

A vital liquid



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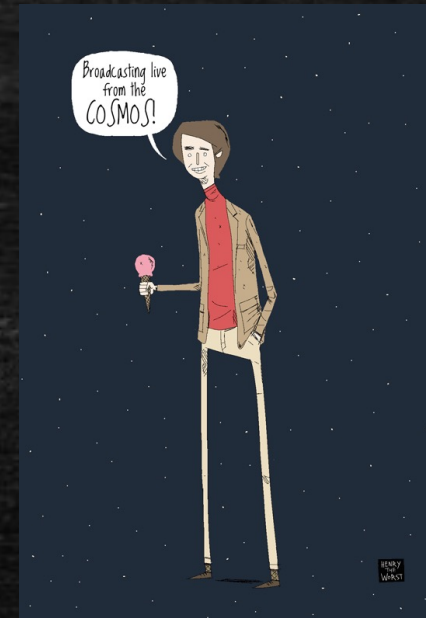
Suggestion

It is suggested to accompany this presentation, with the author for a better explanation of it.



Rethink our relationship with Earth

The Earth is the only world known so far to harbor life. There is nowhere else, at least in the near future, to which our species could migrate – Carl Sagan



Drinkable water

97% of water is in the oceans.

3% is fresh water.

Of that 3%, about 2% is locked in glaciers, ice caps and groundwater.

That leaves about 1% that is accessible and usable by humans.



Trees in the amazon

Plants play an important role in triggering the rainy season, says Scott Saleska, ecologist, University of Tucson Arizona.

In a process called transpiration, plants release water vapor from small pores on the underside of their leaves.



Trees in the amazon

Role of plants play in weather, says Saleska, suggesting that they are more than just "passive recipients" and that they instead can play an active role in regulating rainfall.



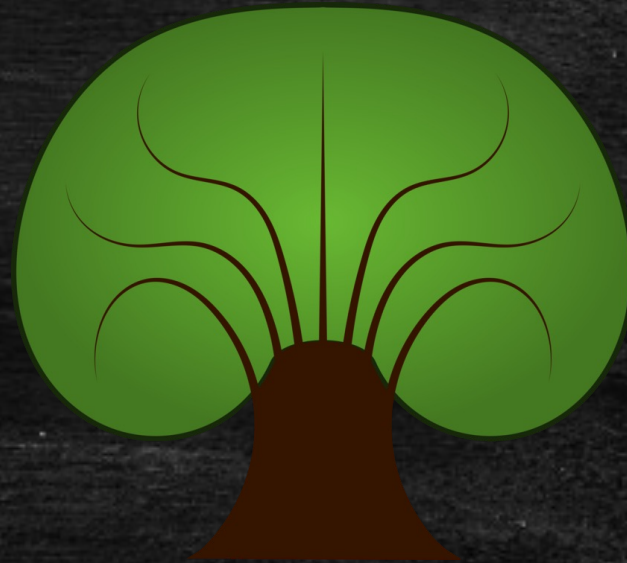
Amazon seeds rain

The Amazon rainforest makes its own rain. That's the conclusion of a new study which finds that microscopic bits of potassium rich salt spewed skyward by trees and fungi may be seeding much of regions precipitation.



Amazon seeds rain

Now, field studies by Pöhlker and his colleagues hint that the forest itself is the ultimate source of its own precipitation.



Planting trees boost rainfall

Planting extra trees to combat climate change across Europe could also increase rainfall, research suggests.

A new study found that converting agricultural land to forest would boost summer rains by 7.6% on average.



Source: Climate change: Planting extra trees will boost rainfall across Europe

- <https://www.bbc.com/news/science-environment-57722879>

More native trees

According to the World Health Organization, a minimum of one tree is required for every 3 inhabitants and a minimum of between 10 and 15 square meters of green area per inhabitant to breathe better air in cities.



Source: Necesita Nuevo León más árboles nativos- <https://puntou.uanl.mx/expertos-uanl/necesita-nuevo-leon-mas-arboles-nativos/>

More native trees

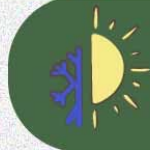
Beneficios de plantar ÁRBOLES NATIVOS



Son más resistentes a enfermedades o plagas.



Sirven de abrigo y alimentación a la fauna silvestre de la región.



Tienen mayor resistencia a temperaturas extremas.



Filtran mayor cantidad de agentes contaminantes.



Requieren de poca agua.



Regulan la temperatura ambiental.



Su mantenimiento no implica grandes costos.



En NL hay más de 100 especies distintas.



More native trees

Especies de árboles nativos DE NUEVO LEÓN

*Al elegir un árbol, considera las características de la especie
y el sitio con ayuda de un experto en el tema.*



HUIZACHE



ENCINO



ANACAHUITA



MAGNOLIA



ÉBANO



MEZQUITE



PALO BLANCO



CRESPÓN



DURAZNILLO



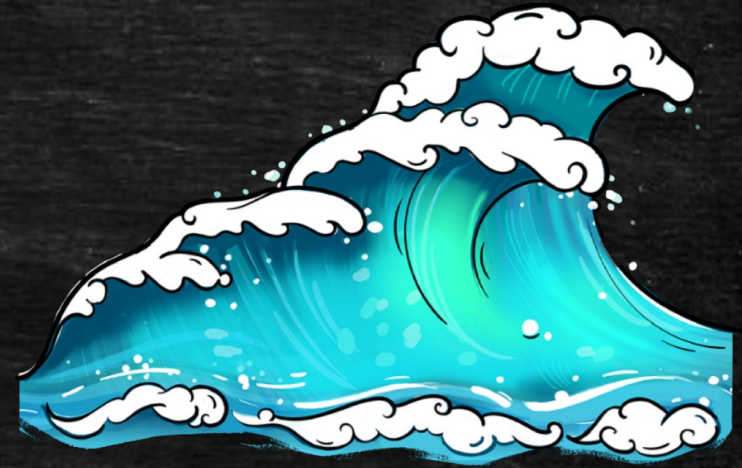
SICOMORO



Desalination

Technological process to remove mineral components in saline water.

1. Thermal.
2. Membrane technology.



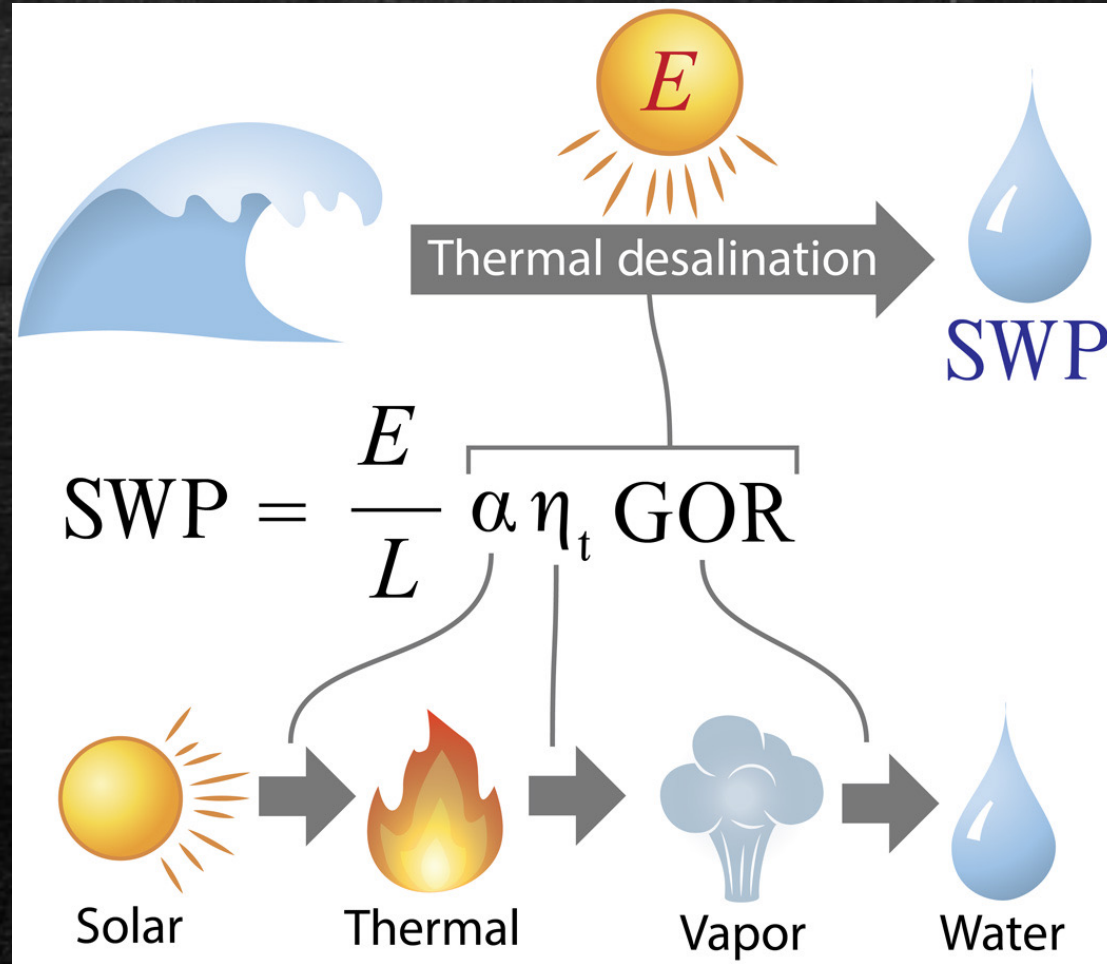
Source: Desalination - <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/desalination#:~:text=Desalination%20is%20the%20process%20of,and%20for%20domestic%2Findustrial%20utilization>

Desalination

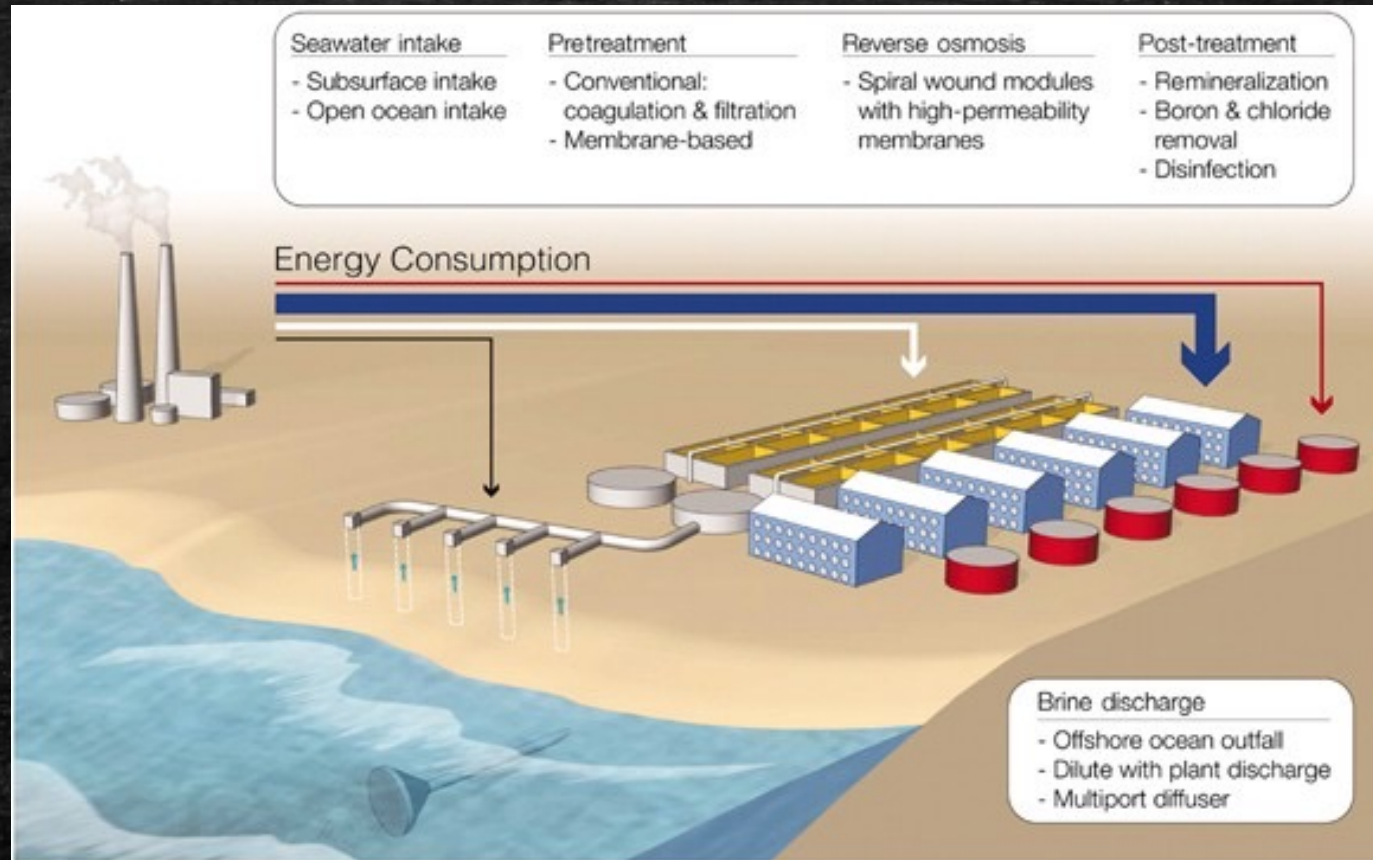
1. Thermal – Thermal desalination processes include multieffect distillation (MED), multistage flash (MSF) desalination, vapor compression (mechanical and thermal, MVC or TVC), and solar desalination (SD).
2. Membrane technology – Membrane-based desalination processes include reverse osmosis (RO) and electrodialysis (ED).



Thermal



Graphene membranes



Source: Graphene membranes for water desalination – <https://www.nature.com/articles/am2017135>

Image: (The American Association for the Advancement of Science.)

Rainwater harvesting

Recollect and recycle water from rain coming from roof like surfaces and redirected to a recipient or tank to be treated and reused.



Caudal program

Collect water from rain in government buildings, schools and private houses, like in the CAUDAL program from Santa Catarina.



Water mine

Hydrogeologist, Dr. Hector de León, says that there is a water mine in the mountains (Sierra Madre Oriental), with quantity and quality for the consumption, instead of bringing water from the Panuco river.



Source: "Mina de agua" en la Sierra Madre Oriental podría garantizar abasto en NL: Experto

- <https://www.youtube.com/watch?v=u3YhpidTqFM>

Combine strategies

There is no single bullet solution to the water problem, we must combine different strategies in order to guarantee fresh water supply to Mexico, but specifically to Nuevo Leon.



References

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Source: Amazon Seeds Its Own Rain - <https://www.science.org/content/article/amazon-seeds-its-own-rain>

Necesita Nuevo León más árboles nativos- <https://puntou.uanl.mx/expertos-uanl/necesita-nuevo-leon-mas-arboles-nativos/>

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<https://www.youtube.com/watch?v=zNAp5hvFjBs>

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