survey project.