



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS



NATIONAL CONSERVATION AREA

THE PLAYA

A map of the ancient pluvial Lake Lahontan



- Lake Lahontan is a pluvial lake that formed within the western portion of the Great basin, occupying the majority of northwestern Nevada during the middle to late Pleistocene, an epoch that occurred 1.8 million to 11,000 years ago.
- A pluvial lake is one that had considerable fluctuations in water levels primarily due to climatic changes and fluctuations in precipitation and evaporation rates.
- Lake Lahontan formed at a time when regional climatic conditions were much different than they are today.
- Presently, Lake Lahontan exists only as several small remnant lakes like Pyramid and Walker Lakes.
- The most notable parts of the Lake Lahontan basin are the ancient shoreline formations and the playa.
- Lake Lahontan's immense size allowed it to produce shoreline formations that rival the magnitude of costal-marine formations which are found only in a select few places.

Lake Lahontan



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Lake Lahontan



Ancient Very High Shoreline

High Lake Shore line



Ancient Lake sediments



Ancient Shorelines cut into the side of the West Humboldt Mountains



Shells of freshwater shellfish found in the Carson Sink



Hidden dry lake (right) behind an ancient beach barrier (center) in the west Humboldt Range

*All pictures were gathered from www.rangerovers.net





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ICE AGES

- The Pleistocene epoch took place 1.8 million to 11,000 years ago.
- It was during this period that the most recent episodes of global cooling, or ice ages, took place.
- As time passed, the earth began to warm back up due to natural processes.
- The continued increase in temperature of the earth caused an increase in the evaporation of rivers, lakes and oceans around the world.

THE WATER CYCLE

- Take a look at the water in your water bottle. Can you guess how old it is?
- The water in your bottle has been on the earth as long as the earth has been around.
- When the oceans were full of nothing but single-celled organisms, your water helped make up that ocean. When the Brontosaurus walked through lakes feeding on plants, your water was part of those lakes. When kings and princesses and knights and jesters took a drink from their wells, your water was part of those wells.
- The earth has a limited amount of water. That water keeps going around and around and around and around and (*well, you get the idea*) in what we call the "Water Cycle".

The Water Cycle is made up of a few main parts:

- **Evaporation** is when the sun heats up water in rivers or lakes or the ocean and turns it into vapor or steam. The water vapor or steam leaves the river, lake or ocean and goes into the air. **Transpiration** is the process by which plants lose water out of their leaves. Transpiration gives evaporation a bit of a hand in getting the water vapor back up into the air.
- **Condensation** is when water vapor in the air gets cold and changes back into liquid, forming clouds.
- **Precipitation** occurs when so much water has condensed, that the air cannot hold it anymore. The clouds get heavy and water falls back to the earth in the form of rain, hail, sleet or snow.
- **Collection** occurs when water falls back to earth as precipitation. It may fall back in the oceans, lakes or rivers or it may end up on land. When it ends up on land, it will either soak into the earth or become part of the "ground water" that plants and animals use to drink or it may run over the soil and collect in the oceans, lakes or rivers where the cycle starts all over again.

What happened to the lake?
What happened to the lake?
What happened to the lake?



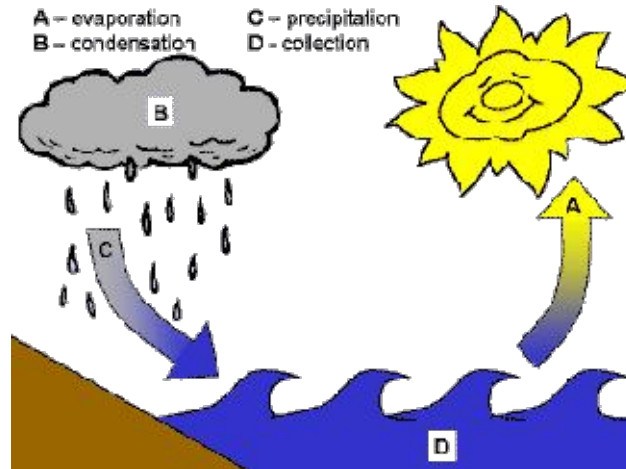
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THE PLAYA

• THE WATER CYCLE-A DIAGRAM



LAKE LAHONTAN

- As the earth got warmer and warmer, more and more of Lake Lahontan began to disappear.
- Eventually all that was left of the lake is what you see now, the dry lake bottom, a few hot springs and physical evidence (fossils, tufa rock, sea stacks) of the once enormous lake that stretched 25 miles long 15 miles wide (at its widest point).
- Why does the Playa look like it does? Imagine a grape, a round, fresh grape full of grape juice. Now, think about what happens when you remove the grape juice and dry the grape out....it gets all hard and wrinkly, thus forming a raisin. The same thing happened to the lake bottom of Lake Lahontan. When the lake was full of water the bottom was soft and muddy. Once all the water evaporated, the lake bottom dried out, becoming hard and cracked.

EVERYDAY EVAPORATION

- Here are some sources of evaporation you may encounter everyday...
- Steam boiling off of a pot of water or a kettle.
- Steam from a shower.
- Sweat drying off of your skin.
- A puddle in your front yard drying up.
- Thick fog in winter caused by the snow.
- Can you think of any more?
- Are lakes still evaporating today? **YES!** Water is always evaporating depending on the weather, but as long as the water flowing into the lake equals the water being evaporated, the lake level will not change. (If this is the case, why did Lake Lahontan dry up?)



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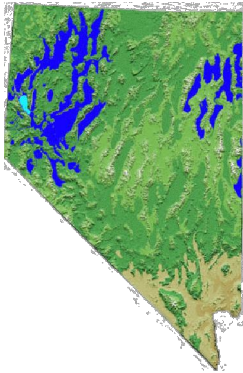
Remnant Lakes

THE PLAYA



Pyramid Lake

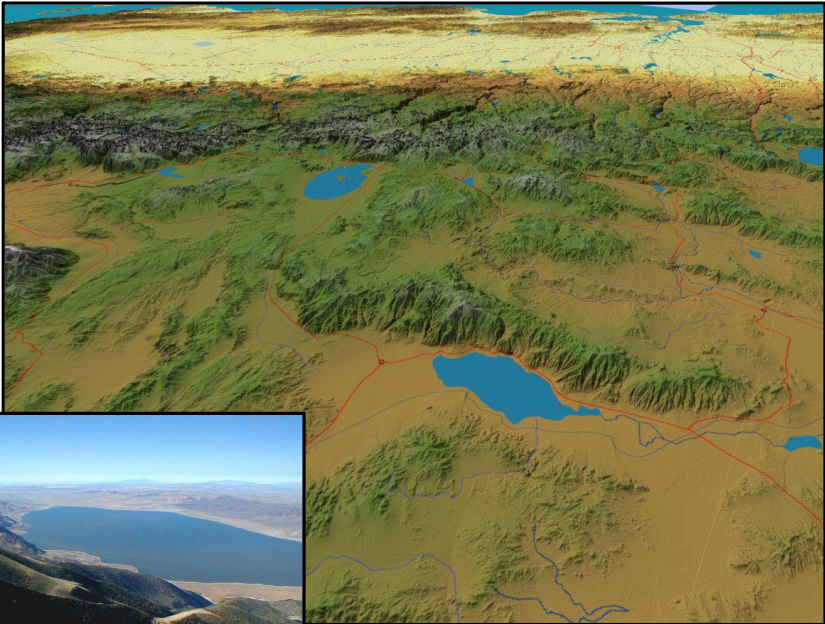
Walker Lake



www.adventurejournalist.com

Pyramid Lake [130.166.124.21 panoramas1.htm](http://130.166.124.21/panoramas1.htm)

- Pyramid Lake and Walker Lake are leftover bodies of water from the days of Ancient Lake Lahontan.
- Pyramid Lake is named after the tufa rock formation on its eastern shore (pictured above).
- Both lake waters are alkaline, showing their relationship to the ancient lake, because Lake Lahontan was an alkaline lake.
- Both host Lahontan Cutthroat Trout and other native species.
- Pyramid Lake is located 33 miles northeast of Sparks, NV and Walker Lake is 135 miles from Reno, NV (Southeast of Carson City.)



Walker Lake [130.166.124.21 panoramas1.htm](http://130.166.124.21/panoramas1.htm)



<http://dcnr.nv.gov>

