Visit the Sinnott Overlook

Plus 10 Other Ways to Enjoy Your Park

The Sinnott Memorial Overlook offers one of the finest views of Crater Lake. You can peer down a sheer drop of nearly 900 feet (274 meters) to the shore! It also features the park’s best exhibits. A small museum describes the lake’s geology, formation, and exploration. (Of special interest is the original device used by scientists to measure the lake’s depth in 1886.) Finding this special viewpoint can be a challenge. It’s hidden behind the Rim Visitor Center, perched on a promontory 50 feet (15 meters) below the rim. Landscape architect Merel Sager, who oversaw its construction in 1930, designed it to be nearly invisible. He spent hours on the lake in a rowboat, devising ways to conceal it against the caldera’s wall.

Unfortunately, the steep path to the overlook is not accessible to people with limited mobility. And because of snow, the viewpoint is not open year-round. This summer, it will probably open on July 1 and close in late October (see hours on page 2). Most days, rangers present talks around a real model (see page 3 for times, and posted flyers for topics). The overlook was named in honor of Nicholas Sinnott, a congressman who represented Oregon from 1913 to 1928 and was an ardent supporter of the park. For the plaque that bears his name. Here are 10 more suggestions to make the most of your Crater Lake visit:

- Watch the Park Film
- Tour Crater Lake Lodge
- Have a Picnic
- View the Milky Way
- Look Inside!

Park Profile

Crater Lake National Park protects the deepest lake in the United States. Fed by rain and snow (but no rivers or streams), the lake is considered to be the cleanest large body of water in the world. The water is exceptional for its clarity and intense blue color.

The lake rests inside a caldera formed approximately 7,780 years ago when a 12,000-foot-tall (3,600-meter) volcano collapsed following a major eruption. The eruption may have been the largest in North America in the past 640,000 years. Later eruptions formed Wizard Island, a cinder cone near the southwest shore.

Today, old-growth forests and open meadows blanket the volcano’s outer slopes, harboring a variety of plants and animals, including several rare species. The area is central to the cultural traditions of local American Indian tribes, and the park provides unique opportunities for scientific study and public enjoyment.

- Park established: 1902
- Size: 263,800 acres (106,960 hectares)
- Visitors last year: 756,000
- Lake depth: 1,943 feet (592 meters)
- Lake width: 4.5 to 6 miles (7 to 10 km)
- Annual snowfall: 43 feet (13 meters)
- Last time the lake froze over: 1949

When is the Park Open?

Crater Lake National Park is open year-round, 24 hours a day. Some roads, trails, and facilities, however, are closed seasonally due to snow. Much of the year, the park’s North Entrance Road and Rim Drive are closed to cars. They close for the season on November 1 (or earlier if there is significant snowfall).

Crows begin blooming these roads in April, but opening dates vary. The North Entrance and West Rim open between mid-May and late June. The East Rim opens between mid-June and late July. This year, roads will likely open late due to heavy winter snows. Highway 62 and the road to Rim Village are open year-round.

Artist Paul Rockwood’s conception of Mount Mazama, the volcano that collapsed to form Crater Lake. If you gathered up the ash from Mount Mazama’s catastrophic eruption and spread it evenly across the state of Oregon, it would form a layer 8 inches (20 cm) thick.
Camping
The park has two campgrounds. Senior Pass and Access Pass holders are entitled to a 50% discount. Overnight parking elsewhere is not allowed, except by backcountry permit (see page 4). For a list of camping options outside the park, ask at a visitor center.

Mazama Campground (214 sites) is located 7 miles south of Rim Village near Highway 62. In 2017, it will be open June 2–October 1. All sites in June are available only on a first-come, first-served basis. For the rest of the summer, 75% of sites can be reserved in advance by calling 888-774-2728 or online at www.craterlakelodges.com. The other 25% remain first-come, first-served. In July and August, the campground closes with mid-afternoon. The campground offers tent sites ($22 per night) and RV sites ($31). A few of the RV sites have electric hookups ($35). A water hookup is available at the dump station. There are many pull-through sites, some can accommodate RVs as long as 50 feet (15 meters). Each site has a picnic table, fire ring, and food locker. Black bears are rarely seen, but campers should always lock all food in their locker or the vehicle. The campground has drinking water, flush toilets, showers, and laundry facilities. A general store sells groceries, firewood, and gasoline. You can call Crater Lake Lodge (503-594-2255 ext. 3160) to operate the campers’ concession, Xanterra Parks & Resorts.

Lost Creek Campground (16 sites, tents only, $10 per night) is located on the Pinnacles Road. Due to water restrictions (see page 1), it may not be available this year. Campers should bring their own water; portable toilets will be provided. The campground typically fills by mid-afternoon. Registration is self-service, and reservations are not taken. Each site has a picnic table, fire ring, and food locker. Payment can be made by check or exact cash.

Services & Facilities

Food & Dining
The Rim Village Café serves light fare including grab-and-go sandwiches, salads, soup, and snacks.

- May 18–June 8 10:00 am–6:00 pm
- June 9–Sept. 4 9:00 am–8:00 pm
- Sept. 5–Oct. 1 10:00 am–6:00 pm
- Oct. 2–Nov. 4 10:00 am–5:00 pm
- Nov. 5–Dec. 31 10:00 am–4:00 pm

The Annie Creek Restaurant in Mazama Village offers hearty breakfasts and chickens, burgers, and a soup & salad bar.
- May 27–Oct. 1
  - Breakfast 8:00 am–10:30 am
  - Lunch 11:00 am–4:00 pm
  - Dinner 5:00 pm–8:00 pm
- *7:00 am June 6–Sept. 24
- *9:00 pm June 16–Sept. 4

Crate Lake Lodge features fine dining in a casual atmosphere, with gourmet cuisine made from local ingredients. Reservations are recommended for dinner (541-594-2255 ext. 3217) but are not taken for breakfast, lunch, appetizers, drinks, and desserts. It can also be available from 3:00 pm until closing in the Great Hall and on the back patio.
- May 20–Oct. 1
  - Breakfast 7:00 am–10:30 am
  - Lunch 11:30 am–2:30 pm
  - Dinner 5:00 pm–8:00 pm
- *10:00 pm June 9–Sept. 23

Gifts & Books
Books, maps, postcards, and souvenirs are available at both visitor centers (see page 8). The park’s concessioner, Xanterra Parks & Resorts, operates two other gift shops:

The Annie Creek Gift Shop in Mazama Village has similar hours to the Annie Creek Restaurant (see above). You can also order online at www.craterlakelodges.com/shop.

Guns
Firearms are allowed in the park in accordance with state laws. They are prohibited, however, in all park buildings.

Hiking and Climbing
Stay on trails. This prevents erosion, protects vegetation, and protects other hikers. Hiking and climbing inside the caldera are strictly prohibited. The only exception is at the Crater Lake Trail, the only safe and legal access to the lake shore. Serious injuries and deaths have occurred from falls inside the caldera. The walls consist of unstable rocks and soils.

Hunting
Possession of marijuana is prohibited. Oregon state laws allowing the use of marijuana do not apply in the park. Pets are not allowed.

Overnight Parking
The park is open 24 hours, but overnight parking is not allowed, except in the park’s campgrounds, for guests at the park’s motels, and for backpackers (permit required).

Pet Restrictions
Leash laws are strict! Pet owners are required to ensure that their pets are not a threat to other pets or to people. Leash laws are required in park buildings, at picnic sites, and on trails.

Water Sports
Swimming, scuba diving, and long-distance canoeing are prohibited in Crater Lake. In 2012, after reviewing the threats posed by aquatic invasive species, the park placed a ban on the use of stochastic, wet

Leaves rock, plants, animals, and artifacts undescribed for others to enjoy. It is prohibited to collect, de-

Style and Driving
Drones
Operating remote-controlled aircraft in the park is prohibited. For a full list of the park’s rules, visit www.nps.gov/crla/parkregulations/andpolicies.htm.

Exhibits
The Sinnott Memorial Overlook, perched on a rock ledge behind the Rim Village Center, features an indoor exhibit room and an open parapet with spectacular lake views. The overlook has a relief model and exhibits on the park’s geology and lake research. Ranger talks are presented daily July 1 to September 1 (see page 4). The overlook is open daily (weather permitting) from July through October. Hours are 9:30 am–6:30 pm in July and August, 9:30 am–5:00 pm in June and September, and 10:00 am–4:00 pm in October. The overlook is located down a steep, historic walkway with stairs and, unfortunately, is not accessible to people with limited mobility.

Crate Lake Lodge features exhibits on tourism and the history and renovation of the lodge. The exhibit is open daily, around-the-clock, May 15–October 19. They are on the ground floor, west of the lobby.

Bicyclist on East Rim Drive

The park has two motels, both operated by Xanterra Parks & Resorts. For reservations, visit www.craterlakelodges.com or call 888-774-2728. For a list of lodging outside the park, ask at a visitor center.

Crate Lake Lodge (71 rooms) overlooks the lake at Rim Village. In 2017, it will be open the entire May 19–October 15. Rooms begin at $190 per night. Advance reservations are highly recommended.

The Cabins at Mazama Village (40 rooms) are located 7 miles south of Rim Village. Rooms are $160 per night. Operating dates for 2017 are May 26–October 1.

Visitor Centers
At the park’s two visitor centers, rangers can answer questions and help plan your trip.

The Steel Visitor Center at Park Headquarters is open daily 9:00 am–5:00 pm. A 22-minute film is shown every hour. It explores the park’s significance and the lake’s violent, volcanic past.

The Rim Village Visitor Center is open 9:30 am–5:00 pm late May to late September.

Help keep wildlife wild. Please DO NOT FEED!
Boat Tours on Crater Lake 

Rim Drive is one of America’s most scenic roads, but it's hard to appreciate the views with your eyes on the asphalt. Fortunately, you can leave the driving to someone else. Ranger-guided trolley tours circle Crater Lake daily. Tours begin and end at Rim Village, open during daylight hours seven days a week in the lake, and stop at a minimum of 5 scenic overlooks. See below for departure times and ticket prices. The buses are air-conditioned, climate-controlled, wheelchair accessible, and seat 25 passengers. They resemble old streetcars, but they run on modern technology. Powered by compressed natural gas, they emit 30-40% less pollution than gasoline-powered buses. The trolleys are owned and operated by the Shuttle Inc. of Klamath Falls.

Activities

All campers not staying in the park’s developed campgrounds must obtain a backcountry permit. The only exception is hikers on the Pacific Crest Trail, who may instead sign the trail register as they enter the park. Permits are free and available at Park Headquarters, from the visitor center or ranger station, between 9:00 am and 5:00 pm.

Bicycling

Bicycling is allowed on paved roads and the unpaved sections of Rim Drive. Bikes are not allowed on trails, with the exception of the Pinnacles Trail. Park roads are narrow with heavy automobile traffic. Helmets are required for riders under 16 years of age and strongly recommended for all cyclists. The closest place to rent bikes is Diamond Lake Resort, 5 miles (8 km) north of the park.

Bicycling on park roads is physically demanding. The most popular route is the 13-mile Rim Drive, featuring spectacular views but also long climbs that gain a total of 3,300 feet (1,158 meters) in elevation. For a flatter, more relaxing ride, try the paved, 11-mile bike path that circles Diamond Lake.

Swimming

Swimming is allowed in Crater Lake, but the water is cold! Most people swim for just a few minutes. Swimming is permitted only at Cleetwood Cove and at Wizard Island, which requires a boat tour to reach. The shoreline at both locations is rocky; there are no beaches. Snorkeling, scuba diving, and wet suits are not allowed in Crater Lake.

Fishing

Originally, Crater Lake contained no fish. Between 1883 and 1941, however, 6 species were introduced. Today, only rainbow trout and kokanee salmon remain. Fishing is allowed at the bottom of the Cleetwood Cove Trail, where you’ll find 25 miles (4 km) of rocky shoreline. Wizard Island, reachable by tour boat, is also open to fishing.

Crater Lake Boat Tours

Ranger-guided boat tours offer a unique perspective on Crater Lake. See the right-hand side of this page for details. Note: Taking a boat tour requires hiking downhill—and back up—one of the steepest trails in the park. Tours cover a variety of topics. (2 hours)

Trolley Tours

Join a park ranger for a cruise around Crater Lake. See the box below for departure times and ticket prices. Boat tours operate on Crater Lake and at Xanterra Parks & Resorts in partnership with the National Park Service.

Activities

Activities are free of charge except for trolley & boat tours. Programs are subject to cancellation due to weather or unforeseen circumstances.

Sky Gazing

With clear air and unobstructed views, the rim of Crater Lake is a great place to observe astronomical discoveries. Point Down to try and spot Mars. For sunsets and moonsets, try Watchman Overlook or hike to the top of Watchman Peak. Ask at a visitor center for sunset and sunrise times.

Wildlife Viewing

The park is home to many animals, but they can be difficult to spot. The most visible animals are deer and squirrels. Herds of elk are sometimes seen in the meadows around Rim Drive. Bobcats and mountain lions are present but rarely seen. Lucky observers might spot a fox, black bear, marmot, pika, wolf, porcupine, or bald eagle. Dawn and dusk are the best times to look.

Boat Tours

Each boat holds 37 passengers. 18 tickets for each tour (July 14–Sept. 4) only are available for advance purchase by calling 888-774-2728. The remaining 19 tickets for each tour (and all tickets July 1–13 and Sept. 5–17) are available from self-serve kiosks inside Crater Lake Lodge and the Annie Creek Gift Shop. These tickets go on sale exactly 24 hours in advance of each tour. Sales continue until the tour is sold out or 2 hours before departure, whichever comes first.

Boat Tours to Crater Lake

*No tours on Sept. 9 & 16. 24 hours in advance of each tour. Sales continue until the tour is sold out or 2 hours before departure, whichever comes first.

Activities

Backcountry Camping

Over 95% of the park is managed as wilderness. Although some areas are closed to backcountry camping (for example, there is no summer camping with a view of the lake), exploring the park’s old-growth forests and volcanic landscapes can be a rewarding experience.

Fishing

Fishing licenses are not required. All campers not staying in the park’s managed campgrounds must obtain a backcountry permit. The exception is through-hikers on the Pacific Crest Trail, who may instead sign the trail register as they enter the park. Permits are free and available at Park Headquarters, from the visitor center or ranger station, between 9:00 am and 5:00 pm.

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Let's Go Hiking!

Hi, I'm Ranger Madeline. We have 90 miles (145 km) of hiking trails here at Crater Lake. Our most popular day hikes are listed on this page. If you are visiting in June or July, be aware that some trails might still be closed by snow. Please help us protect this special place by following a few important rules:

- No hiking or climbing inside the caldera! The walls are dangerously steep and unstable.
- Leave all rocks, plants, animals, and artifacts undisturbed for the enjoyment of future hikers.
- Overnight backpacking requires a permit, available at Park Headquarters between 9:00 am and 5:00 pm. Some areas are not open to backcountry camping.
- Pets are allowed on the Godfrey Glen Trail, Lady of the Woods Trail, and Pacific Crest Trail. Pets must be leashed, only one per hiker (see page 2).
- To protect vegetation and prevent erosion, please stay on the trails.

### Castle Crest
- **Location**: 0.5 miles (0.8 km) loop trail
- **Roundtrip**: 1 hour
- **Elevation Gain**: 150 feet (46 meters)
- **Description**: Scenic trail along the rim of Crater Lake. Great views of Phantom Ship. Easy walk through an old-growth forest, with some canyon views. Dirt path, accessible to wheelchair users with assistance. Self-guiding brochures are available at the trailhead.

### Easy

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<tr>
<th>Location</th>
<th>Roundtrip</th>
<th>Elevation Gain</th>
<th>Time</th>
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<tbody>
<tr>
<td>Discovery Point</td>
<td>1 hour</td>
<td>150 feet (46 meters)</td>
<td>1 hour</td>
</tr>
<tr>
<td>Fumarole Bay</td>
<td>1 hour</td>
<td>200 feet (61 meters)</td>
<td>1½ hours</td>
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<tr>
<td>Watchman Peak</td>
<td>1½ hours</td>
<td>200 feet (61 meters)</td>
<td>3 hours</td>
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<tr>
<td>Annie Creek</td>
<td>3 hours</td>
<td>500 feet (152 meters)</td>
<td>5 to 6 hours</td>
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### Moderate

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<tr>
<td>Wizard Island dock</td>
<td>1 hour</td>
<td>200 feet (61 meters)</td>
<td>1½ hours</td>
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<tr>
<td>Union Peak</td>
<td>3 hours</td>
<td>500 feet (152 meters)</td>
<td>5 to 6 hours</td>
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### Strenuous

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<tr>
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<td>3 hours</td>
<td>500 feet (152 meters)</td>
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### Nature Note
- The Pinnacles are chimneys formed when hot ash cooled after the big eruption.
- Trail is named after William Godfrey, a ranger who died in a helicopter fire in 1950.
- Snowmelt, not Crater Lake, is the source of Plaikni Falls’ water.

### Self-guiding Brochures
- Available at the trailhead. Read them before setting out on your hike.

### Trail Conditions
- Rocky slopes along the trail
- The Pinnacles are chimneys formed when hot ash cooled after the big eruption.
- The trail is named after William Godfrey, a ranger who died in a helicopter fire in 1950.

### Trail Directions
- Start from Discovery Point. See viewpoint surrounded by located between loops D and E.
- The trailhead.
- West end of Rim Village, where the paved walk becomes a dirt path. Can also start from Discovery Point.
- The trail's name refers to a sculpture of a woman carved into a boulder along the trail.
- This U-shaped valley was carved by glaciers that once flowed down Mt. Mazama.

### Nature Notes
- Mistletoe, a parasitic plant.
- The trail is named after William Godfrey, a ranger who died in a helicopter fire in 1950.
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### Additional Information
- The one exception is the Cleetwood Cove Trail, the only legal access to the lake shore.
- The university campus integrated near cliff edges. Accessible to at park boundary. Accessible users with assistance.
- Self-guiding brochures are available at the trailhead.

### Vegetation and Wildlife
- The dead trees at the summit have been killed by drought, misfortune, a parasitic plant.
- The flowers here are nourished by springs emerging from the inside.
Highlights of the Rim Drive

Rim Drive is a 33-mile (53-km) road that encircles Crater Lake. It is one of America’s most scenic byways, with spectacular views in all directions. The full loop is typically open from early July to late October. It can be driven, without stopping, in about an hour, but plan on at least 2 to 3 hours to enjoy the varied sights. The road is narrow, so buses and motorhomes should use caution. There are more than 30 scenic pullouts along the route, many of which have roadside exhibits. Be sure not to miss these 7 “must-see” stops. For more information, pick up the excellent Road Guide to Crater Lake National Park (48 pages, $6.95) at either visitor center.

Discovery Point
Imagine seeing Crater Lake by accident. It was near this spot, on the back of a mule in 1853, that gold prospector John Hillman became the first European-American to stumble across what he called “Deep Blue Lake.”

Watchman Overlook
This pullout offers an unmatched view of Wizard Island, a cinder cone that erupted out of Crater Lake approximately 7,300 years ago. To find this unmarked pullout, drive 3.8 miles (6.1 km) west of Rim Village and look for a viewpoint lined with wooden fences.

Cloudcap Overlook
This overlook sits at the end of a 1-mile (1.6-km) spur road, the highest paved road in Oregon. Whitewater pins cling for survival here, dwarfed and contorted by the harsh winds.

Pumice Castle Overlook
Stop here to see one of the park’s most colorful features: a layer of orange pumice rock that has been eroded into the shape of a medieval castle. Watch carefully for this unmarked viewpoint, located 1.3 miles (1.8 km) west of the Cloudcap Overlook junction and 2.4 miles (3.9 km) east of the Phantom Ship Overlook.

Phantom Ship Overlook
Nestled against the shore, Crater Lake’s “other island” escapes detection by many park visitors. Though it resembles a small sailboat, the island is as tall as a 16-story building. It’s made of erosion-resistant lava, 400,000 years old—the oldest exposed rock within the caldera.

Pinnacles Overlook
This overlook is well worth the 6-mile (10-km) detour from Rim Drive. Colorful spires, 100 feet (30 meters) tall, are being eroded from the canyon wall. The Pinnacles are “fossil fumaroles” where volcanic gases once rose up through a layer of volcanic ash, cementing the ash into solid rock.

Vidae Falls
Look for this cascading waterfall between Phantom Ship Overlook and Park Headquarters. A spring-fed creek tumbles over a glacier-carved cliff and drops 100 feet (30 meters) over a series of ledges. In summer, wildflowers flourish in the cascade’s spray.
Saving the Bull Trout of Sun Creek

New Connection with the Wood River Will Be a “Watershed Event” for This Threatened Species

This summer, the park’s only population of native fish—isolated for nearly 150 years in a 1.2-mile (1.9-km) stretch of Sun Creek. The remaining bull trout population had dwindled to roughly 150 individuals confined to a 1.2-mile (1.9-km) stretch of Sun Creek. The apparent cause of the decline was competition from non-native brook trout, a species from the eastern US introduced to park streams in large numbers (275,000 into Sun Creek alone) for recreational fishing between 1912 and 1975. Brook trout lay more eggs than bull trout, breed at a younger age, and compete for the same food and space. They also hybridize with bull trout, producing offspring that are sterile. By 1992, Sun Creek’s bull trout seemed destined for extinction, outnumbered by brook trout by a ratio of 13 to 1.

To save the natives, biologists knew they’d have to rid the creek of the stocked fish. It was a long and labor-intensive process, taking from 1992 to 2005 and consisting of four main tasks. First, workers constructed two artificial waterfalls on Sun Creek, near the park boundary, tall enough to keep non-native fish from recombing the park from downstream. Second, they carefully captured the creek’s bull trout and temporarily housed them elsewhere. Third, they eradicated the rest of the trout by introducing antimycin (a fish toxin) to the water and using a technique called electrofishing (catching fish by stunning them with an underwater electric current). Finally, with the non-natives vanquished, the bull trout were returned to their home. With the creek all to themselves, they flourished, growing in size and number to more than 2000 individuals in 7 miles (11.2 km) of stream.

This was great news, but biologists knew that the long-term survival of the population would depend on its ability to re-establish gene flow with other bull trout populations in the Klamath Basin (in order to limit inbreeding and the loss of genetic variation). So, from 2010 to 2015, the park partnered with two state agencies and the US Fish and Wildlife Service to build two more waterfalls—and remove the non-native bull trout. They constructed a section of Sun Creek outside the park, on state land, adding 4.3 miles (7 km) to the population’s territory. Now, just 2.7 miles (4.3 km) remained between the fish and their historic migratory corridor. The Waterfall Project was a stunning success. But a threat to bull trout were returning to their home. With the creek all to themselves, they flourished, growing in size and number to more than 2000 individuals in 7 miles (11.2 km) of stream.

To reconnect Sun Creek with the Wood River, biologists designed and then dug a new channel (NewConnection). It's the culmination of a 28-year effort to save the park’s bull trout and represents, both literally and figuratively, a “watershed event” in the recovery of the species. Bull trout (Salvelinus confluentus) are cold-water fish native to many rivers and lakes in western North America. While they never inhabited Crater Lake, they thrived south of the lake. In 1902. Second is a dry grassland dominated by the pumice found almost exclusively in Crater Lake. It’s capped by a layer of beige pumice, Mazama pumice, a layer of spongy peat, 3 to 6 feet (1-2 meters) deep, has developed over the past 3,000 to 4,000 years.

Setting foot in the Llao Rock RNA won’t get you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RNA 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(175-hectare) RNA has been of-limits to you wet, but it will get you fine: this 435-acre (175-hectare) RN
What Determines the Water Level in Crater Lake?  
Precipitation and Evaporation Are Not the Only Factors

Most people who visit Crater Lake eventually find themselves wondering about the water level. Indeed, questions about the lake’s “water budget” have perplexed scientists for more than a century. Unlike most lakes, Crater Lake does not completely fill its basin. What’s the deepest lake in the USA, with an official depth of 1,943 feet (592 meters), in its surface less than 100 feet (30 meters) below the lowest point on its rim? So, what governs the water level? To what degree does it fluctuate with the seasons (see graph below) and that it also responds to prolonged periods of wet or dry weather.

Drought in the 1920s caused the surface to drop to its lowest recorded level of 6,163 feet (1,879 meters) above sea level in the 1930s and early 1940s. A series of snowy winters in the early 1970s pushed it to a record high elevation of 6,179 feet (1,883 meters) in 1975. Although 16 feet (5 meters) of variation might seem like a lot, it represents less than 1% of the lake’s total depth.

And there’s evidence that the lake has stayed within this narrow range, or close to it, for much of the lake’s history.

Along the shore of the lake, researchers have noted a number of sites, gently-sloping “beaches.” Right now, they’re largely underwater; they’re formed from just above the present lake level to a depth of about 18 feet (5.5 meters). On a calm day, you can see many of the submerged shales from over lookers on the rim. Unlike the steep slopes above and below them, their profile is fairly flat. They could only have formed by the action of waves, lapping against the walls of the caldera for hundreds or thousands of years.

How do we account for the relative long-term stability of the water level? Has the lake achieved a rough balance between precipitation and evaporation? On the contrary, the rate of evaporation is more than twice that of evaporation! Each year, Crater Lake receives an average of 80 inches (203 centimeters) of water, mainly in the form of snow that falls directly on the lake’s surface. (No streams or rivers feed into the lake, and just 17% of its input consists of runoff from the surrounding cliffs.) Only about 30 inches (76 centimeters) of water are removed from the lake annually through evaporation.

Instead, it’s steady “seepage” that maintains the lake’s balance. Water is leaking through the caldera’s walls at the rate of 76 cubic feet (2.1 cubic meters) per second, or more than 2 million gallons (7.6 million liters) every hour! Scientists were able to calculate the rate of seepage in 1985, by observing how much the lake dropped when it was briefly covered by a layer of skim ice, preventing evaporation. Much of the seepage seems to be occurring along the northeast caldera wall. Below a line of cliffs known as the Palisades, geologists have identified a permeable layer of rock, which continues below lake level to a depth of 140 feet (43 meters). The layer consists of loose rubble evidently left behind by ancient glaciers, through which most of the lake’s seepage is thought to occur. More than 2 million gallons (7.6 million liters) of water leak out of Crater Lake every hour!

Since 1896, much has been learned about Crater Lake’s water budget. But with such complex dynamics—and so many unanswered questions—the level of the lake is sure to remain a subject of wonder, curiosity, and scientific study far into the future.

In 1901, Joseph Diller of the US Geological Survey painted this scale on a blackboard—once the first attempts to measure the lake level over time.

In lake summer, a white “bathtub ring” becomes evident along the shore of Crater Lake. It’s a deposit of silica, composed of the skeletons of diatoms (diatoms). Its upper limit approximates the high-water mark from late spring.

The presence of broad, gently sloping “beaches”—like this one, on Wizard Island—is evidence that the lake’s level has held relatively steady, within 20 feet (6 meters) or so, for hundreds, and probably thousands, of years. It would have taken that long for waves, pounding against the rocky cliffs, to sculpt these level platforms.

The Palisades are a series of cliffs that loom over the lake’s north shore. Below the cliffs is a pile of rubble, left behind by ancient glaciers, through which most of the lake’s seepage is thought to occur. More than 2 million gallons (7.6 million liters) of water leak out of Crater Lake every hour!

What resembles an oceanhouse at the bottom of the Crease Core Trail is actually a scientific instrument. Installed by the US Geological Survey in 1961—and now solar-powered—it measures the lake level, with great precision, every half hour. You can view (and graph) the data online.
Climate Chart

Summers at Crater Lake are short but sunny. Even so, there are some days when the lake is shrouded in clouds. July, August, and September are your best bets for warm, dry weather. In May, June, and October, sunny days alternate with periods of rain and snow. Winters are long and snowy. Storms from the Pacific Ocean dump an average of 43 feet (13 meters) of snow at Park Headquarters. The park's tremendous snowfall is a result of its position at the crest of the Cascade Mountains.

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Recommended Reading

- **Crater Lake: The Story Behind the Scenery** Large photos with detailed captions accompany the text of this popular book. 48 pages, $11.95.
- **Crater Lake: Gem of the Cascades** A comprehensive guide to the park's geologic story, written by a former ranger. 168 pages, $15.95.
- **Road Guide to Crater Lake National Park** Consult this guide as you circle the lake for a deeper understanding of the park's features. 48 pages, $6.95.
- **Trails of Crater Lake & Oregon Cascades** A detailed guide to 24 hiking trails. 112 pages, $14.95.
- **Plants & Animals of Crater Lake Nat’l Park** Detailed descriptions and vivid photos of the park's most visible species. 11 pages, $6.95.
- **101 Wildflowers of Crater Lake Nat’l Park** Descriptions and photos of the park's most common flowers. 74 pages, $14.95.
- **Trees To Know in Oregon** Easy identification is easy and enjoyable with this photo-packed, fact-filled guide. 154 pages, $18.00.

Other Useful Items

- **Crater Lake: Into the Deep DVD** Own the film shown at the visitor center. Discover the park’s significance and explore the lake’s violent past. 22 minutes, $14.99.
- **The Mountain That Became a Lake CD** Listen to this CD as you drive the park’s roads. Park rangers and American Indians share facts, stories, and insight about Crater Lake. 60 minutes, $16.95.
- **Crater Lake Topo Map** Waterproof and tearproof. 1:55,000 scale. $11.95.
- **Crater Lake Water Bottle** This plastic bottle’s flip-top lid makes it easy to quench your thirst. $3.99.
- **Star & Planet Guide** Rotating “planisphere” for locating stars, planets, and constellations. $11.99.
- **Crater Lake Reusable Shopping Bag** Earth-friendly and great for groceries. Made from recycled materials. $3.99.
- **Clark’s Nutcracker T-Shirt** 100% cotton. Born on front, take on back. $19.99.

Support Your Park

- **Volunteer Your Time**
  - **Volunteer**
    - **Ski Patrolers**
  - **Volunteer**
  - **Volunteer**
  - **Volunteer**
- **Buy Crater Lake License Plates**
  - **Crater Lake Trust**
  - **Contribute to**

Thank You!