



5-Glacier Flightseeing Narration

Welcome aboard Wings Airways' flightseeing tour. Before we get going, we'd like to acquaint you with some of the safety features of this deHavilland Otter aircraft you're on today. There are four exits on this plane; two doors are the ones you entered the plane through. They are located in the aft part of this main cabin. These doors operate by moving the door handles up. There are also two doors in the cockpit. They operate by twisting the handle either direction. All exit doors open outward. Seatbelts should be worn low and snug while you're seated in the aircraft. Please do not move about the cabin while taxiing or while we are flying. Life jackets are located in the pouch in front of you or on the co-pilot door. Please do not remove them from the holder unless you are told to do so by your pilot. There are two fire extinguishers. One is located under the pilot seat and one is in the baggage compartment at the rear of the plane. Survival gear and first aid kit are also located in the aft baggage compartment. For your comfort and safety, there is no smoking anytime while in or around the airplane. Please refer to the safety information cards located in the cabin and seat backs for additional information.

Although taking off on water may seem a bit unusual, a floatplane is perfect for Alaska. Where ever you travel up here, you'll see small planes being used like cars in other states. And once airborne, the perspective provides a great way to see the sites. We're proud to show off some of the best around Juneau today.

We'll be getting to the glaciers of the Juneau ice field shortly, but there's a lot to see along the way.

Over on the right is Douglas Island. Like Juneau on the left, the discovery of gold in the nearby creeks caused each town to be built in the late 1800s prior to the great Klondike Gold Rush. In 1880, with help from local natives, prospectors Joe Juneau and Richard Harris discovered gold in Silver Bow Basin and put Juneau on the map. This brought waves of prospectors to the region, including John Treadwell who made mining claims on Douglas. In its heyday, the Treadwell Mine employed over 2,000 people and was the largest hard rock mine in the world.

If you'd been able to fly by in the late 1900's, you'd have seen all sorts of activity: railroads, offices, stores, the stamp mills, homes, piers and wharves over the water. Stamp mills crushed ore 24 hours a day every day, except Christmas and the 4th of July. After being crushed the leftover fine rock was deposited on what we now call Sandy Beach, a favorite recreational area for locals.

The great gold mining efforts on Douglas came to a disastrous conclusion in 1917 when a cave-in flooded mining tunnels under the water. No one was killed, but one man was never accounted for. Some think he died, others think he used the confusion of the cave-in to simply leave town.

Today roughly 10% of Juneau's residents live on Douglas Island and proudly tell friends and family from the lower 48 that they "live on a little island in the Pacific".

Although Juneau is located on the mainland and is connected to Canada and the rest of the U.S., there are no roads leading to our state capital city. As we get higher it's easy to see why: water on one side and mountains and glaciers on the other. Every one of us goes to, and leaves from, Juneau only by boat...or by plane.

The water beneath us is Gastineau Channel. It separates Douglas Island on the right from the mainland on the left. All water access to downtown Juneau comes up the Gastineau Channel and will leave the same way... because the channel goes dry at the other end at low tide. The famous English explorer George Vancouver sailed throughout Southeast Alaska in the late 1700's looking for the Northwest Passage. When he came to Gastineau Channel, it wasn't even possible to sail up because the channel was blocked by ice that had calved off from the glaciers of the nearby Juneau Icefield.

Vancouver named most of the main waterways in Southeast and many of the land areas. Most were named for fellow officers in the Royal navy and prominent British political figures. Douglas Island on the right was named for John Douglas, Bishop of Salisbury. We'll be flying by "Salisbury Point" in a little while. Up ahead is Stephens Passage. Vancouver named it for the secretary to the British Admiralty.

Well here's a bit more about the land you're seeing from the airplane. Off to the right, beyond Douglas Island across Stephens Passage is Admiralty Island. It was also named by Captain Vancouver. Today, this 100-mile-long island has been designated by Congress as "Admiralty Island National Monument Wilderness" making it a federally protected wilderness area administered by the US Forest Service. Admiralty Island is home to the highest density of brown bears in North America. An estimated 1,600 brown bears inhabit the island, outnumbering Admiralty's human residents three to one. And there are even more bald eagles.

We are in the heart of the Tongass National Forest, named after the Tongass Clan of Tlingit Natives. The vibrant Tongass surrounds us in every direction and is the largest national forest in the United States at almost 17 million acres, and a part of the world's largest temperate rainforest.

In the waters of the Tongass surrounding the 1,000 islands in southeast Alaska there's more wildlife and marine life. Like humpback whales, sea lions, seals, porpoise, killer whales and then there's fish. The most prized of which are salmon and halibut. The record king salmon weighed 97 pounds. The record halibut, 482 pounds.

Stephens Passage is the water between us and Admiralty Island. If we continued flying down Stephens Passage, the fishing community of Petersburg would be the next town. It's 100 miles away. In the same direction, Ketchikan is about 230 miles. And if you kept going... you'd reach Seattle, after 900 miles. If instead we turned to the west, we'd eventually reach Anchorage, Alaska's largest city, but only after flying 600 miles.

We're actually closer to British Columbia, Canada as it's only 30 miles away up the Taku Inlet. Incidentally, Taku Inlet was not named by Captain Vancouver but by the local Taku Tlingit Natives. "Taku" is often translated as "geese flood upriver," referring to the abundant Canada geese that breed in its many sloughs and ponds.

At one-time glaciers covered most of Southeast Alaska, only the tallest peaks stood above the ice. Today you can see them as the sharp, jagged mountain tops. The mountains with rounded tops were all smoothed off by the excavating power of the moving ice.

As the ice retreated, vegetation returned to the bare rock. The first plants back were small lichens and mosses, and then came fireweed and other plants and eventually trees found enough soil to grow. But regardless of glaciation, trees only grow up to a certain elevation, that's called the tree line. Generally, the further south the higher the tree line. In Juneau, at 58 degrees north latitude, tree line is at about 2,500 feet. Below that level Sitka spruce and hemlock dominate most of Southeast Alaska shoreline rain forests. Above 2,500 feet, trees are replaced by heaths, grasses and other low plants... as well as a few glaciers.

The Taku River is up ahead. It flows from the interior of British Columbia to the salt-water ocean here in Alaska. And it's thought to be the route used by earliest residents who came to Southeast between 6,000 to 10,000 years ago. Those first residents probably followed the salmon down the river and once here they established different communities in the area.

The Tlingit people lived in Southeast Alaska long before explorers arrived. When the Russians, Spanish, English, and Americans sailed to Southeast they found people who had already developed sophisticated cultures. It's thought that life for the original natives was relatively easy here in Southeast Alaska and that's one reason their culture thrived with an abundance of food from the sea and land. Salmon and halibut were in the water and there were deer, bear, birds and berries on shore. Easy access to food and mild winter temperatures meant that the first residents every moment did not have to be spent simply trying to survive. And that allowed extra time to develop high skills in art and other cultural pursuits. Those skills are still practiced by some of the Tlingit and Haida Natives who live in Southeast Alaska today.

These first glaciers are the Norris and the Taku. They're some of the 38 different glaciers that flow out of the Juneau Ice field. The Norris Glacier is about 15 miles long and the mighty Taku Glacier is twice that size at just over 30 miles long.

All of these glaciers are formed high in the ice field. Where 100 feet or more of snow falls each winter. When a couple of hundred feet is accumulated the combined weight is enough to cause the tiny snow crystal to fuse into glacial ice. After years of this process being repeated the accumulation becomes big enough that the ice starts to overflow the basin where it was formed and begins moving downhill. The bottom of the glacier, where it moves along and touches the ground, is plastic-like because of the great weight above it.

Some glaciers move several feet a day, other move much less. Eventually, the ice from the source of the glacier moves down the valley and reaches the face of the glacier. When the calving and melting at the face is greater than the glaciers advance, the net result is a retreating glacier. And that's what is happening to most of the glaciers at present on the Juneau ice field. In fact, a recent United States Geological Survey stated that Alaska's glaciers are losing 75 billion tons of ice annually, equal to the amount of water needed to fill Yankee Stadium 150,000 times each year.

The Taku Glacier ahead is recognized as the thickest alpine temperate glacier known in the world, measured at almost 5,000 feet thick. It is about 30 miles long and its face is about five miles across.

It's one of the few glaciers on the whole ice field that was recently advancing, but that trend has slowed and may have stopped all together. Scientists are closely researching and monitoring the glaciers progress. Over the centuries with changing climatic and other conditions, glaciers have advanced and retreated. As recently as 400 years ago the Taku Glacier flowed across the river creating a huge ice dam and a large lake behind.

The Juneau icefield is the fifth largest ice field in North America. This ice field is 1,500 square miles and that's bigger than the state of Rhode Island. That would make the icefield three times the size of Hong Kong, and five times the size of New York City. Here's another comparison, in all of Alaska there is nearly 30,000 square miles of glaciers. That's about the size of South Carolina or the country of Austria. And if that seems like a lot of ice there's plenty of space to put it in Alaska. Glaciers cover less than five percent of this state's surface.

Today's remaining ice fields give a good impression of what much of the earth was like during the great ice ages long ago. Sheets of ice moving over the land. A few sharp peaks still visible above the ice thousands of feet deep.

During the last Great Ice age, about three million years ago, one third of the earth's surface was covered with ice. Here in Southeast, Alaska a sheet of ice one mile thick covered everything under 5,000' in elevation and the ice extended far beyond the present shorelines.

Then, about 20,000 years ago, the world's weather warmed, the ice retreated and melted, and the water level rose. Valleys that had been covered with ice were now flooded by the sea.

Today's glaciers are remnants of a more recent glacial advance called the Little Ice Age, that occurred about 3,000 years ago. The glaciers in Southeast advanced again but only down to the valley mouths not all the way out to the open coasts and they did not cover all the mountain tops. Then about 300 years ago, around the time of the American Revolution, these glaciers started retreating and they have been retreating ever since

Usually it's possible to see some sections of very bright blue ice in the glacier. It's that color because of the way ice crystals grow. These dense ice crystals absorb all colors of the spectrum except blue, which is the one color we see. As the exposed ice begins to melt cracks develop and air enters. Then instead of just blue, all the colors are seen as white. Without the scattering effect of air bubbles, light can penetrate ice more deeply. To the human eye, ancient glacial ice acts like a filter, absorbing red and yellow light and reflecting blue light, creating the beautiful blue hues of a glacier.

The Hole-In-The-Wall Glacier is considered a "branch" of the massive Taku Glacier. At its widest the glacier is 2 miles. You will notice the deep cracks, known as crevasses, created by the flow of the glacier over the steep rock formations. These crevasses could reach down to 200 feet deep. The exposure of fresh glacier ice gives us a view of the characteristic vibrant blue hues.

Although difficult to see from the air, the famous Taku Glacier Lodge, located just across the river, enjoys the view of the Hole-In-The-Wall Glacier from their front yard. The remote lodge was built in 1923 and now plays host to Juneau locals, and visitors from around the world for a day tour experience that can be combined with our glacier flightseeing tour. The Taku Lodge is listed on the National Register of Historic Places because of a courageous woman and her historic winter adventure. Imagine the river below a frozen roadway, Mary Joyce set off with her dog sled team on December 22nd, 1935 headed to Fairbanks, AK more than 1,000 miles away. This brave pioneer woman raised her own team of sled dogs and responded to an invitation to showcase her dogs at the Fairbanks Ice Carnival held in March of the following year. Her successful 90-day trip put the Taku Glacier Lodge on the map of Alaska and confirmed Mary Joyce a seat in the Alaska Women's Hall of Fame. On your next visit join us for a 3-hour tour experience that includes time at our Taku Glacier Lodge for a salmon feast, the possibility to see black bears and a chance to enjoy the Taku River region firsthand.

One of the most frequently asked questions we receive is "why are the glaciers so dirty?" What you see as dark stripes along the edges and down the middle of the glaciers are moraines; the glacier's refuse pile. As these rivers of moving ice flow downhill they scour valley walls and grind everything in their way, the accumulate debris consists of particles ranging in size from large boulders to minute glacier flour. When two merge the side moraines meet in the middle, giving a visual reminder of the massive power these glaciers have over the landscape.

As long ago as the late 1800's, spectacular tidewater glaciers attracted some of the first visitors to Southeast, traveling aboard elaborate steamships. After John Muir wrote about his travels to the land of the glaciers, others wanted to see it and a visitor industry developed.

Ships also carried early gold seekers to Southeast. Those hearty souls seeking riches of the Klondike gold rush boarded just about anything that floated in Seattle for the trip to Skagway just before the turn of the century.

Two of this area's most spectacular glaciers are called East and West Twin Glaciers. They flow and tumble between 4,600-foot Twin Glacier Peak into the lake. The icebergs in the lake can range in size from a small car to a large house.

Incidentally, there's a hot spring under one part of the lake. It's a favorite waterskiing spot for those with summer cabins along the Taku River. There are a couple of dozen cabins along the river. For most, it's a summer get away spot, but a few do live up the Taku year-round.

Summer travelers on the Taku River use jet boats that draw only a few inches of water and don't have a shaft and propeller sticking down below the boat. The reason they need shallow draft is because of the large sand bar at the mouth of the river. An additional problem is the silty water. It's filled with so much silt from glaciers that it's not possible to see through the water. Thus, finding the shifting channels is always tough. So, boaters try to go up river on a rising tide in boats that draw very little water. Everyone that does go up the Taku in a boat eventually does hit a sand bar and get stuck. Then it's an embarrassing wait for the tide to rise and lift the boat off so they can continue their trip.

The landscape changes during the winter months as the mountains are covered with snow and the Taku River freeze up to 3 feet deep. Those traveling along the river trade in floatplanes for ski planes, and boats for snow machines.

It's about 20 miles from the river's mouth to the Canadian border. Of course, in this wilderness country there's no customs station so boaters can easily cross the border, although they are supposed to fill out forms. Boats can go another 70 miles upriver before getting to rapids that stop further progress.

During the Klondike gold rush, the Taku River was one of the routes used to get to the gold fields, although this route was never as popular as the Chilkoot Pass, located just outside of Skagway.

The low lands along the Taku River are popular habitat for moose. These majestic animals weigh up to 1,600 pounds. They're more common in the northern parts of Alaska, around Anchorage and Fairbanks. But the Taku River is one of the places moose are found in Southeast.

The Taku River has a lot more bear than moose. We've got two kinds of bear here in Southeast. The brown, or Grizzly, and black bears. Brown bears can grow to 900 pounds and the black bears are smaller averaging between 200-500 pounds. They commonly roam along salmon spawning streams. During the salmon runs, bears gorge themselves on easy meals and put on the fat necessary to carry them through winter hibernation.

Although anyone going into the woods in Southeast needs to be aware of bears and take precautions, bad encounters are very rare.

Of course, these forests are also filled with many other animals. There are lots deer in Southeast. They're called Sitka black-tail and they grow to about 150 pounds. They were an important source of food for early residents and they still are today. Wolves travel in packs along the river and the beavers build dams in the streams all along the valley.

Here you'll have another view of the Hole-in-the-Wall Glacier. Next, we will be seeing the Taku and Norris Glaciers. These glaciers mark the southern end of the Juneau ice field. If you got on the glacier here and started skiing north, you could go 80 miles without ever getting off snow and ice and by then you'd be in Skagway.

Although the glaciers are frozen year-round, that does not mean they're devoid of life. Skiers and mountain climbers sometimes report animal tracks across glaciers. There are also birds and insects.

And there's also another life on the ice field. Humans. Each summer since the mid 1940's, scientists and students continue research projects begun back then. A series of huts that have been built on rocky outcroppings serve as home during the nearly 2-month summer research season.

You'll notice flats along the river. They're made by the glacial silt carried in the Taku. Near the mouth of the river the sand bars are exposed at low tide and covered at high tide. The highest tides in the Juneau area during the summer are about 20 feet. Six hours later the low tide may be a minus 4 feet. Because of the big tidal changes, boaters who pull up on shore and campers who put up their tents, must be watchful of the high tide line. More than one careless camper has found their boat floating away or the tide rising right into the front of their tent.

These Alaska waters are cool enough that not very many people go swimming in them. In the summer, the surface water temperature is about 56 degrees. For those who just can't pass up a swim on a hot day, the warmest place to go is on a rocky beach during a rising tide. The sun heats the rocks and then as the tide comes in, the warm rocks heat the water a little bit. It's still cool but more bearable under those conditions.

Each summer there's a big run of salmon up the Taku River. When that happens, commercial gillnetters fish this area during the openings. They do that by letting long nets out from the back of their boats. The nets are held up by floats. After a while, fishermen haul in the nets hopefully filled with salmon. The Alaska Department of Fish and Game regulates fishing and sets limits to allow enough salmon to escape up the rivers, so the salmon can spawn and continue their life cycle.

In addition to the commercial fishing boats, this is also a popular sport fishing area... especially on weekends. Depending on the time of year, they may be after any of the five species of salmon; King, Coho, Sockeye, Chum, or Pinks as well as trout and steelhead.

Another kind of recreational opportunity is the system of Forest Service rental cabins. Many are located on mountain lakes and offer access to hunting, fishing and Alaska solitude. Some are close to salt water. There are two just off Taku Inlet that are popular destinations for Juneau residents. The easiest way to get to one of these Forest Service cabins is by a charter floatplane... just like this one.

There are several hiking trails around Juneau, in fact over 250 miles of trails. But it's hard to go cross-country in most parts of Southeast that don't have established trails. That's because of the dense underbrush... primarily alder and devils club. It only takes one trip fighting through the thick tangle of branches to convince someone to stick to the trails, hike the shoreline, or give up plans to reach the ridge tops.

One thing you'll notice the absences of is buildings. There is, however, one group of structures right along the shoreline of Taku Inlet. They were built in 1916 to provide power to the Alaska Gatineau mill in Juneau. The Annex Power Project tapped water from Annex Lake, 800 feet above the buildings, to provide the power which was then carried on power lines across the mountain ridges to the mine. Annex Creek is still producing power for Juneau.

In this area, there are strips cut through the trees. Those are for power lines from a hydroelectric project. The power lines used to be located on the top of the ridges a few times each winter a big difference in air pressure develops between the Canadian interior and the Southeast Alaska coast. When that difference in pressure happens, winds howl down Taku Inlet and over these ridges. The power lines and towers were designed to withstand 150 mile an-hour winds before they were blown down. The power lines have since been moved down into the protection of the trees and located in the cut area. Of course, winds that strong are the rare exception and because of that make interesting stories.

We'll be landing back in Juneau shortly and a flight like this shows some of the reasons many of us choose to live here. The wilderness is literally right out our back yard and our front yards are washed by the waters of the Inside Passage. It's a great place to both work and play.

And in Juneau, much of the work is for government. That's not surprising with the state capital located here. There are also several federal agencies in Juneau and it's the headquarters for the 17th Coast Guard district. Juneau's population is about 33,000 that makes it the third largest town in Alaska behind Anchorage and Fairbanks.

Downtown Juneau is home to the State Capitol Building and our Governor who lives in our capitol city. The governor lives in a house, near the capital, that's provided by the state during their 4-year term in office.

Because of our northerly location, there's quite a change in day light hours during the year. On the longest day in Juneau the sun rises about 4 in the morning and sets after 10 at night. That's 18 hours of daylight and a lot of time for play. Of course, we pay a price in the winter when on the shortest day the sun rises at 8:45am and sets 6 and a half hours later just after 3pm.

As we approach the Juneau waterfront, please check to make sure that your seat belt is still securely fastened. And should you want to explore Juneau's backyard again in the future let Wings Airways be part of your flight plan.

Thanks for coming along and enjoy the rest of your stay in Juneau and throughout Southeast Alaska's Inside Passage!