Aniakchak

Aniakchak National Monument and Preserve
Alaska

National Park Service
U.S. Department of the Interior

Official Map and Guide

A bald eagle flies with prey. The backdrop is Vent Mountain inside Aniakchak Caldera

Surprise Lake rests in the caldera, where plants regain niches in a volcanic landscape.

Iron-rich sediment colors Warm Springs on Surprise Lake s shore.

Behind a rafter, Aniakchak River disappears in The Gates that breach the caldera wall.

Salmon dry on racks. They were caught by Alaska Natives who hold subsistence fishing rights.

Siberian asters bloom on Aniakchak Caldera's volcanic floor.

Bald eagle by Jim Simmen/All Stock; Surprise Lake, Warm Springs, and Siberian asters by Fred Hirschmann; rafter by Larry Rice; and salmon racks by George Wuerthner.

Remote and Recent Volcanic Wildlands

Midway down the wild and roadless Alaska Peninsula lies one of the Nation's most fascinating recent volcanic features. Aniakchak is a 6-mile-wide, 2,000-foot-deep caldera formed by the collapse of a 7,000-foot mountain. Lying inland in a region of frequent clouds and stormy weather, Aniakchak remained unknown to all but native inhabitants until the 1920s. Then, geographers remotely plotting mountain locations along the caldera's rim noticed their circular configuration. Eventually, in 1922, a geologic field party gazed down into the caldera. They brought back news of Aniakchak's immense proportions.

Although a dozen calderas stand on the Alaska Peninsula, Aniakchak ranks among the largest. Its fascinating volcanic history can be read from its exposed internal plumbing. About 3,500 years ago, a dramatic explosion caused the loss of some 3,000 feet of the upper mountain. The remainder of the mountain next collapsed, leaving a relatively flat-floored, ash-filled bowl. Since the caldera first formed, many lesser eruptions have created the small cinder cones, lava flows, and explosion pits dotting its floor today. Because some explosion features seem to have been created underwater, the caldera probably once contained a deep snow-fed lake, much like Crater Lake in southern Oregon. Eventually, however, at a low place along the rim, lake waters began to spill out. Over time, this fast-flowing stream created the great breach in the rim known as The Gates. The Gates now allow the Aniakchak River to begin its tumultuous 27-mile course southeastward to the Pacific Ocean.

Aniakchak's most recent volcanic activity came in 1931. A small but impressive explosion pit was added to the pockmarked caldera floor that year. Many thousands of tons of ash lay strewn within the caldera and scattered up to 40 miles away over the small villages. Fortunately, this volcanic episode was documented both before and after by an indomitable geologist and Jesuit priest, Father Bernard Hubbard. His photographs and descriptions provide an important benchmark for judging the likely rate of recovery of vegetation to the devastated caldera. Mosses, grasses, and more complex flowering plants have invaded sheltered spots. Brown bear and caribou have returned. Spawning runs of sockeye salmon now fight their way up the Aniakchak River and into Surprise Lake, the river's shallow headwater lake inside the caldera.

In creating Aniakchak National Monument and Preserve, Congress recognized the unique geological significance of the caldera and also acknowledged the outstanding wildlife and recreational values of the Aniakchak River by designating it a wild river within the National Wild and Scenic Rivers System. The parklands boundaries also contain other important resources. West of the caldera lies the waterfowl and migratory bird habitat of Bristol Bay's coastal plain. To the east, rugged bays and inlets of the Pacific coast and offshore islands provide habitat for sea mammals and sea birds. Evidence of ancient human presence at Aniakchak is minimal. However, more may one day be known of this important transition zone between ancestral Aleuts and Yupik-speaking people.

Aniakchak is part of the Ring of Fire. In this active volcanic area along the Pacific Ocean rim, volcanoes occur as the Pacific plate is thrust, or subducted, beneath continental plates. Very explosive, these subduction volcanoes produce large volumes of ash. They build island arcs and high mountain chains. Aniakchak is cousin to America's Katmai, Redoubt, and Mt. St. Helens and to Japan's Fuji and Indonesia's Krakatau.

Exploring the Caldera

Hubbard Collection, Santa Clara University Archives

Prehistoric and historic peoples hunted, trapped, and fished the Aniakchak area, but the caldera's modern exploration began only 70 years ago with geologists in the 1920s. The area's most dramatic visits were those of "the Glacier Priest," Father Bernard Hubbard. He was flown into the caldera itself in 1930, where he witnessed "a world within a mountain" and called it Paradise Found. A year later Aniakchak erupted and Hubbard returned, this time hiking some 30 miles from a base camp on Kujulik Bay with 3 companions. En route across the coastal-barrier mountains and Aniakchak River valley their footsteps sent up clouds of ash that made their hair like wire brushes. Desert-like dust whirlwinds everywhere raised miniature tornadoes. They made 30 miles to the volcano rim the first day and climbed it the next morning. "Black were its snowfields and black its glaciered head... Climbing to the crater rim, we were going through a valley of death in which not a blade of grass or a flower or a bunch of moss broke through the thick covering of deposited ash. Black cinders clinked under our feet and slid away. It was like walking on wheat in a huge bin, and equally difficult." At the rim, they "were to see Paradise Lost after having lived in Paradise Found the previous year. The reaction was silence. "There was the new Aniakchak, but it was the abomination of desolation, it was the prelude of hell. Black walls, black floor, black water, deep black holes and black vents; it fairly agonized the eye to look at it." A new sight since 1930 greeted them: "There was a huge black crater built out from the wall, and from its black maw yellow and brown gases were pouring, and clouds of escaping steam." Here, too, dust whirlwinds danced like mad ghosts, and deadly gases and smoke created a "vision of hell in Aniakchak." The only familiar sight was those hot springs whose flow sufficed to wash away the ashfall. In an explosion pit, like a huge paint pot, "Yellow sulphurs seethed and boiled around the edge of broken blocks of red lava... Colored fumes too heavy to rise rolled about like waves on a stormy sea." Hubbard's party stuck a glass tube in the ground and lowered a thermometer 8 inches. "It burst in three minutes at 200° centigrade!" They verified a new theory that chlorine gas can be found in volcanoes. They witnessed a bird being overcome by lethal gases. Lava bombs had made living room-sized craters on the caldera floor. The party climbed to the new subcrater's steaming rim: "We stood awestricken on the edge," wrote the priest, "looking, like Dantes, into a real inferno."

Father Hubbard (photo at left) produced the film *Aniakchak* and recounted his explorations in *National Geographic Magazine* (1931) and his books, *Mush, You Malamutes!* (1932) and *Cradle of the Storms* (1935). His films and papers were left to the Santa Clara University.

Running the River

James Sugar/Black Star

River runners float The Gates past volcanic rubble.

Are you contemplating running the Aniakchak River from its caldera headwaters through treeless tundra to the sea? A commercial guidebook says: "The weather on Aniakchak is severe; life-threatening conditions can develop rapidly. Extremely violent winds in the caldera, particularly near The Gates, can shred tents and prevent air rescue." A hefty budget and pre-tested skills and gear are absolutely necessary.

Congress named the Aniakchak a national wild river in 1980. Its spectacular resources make rafting the Aniakchak a most rewarding experience. You can float from inside a volcano to the ocean past spectacles of wildlife and geology. From Surprise Lake the river flows a peaceful mile to The Gates. The river moves swiftly through this narrow gorge in the caldera wall, and large rocks demand precise maneuvering. A gradient of 75 feet per mile makes this section challenging. After a more gentle 10 miles comes the confluence with Hidden Creek, and the river is again filled with car-sized boulders, abrupt bends, and a narrow bed requiring extreme caution. After 5 more miles the river slows to meander toward the Pacific and the seals, sea otters, bald eagles, and sea birds of Aniakchak Bay. Total float time: 3 to 4 days from Surprise Lake to the bay. Camp on sandy gravel bars for flat tent sites and fewer bugs—and so that your human impacts are readily erased by subsequent high water. Use a small backpacking stove; firewood is scarce in treeless tundra.

Only a few parties float the river each year, mostly in July. Plan on delays getting in and, especially, delays getting out. Dry suits are recommended; life jackets are required. Scout The Gates and Hidden Creek confluence before you run them. Inflatable rafts 12 or 13 feet long with rowing platforms are most popular. Bring lots of repair materials! USGS topographic maps and other supplies may be available in King Salmon, but supplies are sometimes limited.

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Access, Logistics, and Information

Few people go to remote Aniakchak National Monument and Preserve. Established in 1978, it lies 450 miles south of Anchorage on the roadless Alaska Peninsula. Its 586,000 acres are among the least visited in the National Park System.

Notoriously bad weather combines with costly and unpredictable access to discourage most would-be visitors. Solo travel is not recommended. Do not attempt to plan and carry out a trip based solely on the information in this folder.

Air charters can land you at Meshik Lake, Surprise Lake in the caldera, or Aniakchak, Amber, or Kujulik bays on the Pacific Ocean. Air charters fly from King Salmon, which has daily commercial air service from Anchorage. However, weather conditions often prevent or delay dropoffs and pickups. You must plan and prepare for the worst-case scenario.

The national monument and preserve contains no marked trails, campgrounds, or services. All camping is primitive; small backpacking stoves are necessary for cooking in what is essentially treeless tundra. Travel in Aniakchak is best accomplished from mid-June through early-September. King Salmon offers the most extensive travel facilities, services, and supplies. Once out in the wilds you are completely on your own. You must be prepared to be self-sufficient

Park headquarters is located in King Salmon, 150 miles north of Aniakchak. While backcountry permits are not required, it is highly recommended that you file an itinerary with both the National Park Service and a relative or friend. Topographic maps are available at the King Salmon Visitor Center at the airport, but you should request trip-planning advice in advance of your trip. For more information about trip planning or conditions, write to: **Superintendent, Aniakchak National Monument and Preserve, P. O. Box 7, King Salmon, AK 99613**

Hiking
Hikers will find excellent hiking conditions atop the ash and cinder fields of the caldera floor. However, the Aniakchak landscape also features swift, cold rivers and seemingly impenetrable patches of dense vegetation. In route-finding, the path of least resistance often will be an animal trail. Again, make noise as you walk to warn wildlife of your approach.

Weather and Wild Animals

Weather
Summer temperatures in this part of Alaska average in the high 40s to low 50s°F, with most days overcast and wet. Because winds are frequent, even though it is summer these conditions can quickly lead to hypothermia, the lowering of the body's core temperature. As symptoms progress it becomes increasingly difficult to respond to them. Be aware of this danger and know how to avoid and treat hypothermia.

Bears, etc.
When Father Hubbard first climbed into Aniakchak Caldera in 1930, his first dramatic experience—after the scenery—was with a female brown bear and her cub. Brown bears remain numerous throughout this area because of good forage conditions and seasonal availability of ample dietary protein in the form of salmon. River runners often see brown bears on the Aniakchak River often a lot closer than common sense dictates In dense stands of willow or alder and other conditions that hamper visibility, make lots of noise so you do not startle resting bears or moose. Moose and bears with young are especially protective and more prone to an aggressive response when they perceive a threat to their offspring. Keep a respectful distance from all wildlife

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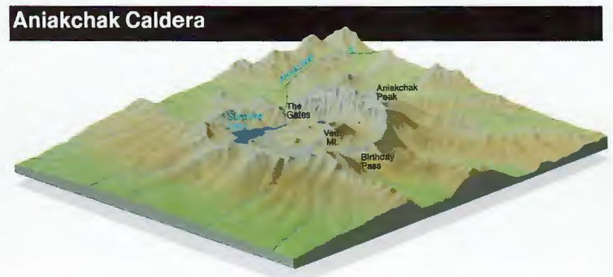

Viewed from the west, 6-mile-wide Aniakchak Caldera reveals its Surprise Lake and the volcanic cone inside Aniakchak's bowl-like remnant of a former 7,000-foot mountain.

Aniakchak River's exit through The Gates, a breach in the rim. Vent Mountain is a more recent

Management Concerns

Hunting and Fishing
Fishing is permitted in both the monument and preserve. An Alaska fishing license is required, and anglers must follow state fishing regulations. Sport hunting is permitted only in the preserve and in compliance with state regulations. Contact the superintendent for information on guides and seasons.

Subsistence Use
Within the monument and preserve, certain subsistence activities are allowed. Subsistence fishing, hunting, and trapping are regulated by the Federal Government to assure that harvest activities are consistent with maintaining natural and healthy populations. If you come across subsistence use camps or equipment and paraphernalia, do not disturb them.

Biological Succession
Aniakchak's 1931 eruption left a barren landscape with little or no vegetation, but plant communities now have made impressive comebacks. This recovery and succession process is of great interest to scientists concerned with after-effects of volcanic eruptions. Important initial observations were recorded by Father Hubbard the year before the 1931 eruption. In recent years scientists have conducted baseline biological surveys of the caldera as a measure for future changes. Interest among scientists helped spur Aniakchak caldera's designation as a national natural landmark in 1967.