

Trail of Time

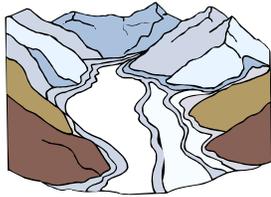
Self-guided trail brochure

Location: Trail can be accessed at the top of the stairs behind the visitor center or across the road from the second parking lot.

Trail Profile: Gently sloping trail

Length: 0.5 miles; **Elevation Gain:** 50 feet

Time: 30 minutes to 1 hour; **Difficulty:** Easy



Introduction

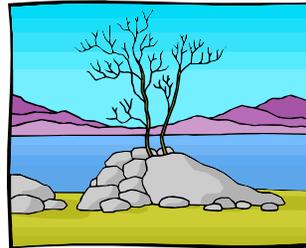
The Little Ice Age, a period of global cooling, began 3,000 years ago and ended in the mid-1700s. It left behind the Juneau Icefield and its adjoining glaciers - including the Mendenhall - as reminders of a colder time. As the ice slowly relinquishes its hold on the land, it leaves behind barren land in its wake. This land is slowly coming back to life, as plants and animals move in to fill the void left behind by the ice.

As you journey down this trail through time, keep your eyes open for changes the land is going through as it recovers from its recent glaciation. Step by step, vegetation covers barren areas, and plants systematically replace each other to build a climax forest, which will dominate the landscape until the next ice age starts the process again.

#1 – Glacial Trimline

Just over 70 years ago, the Mendenhall Glacier rested where you stand. As you look at the glacier, notice the vegetation on the hillside to each side of the lake. As the glacier advanced, it stripped the valley walls of all vegetation much as a giant bulldozer might prepare a yard for landscaping. This trimline, where light and dark green vegetation meet, indicates the highest point reached by glacial ice. The new growth, indicated by the lighter green vegetation, colonized the exposed rock surface as the glacier receded.

Also visible from here is Nugget Falls. This large waterfall is the outlet point for Nugget Creek, which channels snowmelt, rainwater, and glacial melt out of the Nugget Creek watershed and Nugget Glacier.



#2 – Exposed Rock

As the glacier advanced over this area, it rounded and polished any jagged edges of bedrock over which it flowed. After the ice melted away, windborne spores of mosses and lichens – the pioneering plants of succession – spread rapidly into the area. They first took hold in cracks and fissures,

modifying their environment until colonizing plants, such as fireweed, willow, alder, and lupine, were able to get a foothold.



#3 – Plant Succession

In 1936, the toe of the glacier rested in this area. Can you even see it from here anymore? Willow, alder, and young Sitka spruce now populate this area. As succession continues and the forest matures, cottonwood, Devil's club, blueberries and eventually western hemlock will take up residence.

#4 – Kettle Pond

As the glacier receded, pieces of ice broke off the front and were partially buried in rock till washed out of the glacier. Because these pieces of ice were buried and insulated, they melted slower and left behind steep-sided depressions like the one in front of you. This is a common feature of post-glacial landscapes, and many kettle ponds provide important habitat for beavers, birds, and young salmon.

#5 – Post-Glacial Features

Take a look at the moss-covered boulders around you. These rocks are geologically out of place, or erratic, differing in their

geologic content from the local bedrock. What you are standing on is called a lateral moraine, which is rock debris that has been deposited by an advancing glacier along its sides. A glacier acts like a conveyor belt, transporting and littering debris of all sizes at its terminus. Some of the rocks around you have been carried more than eight miles from the Mendenhall Towers, the jagged peaks behind the glacier.

#6 – Ice Limit 1920

As you move further away from the glacier, the vegetation changes noticeably. Sitka spruce becomes the dominant tree type, and will continue to dominate the forest here for up to 300 years after the beginning of succession. Slower growing western hemlock grows well in these shady, dense woods, and will eventually overtop the spruce. At this point, the forest will be considered “old growth”.

#7 – CCC shelter

The Civilian Conservation Corps provided jobs during the economically destitute times of the 1930s. The CCC completed many public works during this time, including this shelter. Used by early visitors, this shelter is located next to the old footpath to the glacier, which includes part of the path you are hiking today. At that time, it was just a three minute walk to the toe of the glacier from here!



8 – Steep Creek

Steep Creek drops more than 2000 feet from the top of Thunder Mountain to the valley floor, where it flows placidly along for a short distance before entering Mendenhall Lake. The creek is fed by rainwater and snowmelt, and rises dramatically during periods of heavy rain. Once back in the parking lot, face away from the glacier and look up the ridge to your left, and you may be able to see the upper creek where it cascades off of Thunder Mountain.



9 – Spawning Salmon

Every year spawning sockeye and coho salmon find their way from the ocean into Steep Creek (their natal stream) via Mendenhall River and Mendenhall Lake. Sockeye, or red, salmon spawn in July and August. Coho, or silver, salmon spawn in September and October. Spawning activities attract black bears, eagles, American dippers, Harlequin ducks, and Dolly Varden (a trout-like fish). Bear sign includes partially eaten salmon, piles of scat, and

tracks. As the salmon exhaust their reserves, they die, and their decomposing bodies provide nutrients for stream algae and insects that in turn will become a food source for the young salmon as they emerge from the gravel in the spring.

#10 - Wildlife

Wildlife accompanies the changing plant communities. Many neo-tropical migrating songbirds nest in the deglaciated areas near the glacier. Willow and alder thickets teem with them in the spring. Beavers thrive in the kettle ponds and devour willow and cottonwood. As the vegetation continues to change and mature, Sitka black-tailed deer, coyotes, wolverine, black bear, brown bear, snowshoe hare, and wolves may all move into the evolving forest.

As you continue to travel through Juneau and the Tongass National Forest, you will see continuing evidence of glaciation's effects on Southeast Alaska. Enjoy your visit!

***Please return this brochure to a Forest Service employee for re-use if you do not plan on keeping it as a souvenir. Thanks!**



USDA Forest Service
Mendenhall Glacier Visitor Center
8465 Old Dairy Road
Juneau, AK 99801
Phone: (907) 789-0097
Fax: (907) 789-6643

www.fs.fed.us/r10/tongass/districts/mendenhall