


LOST DUTCHMAN
STATE PARK



Earthcache Course



ARIZONA
STATE PARKS & TRAILS

Earthcache Course

Welcome to the Lost Dutchman State Park Earthcache guided trail course. As opposed to a traditional Geocache, an EarthCache is a “special geographical location people may visit to learn about a unique feature of the Earth.” This program allows you to enjoy a hiking tour through the park using your GPS unit or compass app on your smartphone, with opportunities along the way to learn interesting stories about the park and understand what you are observing in the natural landscape. We have three different hiking ability levels for you to choose from: easy, moderate, and difficult. We recommend you have your 10 hiking essentials, including sturdy shoes. As you visit each location in the park, please don't leave a cache. Choose which locations you'd like to explore and ask a ranger or volunteer for the information, or simply print this program and bring with you!

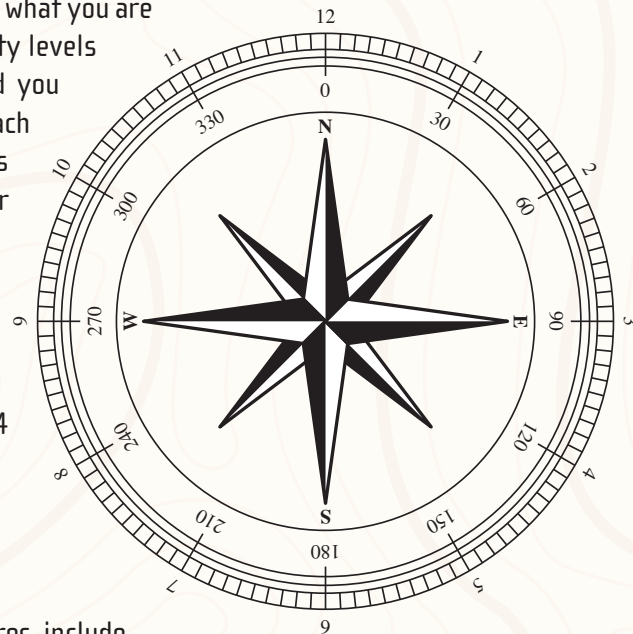
Easy: level ground, easily accessible

Moderate: 500 ft elevation change, 2+ miles

Difficult: steep rocky terrain, significant elevation gain (1000 ft), ~3-4 miles

#LDSPEarthcache

This is where you may leave your mark! Traditionally cache adventures include taking and leaving an item. This way you still can, but it will be a digital footprint that you can share without leaving a trace. If you choose to take photographs and share them on social media, please use our #LDSPEarthcache to share your experience with others who have explored with you in the past and will in the future.



Earthcache course: Easy

Ranger station: N 33° 27' 46", W 111° 28' 52" | What3Words ///slot.crept.superficial

The park provides views and access to the most scenic portions of the legendary Superstition Mountains and maintains facilities to support recreational activities. The legends of the Lost Dutchman Gold Mine are known throughout the world, with travelers from all over coming to experience the mystery. Although prospecting was prohibited in 1984, visitors are still entranced with the golden opportunities to experience the beautiful and rugged area of the Superstition Wilderness. The Bureau of Land Management (BLM) developed Lost Dutchman State Park in 1972 as a day use recreation area, and Arizona State Parks and Trails acquired the land in 1977.

Saguaro growth measurement: N 33° 27' 46", W 111° 28' 57" | What3Words ///brimmed.furry.misfits

In 1992, park rangers began measuring the growth of this saguaro, an endemic species found nowhere else on Earth! Plant growth is determined by several factors including rain, sunlight, elevation, and temperature. Typically a saguaro has to be around 50-75 years old and should be at least 15 feet tall before it will grow its first arm buds. When this occurs, energy is focused more toward growing arms than height. Flowers bloom in the spring on the tops of the saguaro and its arms, and the saguaros are usually at least 8 feet tall before they blossom. Each flower will contain 2,000 seeds. In its lifetime a saguaro can spread around 40 million seeds. Saguaro flowers bloom for less than 24 hours, providing a small window of time to be pollinated. During the night, the flowers are pollinated by the lesser long-nosed bat and the Mexican long-tongued bat. During the daytime, the flowers are pollinated by bees and birds, such as the white-winged dove.

Sundial: N 33° 27' 36", W 111° 28' 43" | What3Words ///venturing.diagram.craziness

It is time to exercise your scientific mind. Before we had watches on our wrist and smartphones in our pockets, people used the position of the sun to know what time it was. Now that you're here, figure out what time it is using your shadow. This is also the first stop on our solar trail; feel free to explore the rest of it while you are here. It is a work in progress provided to the park through support via the Friends of the Lost Dutchman group.

Frost bitten saguaro: N 33° 27' 36", W 111° 28' 35" | What3Words ///strollers.muffins.inhabited

Saguaros are primarily composed of water. When temperatures drop, they are subject to damage as the tissue freezes, although it may not be visible right away. The cactus will fail over the course of the coming years or even decades. The arms will begin to droop, the plant will be weakened, becoming more susceptible to bacteria and rot damage. The youngest and oldest saguaro are the most susceptible to frost damage.

Earthcache course: Moderate

Bench: N 33° 26' 16", W 111° 27' 5" | What3Words ///pops.amazons.bedpost

This is a wonderful place to stop, enjoy a break and observe the "praying hands" rock formation. While you're here, also note the Goldfield Mountains to the northwest and Four Peaks to the northeast. You will notice a social (unmaintained) trail leading to the praying hands rock formations, but it is not along this earth cache course.

Gas rock: N 33° 27' 11", W 111° 27' 48" | What3Words ///midrange.untaxed.blotches

The Superstition mountain range began forming around 20 million years ago by volcanic processes (both eruptions and fissures). Notice the presence of vesicles (cavities or holes) on the rock, serving as indicators that it formed from cooled magma that emerged from a super volcano. Vesicles are found in extrusive igneous (external volcanic) rocks. Magma oozing from cracks in the earth's crust spread out over the land creating a new rock layer.

Fire damage: N 33° 27' 33", W 111° 28' 17" | What3Words ///coupon.sketching.curing

As you look out over the slope in front of you, notice the lack of taller, more mature vegetation until you move closer to the campground. This absence of trees and saguaros was caused by a 1993 fire that broke out in the housing area you can see to the left. It spread into the Tonto National Forest where you are currently standing. It will be a long time before this area recovers and saguaros are able to return and fill in this space.

United States General Land Survey: N 33° 27' 5", W 111° 28' 6" | What3Words ///succumbed.unify.shattering

Located next to the trail, this survey marker could have been a part of measuring the land for mining claims in the area. During early settlements of the United States, chains and furlongs were used to measure acres. A chain is equal to 66 feet and is made up of 100 links. There are 10 chains in a furlong; 80 chains is one statute mile. Furlong derives from the Old English words (furrow) and lang (long). Furlong means furrow length- the distance a team of oxen could plough without resting.

Green boulder: N 33° 27' 28", W 111° 28' 22" | What3Words ///formality.clings.transfers

This large landmark is a popular feature in the park that is used to help orient visitors. It is green because of the lichen that is found on the north facing side. The lichen "eats" away at the rock, making the soil below more fertile. Lichen also absorbs the air around it and is used as a bio-indicator for what pollutants are in the local atmosphere. It is likely that the green boulder came to rest in its current location after a significant tectonic event that helped collapse the volcano into the underground magma chambers.

Earthcache course: Difficult

Foundation Siphon Draw Trail: N 33° 26' 49.5", W 111° 28' 36.4" | What3Words ///ratio.necktie.rinse

This old building foundation is associated with the Palmer mine, previously known as the Boulder-Buckhorn claim run by William A. Kimball. There is conjecture that it may have been the gunpowder storage for Dr. Palmer. However, local historian Tom Kollenborn believes this was a small storage basement under a cabin, since it is too far below the mine to allow for quick access to the gunpowder for blasting. The trail you hiked up on is the old wagon road used in 1886 when Kimball hauled copper from the mine to Mesa.

Palmer Mine Tailings: N 33° 26' 53.0", W 111° 28' 11.5" | What3Words ///referring.chunky.umpires

In 1942, Dr. Ralph F. Palmer had a claim on this mine. This mine has gold, silver, and bluebird turquoise. Workings included a vertical shaft at least 215 feet, 6 feet of crosscut, and 40 feet of drifting. A drift follows the vein of ore and a crosscut intersects it. A drift is a nearly horizontal mine entry above sea-level. A crosscut is a horizontal underground passageway usually found in the slope of a mountain and is usually bored from a mining shaft at near right angles. The mine has since been filled in for safety reasons.

The Basin: N 33° 27' 25.5", W 111° 28' 49.7" | What3Words ///ratio.necktie.rinse

This slick rock is a rounded geologic formation where you can see a small waterfall after a heavy rain. You also may be lucky enough to observe a ringtail cat or longhorn sheep while hiking up the Siphon Draw trail. From the basin and many places in the park, you may look up and observe the Flatiron, which looks like the bow of a ship. The hike to the top of the Flatiron is one of the most difficult and dangerous in the valley. It includes a class 2 scramble and nearly 1,500 feet of elevation gain in the last mile. However, the peak is still a ways up from the end of the siphon draw trail.

1 - Saguaro growth measurement (Virtual Stage) N 33° 27.767 W 111° 28.950

Note: In 1992, park rangers began measuring the growth of this saguaro, an endemic species found nowhere else on Earth! Plant growth is determined by several factors including rain, sunlight, elevation, and temperature. Typically a saguaro has to be around 50-75 years old and should be at least 15 feet tall before it will grow its first arm buds. When this occurs, energy is focused more toward growing arms than height. Flowers bloom in the spring on the tops of the saguaro and its arms.

2 - Sundial (Virtual Stage) N 33° 27.600 W 111° 28.717

Note: It is time to exercise your scientific mind. Before we had watches on our wrist and smartphones in our pockets, people used the position of the sun to know what time it was. Now that you're here, figure out what time it is using your shadow. This is also the first stop on our solar trail; feel free to explore the rest of it while you are here. It is a work in progress provided to the park through support via the Friends of the Lost Dutchman group.

3 - Frost bitten saguaro (Virtual Stage) N 33° 27.600 W 111° 28.583

Note: Saguaros are primarily composed of water. When temperatures drop, they are subject to damage as the tissue freezes, although it may not be visible right away. The cactus will fail over the course of the coming years or even decades. The arms will begin to droop, the plant will be weakened, becoming more susceptible to bacteria and rot damage. The youngest and oldest saguaro are the most susceptible to frost damage.

4 - Bench (Virtual Stage) N 33° 26.267 W 111° 27.083

Note: This is a wonderful place to stop, enjoy a break and observe the "praying hands" rock formation. While you're here, also note the Goldfield Mountains to the northwest and Four Peaks to the northeast. You will notice a social (unmaintained) trail leading to the praying hands rock formations, but it is not along this earth cache course.

5 - Gas rock (Virtual Stage) N 33° 27.183 W 111° 27.800

Note: The Superstition mountain range began forming around 20 million years ago by volcanic processes (both eruptions and fissures). Notice the presence of vesicles (cavities or holes) on the rock, serving as indicators that it formed from cooled magma that emerged from a super volcano. Vesicles are found in extrusive igneous (external volcanic) rocks. Magma oozing from cracks in the earth's crust spread out over the land creating a new rock layer.

6 - Fire damage (Virtual Stage) N 33° 27.550 W 111° 28.283

Note: As you look out over the slope in front of you, notice the lack of taller, more mature vegetation until you move closer to the campground. This absence of trees and saguaros was caused by a 1993 fire that broke out in the housing area you can see to the left. It spread into the Tonto National Forest where you are currently standing. It will be a long time before this area recovers and saguaros are able to return and fill in this space.

7 - United States General Land Survey (Virtual Stage) N 33° 27.083 W 111° 28.100

Note: Located next to the trail, this survey marker could have been a part of measuring the land for mining claims in the area. During early settlements of the United States, chains and furlongs were used to measure acres. A chain is equal to 66 feet and is made up of 100 links. There are 10 chains in a furlong; 80 chains is one statute mile. Furlong derives from the Old English words (furrow) and lang (long). Furlong means furrow length- the distance a team of oxen could plough without resting.

8 - Green boulder (Virtual Stage) N 33° 27.467 W 111° 28.367

Note: This large landmark is a popular feature in the park that is used to help orient visitors. It is green because of the lichen that is found on the north facing side. The lichen "eats" away at the rock, making the soil below more fertile. Lichen also absorbs the air around it and is used as a bio-indicator for what pollutants are in the local atmosphere.

9 - Foundation Siphon Draw Trail (Virtual Stage) N 33° 26.825 W 111° 28.607

Note: This old building foundation is associated with the Palmer mine, previously known as the Boulder-Buckhorn claim run by William A. Kimball. There is conjecture that it may have been the gunpowder storage for Dr. Palmer. However, local historian Tom Kollenborn believes this was a small storage basement under a cabin, since it is too far below the mine to allow for quick access to the gunpowder for blasting. The trail you hiked up on is the old wagon road used in 1886 when Kimball hauled copper.

10 - Palmer mine tailings (Virtual Stage) N 33° 26.883 W 111° 28.192

Note: In 1942, Dr. Ralph F. Palmer had a claim on this mine. This mine has gold, silver, and bluebird turquoise. Workings included a vertical shaft at least 215 feet, 6 feet of crosscut, and 40 feet of drifting. A drift follows the vein of ore and a crosscut intersects it. A drift is a nearly horizontal mine entry above sea-level. A crosscut is a horizontal underground passageway usually found in the slope of a mountain and is usually bored from a mining shaft at near right angles.

11 - The basin (Virtual Stage) N 33° 27.425 W 111° 28.828

Note: This slick rock is a rounded geologic formation where you can see a small waterfall after a heavy rain. You also may be lucky enough to observe a ringtail cat or longhorn sheep while hiking up the Siphon Draw trail. From the basin and many places in the park, you may look up and observe the Flatiron, which looks like the bow of a ship. The hike to the top of the Flatiron is one of the most difficult and dangerous in the valley. It includes a class 2 scramble and nearly 1,500 feet of elevation.

LOST DUTCHMAN STATE PARK



Contour Interval 20 Feet Created by ASP/ GIS Team Date: 4/18/2019

- Campground
- Drinking Water
- Dump Station
- Group Campground
- Ramada
- Parking
- Point of Interest
- Ranger Station
- Restroom
- Shower
- Cabin
- Junction
- Trailhead
- Trail
- Primitive Trail
- Gate
- Wilderness
- Park Boundary

- Cabins**
- 1 Poppy
- 2 Lupine
- 3 Mallow
- 4 Primrose
- 5 Mistletoe

Trail Code	Trail Name	Length One Way	Uses*
		mi	km
DI	Discovery	0.4	0.7
JC	Jacob's Crosscut #58	1.2	1.9
MB	Mountain Bike	2.8	4.6
NP	Native Plant	0.2	0.4
PV	Prospector's View #57	0.6	1.0
QL	Quail Loop	1.3	1.7
SD	Siphon Draw #53	1.1	2.1
US	Upper Siphon Draw	1.3	3.9
TL	Treasure Loop #56	2.4	0.6
VL	Vista Loop	0.4	0.6

* B=Mountain Bike D=Dog E=Equitation H=Hike

