

Water distribution for the city of the future

CDL Cohort Week2 Team 3

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01

Global water crisis

1.1 billion people lack access to water

2.7 billion have limited access for at least one month per year

That is about a third of the global population

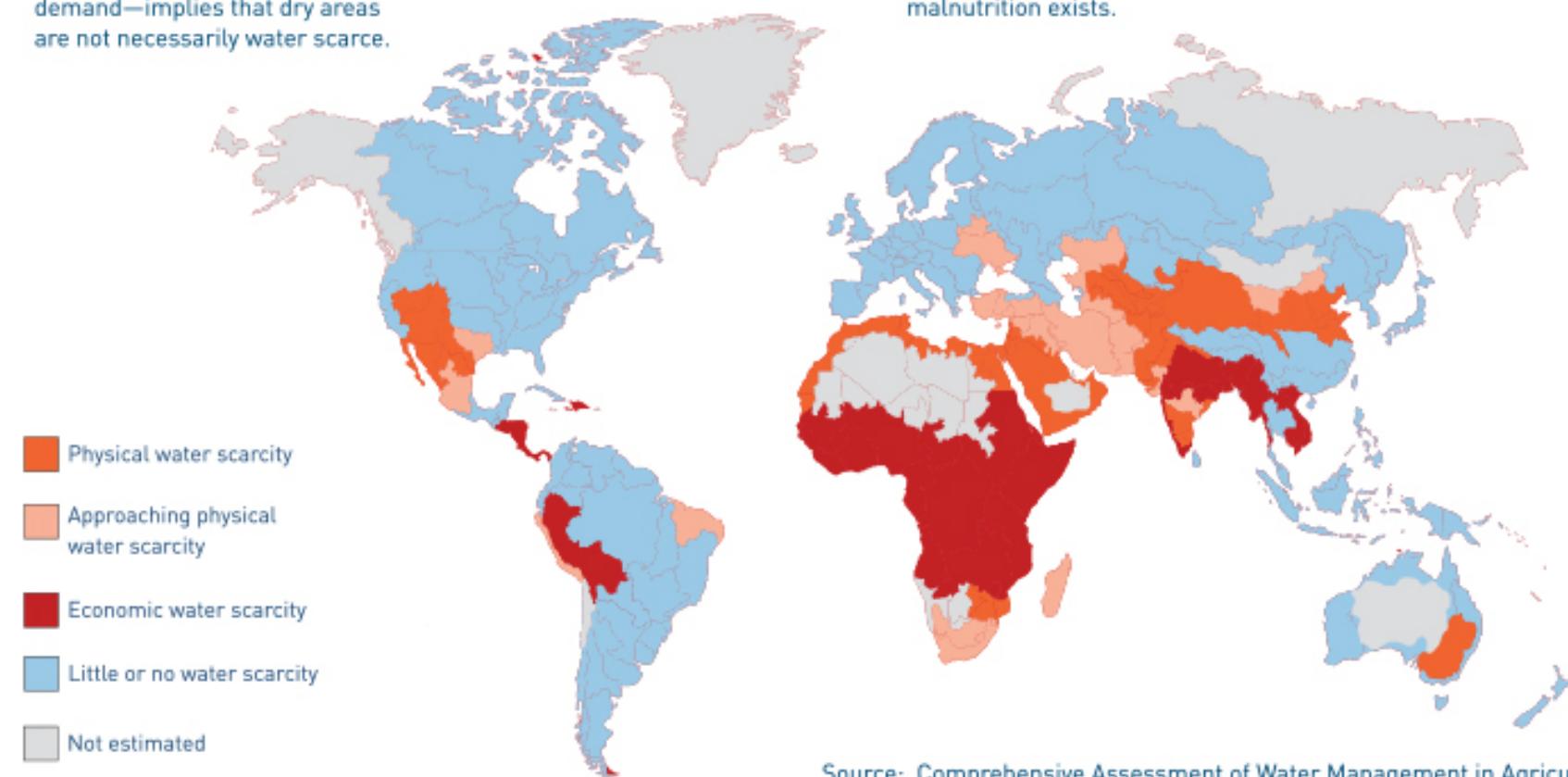
AREAS OF PHYSICAL AND ECONOMIC WATER SCARCITY

Physical water scarcity
water resources development is approaching or has exceeded sustainable limits). More than 75% of the river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition—relating water availability to water demand—implies that dry areas are not necessarily water scarce.

Approaching physical water scarcity. More than 60% of river flows are withdrawn. These basins will experience physical water scarcity in the near future.

Economic water scarcity (human, institutional, and financial capital limit access to water even though water in nature is available locally to meet human demands). Water resources are abundant relative to water use, with less than 25% of water from rivers withdrawn for human purposes, but malnutrition exists.

Little or no water scarcity. Abundant water resources relative to use, with less than 25% of water from rivers withdrawn for human purposes.



Source: Comprehensive Assessment of Water Management in Agriculture, 2007

02

The challenge of water distribution is projected to grow exponentially

As the world's population continues to increase and population densities in cities become higher.



Tijuana water crisis

03

Water cuts

Right now, the solution is to cut the supply of water in specific neighborhoods for days, weeks, or months.

The San Diego Union-Tribune

BORDER & BAJA

Tijuana and Rosarito to ration water supply for the next two months

The San Diego Union-Tribune

BORDER & BAJA
Baja California water supplies remain at critical levels

04

Unequal distribution

The consequence is an unequal distribution of the water in the city.

05

Expected to worsen

WATER

85% of Mexico Is in a Drought



By Climate Nexus | Apr. 23, 2021 11:20AM EST

CLIMATE



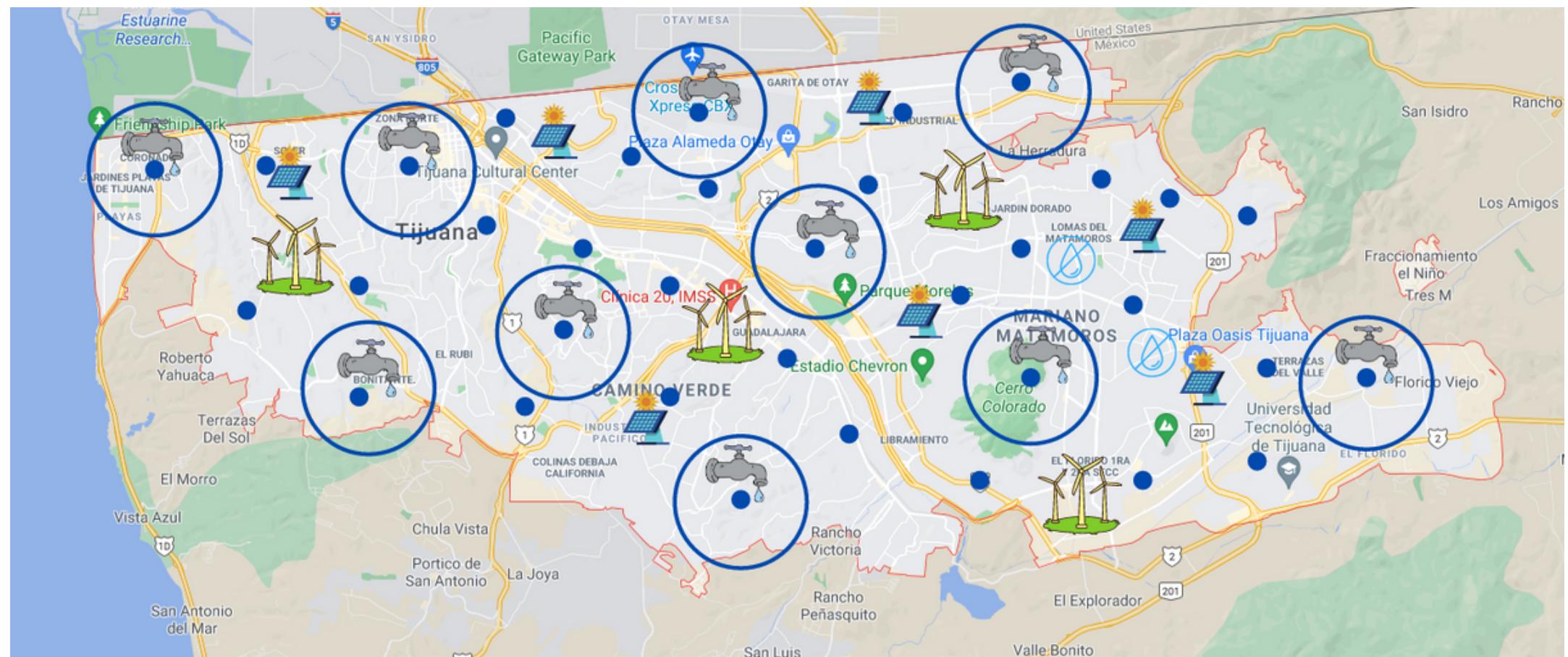
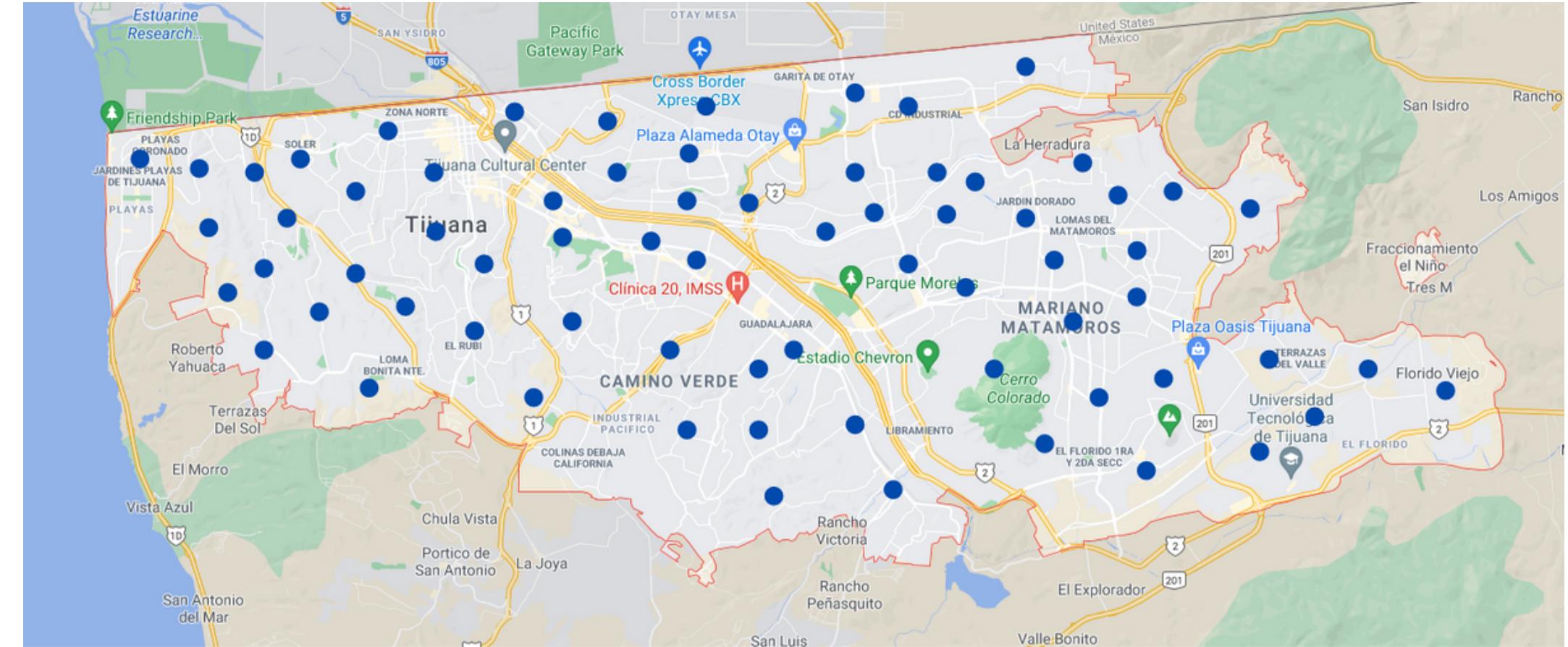
The protected natural area of the Xochimilco Ecological Park on April 17, 2021 in Xochimilco, Mexico. Hector Vivas / Getty Images

Lakes and reservoirs are drying up as 85% of Mexico is in a [drought](#), with Mexico City in its worst drought in 30 years.

OUR PROPOSAL

A Rydberg Quantum Computer could help deliver better solutions on a faster timescale than any current method

For example, the solution to the Unit-Disk Maximum Independent Set (UD-MIS) problem



**Extreme Problems
Require Extreme
Solutions**