

Comparison of Water Conservation in Dubai and in Singapore

ESS SL Presentation

Eric

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Dubai Geographical Background-Location

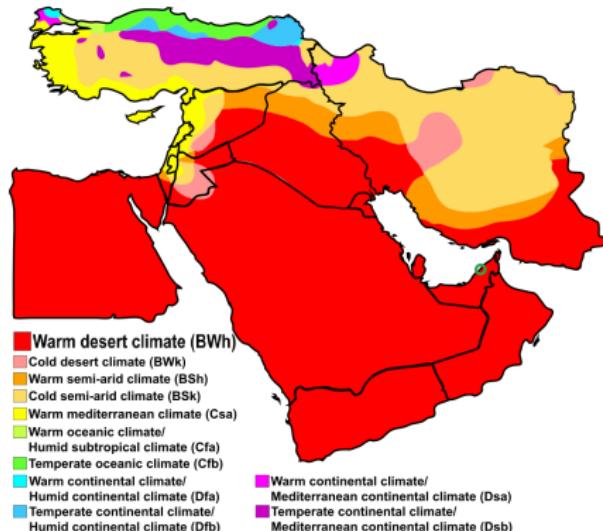


Figure: Location of Dubai, UAE

(Peel, Finlayson, & McMahon, 2007)

Dubai Geographical Background-Climate

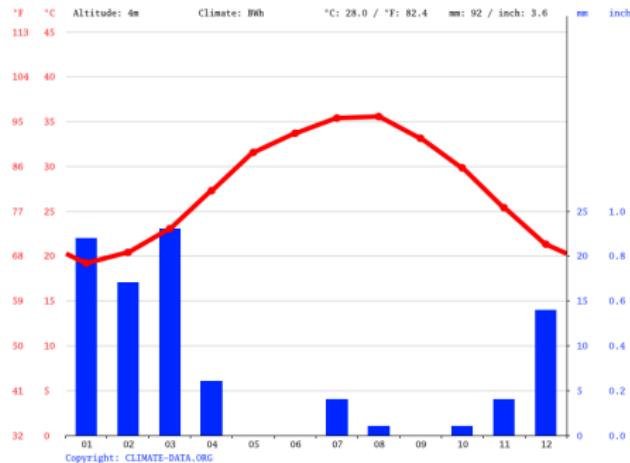


Figure: Climate of Dubai, UAE
(Climate-Data.org, 2024)

Singapore Geographical Background-Location

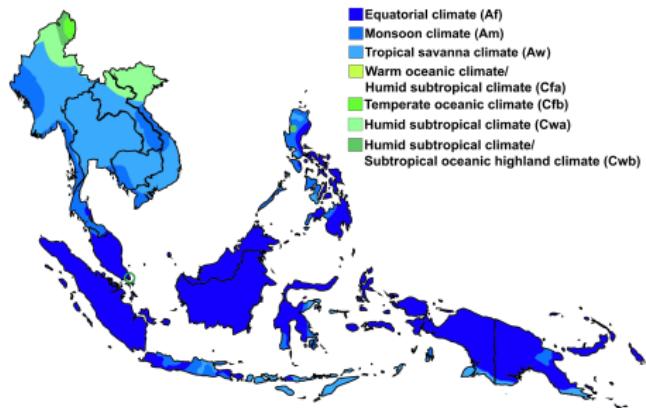


Figure: Location of Singapore
(Peel et al., 2007)

Singapore Geographical Background-Climate

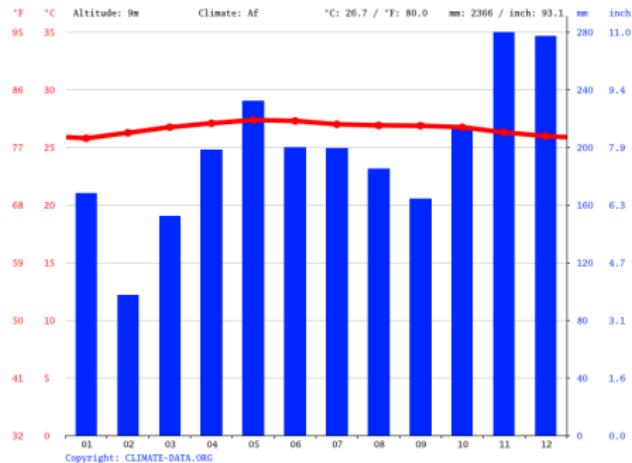


Figure: Climate of Singapore
(Climate-Data.org, 2024)

Water resources - Comparison

- Water is scarce in both place.
- But they are scarce and managed in different ways.

Water resources - Use of the renewable source

Dubai

- Authorities (e.g., DEWA) publish technical handbooks
- Implementing programmes
- National policies also call for rationalizing water consumption
- Overall per-capita use remains high.

(Dubai Electricity and Water Authority (DEWA), 2023)

Singapore

- Strong regulatory and market tools
- Mandatory water-efficiency regulations
- Public education campaigns
- NEWater
- Low total cost per capita

(PUB Singapore, National Water Agency, 2023)

Water resources - Reuse and recycling of waste water

Dubai

- Desalination
- large multi-stage flash (MSF) and reverse osmosis (RO) desalination capacity
- Wastewater reuse / recycling targets
- Reclaimed water (irrigation, industrial uses etc.)

(Smart Water Magazine, 2023)

Singapore

- NEWater (recycled high-grade reclaimed water)
- Used for industry and blended into reservoirs
- Desalination
- Import from other countries (e.g., Malaysia)

(PUB Singapore, National Water Agency, 2023)

City planning

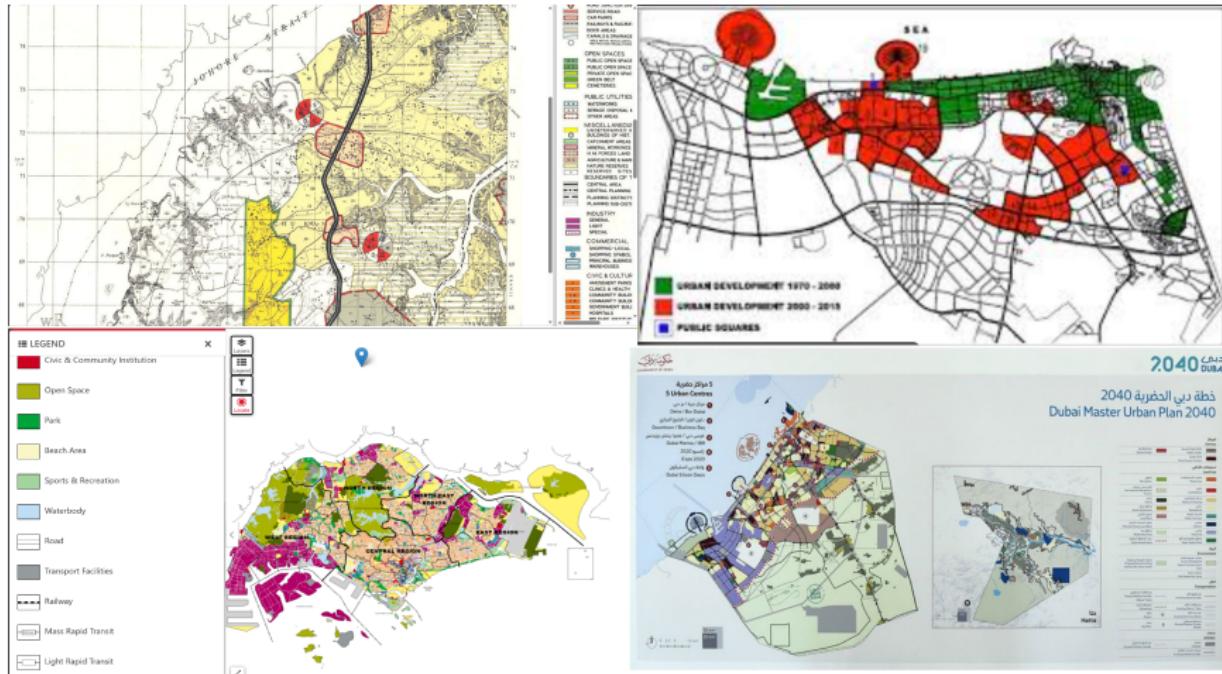


Figure: City plannings

(Urban Redevelopment Authority of Singapore, 1958, 2019; Arab Urban Development Institute, 2024)

References I

- Arab Urban Development Institute. (2024). *Dubai urban development plans*. Retrieved from <https://araburban.org>
- Climate-Data.org. (2024). *Climate: Asia*. Retrieved from <https://en.climate-data.org/asia/>
- Dubai Electricity and Water Authority (DEWA). (2023). *Electricity and water conservation handbook*. Retrieved from <https://www.dewa.gov.ae>
- Peel, M. C., Finlayson, B. L., & McMahon, T. A. (2007, 10). Updated world map of the Köppen-Geiger climate classification. *Hydrology and earth system sciences*, 11(5), 1633–1644. doi: 10.5194/hess-11-1633-2007
- PUB Singapore, National Water Agency. (2023). *Our water, our future: The four national taps*. Retrieved from <https://www.pub.gov.sg/public/waterloop>

References II

- Smart Water Magazine. (2023). *Dubai advances massive solar-powered ro desalination plant*. Retrieved from
<https://smartwatermagazine.com>
- Urban Redevelopment Authority of Singapore. (1958). *Singapore 1958 concept plan*. Retrieved from
<https://eservice.ura.gov.sg/dc/mp58>
- Urban Redevelopment Authority of Singapore. (2019). *Ura master plan 2019*. Retrieved from
<https://www.ura.gov.sg/Corporate/Planning/Master-Plan>