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Digital Photographs and Video Clips Available Upon Request

***Historic Photography and Modern Computers Reveal Dramatic Change in the Glaciers of Kenai Fjords National Park***

***'Glacial Change' Fails to Describe Rapid Rate of Glacial Melting***

Seward, Alaska – September 7, 2006

It's no secret that the majority of glaciers in Southcentral Alaska are getting smaller, including those in Kenai Fjords National Park. Kenai Fjords National Park, located on the eastern edge of Alaska's Kenai Peninsula, is home to the largest concentration of tidewater glaciers in the U.S. National Park System .

However, changes in these glaciers have never been more obvious nor easy to comprehend, thanks to a cooperative project between the National Park Service and the US Geological Survey (USGS). The project research relies on work done by three scientists separated by nearly a century of time -- and on modern technology that allows for precise adjustment of digital photographs.

In 1909, USGS geologists U.S. Grant and D.F. Higgins were tasked with documenting the mineral resources of Prince William Sound and the outer Kenai Peninsula. Rather than focusing exclusively on commercial mining resources, they also chose to document the glaciers of what is now Kenai Fjords National Park with a collection of photographs and sketch maps. These lay largely unknown for decades in USGS archives in Denver, Colorado. With the recent interest in global warming and the realization that glaciers are some of the earliest indicators of such change, the 1909 photographs came to the attention of USGS Research Geologist Dr. Bruce Molnia.

Dr. Molnia specializes in repeat glacier photography, that is, digging up old photographs of glaciers, returning to the locations where the photographs were taken, and taking them again. Comparing old and the new photographs side by side reveals large-scale changes in the landscape.

“What we are seeing are significant changes in glacier growth and glacier stability, says Molnia, “which suggests that we have both warming and changes in precipitation in this part of Alaska.”

“What this does...it helps us to document scientifically that climate is changing. It doesn't tell us *why* climate is changing, but it tells us that climate *is* changing,” he adds.

Old and new photos are adjusted with image processing software to align them precisely, compensating for things like different focal lengths or lens distortions and varying exposures. Then, using video software, the images are slowly dissolved from old to new and back again. The result is a video image of the glacier in which nearly a century of change is compressed into a matter of seconds--a virtual hundred-year time lapse.

Dr. Molnia describes the magnitude of change as nothing less than “mind-boggling.”

“To understand that part of a natural system as complex as the earth system can change that rapidly is just phenomenal,” says Molnia.

Video dissolves of the glaciers in Kenai Fjords can be viewed via the web at:  
<http://www.oceanalaska.org/research/rptglacier-video.htm>

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