

Move the Water!

Proposed by Active Climate Rescue Initiative.

A natural process solution to the **Colorado River water shortage**.

A natural process solution to **Western USA Mega-Drought**.

A natural process solution to **rehydrate The Great Basin**.

A natural process solution to **refill Snake River Aquifer**.

A natural process solution to **refill the Salton Sea**.

A natural process **solution to Climate Change**.

Active Climate Rescue Initiative proposes one infrastructure project will solve two major issues, one caused naturally and one of manmade origin. The natural issue is the moisture deficit within The Great Basin. The manmade issue is the mega-drought with the corresponding drying of the Colorado River. Oh, by the way, this will also have a beneficial effect against Climate Change.

The natural issue.

The natural condition of the Great Basin is that of moisture deficit. This is because of the Rain Shadow Effect. The Great Basin has mountains all around it. The Rain Shadow Effect associated with these mountains allows more water to be blown out of than it allows to be blown into the Great Basin, which creates a natural moisture deficit, which creates a natural desert. It has not always been this way. We see evidence of great amounts of water having been within the great basin. I will posit one explanation. Approximately 2,457 BC, at the end of Noah's Flood, the great basin would have been full to the brim with water. Because of the natural moisture deficit, during the 4,480 subsequent years that water would have evaporated leaving the land dry with large amounts of salt deposits left behind. The drying has not stopped. It is continuing today as is evidenced by The Great Salt Lake being at its lowest recorded level.

The manmade issue.

The Colorado River is fed by more than one hydrologic cycle. The manmade issue is that one of these hydrologic cycles has broken. This one hydrologic cycle feeds the Colorado River Watershed from the south (Laguna Salada, MX > Salton Sea, CA > Death Valley, NV > Great Salt Lake, UT > Colorado River > Laguna Salada, MX). Some wish to blame this broken water cycle on Climate Change, but I posit that this is a manmade broken water cycle which is contributing to Climate Change, not caused by it.

Here is what happened.

During the 1930s California created the Colorado River Aqueduct which began operation in 1939, removing 1,200,000 acre-ft (1.5 cubic km³) annually from the watershed. Other people/cities/states also draw Colorado River water. Those which are within the watershed have less effect on the water cycle than those which are outside of the watershed. The net result is that all the water of the Colorado River is fully used before it passes Mexicali, MX. It no longer refills Laguna Salada, and it has left a desert wasteland where there used to be a fertile river delta. With the water no longer refilling Laguna Salada,

MX, there is no water to evaporate and continue the Hydrologic Cycle. This has broken the Hydrologic Cycle, which has created a drought, which has spurred domino droughts, which has led to the current mega-drought.

Infrastructure project.

Move the Water! is an initiative which proposes moving ocean water inland, usually via gravity flow water paths, and in some instances via pumping. This infrastructure project proposed has three parts:

Part one.

Reverse the flow of the Coyote Canal so that ocean water from the Gulf of California (Sea of Cortez) flows into Laguna Salada, MX. This would be gravity flow and it will begin to repair the water cycle. The return of water to Laguna Salada will bring climate justice to the local indigenous people group by restoring their fishing grounds.

Part two.

Extend the Coyote Canal so that Laguna Salada water flows into the Salton Sea. Care must be taken to assure that the Salton Sea maintains its historical optimal level from the 1950s. This would be gravity flow and it will continue to repair the water cycle. The increased water level of Salton Sea would return commerce to the area, bring recreation to the sea, increasing the local moisture with benefit to local indigenous people groups and native Californians in Imperial Valley and up into the Central Valley. The flow through from Laguna Salada, MX to the Salton Sea would assure Laguna Salada, MX does not become hypersaline.

Part three.

Pump Salton Sea water into the Great Basin, logically into Death Valley. Optimally pipes and pumps, enough to transport 15maf (million acre-feet) of Salton Sea water annually (0.5af/second) into Death Valley. The flow through from the Salton Sea to the Great Basin would assure the Salton Sea does not become hypersaline, and in time return the saline level to that closer of the ocean. The proposed flow is equal to the amount of freshwater annually extracted from the Colorado River. The water delivered into the Great Basin would end its water deficit and set it up for rehydration, which would be a boon on many levels.

The cost.

The construction costs could be funded by the Federal Government as a Climate Change infrastructure project with the Corps of Engineers doing the work. Alternatively, the construction costs could be administered along with the operational costs by the Reclamation Bureau and charged as a fee/tax on each gallon of water drawn from the Colorado River. The fee/tax amount would be equal to the cost of pumping one gallon into the Great Basin.

The benefits.

There are multiple benefits to the Move the Water! plan.

1. Combating Climate Change by reversing Global Warming.
 - a. Increased water in deserts causes evaporation which is a cooling process.

- b. Evaporated water returns as fresh clean water in form of mist/rain/snow, which is a cooling process.
 - c. Fresh clean rainwater hydrates the land benefiting man/animals/plants.
 - d. Increased plant growth pulls carbon from air and stores it in the plants.
 - e. Increased plant growth cools the desert floor which will allow freshwater to percolate into the ground and be stored for later use, keeping it from returning to the ocean.
2. Increase the North American Monsoon. There is some evidence which points to the desertification of the Colorado River Delta in Mexico as a cause of a temperature inversion which limits the North American Monsoon. Restoring Laguna Salada should break this blockage.
 3. Rehydration of The Great Basin will have many benefits.
 - a. Increased mist/rain/snow providing climate justice to the indigenous peoples living in remote desert reservations.
 - b. Increased moisture allows for increased farming. In this case the Great Basin could soon become a new breadbasket for the USA.
 - c. Increased water level in The Great Salt Lake, along with multiple freshwater streams, rivers and lakes will occur with the increased moisture.
 4. Rehydration of Southern Idaho. There is correlative data which links the level of the Snake River Aquifer to the level of The Great Salt Lake. Looking at the geology of the area it is easy to postulate that a rehydrated Great Basin would lead to a moister Southern Idaho.
 5. Restoring this hydrologic cycle will push freshwater (rain/snow) into the headwaters of the Colorado and Snake Rivers.

Perceived problems.

There are several suggested problems with this plan, all manageable.

Salt.

The biggest concern is creating a hypersaline sea and/or leaving salt behind after evaporation. Be aware that all the areas where ocean water importation is proposed are areas which are already saline with brackish water aquifers. So, bringing in salt water is not an environmental catastrophe. Rather the resulting rain will work to overlay the salt water with fresh because salt water is heavier than fresh water. Aquifers being filled with rainwater will have fresh water on top of the brackish water. Decades from now the brackish water in aquifers will be of little concern. The salt left behind will be deposited in the terminal pool, which will be Death Valley, which is already a saltpan. It is likely that Death Valley will turn into an inland salt sea, and it will become hypersaline, but that is natural and cannot be avoided, however it may be able to be profited from depending on the individual.

Flash Floods.

Rain in deserts can cause flash floods. This is normal and unpleasant. Expecting this allows for the situation to be worked around. Flash floods come when water is rained onto desert ground which is dry and devoid of plants. Consistent rainfall will allow plants grow which will slow the water flow. Additionally, some geographic modifications can be accomplished to slow the flow of the rainwater, which will encourage better usage of the water along its path. I expect that this type of work will be locally done by foresighted individuals/communities.

Death Valley National Park.

Death Valley National Park will change from a dry lakebed to an inland salt sea. It can remain a National Park, but its features will be slightly changed, and it will likely see heavier use because of the new features. It still will be the lowest place in USA, but likely not the hottest as the increased moisture will cool the area.

Existing ecosystem.

Some have complained that the increased moisture would harm the existing ecosystem within the Great Basin and in all the deserts which are rehydrated. I contend that the local critters are those who have not died out and would like a bit more rain. Yes, some of the critters who used to live there, but left when the water left, will return. That is only natural ebb and flow of critters.

Conclusion.

Removing mass quantities of freshwater from a watershed has proven to be detrimental to our environment and the ecosystem in the Western USA. To repair our environment this is an infrastructure project should be undertaken with all haste. There is no real downside to doing this project, and if an unforeseen consequence occurs, the project can be turned off by blocking the water flow. On its face the overdrawing of freshwater from Colorado River has been and is detrimental to the environment, creating a desert where once was a fertile river delta, and breaking a hydrologic cycle. That wrong should be made right, but the people using the Colorado River water will not give up their water without a huge fight. Move the Water! provides a workaround which allows no change in the use of the Colorado River water yet repairs our ecosystem and makes the landscape greener in the process.

Proponent.

Move the Water! is the proposed initiative of Active Climate Rescue Initiative. Active Climate Rescue Initiative is founded to actively rescue our climate by encouraging positive climate change through water relocation into earth's water deficit areas. Anyplace in the world where there is a dry depression is a place where there is a moisture deficit. These places are the key to reversing climate change. By infusing these places with water from an open flow inlet, moisture can be reintroduced into the local environment through hydrologic processes. Active Climate Rescue Initiative is a Michigan Non-Profit Corporation approved by the USA IRS as a 501.c.3 Public Charity.

Wayne Meulendyk, Director of
Active Climate Rescue Initiative
Phone: 001.616.516.3370 (M-F, 8-5 EST)
Email: Wayne.Meulendyk@Climate-Rescue.org

Web: www.Climate-Rescue.org
YouTube Videos:
<https://youtu.be/vRJyCVXApAk>
<https://youtu.be/bjHxkxRWAs0>