

Thesis on the possibility of the usage of Hydraulics, Hydrology and Water Management as a method of Terraforming Earth's Desert Biomes

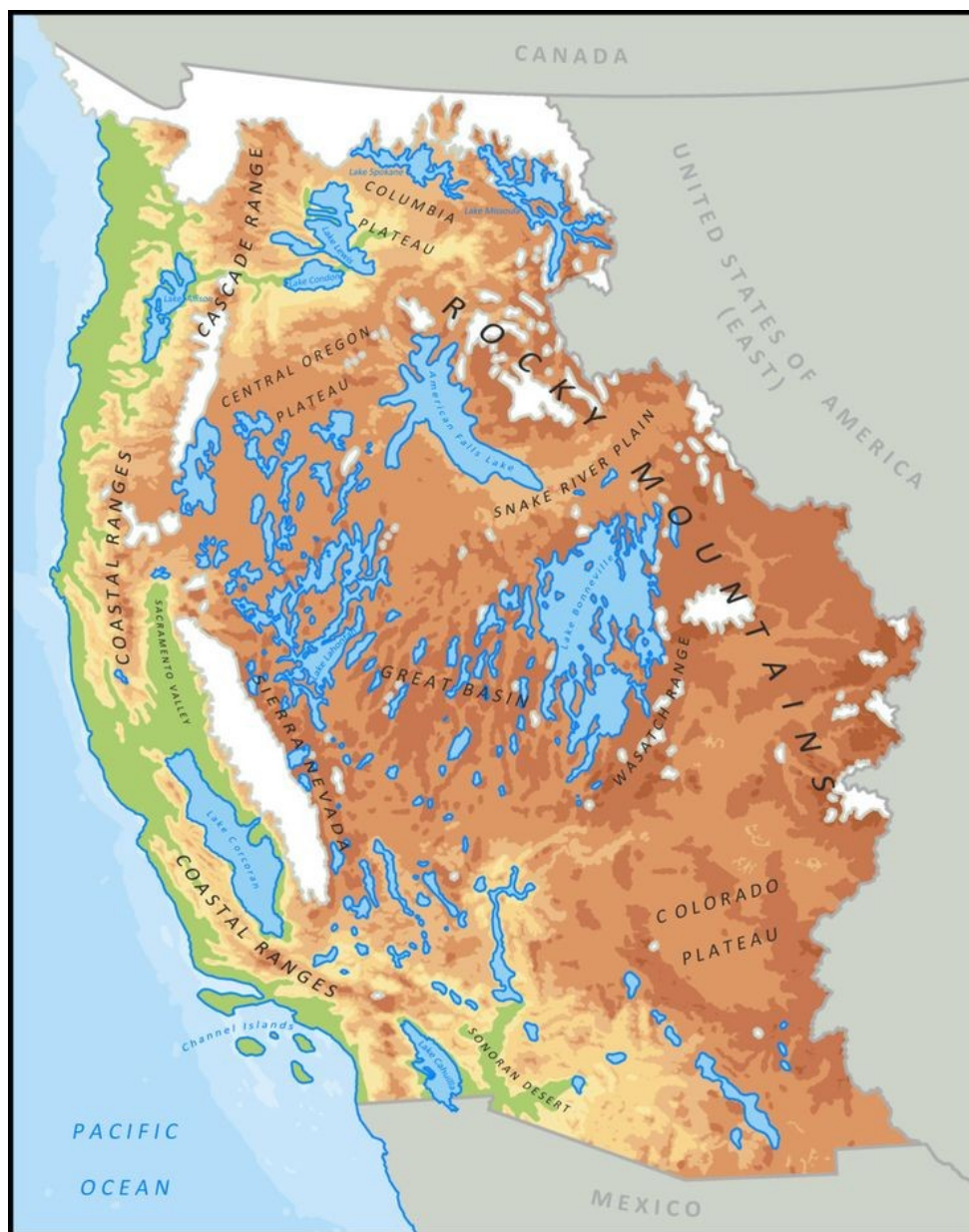
By Shay Daniels

With the increasing desertification of our world and wildfires becoming much more prevalent in places like California, where water used to be abundant 100 years ago, with the vice president of the United States stating in 2021 that “for years and generations, wars have been fought over oil – (but) in a short matter of time they will be fought over water”, it has become clear that our elites have no intention of engaging in any worldwide measures necessary to prevent the coming droughts and famines as a result of the loss of arable soil. Furthermore, many of the people today do not feel like changing their lifestyles to revolve around droughts, with news articles recently (as of mid-July 2022) lamenting the fact that lawns could not be maintained in California due to water rationing. I am writing this text not for the people of today, who are too complacent to change, but for the people of the near-future, who will undoubtedly seek out radical solutions for the famines and lack of freshwater.

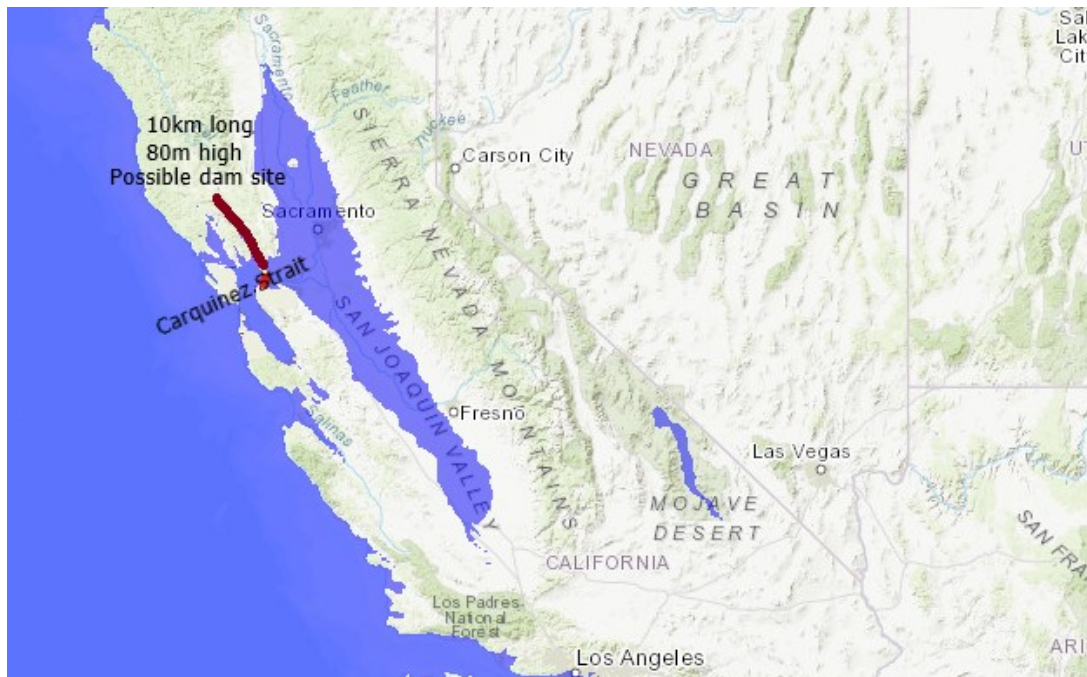
Firstly, we should start out by discussing the most infamous example of a similar project proposal – the Atlantropa project promoted by the Nazis during World War II. Many comparisons have been drawn between my proposals and the Nazi's ridiculous concept, especially since these concepts presented within this thesis will require large-scale changes, such as the relocation of large groups of people who have chosen to settle in the basins which need to be filled with water in order to irrigate and cultivate flora within the surrounding deserts. Many species and people live around rivers, such as the Sacramento and San Joaquin river, and would thus need to be relocated if the basins were flooded. This is not to say that such criticism is unwarranted, but that it is in fact unjustifiable in response to the clear threat of mass deaths for humanity if terraforming our planet is deemed “out of the question” by PETA and the farmers who use the water to irrigate their crops. In fact, these proposals are intended to create large bodies of water to help people and animals survive, not to create more landmass for states to take advantage of like Atlantropa. Needless to say that expanding the Sahara desert by draining the water of the Mediterranean was and continues to be a bad idea.

Many of us would be surprised to learn that building dams and filling basins with water is not a new idea whatsoever. Lake Mead is a man-made lake in the Nevada desert which was created to both provide freshwater for Las Vegas as well as produce electricity via hydro-electric power. The creation of this lake likely killed cacti and other desert flora, but generally had a positive effect on both the humans and animals who now survive by drinking water from this lake. Farmers in California, angry about a lack of water approximately a hundred years ago, demanded that the Carquinez Strait in California be dammed up in a similar fashion, in order to prevent the water from simply flowing into the ocean. With this in mind, our first subject will be regarding the western United States and how we can turn the vast desert into something capable of sustaining forestry and people.

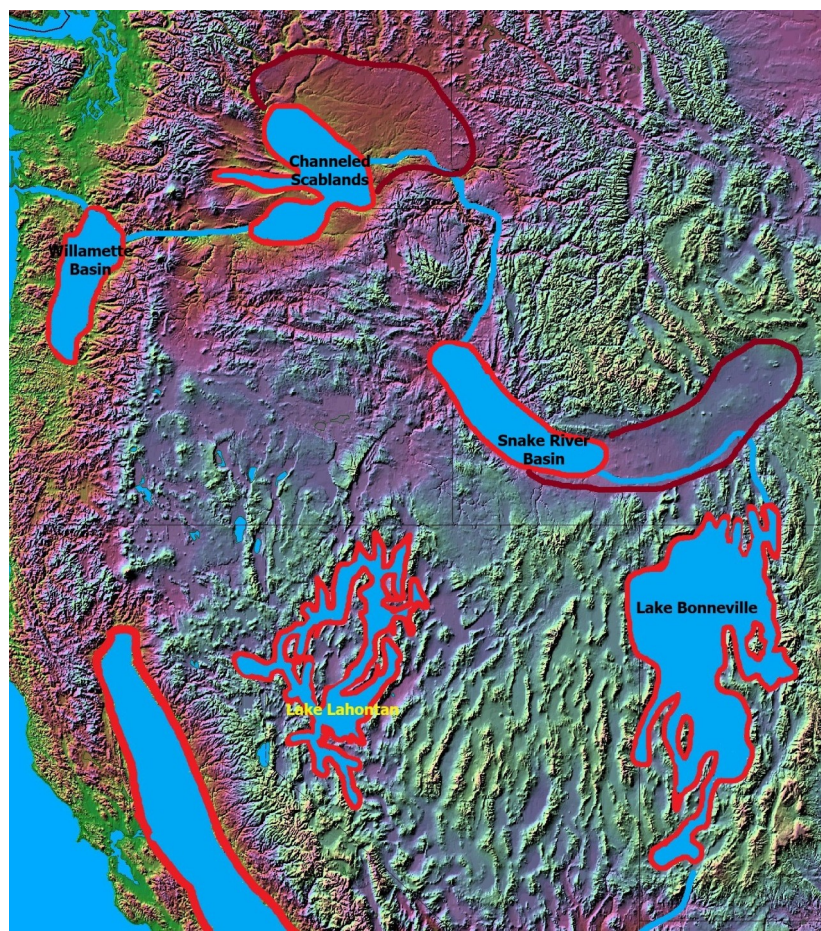
Recreating the Pleistocene-era mega-lakes of the western North American continent



By virtue of the fact that I am American, I am putting the strategy for greening the Mojave, Great Basin and Sonora deserts here. The first step of this plan is (not really) simple; build a two kilometer long dam on the carquinez strait, about a hundred meters high. This height will turn half of the state of California into a lake as a result of the fact that the entirety of both the Sacramento and San Joaquin rivers flow into this strait. Note: Filling Death Valley with water is completely optional.

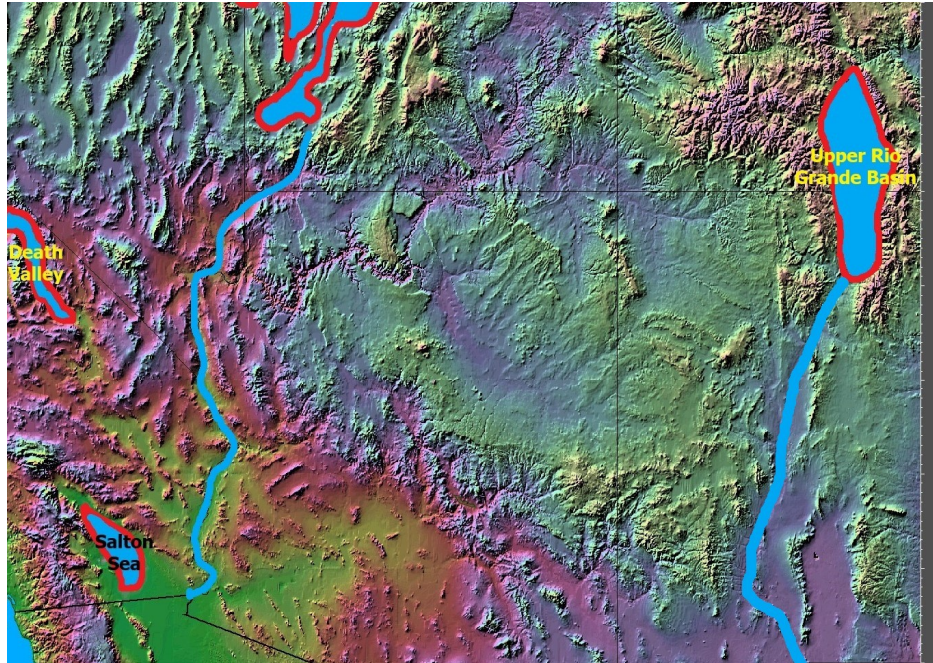


The second step of this plan is to dam up the Columbia and Snake Rivers in various spots along the basins it flows through, starting with the Willamette Basin, moving toward the Channeled Scablands, Up toward the Snake River Basin and finally closing the Lake Bonneville basin from flowing into the Green and Snake Rivers.



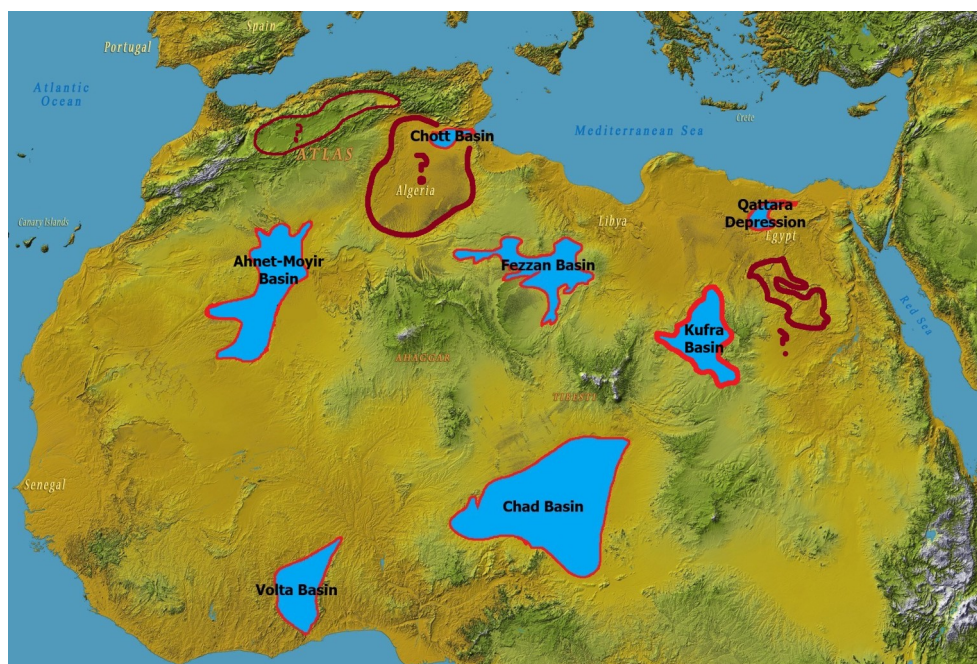
Lastly, Lake Lahontan would be refilled from water pumped or irrigated from the Snake River Lake and Lake Bonneville, and perhaps Lake Corcoran.

Turning south, the Rio Grande Basin should be dammed up and the Salton Sea should be refilled by the Colorado River, or what's left of it after it's dammed upstream, as well as the Gila River.

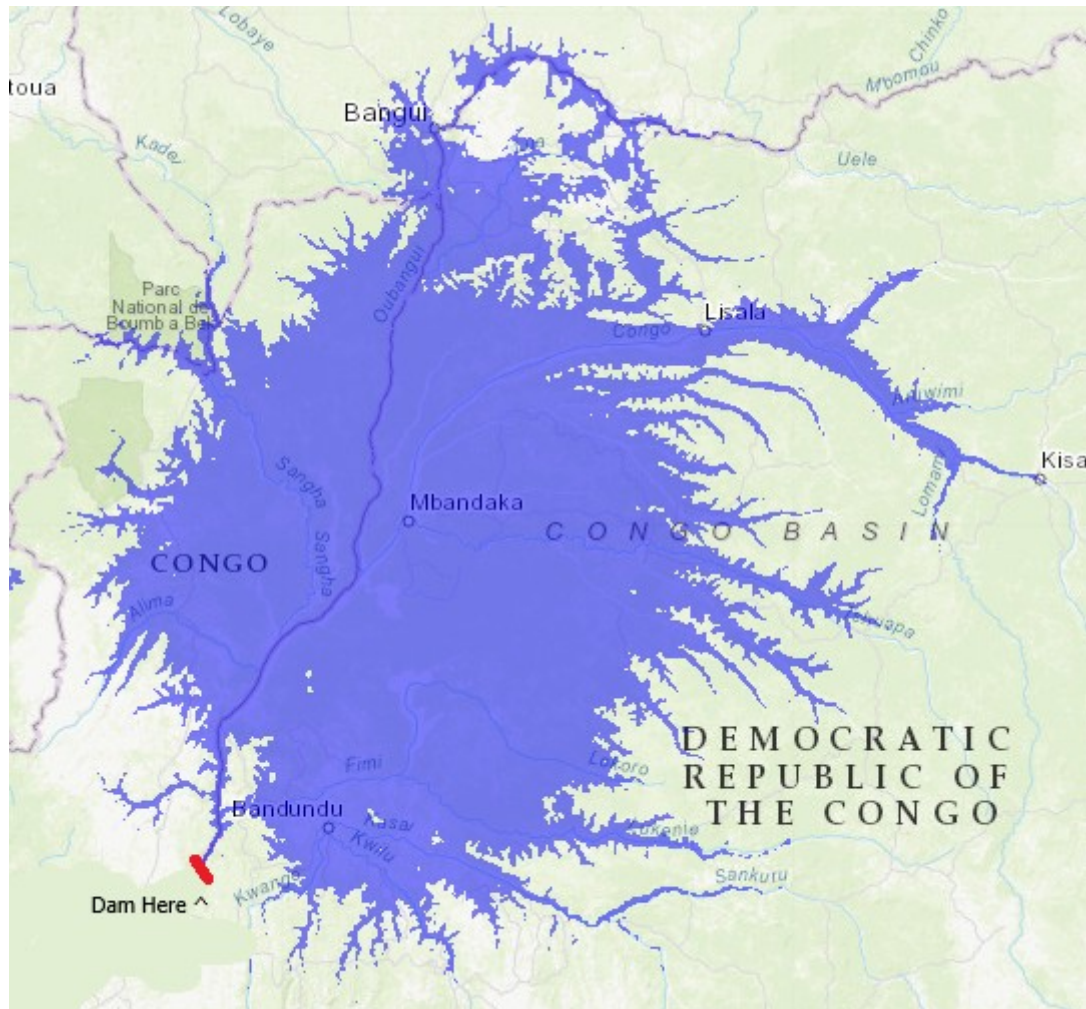


Greening the Sahara

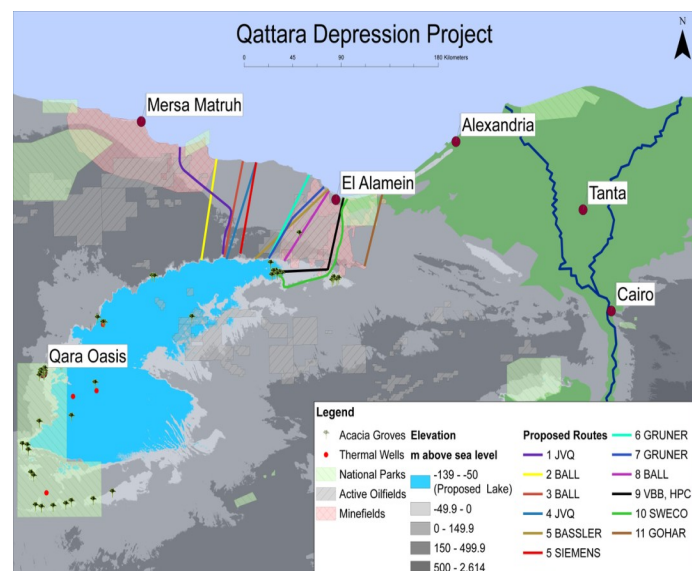
Next on our list of deserts to eliminate is the Sahara desert. Here we will strive to recreate the lakes that existed during the Holocene Wet Period – Lake Megafezzan, Lake Ahnet-Mouyir, the Chotts lake, Lake Megachad and Qattara lake, perhaps filling the Volta Basin and West Nubian Paleolake as well. Furthermore the Toshka Lake Projects should be finished as soon as possible.

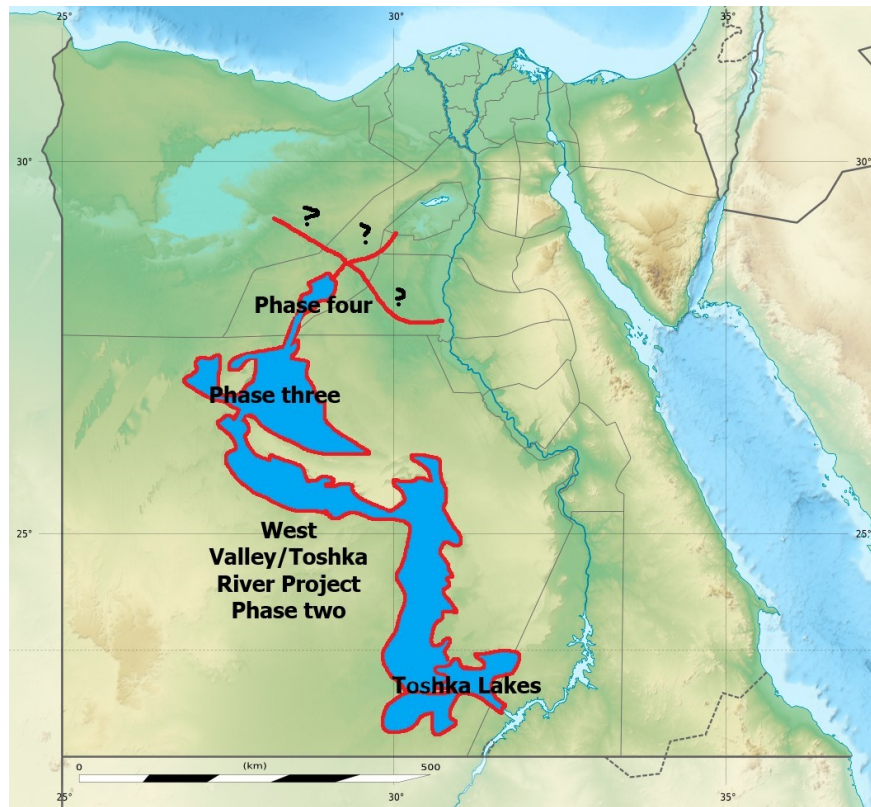


Sadly it does not seem likely that any progress toward filling these basins, with the exception of the Toshka lakes, the Qattara depression, and the Chotts basin, with water can be made without first filling the Congo Basin with water. This is an extremely important stepping-stone to filling the Megachad basin with water, as irrigation would be extremely easy if the Congo Basin was filled.



The Congo Dam would have to be measured here, as the Congo river can be as deep as 720 feet.

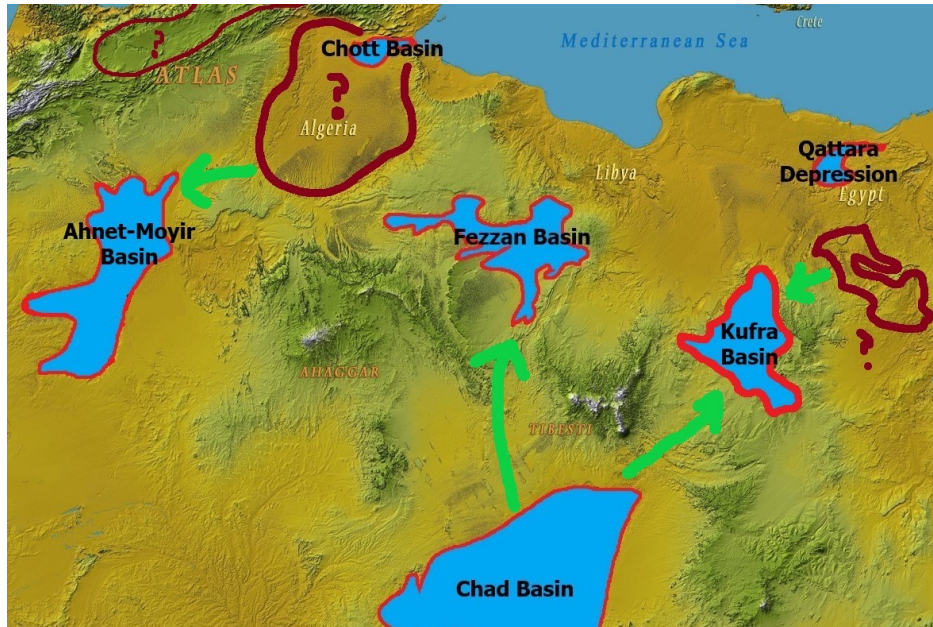




Bear in mind that plans are already in place to fill the Qattara and create lakes in the West Valley. They are not, however, in place to fill the Chotts Basin.

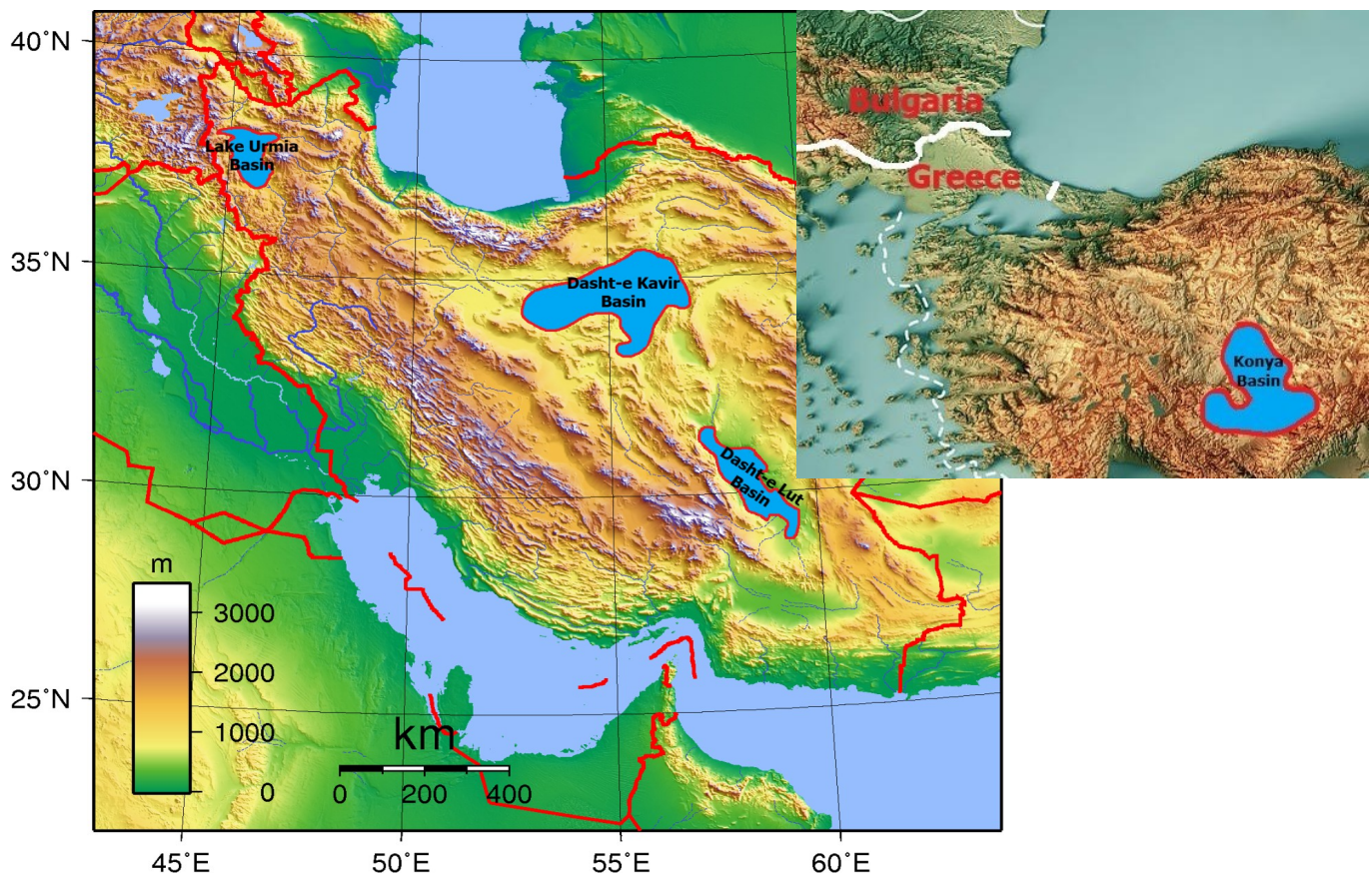


After filling these Basins with water, the Fezzan, Ahnet-Mouydr and Kufra Basins are next. Ideally a combination of water from rain, irrigation from the Chotts, Toshka, Qattara, Chad and perhaps Volta lakes, as well as shadeballs (plastic water-filled balls designed to float on water and prevent evaporation) should be used to fill these extremely arid plots of land with water.

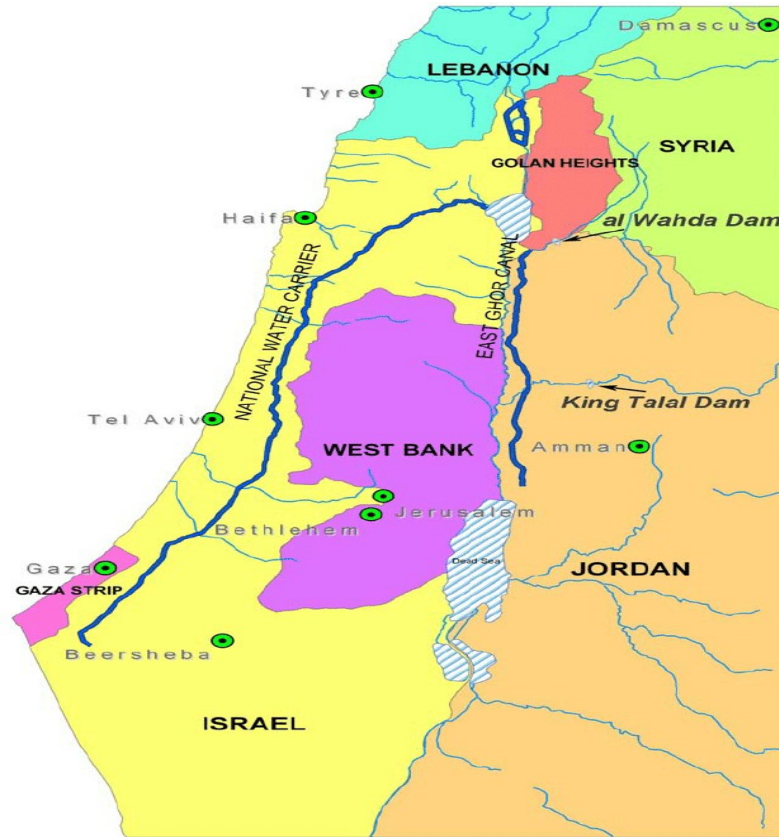


The Middle East, Central Asia and the Gobi desert

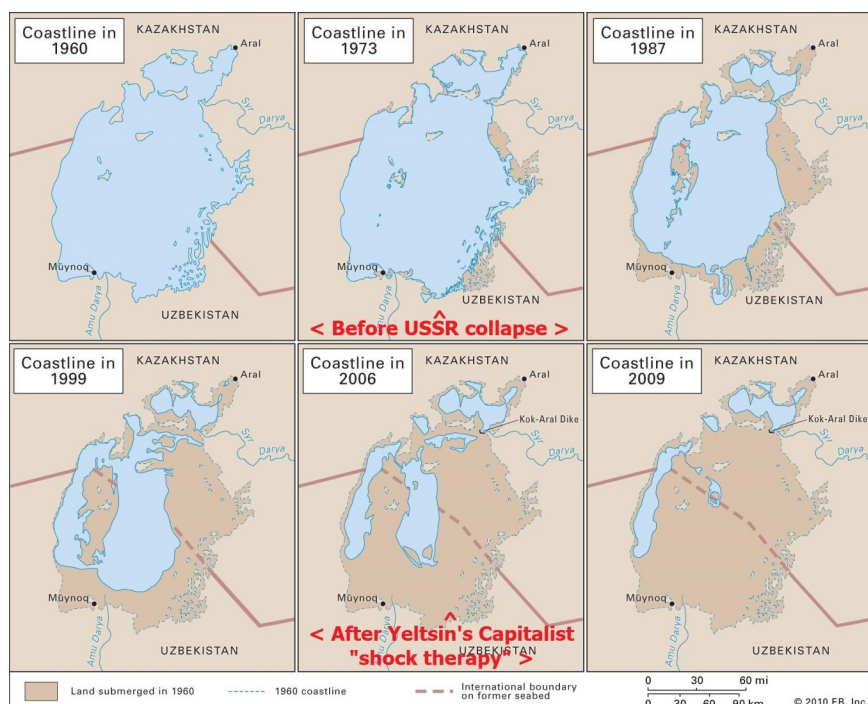
Moving on from the Sahara is another famously arid region of the world – the Middle East and Central Asia. Unfortunately not much can be done for the Middle East as this region lacks many large Endorheic Basins. Still a few exist which can hold water, for example the Dasht-e Kavir, Dasht-e Lut and Konya basins.



The Dead Sea, famously inhospitable to most life due to its extreme salt content, could probably sustain more life than normal if it was connected by canal to the Red Sea and Mediterranean in order for the relatively less-salty water to mix with its water and create something less toxic to life. This would also enable Palestinians, should they still exist in the future, to engage in trade by sea via the West Bank.



As stated before, it is sadly not very likely that much can be done for this region. Perhaps sharing water supplies with the newfound Sahara lakes could help people here, as well as bringing water from the Central Asian Basins, which present high potential as well. A major source of contention among these nations has been what to do to potentially refill the Aral Sea, and thus we will start out discussing this.



Perhaps the easiest way to refill the Aral sea is to simply allow water to flow to it again by reducing agricultural output in the countries which use it to irrigate their crops. However, what should also be done is to cover its surface with shadeballs immediately in order to prevent it from evaporating. This way a decent rain every once in a while will help replenish it. The Soviets and Tsarist Russia actually had a plan (called the "Northern River Reversal project") to refill the Aral Sea by re-routing pre-existing rivers, such as the Ob, to flow into it. Of course, a megalake could be created by damming the Ob river to prevent its flow into the Arctic, and this water could then be easily directed toward the Aral sea as well.



Moving south, we also see that the Helmand Basin in Afghanistan is a prime location for the creation of a megalake. However, moving almost an entire country's populace would not be easy unless it becomes much more inhospitable. Nonetheless, the usage of shade-balls and irrigation from a newly-filled Aral Sea would make an extreme difference in the water level of the Helmand Basin.



To the east, China and East Asia have many endorheic basins, one of the most important being the Tarim Basin in Xinjiang, although at the moment we call this basin the "Taklamakan Desert".



The Tarim Basin, as well as the Jungar, Uvs-Nuur and Hyargas-Nuur basins, could be filled with water from the Ob River Megalake after the completion of its own projects. Since the Taklamakan desert is a desert, it might be necessary to use shadeballs to prevent it all from evaporating as soon as the water reaches it. Qadam Basin would be next after these basins are filled, as it would be somewhat hard to find pathways for irrigation to it. Sichuan Basin would be easy to create a lake from, as all that is required would be to dam the Yangtze river.

East of the Sichuan Basin is the Chinese province of Wuhan, which is located in the Yangtze River Basin. This portion of the river could be dammed as well to create a Wuhan Lake.



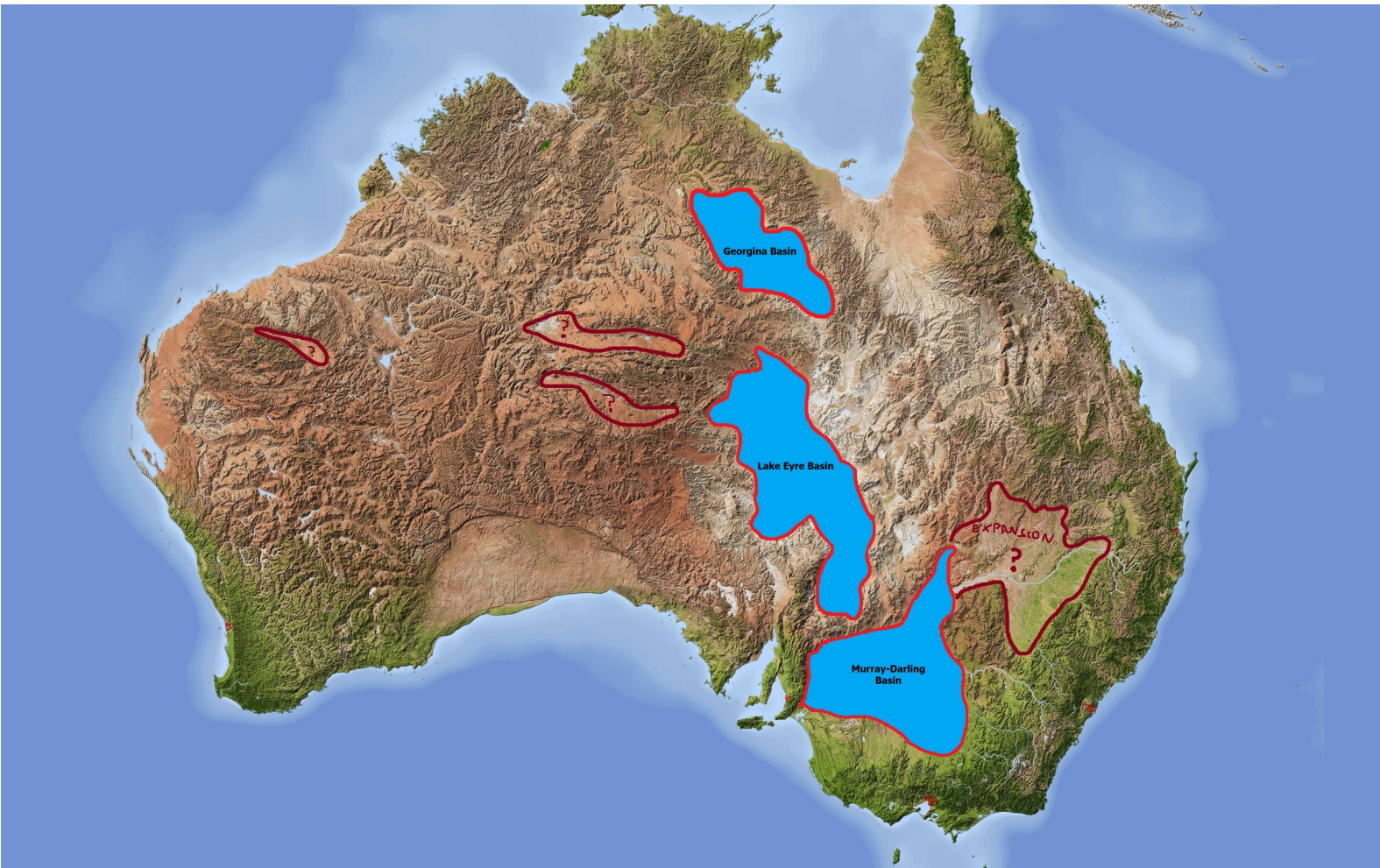
To the Northeast in Siberia is the Amur Basin. Several Megadams will suffice here.



Terraforming Australia

The last continent I will cover is Australia. Terraforming this continent should prove to be the easiest project of all as this can be done easily in stages.

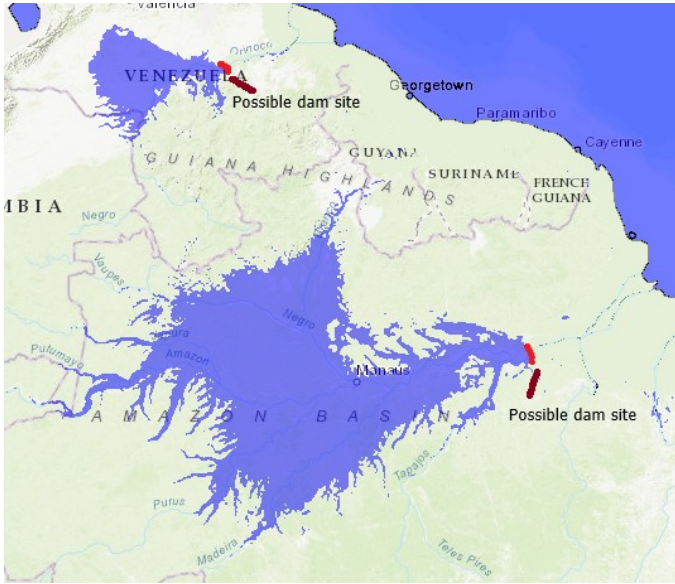




To start, the Murray river should be dammed up. My estimates put the size of this dam at about 100 meters high, several kilometers wide. Next, this water would be pumped into the Lake Eyre Basin. Lastly, the Georgina Basin and the various other basins would be filled.

South America

Unfortunately South America seems to be the most daunting continent to deal with. None of it is a desert yet, so nothing drastic can be done; however if necessary the Amazon, San Francisco, Parana, Magdalena and Madeira Basins, and Orinoco River could be converted to a megalake.





To end this, I want to say that I'm not an expert on Water Management. These are just ideas for extremely desperate people who want to have drinking water.