= Mono ? Inyo Craters =

The Mono ? Inyo Craters are a volcanic chain of craters , domes and lava flows in Mono County , Eastern California , United States . The chain stretches 25 miles ( 40 km ) from the northwest shore of Mono Lake to the south of Mammoth Mountain . The Mono Lake Volcanic Field forms the northernmost part of the chain and consists of two volcanic islands in the lake and one cinder cone volcano on its northwest shore . Most of the Mono Craters , which make up the bulk of the northern part of the Mono ? Inyo chain , are phreatic ( steam explosion ) volcanoes that have since been either plugged or over @-@ topped by rhyolite domes and lava flows . The Inyo Craters form much of the southern part of the chain and consist of phreatic explosion pits , and rhyolitic lava flows and domes . The southernmost part of the chain consists of fumaroles and explosion pits on Mammoth Mountain and a set of cinder cones south of the mountain ; the latter are called the Red Cones .

Eruptions along the narrow fissure system under the chain began in the west moat of Long Valley Caldera 400 @,@ 000 to 60 @,@ 000 years ago . Mammoth Mountain was formed during this period . Multiple eruptions from 40 @,@ 000 to 600 years ago created the Mono Craters and eruptions 5 @,@ 000 to 500 years ago formed the Inyo Craters . Lava flows 5 @,@ 000 years ago built the Red Cones , and explosion pits on Mammoth Mountain were excavated in the last 1 @,@ 000 years . Uplift of Paoha Island in Mono Lake about 250 years ago is the most recent activity . These eruptions most likely originated from small magma bodies rather than from a single , large magma chamber like the one that produced the massive Long Valley Caldera eruption 760 @,@ 000 years ago . During the past 3 @,@ 000 years , eruptions have occurred every 250 to 700 years . In 1980 , a series of earthquakes and uplift within and south of Long Valley Caldera indicated renewed activity in the area .

The region has been used by humans for centuries . Obsidian was collected by Mono Paiutes for making sharp tools and arrow points . Glassy rock continues to be removed in modern times for use as commercial scour and yard decoration . Mono Mills processed timber felled on or near the volcanoes for the nearby boomtown Bodie in the late 19th to early 20th centuries . Water diversions into the Los Angeles Aqueduct system from their natural outlets in Mono Lake started in 1941 after a water tunnel was cut under the Mono Craters . Mono Lake Volcanic Field and a large part of the Mono Craters gained some protection under Mono Basin National Forest Scenic Area in 1984 . Resource use along all of the chain is managed by the United States Forest Service as part of Inyo National Forest . Various activities are possible along the chain , including hiking , bird watching , canoeing , skiing , and mountain biking .

= = Geography and description = =

= = = Setting = = =

The Mono ? Inyo Craters form a volcanic chain in Eastern California that sit along a narrow , north ? south @-@ trending fissure system that extends from the north shore of Mono Lake , through the western moat of Long Valley Caldera , and south of Mammoth Mountain . The chain is located in Inyo National Forest and Mono County , California , and the nearest incorporated community is Mammoth Lakes , California . The Mono Craters are located in Mono Basin , itself part of the Great Basin .

= = = = Mono Craters = = = =

The Mono Craters are a 10 @.@ 5 @-@ mile ( 17 km ) chain of at least 27 volcanic domes , three large glass flows called coulees and various explosion pits and other associated volcanic features . The domes of the chain lie on a roughly north ? south @-@ trending arc that is concave to the west and located south of Mono Lake . The highest of the Mono Craters domes is Crater Mountain ( elevation 9 @,@ 172 feet or 2 @,@ 796 m ) , which rises 2 @,@ 400 feet ( 730 m ) above Pumice

Valley to the west . Associated volcanic features are located in Mono Lake ( Paoha and Negit Islands ) and on its north shore ( Black Point ) . The coulees cluster north and south of the overlapping chain of domes . Craters exist at the top of most domes and on flat land south of them .

= = = = Inyo Craters = = = =

The two southernmost Inyo Craters are open pits in a forested area that are about 600 feet ( 180 m ) across and 100 to 200 feet ( 30 to 60 m ) deep , each with small ponds covering their floors . A quarter mile ( half kilometer ) north of these is another Inyo Craters explosion pit on top of Deer Mountain . Farther north of these craters are five lava domes , including Deadman Creek Dome , Glass Creek Dome , Obsidian Dome , and Wilson Butte . These domes are composed of gray rhyolite , frothy pumice , and black obsidian . The Mono ? Inyo Craters volcanic chain extends into Long Valley Caldera but is not related to the caldera 's volcanism .

= = = = Red Cones = = = =

South of the Inyo Craters proper are other features related to the dike system responsible for creating the craters , volcanoes and lava flows . These include a north ? south trend of fault scarps up to 20 feet ( 6 m ) high and pull @-@ apart cracks or fissures in the earth . These fissures are not technically faults because little or no vertical or horizontal movement has occurred along them . Most notable among these is " Earthquake Fault " , a fissure up to 10 feet ( 3 m ) wide that cuts 60 to 70 feet ( 18 to 21 m ) into glassy rhyolite lava flows . The fissure was formed by stretching induced by the intrusion of the Inyo dike . Stairs to the bottom of the fissure were removed after being damaged by earthquakes in 1980 . Several Mono ? Inyo @-@ related explosion pits are on Mammoth Mountain . The Red Cones , south of Mammoth Mountain , are basaltic cinder cones and are the southernmost part of the Mono ? Inyo Craters volcanic chain .

= = = Climate and ecology = = =

The Mono ? Inyo Craters are in the Central Basin and Range ecoregion of the North American Desert . The desert environment of Mono Basin receives about 14 inches ( 36 cm ) of precipitation a year . Annual precipitation around Mammoth Lakes , which is close to the Inyo Craters , is about 23 inches ( 58 cm ) . Moisture travels over the Sierra crest from the Pacific Ocean through the San Joaquin Gap . Temperatures in Mono Basin range from average winter lows of 20 to 28 ° F ( ? 7 to ? 2 ° C ) to average summer highs of 75 to 84 ° F ( 24 to 29 ° C ) . Temperatures near the Inyo Craters and Mammoth Lakes area range from winter average lows of 16 to 21 ° F ( ? 9 to ? 6 ° C ) to summer average highs of 70 to 78 ° F ( 21 to 26 ° C ) .

Most of the surface of the Mono Craters is barren but its slopes are covered by Jeffrey pine forest and partial greenery . Pumice Valley , directly to the west , is covered by sagebrush scrubland . The soil consists primarily of deep pumice , which does not hold water well . Mycorrhizal fungi in the soil invade the roots of Jeffrey pine trees in a symbiotic relationship that helps the pine absorb water and provides nutrients to the fungi . Jeffrey pine forests also surround the Inyo Craters and Mammoth Mountain . Mule deer , coyotes , black bears , yellow @-@ bellied marmots , raccoons and mountain lions all have ranges that are coincident with forests that cover parts of the Mono ? Inyo craters .

= = = Typical evolution = = =

Panum Crater is the northernmost volcano in the sequence and is a good example of both a tuff ring and a rhyolite dome . Its structure is twofold ; an outer tuff ring ( forming a classic crater ) and an inner plug , or dome of rhyolite , pumice and obsidian created from lavas . In this case , heat from the magma feeding Panum flashed groundwater to steam to create the tuff ring before lava reached the surface . Other Mono Craters also were formed in this manner , but their plug domes grew larger

than their tuff ring craters . The domes have steep sides and are flanked by slopes of scree consisting of large angular and glass @-@ rich rocks . Devil 's Punch Bowl , located south of the main dome complex , stopped forming at an earlier stage of development . It is a 1 @,@ 200 @-@ foot ( 370 m ) wide and 140 @-@ foot ( 43 m ) deep explosion pit with a much smaller glass dome on its floor .

The large North and South Coulee and the smaller Northwest Coulee consist of obsidian @-@ rich rhyolite . They were formed from slow @-@ moving lava that had a thin and brittle crust . Once the flow stopped , it formed steep sided tongues of sharp and angular rock that are typically 200 to 300 feet ( 60 to 90 m ) thick and have scree piles along their base . South Coulee is 2 @.@ 25 miles ( 3 @.@ 6 km ) long , 0 @.@ 75 miles ( 1 @.@ 2 km ) wide and has a volume of 0 @.@ 1 cubic miles ( 0 @.@ 4 km3 ) ; making it the largest Mono Craters coulee in volume . South Coulee originates from the crest of the Mono Domes , about 3 miles ( 5 km ) from the southern end , flows down its east and west flanks and terminates at its foot . North Coulee is nearly as large , flows mostly to the east and terminates in a divided pair of lobes . Northwest Coulee is located northwest of North Coulee and was intruded by Upper Dome after the coulee solidified . Permanent pockets of ice from snowmelt have been found 75 to 147 feet ( 23 to 45 m ) inside the coulees and domes .

= = Geology = =

= = = Background = = =

The Mono ? Inyo chain of craters lies in east @-@ central California , roughly parallel to the eastern escarpment of the Sierra Nevada mountain range . Volcanism and seismic activity in eastern California are a result of two major geologic processes : northwest movement of the Pacific Plate with respect to the North American Plate along the San Andreas Fault system near the coast , and east ? west extension of the crust that formed the Basin and Range Province . In the Long Valley region , where the craters are located , basin and range extension encroaches onto the thick and stable crust of the Sierra Nevada .

Basement rock under the Mono ? Inyo chain consists of the same granitic and metamorphic rock that make up the Sierra Nevada . Above that layer are basaltic grading to rhyolitic volcanic rocks that are 3 @.@ 5 million to less than 760 @,@ 000 years old . Volcanism occurred north of the chain , in the Bodie Hills , as far back as 28 million years . Nearly all the rock east of the Sierra Nevada in the Mono Basin area is volcanic in origin .

Volcanoes erupted from 3 @.@ 6 to 2 @.@ 3 million years ago near what is now Long Valley . Rhyolitic eruptions occurred in and around Glass Mountain in the same area from 2 @.@ 1 to 0 @.@ 8 million years ago . Volcanic ash from the massive ( 600 cubic kilometres or 140 cubic miles of ejecta ) eruption of Long Valley Caldera some 760 @,@ 000 years ago is preserved in the thick Bishop Tuff that covers much of the region .

Eruptions of basalt and andesite 400 @,@ 000 to 60 @,@ 000 years ago in the west moat of Long Valley Caldera were the first activity associated with the Mono ? Inyo Craters system . Eruptions around 300 @,@ 000 years ago filled the west moat with 800 feet ( 240 m ) of basaltic lava . Basaltic and andesitic eruptive activity then moved to Mono Basin and lasted from 40 @,@ 000 to 13 @,@ 000 years ago .

Seismic data indicate that a magma chamber with an estimated volume of 48 to 144 cubic miles ( 200 to 600 km3 ) exists 5 @.@ 0 to 6 @.@ 2 miles ( 8 to 10 km ) directly below the Mono Craters . About 660 feet ( 200 m ) of subsidence has occurred within a ring fracture system centered on Pumice Valley west of the chamber in the last 700 @,@ 000 years . The Mono Craters sit atop a 7 @.@ 5 @-@ mile ( 12 km ) -long arc on the eastern side of the 11 @-@ mile ( 18 km ) -wide ring @-@ fracture system . Magma feeding the domes may have exploited arc @-@ shaped fissures around an intrusion of granitic rock deep below the chain . This magma chamber is separate from the magma chamber under Long Valley Caldera . The recent eruptions of the Mono Craters have been similar in volume and nearly identical in composition ( " crystal @-@ poor high @-@ silica

rhyolite " ) to those of Glass Mountain that preceded the Long Valley Caldera @-@ forming eruption . It has been suggested that the Mono Craters volcanism may represent an early stage in the development of a future caldera .

Repeated eruption of dacite and rhyodacite from vents on the southwest rim of the caldera from 220 @,@ 000 to 50 @,@ 000 years ago formed Mammoth Mountain , a volcano composed of overlapping lava domes . Eruptions of dacite and rhyodacite occurred in Mono Basin from 100 @,@ 000 to 6 @,@ 000 years ago .

= = = Mono Craters , Negit Island and Black Point = = =

Multiple eruptions of silica @-@ rich rhyolite from 40 @,@ 000 to 600 years ago built the Mono Craters . Black Point , today on the north shore of Mono Lake , is a flattened volcanic cone of basaltic debris that formed under the surface of a much deeper Mono Lake about 13 @,@ 300 years ago , during the most @-@ recent glacial period . Several eruptive episodes from 1 @,@ 600 to 270 years before present in Mono Lake formed Negit Island . The magma reservoir feeding the Mono Lake Volcanic Field is unrelated to the Mono Craters magma reservoir .

Basaltic andesite lava built the Red Cones , two small cinder cones 6 @.@ 2 miles ( 10 km ) southwest of Mammoth Lakes , around 8 @,@ 500 before present . The five Mammoth Mountain Craters are a set of explosion pits that trend west @-@ north @-@ west for 1 @.@ 6 miles ( 2 @.@ 5 km ) near the northern flank of Mammoth Mountain .

None of the Mono Craters near the lake show the effects of wave erosion , but a hill at the southern end of the field shows what Israel Russell called a " beach line " . The present elevation of this beach line is the level of the Mono Lake high stand before the formation of the northern Mono Craters , plus any surface deformation that has happened since that time . Stream @-@ rounded stones are found on the volcanoes , and were lifted up as the volcanoes grew . Although glaciers were present throughout the Sierra Nevada , they did not reach as far down as the Mono Craters .

The most recent eruptive episode on the Mono Craters occurred sometime between the years 1325 and 1365 . A vertical sheet @-@ like mass of magma , called a dike , caused groundwater to explosively flash to steam , creating a line of vents 4 miles ( 6 km ) long . A mix of ash and pulverized rock , called tephra , covered about 3 @,@ 000 square miles ( 8 @,@ 000 km2 ) of the Mono Lake region . The tephra were carried by the wind and deposited in a layer 8 inches ( 20 cm ) deep 20 miles ( 32 km ) from the vents and 2 inches ( 5 cm ) deep 50 miles ( 80 km ) away .

Pyroclastic flows of hot clouds of gas , ash and pulverized lava erupted from these vents in narrow tongues that extended up to 5 miles ( 8 km ) away and covered 38 square miles ( 100 km2 ) . Rhyolite lava oozed out of the vents to form several steep @-@ sided domes , including Panum Dome and the much larger North Coulee flow . The youngest domes and coulees are 600 to 700 years old and are , therefore , the youngest mountains in North America .

= = = Inyo Craters and Paoha Island = = =

Eruptions of silica @-@ poor rhyolite from 5 @,@ 000 to 500 years ago created the Inyo Craters . The most recent activity occurred just a few years after the Mono Crater eruptions , and was caused by a dike of similar composition . The dike eventually became 6 @.@ 8 miles ( 11 km ) long and up to 33 feet ( 10 m ) wide . The ground above the dike was significantly cracked and faulted .

Explosive eruptions later emanated from three separate vents . Pieces of molten and solid rock were ejected , small craters were formed , and a tall eruption column rose above the vents . Pumice and ash covered an extensive area downwind , and about 1 inch ( 2 @.@ 5 cm ) of tephra was deposited where the town of Mammoth Lakes , California , now sits . A pyroclastic flow from South Deadman vent traveled about 3 @.@ 7 miles ( 6 km ) .

Some of the open pits were filled with thick and slow @-@ moving lava to form the South Deadman Creek , Glass Creek and Obsidian Flow domes . Others , such as the Inyo Crater Lakes near Deer Mountain , remained open and were later partially filled with water . Smaller explosion pits on the north side of Mammoth Mountain were also formed at this time . In the past 6 @,@ 000 years ,

approximately 0 @.@ 19 cubic miles ( 0 @.@ 8 km3 ) of magma has been erupted from the Inyo part of the chain .

The last recorded volcanic activity in the chain was at Mono Lake between the years 1720 and 1850 . An intrusion of magma below the lake pushed lakebed sediments upward to form Paoha Island . Exposed rhyolite is on the north part of the island , and a group of seven dacite cinder cones and a lava flow are on the northeastern corner . Steam rose in columns hundreds of feet high ( tens of meters ) from Hot Spring Cove on the island and the spring water was 150 ° F ( 66 ° C ) when geologist Israel Russell visited the island in the early 1880s .

= = History = =

= = = Human use = = =

People have used resources on and around the Mono ? Inyo Craters for centuries . Mono Paiutes gathered obsidian from the Mono ? Inyo Craters to make sharp tools and arrow points . Unworked obsidian was carried by the Mono Paiutes over passes in the Sierra Nevada to trade with other Native American groups . Chips of Mono ? Inyo obsidian can still be found at many ancient mountain campsites .

Gold rush ? related boomtowns sprang up near Mono Basin in the 19th century to exploit bonanzas . The largest of these , Bodie ( north of Mono Lake ) , was founded in the late 1870s and grew large enough to need a tree mill , which was located at Mono Mills , immediately northeast of Mono Domes . Trees directly around the domes and on their slopes were felled to provide timber for the mill .

As part of the California Water Wars , the Los Angeles Department of Water and Power purchased large tracts of land in the 1930s within Mono Basin and Owens Valley in order to control water rights . Excavation of an 11 @.@ 5 @-@ mile ( 18 @.@ 5 km ) water tunnel under the southern part of the Mono Craters dome complex started in 1934 and was completed in 1941 . Tunnel workers had to deal with loose and often water @-@ charged gravels , pockets of carbon dioxide gas and flooding . About one man was lost for each mile excavated . Water diverted from its natural outlet in Mono Lake passes through the tunnel on its way to the Los Angeles Aqueduct system .

The United States Pumice Company , based in Chatsworth , California , has mined the area for pumice since 1941 . The company markets the pumice in slabs for use in commercial scouring and in large irregular chunks sold as yard decoration .

Exploratory drilling for geothermal power occurred near the Mono Craters on the south shore of Mono Lake in 1971 . The wells did not show promising results , so the effort was abandoned .

= = = Early impressions = = =

The chain of craters has been the subject of several writers and naturalists . Mark Twain visited Mono Basin in the 1860s and wrote about Mono Lake , but did not mention any of the Mono ? Inyo Craters except for the lake 's two volcanic islands . He wrote in Roughing It ( 1872 ) that the lake was in a " lifeless , hideous desert ... " that was the " loneliest spot on earth ... little graced with the picturesque . "

Naturalist John Muir explored the area in 1869 . He described the " Mono Desert " as a " ... country of wonderful contrasts . Hot deserts bounded by snow @-@ laden mountains , ? cinders and ashes scattered on glacier @-@ polished pavements , ? frost and fire working together in the making of beauty . In the lake are several volcanic islands , which show that the waters were once mingled with fire . " Muir described the Mono Craters as " ... heaps of loose ashes that have never been blest by either rain or snow ... "

In the spring of 1881 and the fall of 1882 , geologist Israel Russell studied the area as a side @-@ trip during his field research of Lake Lahontan , a now dry lake that covered much of nearby Nevada during the last glacial period . His Quaternary History of the Mono Valley ( 1889 ) , which included a

topographic survey by Willard D. Johnson , was the first thorough scientific description of Mono Lake and its volcanic features .

Russell named the Mono Craters and wrote : " The attention of every one who enters Mono Valley is at once attracted by the soft , pleasing colors of these craters as well as by the symmetry and beauty of their forms . They are exceptional features in the scenery of the region , and are rendered all the more striking by their proximity to the angular peaks and rugged outlines of the High Sierra . "

= = = Protection and monitoring = = =

The creation of Mono Basin National Forest Scenic Area in 1984 stopped any further geothermal prospecting . Mono Basin was the first National Scenic Area in the United States . It offers more protection than other United States Forest Service lands , surrounds Mono Lake and its two volcanic islands , Black Point , Panum Crater and much of the northern half of the Mono Craters . Litigation and outreach by the Mono Lake Committee , the National Audubon Society and other conservation groups has helped to slow water diversions from tributaries feeding Mono Lake .

A series of earthquakes inside Long Valley Caldera , coincidentally starting two weeks after the May 1980 eruption of Mount St. Helens in Washington , alerted geologists to the possibility of renewed volcanic activity in the region . Four magnitude 6 earthquakes struck the southern margin of Long Valley Caldera in an area that was close to the Mono ? Inyo fissure system . The caldera floor had also uplifted by 10 inches ( 30 cm ) in five years . Upward movement of magma under the caldera was thought to be the cause of the earthquakes and uplift .

Persistent earthquake swarms in 1982 prompted the United States Geological Survey ( USGS ) to issue a " potential volcanic hazard " notice for Long Valley . That same year , permanent monitoring of the area by the Long Valley Observatory started . The hazard notice was lifted in 1984 after USGS scientists concluded that magma had been injected into fissures below Mammoth Mountain but had congealed underground . From 1990 to 1996 , 150 acres ( 60 ha ) of trees were killed on Mammoth Mountain by 20 % to 95 % concentrations of carbon dioxide ( $CO_2$ ) in the soil ( less than 1 % is normal ) . Chemical analysis of the $CO_2$ indicated it was derived from magma .

= = Volcanic hazards = =

The Long Valley to Mono Lake region is one of three areas in California that are in the United States Geological Survey 's volcanic hazards program . These areas are in the program because they have been active in the last 2 @,@ 000 years and have the ability to produce explosive eruptions .

About 20 eruptions have occurred on the Mono ? Inyo Craters chain at intervals of 250 to 700 years during the past 5 @,@ 000 years . Seismic soundings and lava composition indicate that these eruptions most likely originated from discrete and small magma bodies . The rate of eruption over the last 1 @,@ 000 years has increased , with at least 12 eruptions occurring .

All eruptions in the past 5 @,@ 000 years from the Mono ? Inyo Craters have expelled less than 0 @.@ 24 cubic miles ( 1 $km^3$ ) of magma . Future eruptions in the area will likely be similar in size to the small to moderate events of the past 5 @,@ 000 years . There is a one in 200 chance ( 0 @.@ 5 % ) per year of an eruption occurring along the chain . An eruption in the foreseeable future is probably more likely along the Mono ? Inyo chain than an unrelated eruption inside Long Valley Caldera .

= = = Effects = = =

A wide range of effects are expected from future eruptions along the Mono ? Inyo Craters . Ash and rock fragments ( tephra ) may accumulate to a thickness of 33 feet ( 10 m ) near an erupting Mono ? Inyo vent . Downwind accumulations of tephra may exceed 7 @.@ 9 inches ( 20 cm ) at a distance of 22 miles ( 35 km ) and 2 @.@ 0 inches ( 5 cm ) at 53 miles ( 85 km ) . Winds in the area tend to

blow toward an east or northeasterly direction more than 50 percent of the time , and toward any easterly direction more than 80 percent of the time . Grain size and thickness of tephra generally decreases gradually with distance from a vent . Volcanic ash will likely contaminate air routes east of the vent .

Severe damage from super @-@ heated flows of gas , ash and pulverized rock ( pyroclastic flows and surges ) may occur at least 9 @.@ 3 miles ( 15 km ) from an explosive eruption . The amount of damage depends on vent location , topography , and volume of magma erupted . Pyroclastic flows from vents on Mammoth Mountain or other high vent could travel farther by gaining extra momentum from their descent . Valleys along the route will be more impacted than ridges but flows and surges could overtop some ridges . Eruptions near snowpacks may produce lahars of mud and ash that devastate valleys and watersheds . Steam blast eruptions under a lake could form large waves capable of flooding nearby areas and starting mudflows .

Basalt lava flows may extend more than 31 miles ( 50 km ) from their vent . Dacite and rhyolite lavas produce short , thick flows that rarely extend more than 3 @.@ 1 miles ( 5 km ) from their vent . Mound @-@ shaped features called lava domes are often created from these flows . Rock fragments thrown from a growing lava dome may reach 3 @.@ 1 to 6 @.@ 2 miles ( 5 to 10 km ) from the dome . A partial collapse of the steep @-@ sided growing dome can send pyroclastic flows outward at least 3 @.@ 1 miles ( 5 km ) . Taller domes tend to form larger pyroclastic flows that travel farther .

= = Activities = =

Many recreational activities are available along the chain . The Mono Basin National Scenic Area visitor center is located near Mono Lake just off U.S. Route 395 . A bookstore , an information desk staffed by USDA Forest Service Rangers , and museum exhibits help to orient visitors . The Mono Lake Committee has a staffed office and visitor information center in Lee Vining on the corner of U.S. Route 395 and 3rd Street . Information on camping , hiking , guided and self @-@ guided tours can all be obtained at either location .

U.S. 395 is a scenic route that roughly parallels the Mono ? Inyo Craters volcanic chain . California State Route 120 provides access to the northern and eastern parts of the Mono Domes , including Panum Crater . Mammoth Scenic Loop ( also called Dry Creek Road ) , provides access to the Inyo Crater lakes and some of the Inyo domes .

The town of Mammoth Lakes , located near the southern end of the chain and Mammoth Mountain , is the largest populated area nearby . Mammoth Mountain Ski Area is located nearby and gondola rides can be taken year @-@ round ( weather permitting ) to the mountain 's summit . The summit of Mammoth Mountain provides panoramic views of the craters and domes of the Mono ? Inyo volcanic chain , Mono Lake , the Sierra Nevada and Long Valley Caldera .

Mono Lake itself has its own set of activities , including walking tours among towers of tufa , boat tours of the lake , and birdwatching opportunities . The lake is too salty to support any fish , but fishing is possible in streams that feed Mono Lake . Additional activities include hiking around and on the craters and domes , and mountain biking outside of the Scenic Area boundaries .