



Successes, Challenges, and Solutions of Irrigation Practices in



Israel:
A small *land of milk and honey*



~500 km

Israel:
A small *land of milk and honey*

And desert
And lack of water.....

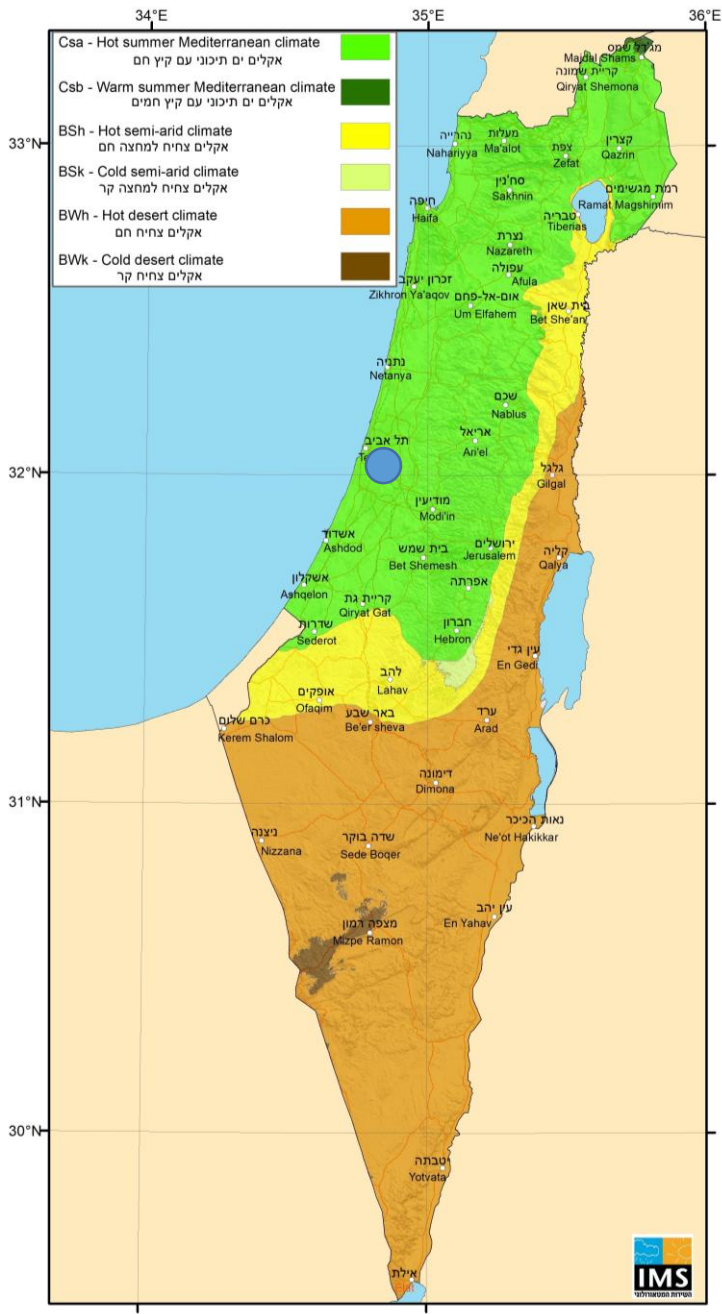


Israel:
A small land of milk and honey

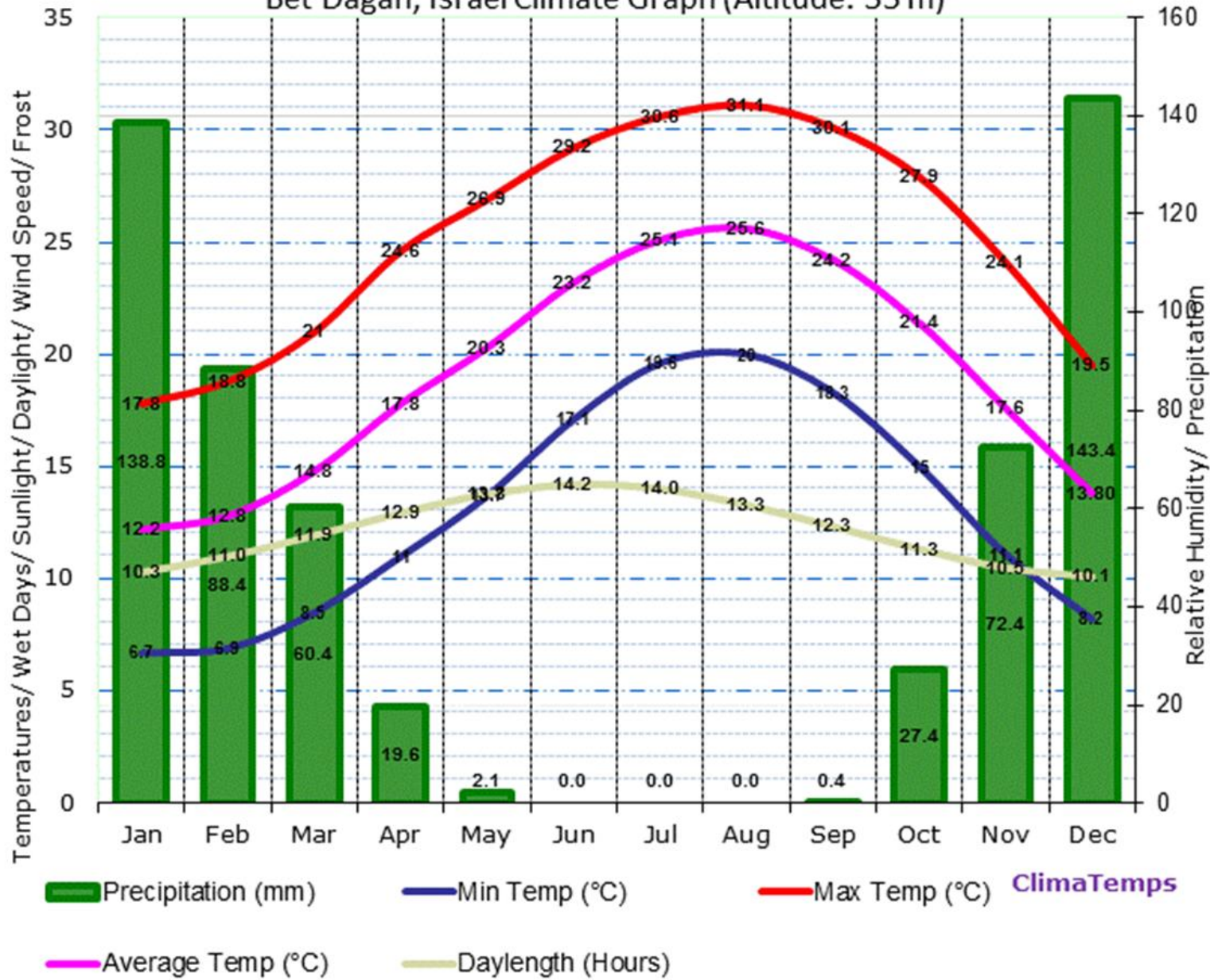
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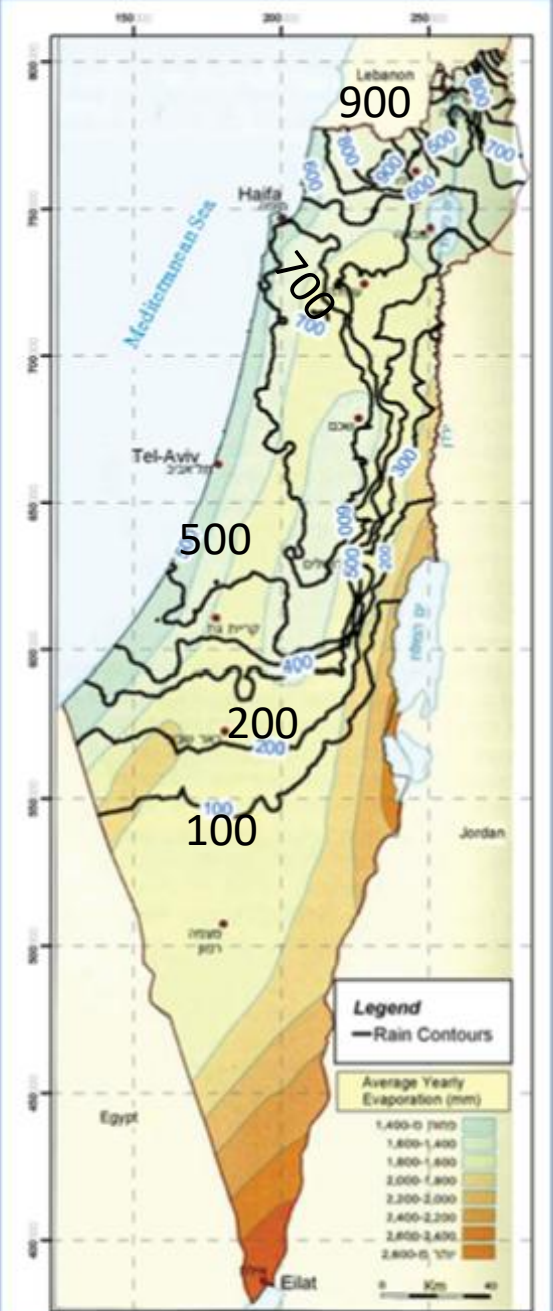
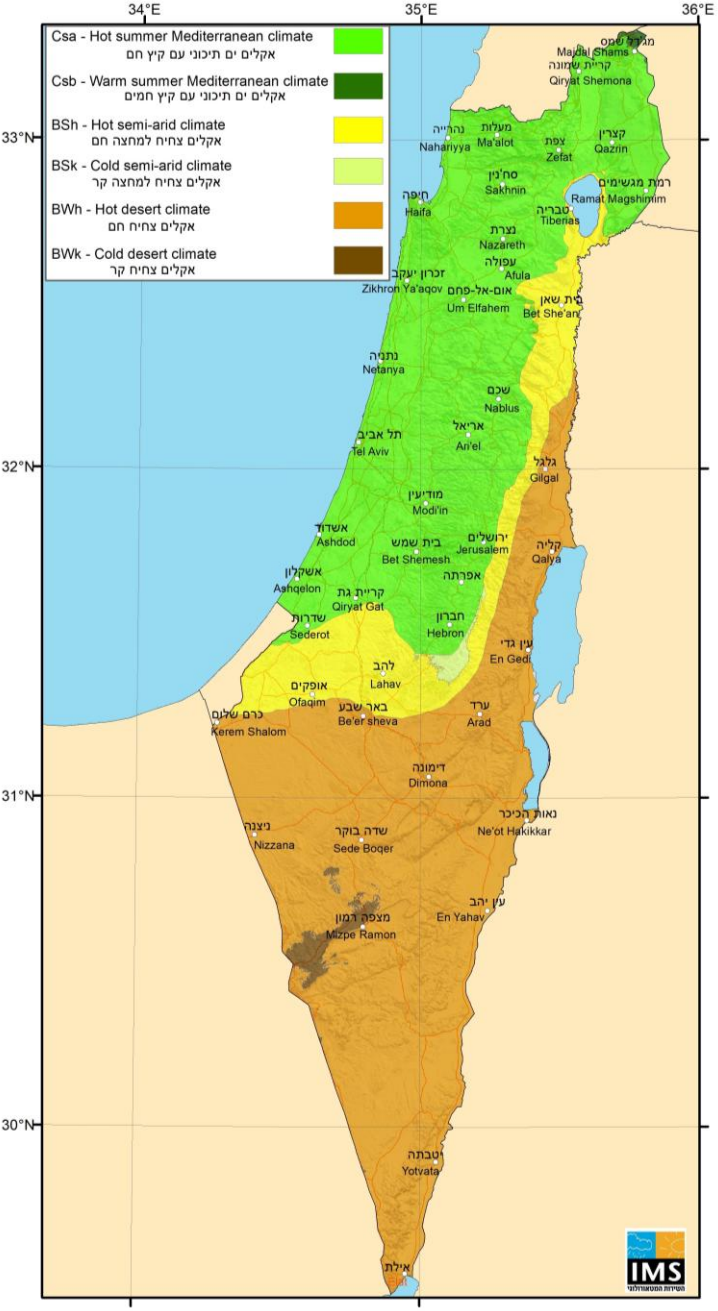
Climate zones in Israel according to Köppen classification



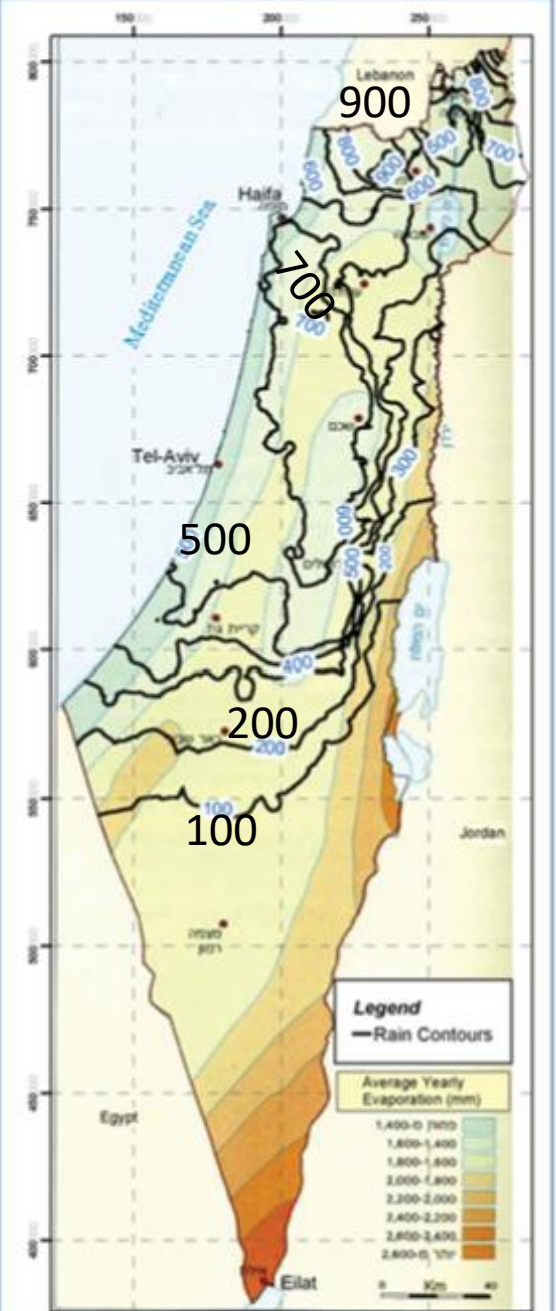
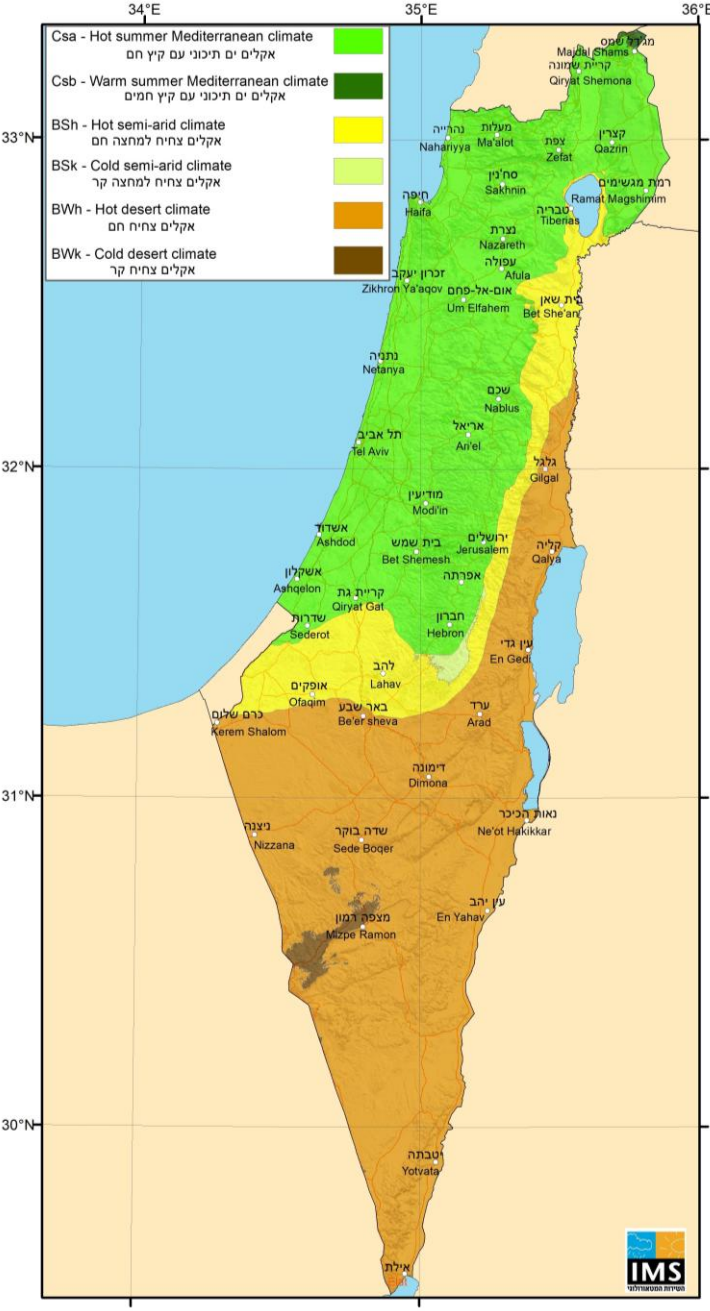
Bet Dagan, Israel Climate Graph (Altitude: 35 m)



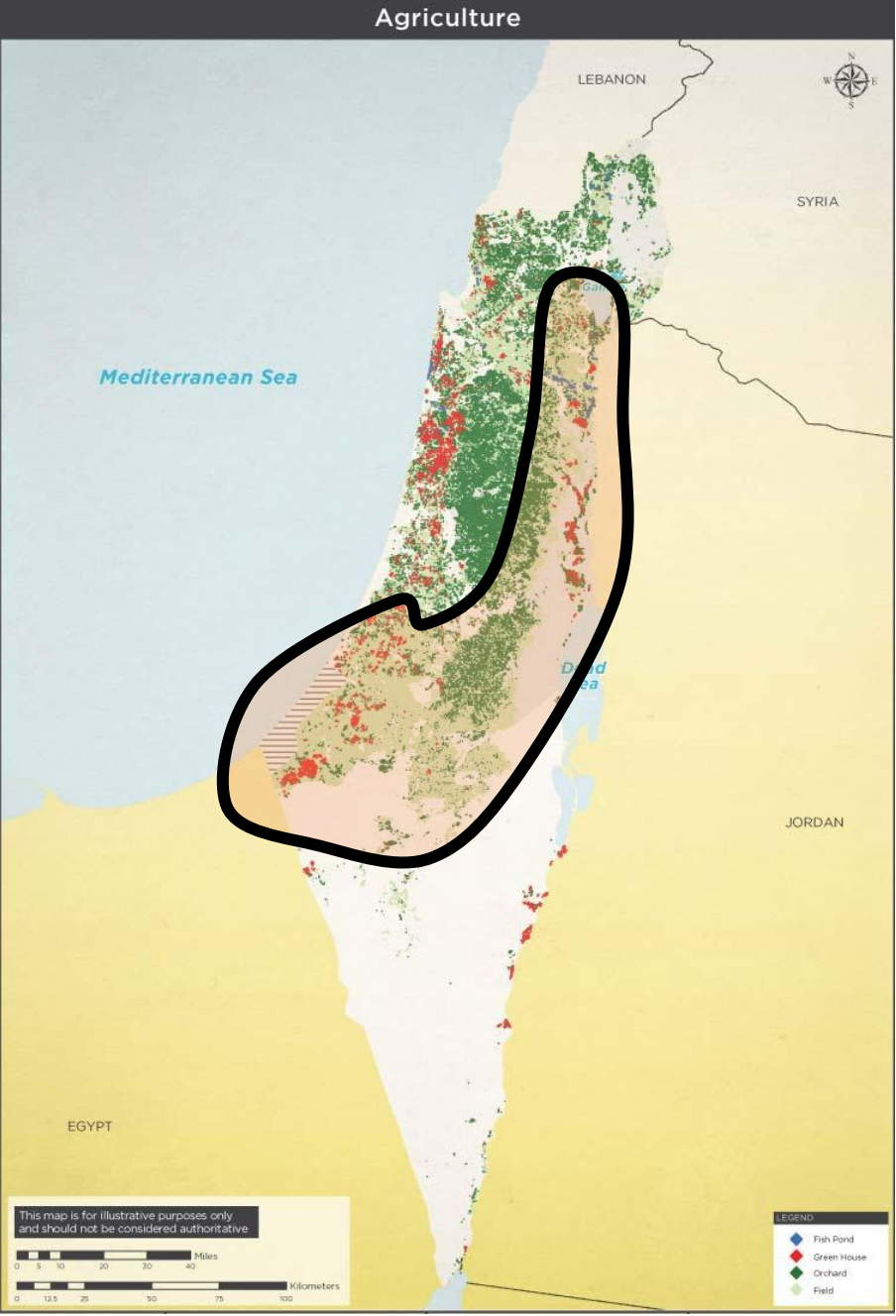
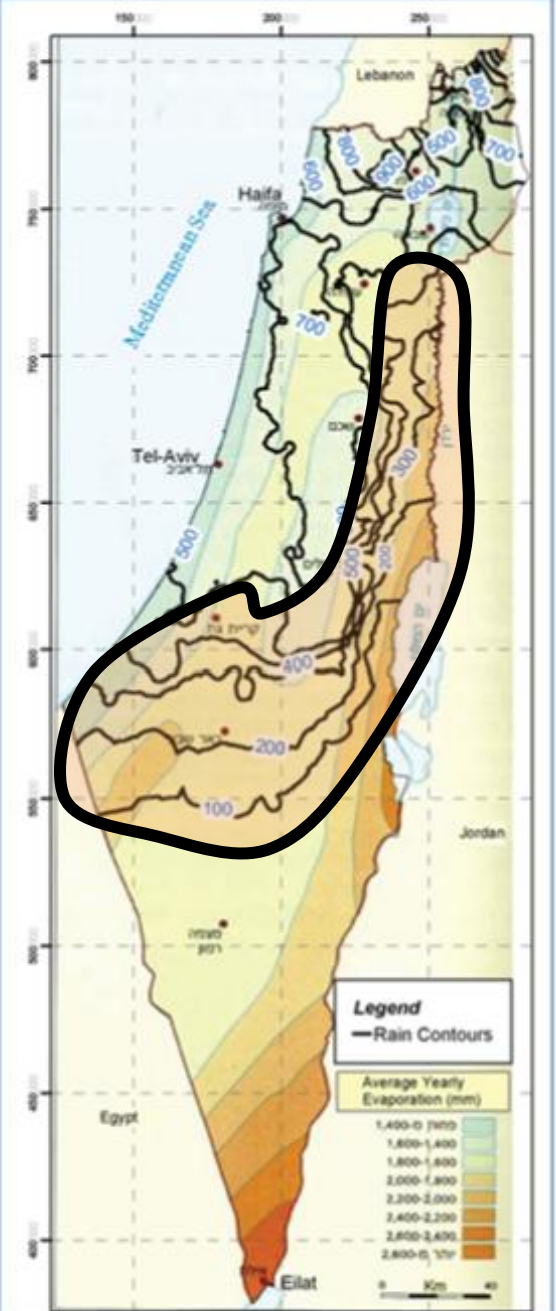
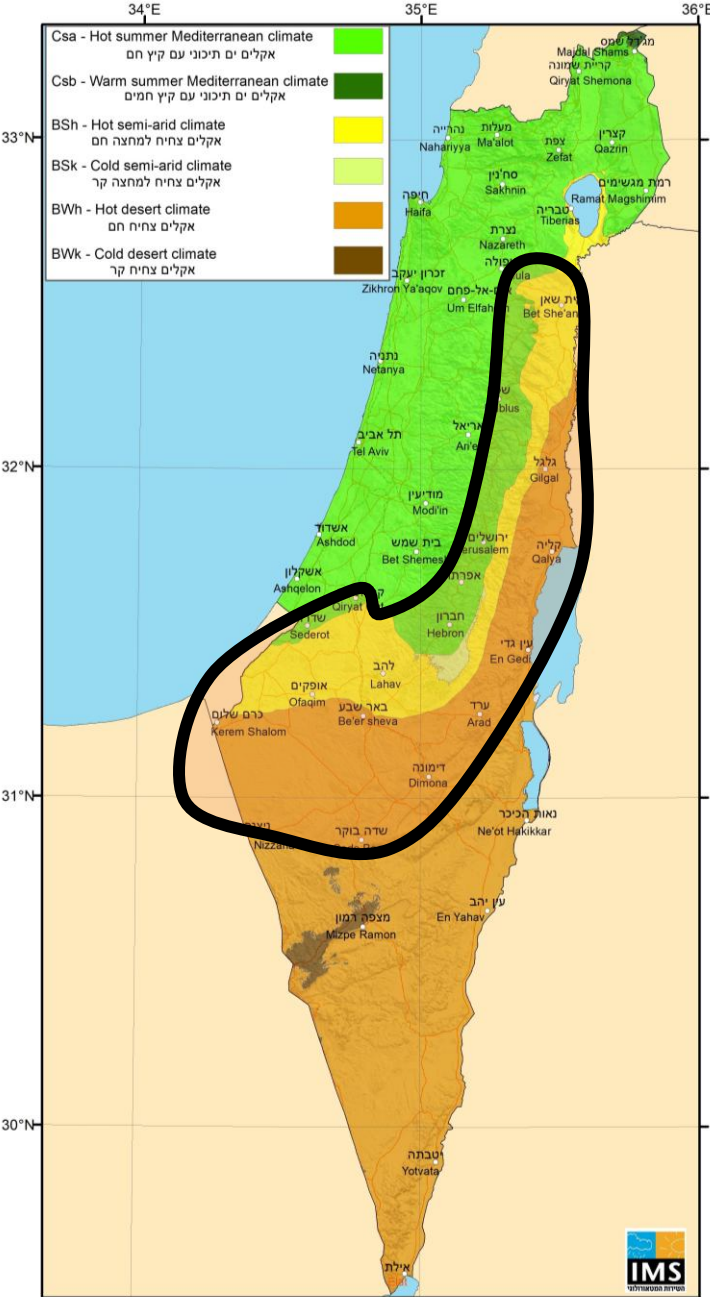
Climatic zones in Israel according to Köppen classification



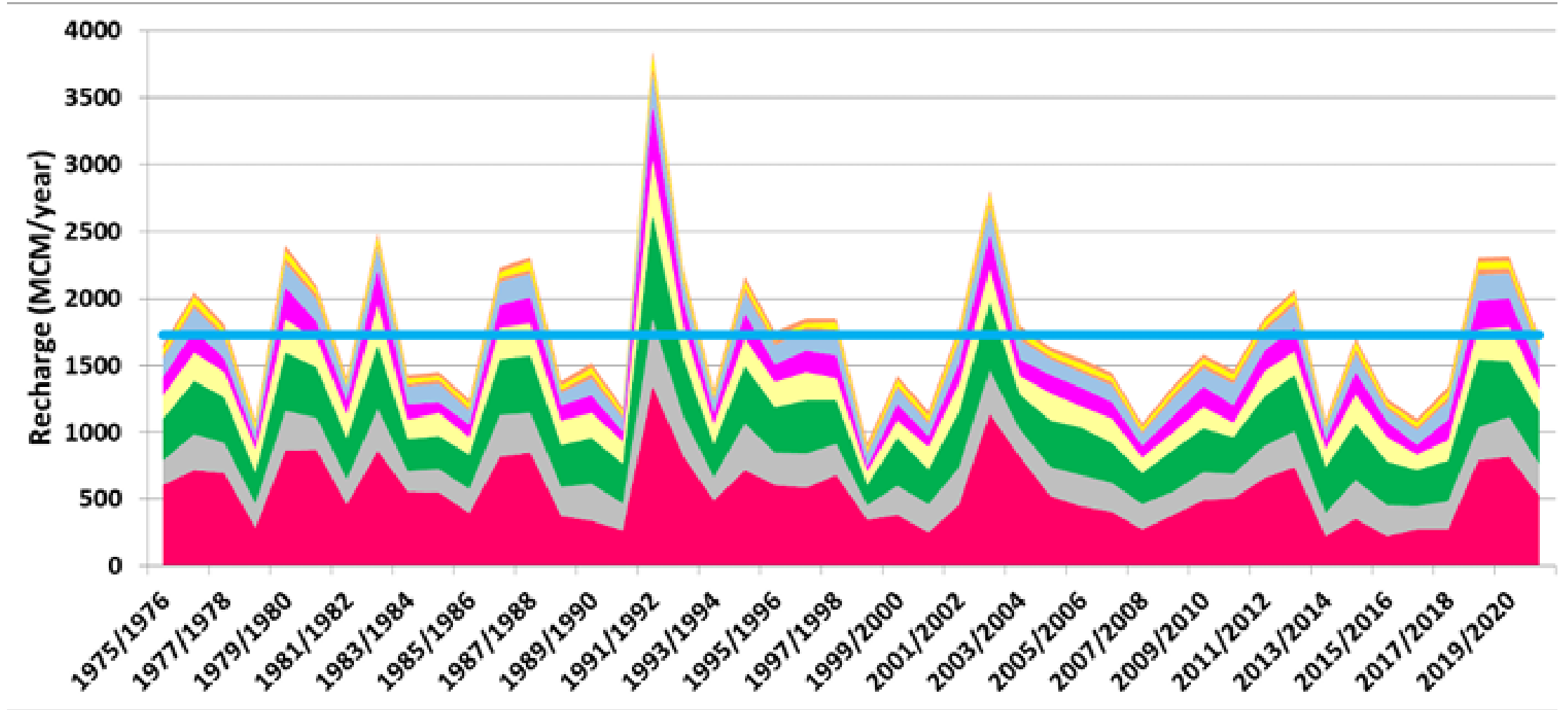
Climate zones in Israel according to Köppen classification



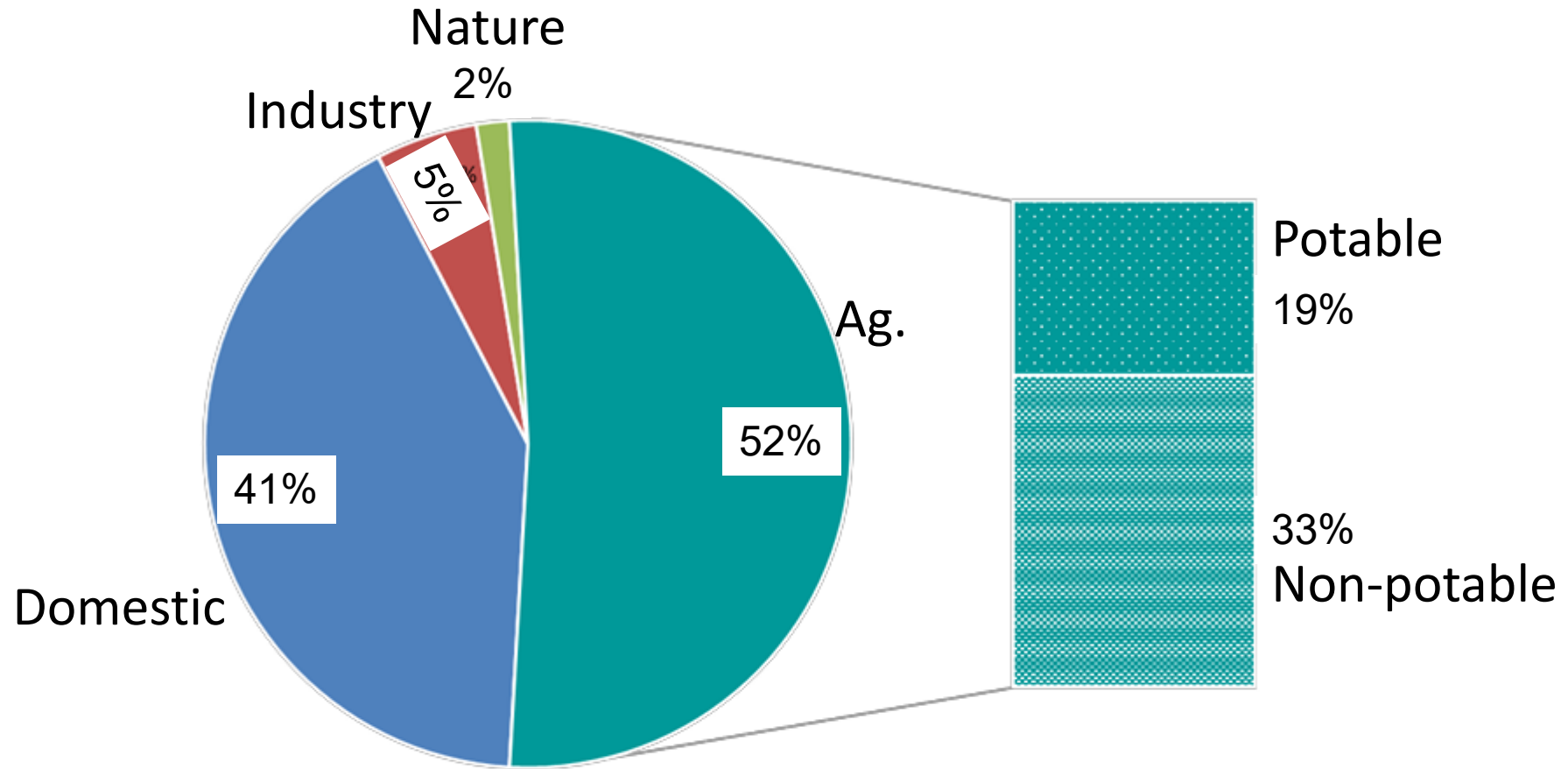
Climate zones in Israel according to Köppen classification



Natural water filling

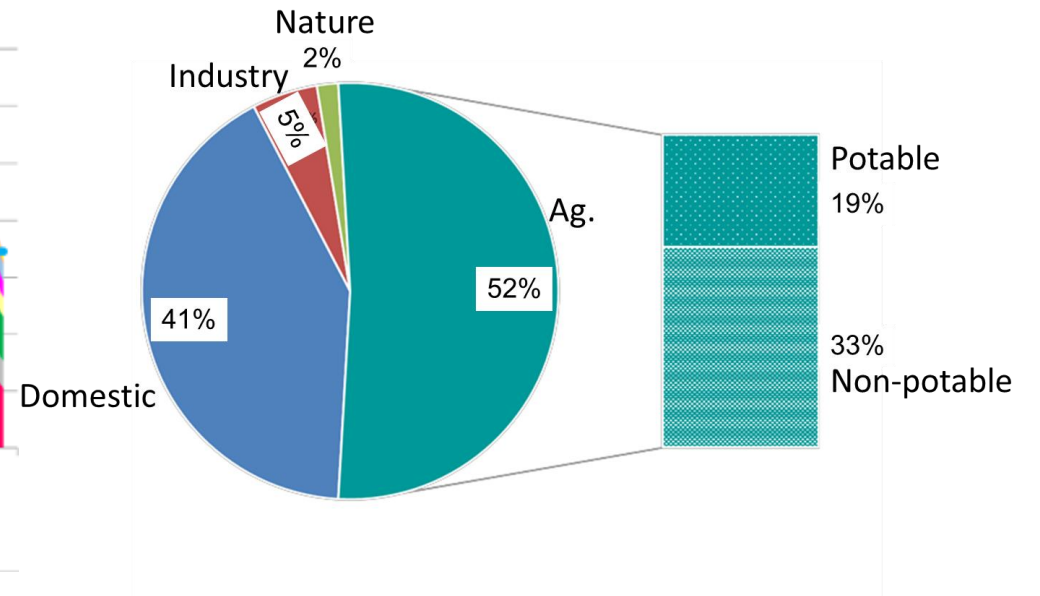
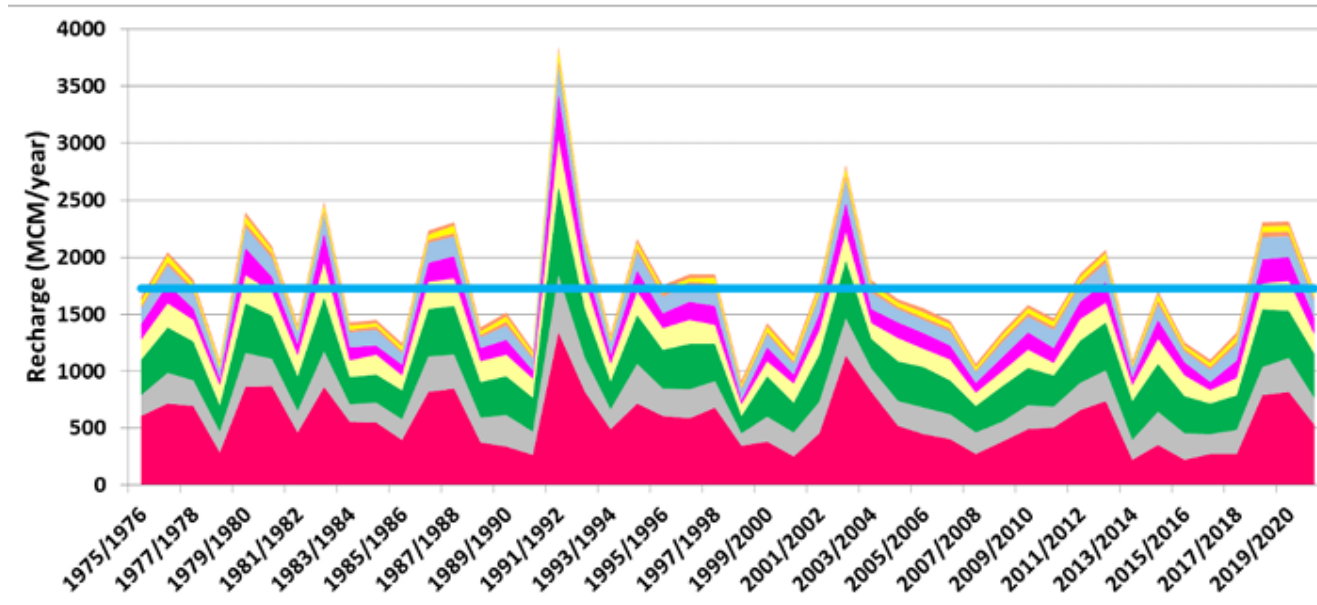


2022 Water Consumption in Israel



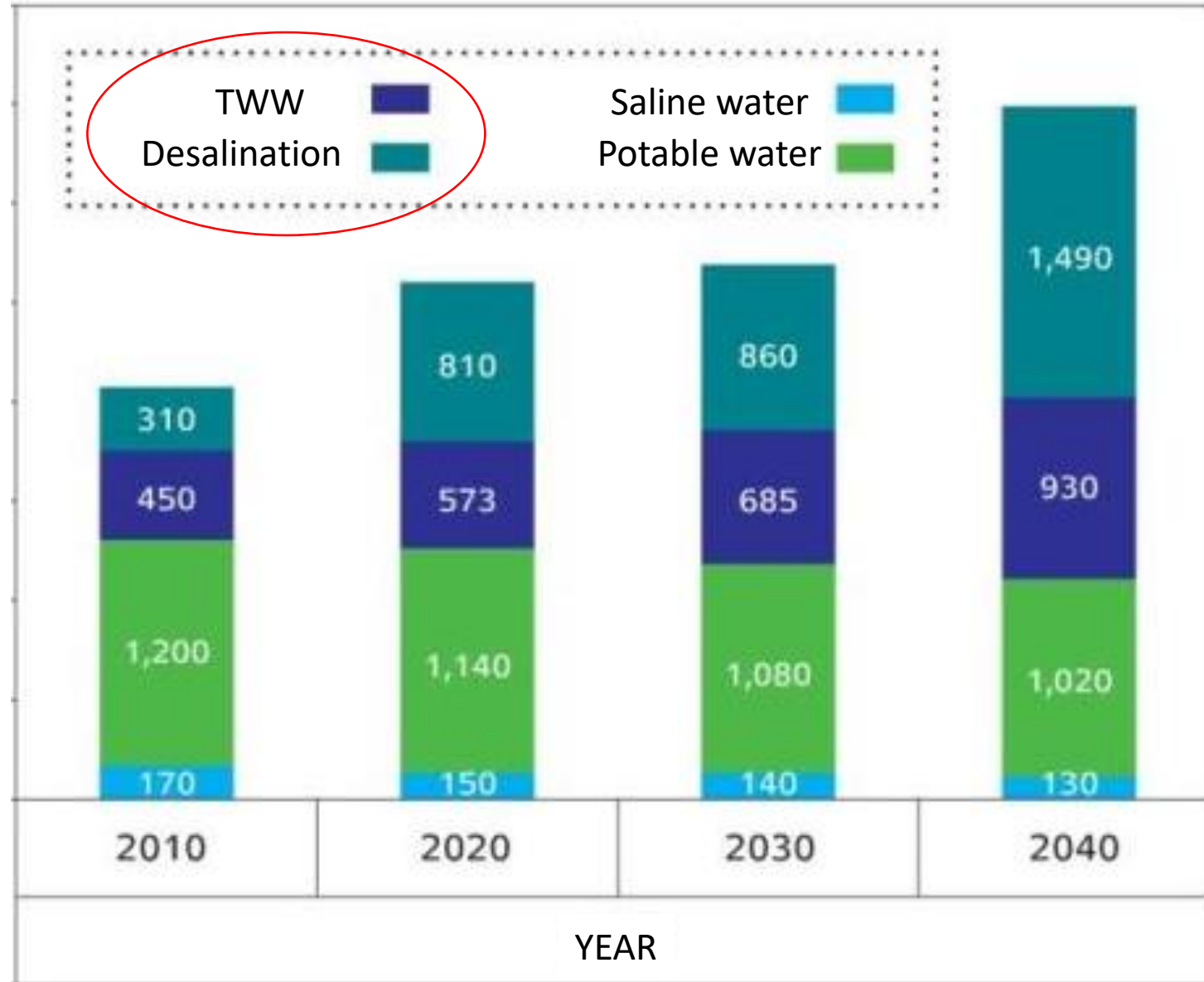
Total use: 2,344 MCM
(+212 MCM to neighbors)

Natural water filling



$$1,700 - 2,344 - 212 = -856 \text{ MCM / year}$$

Closing the gap



Treated Waste Water



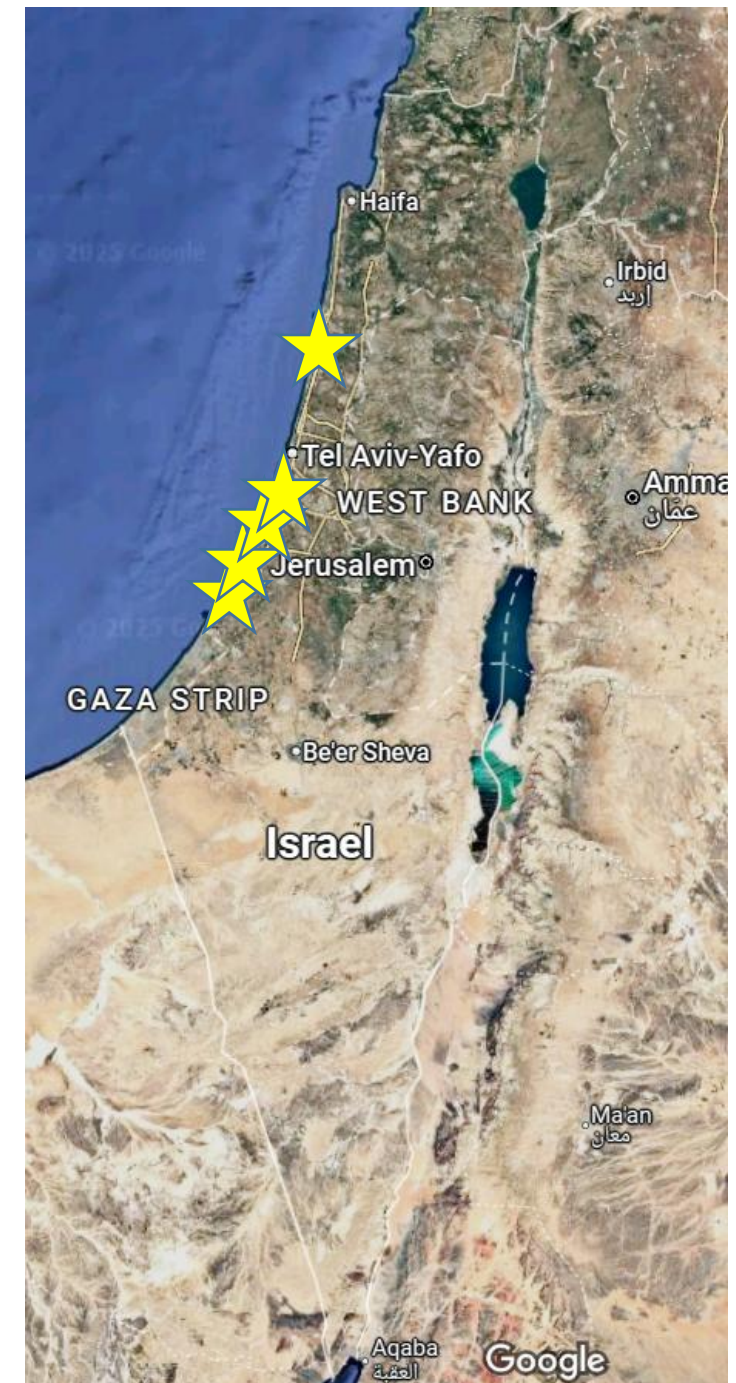


Treated
Waste Water



Site	Yearly water production (MCM)
Ashkelon	118
Ashdod	100
Sorek	150
Palmahim	90
Hadera	137

Desalination



Unified water supply system

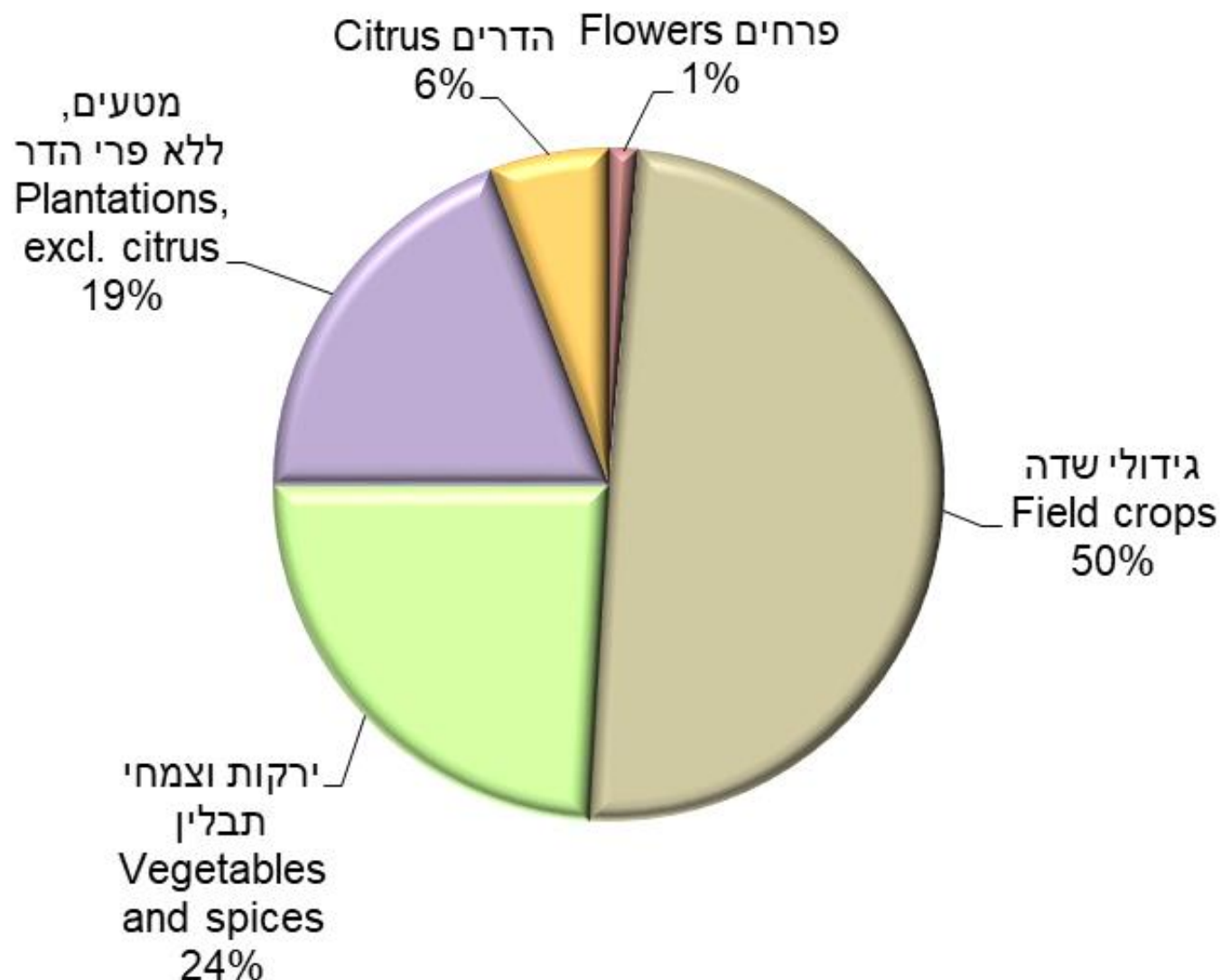


What do we grow and irrigate?

~360,000 ha
Cultivated

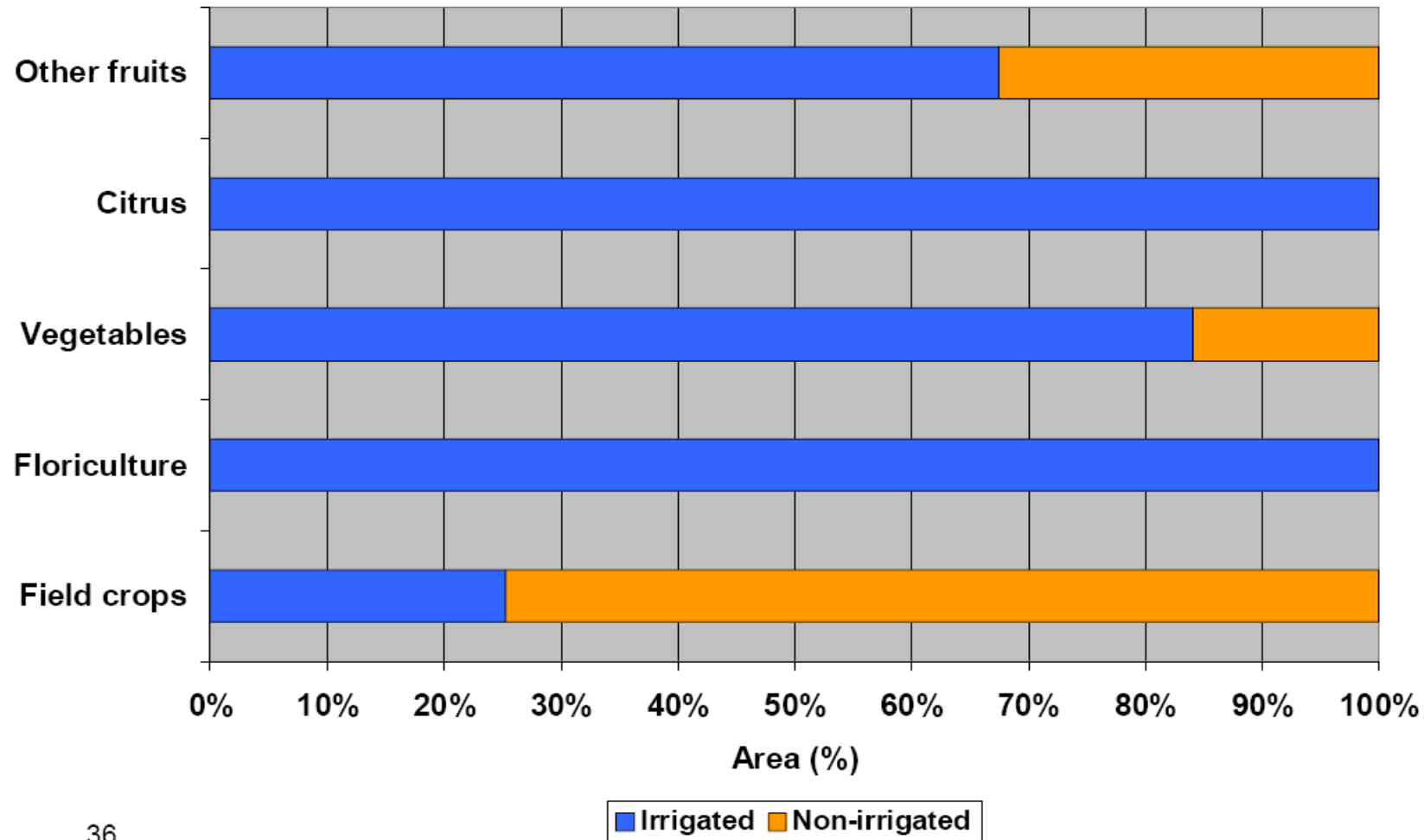
~ 240,000 ha
Irrigated

~ 120,000 ha
Irrigated with TWW



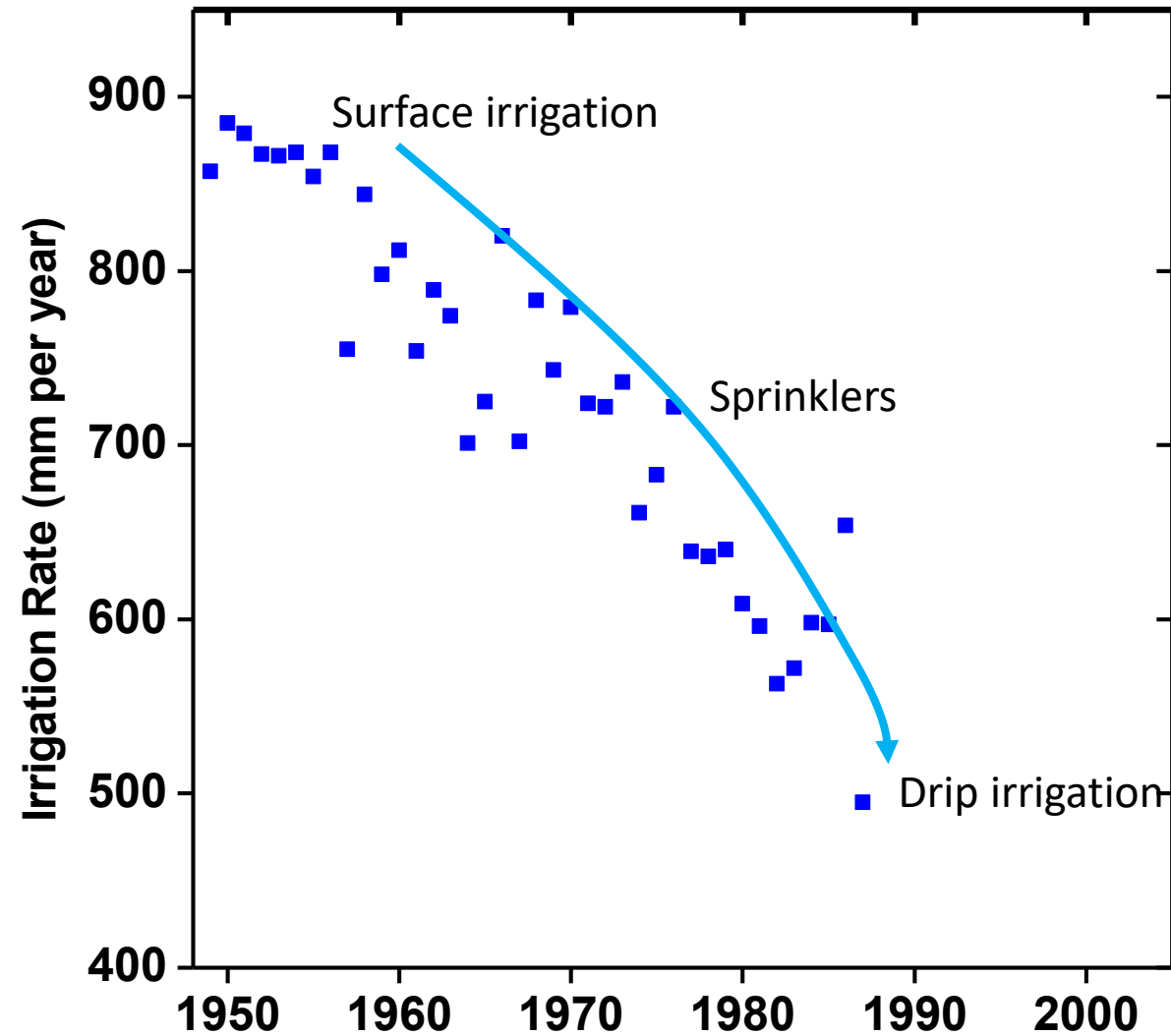
Irrigation VS. Rain fed crops

Land use (2007)

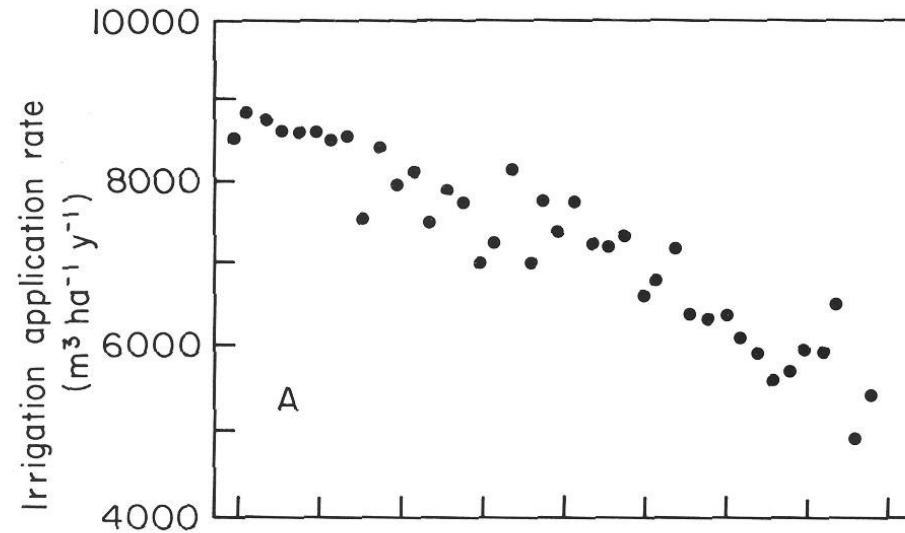


Irrigation Efficiency

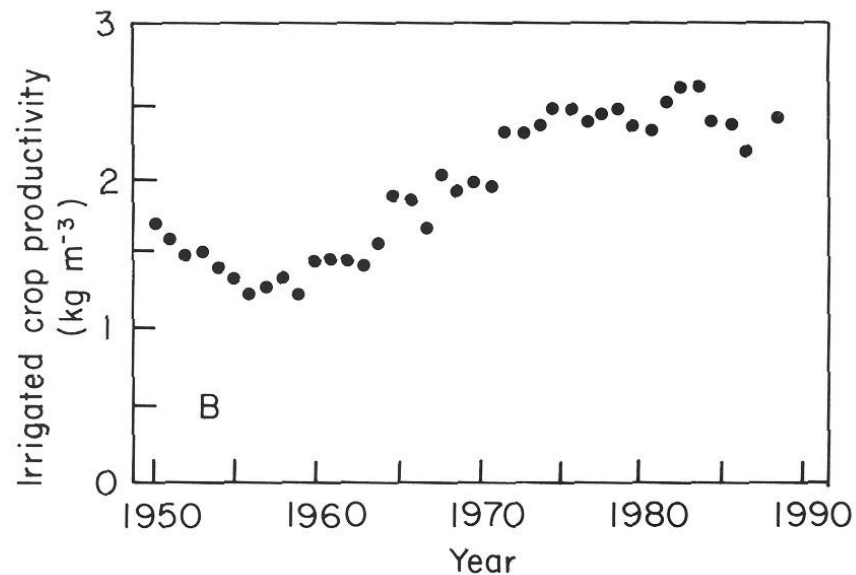
Irrigation Water Use in Israel



Irrigation Efficiency

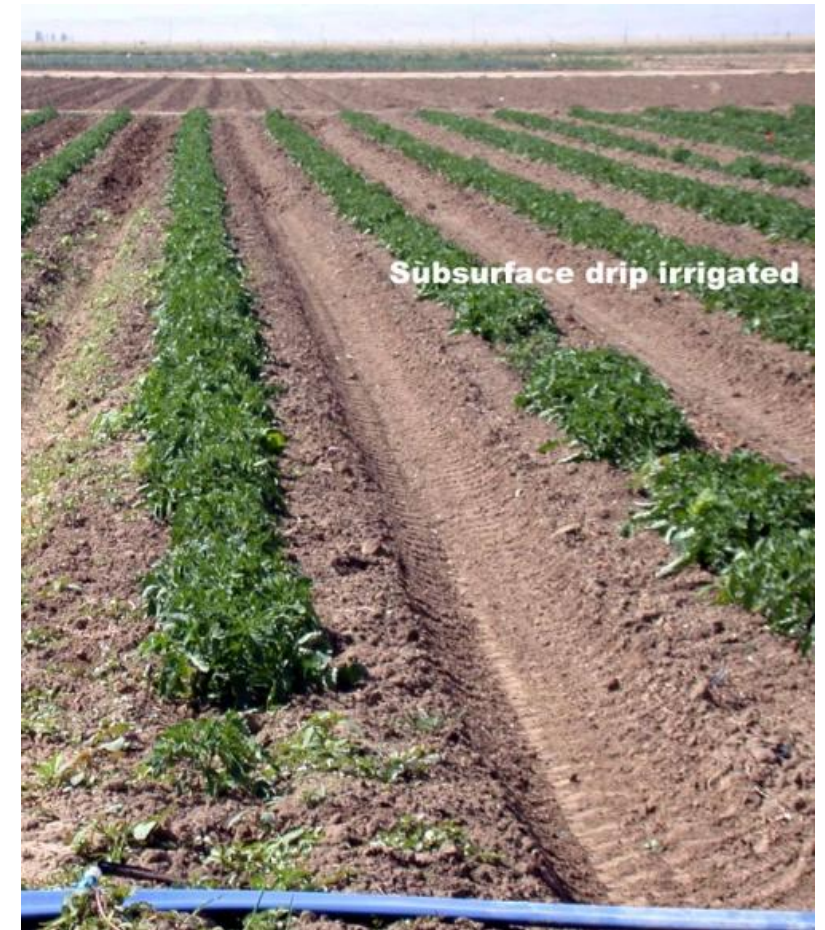


Irrigation rate



“Crop per Drop”

80% of agricultural irrigated land is drip irrigated



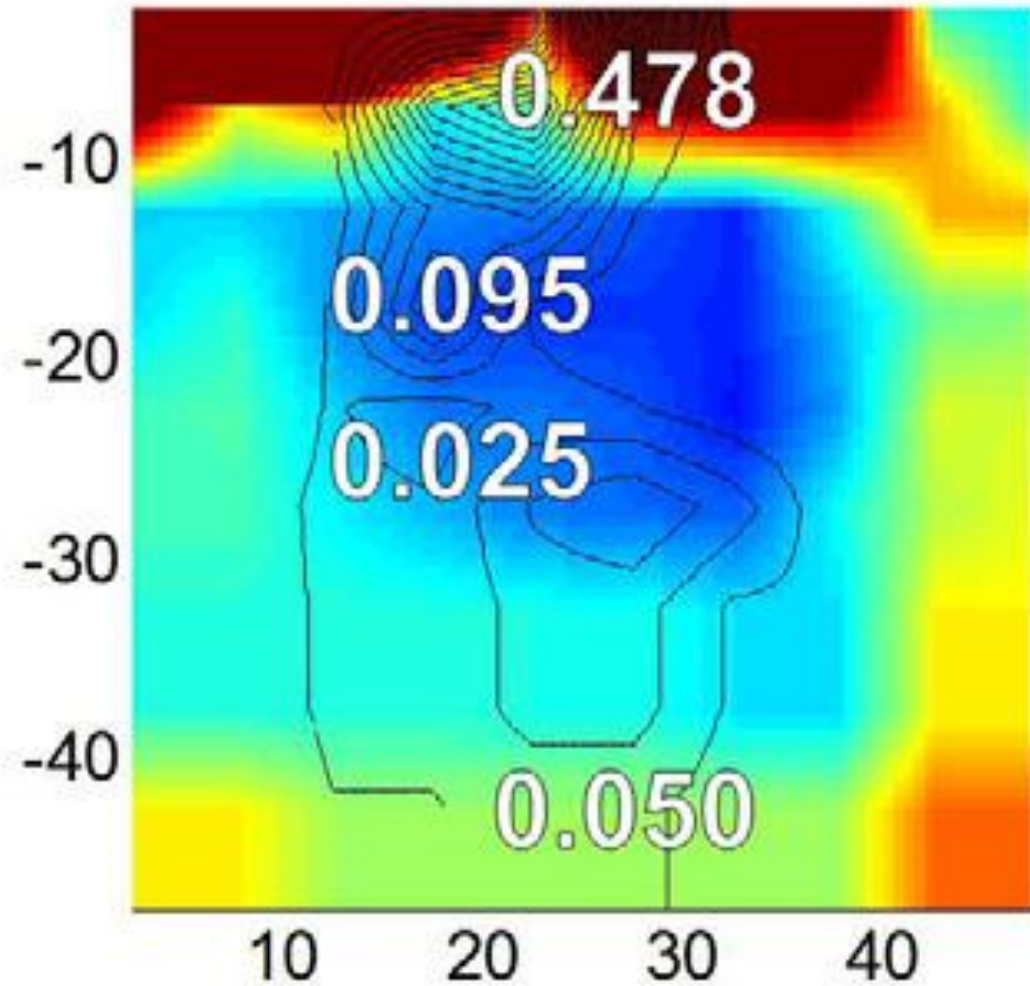
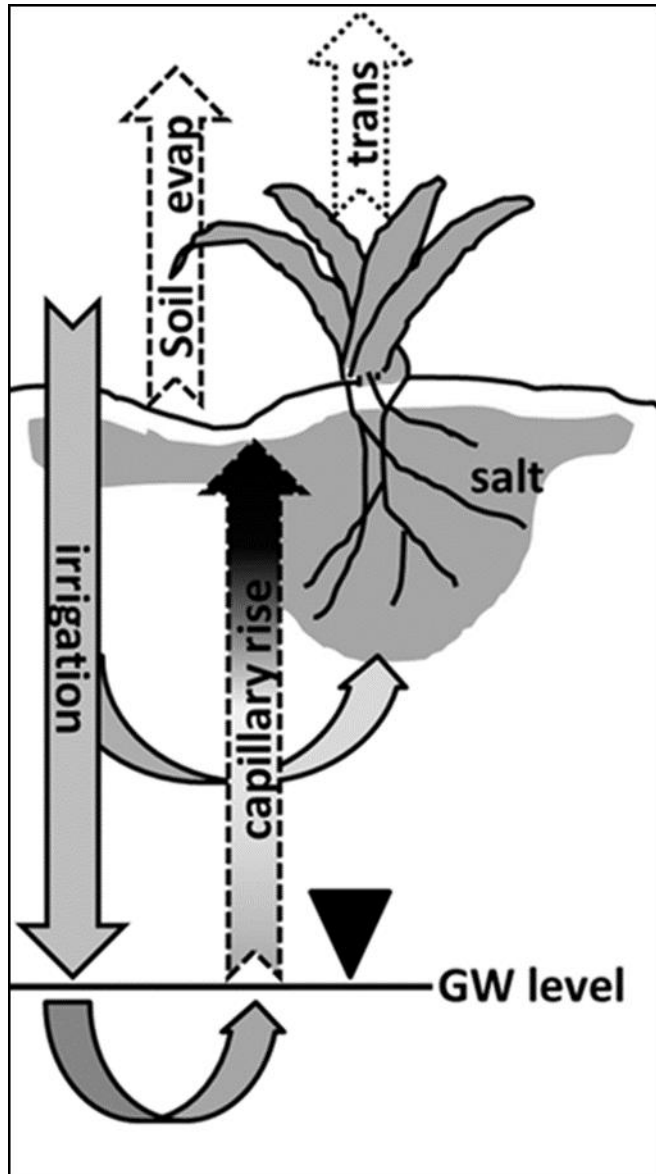
In most cases accompanied by Fertigation



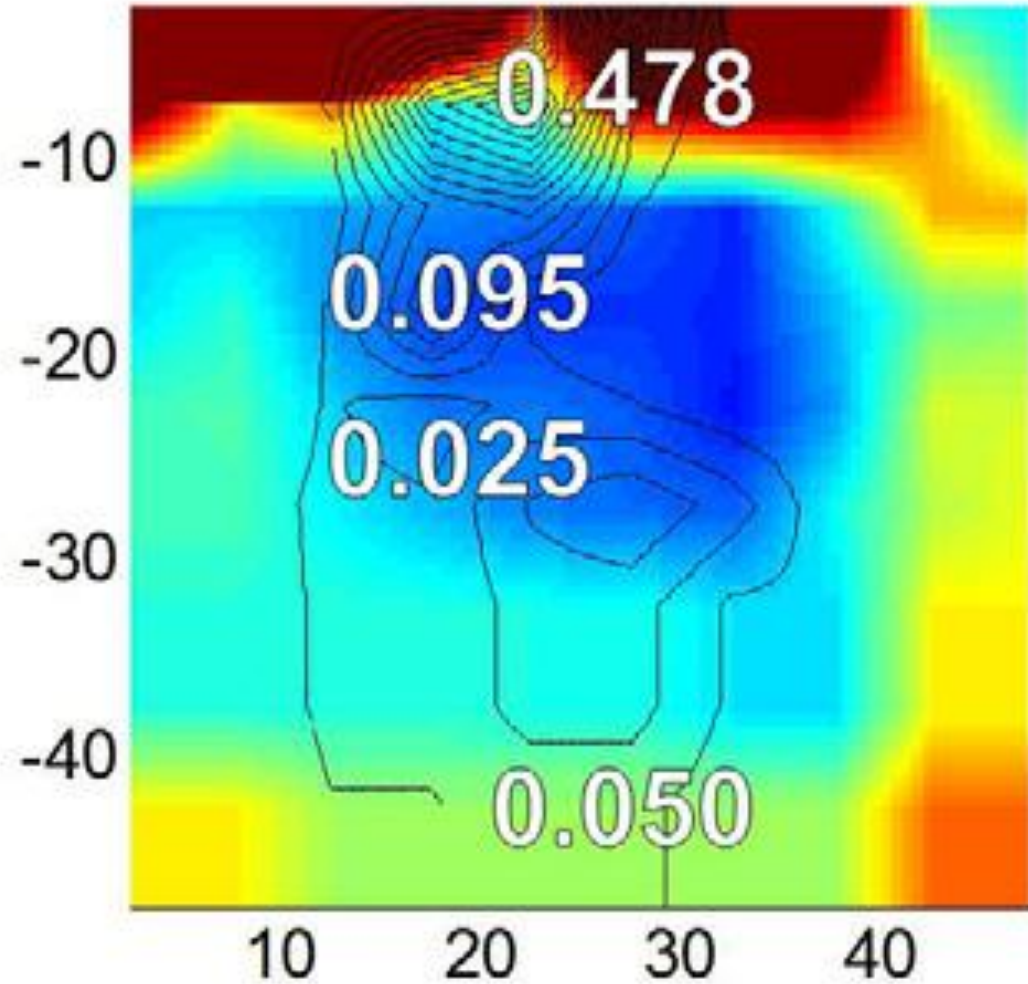
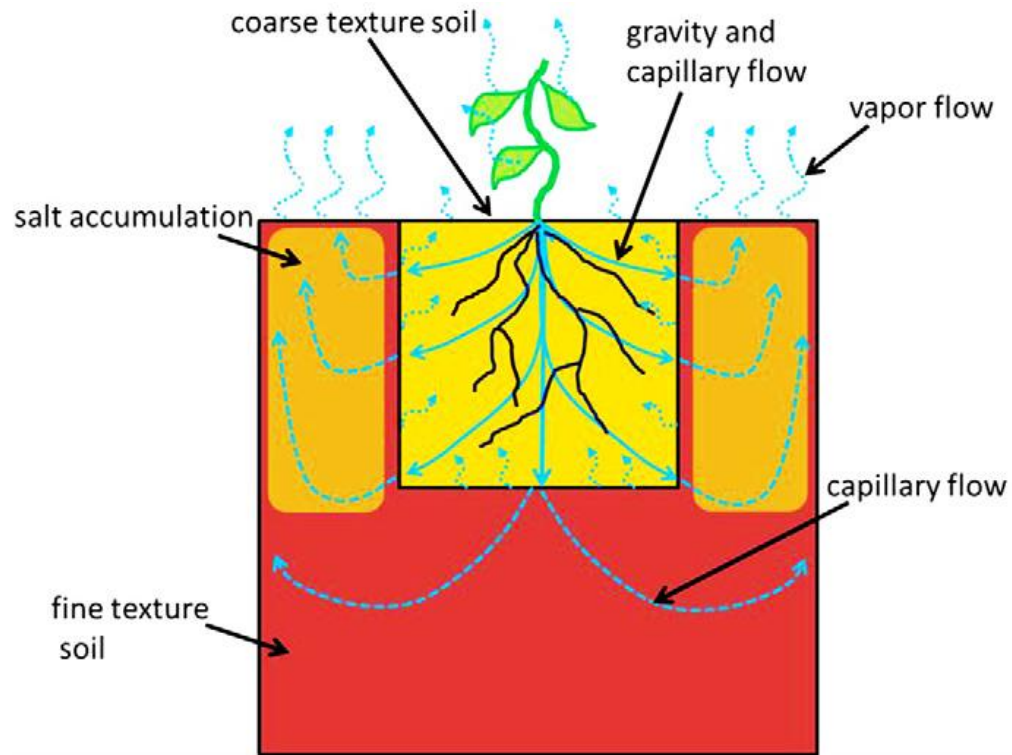
Screen houses & Greenhouses to reduce ET

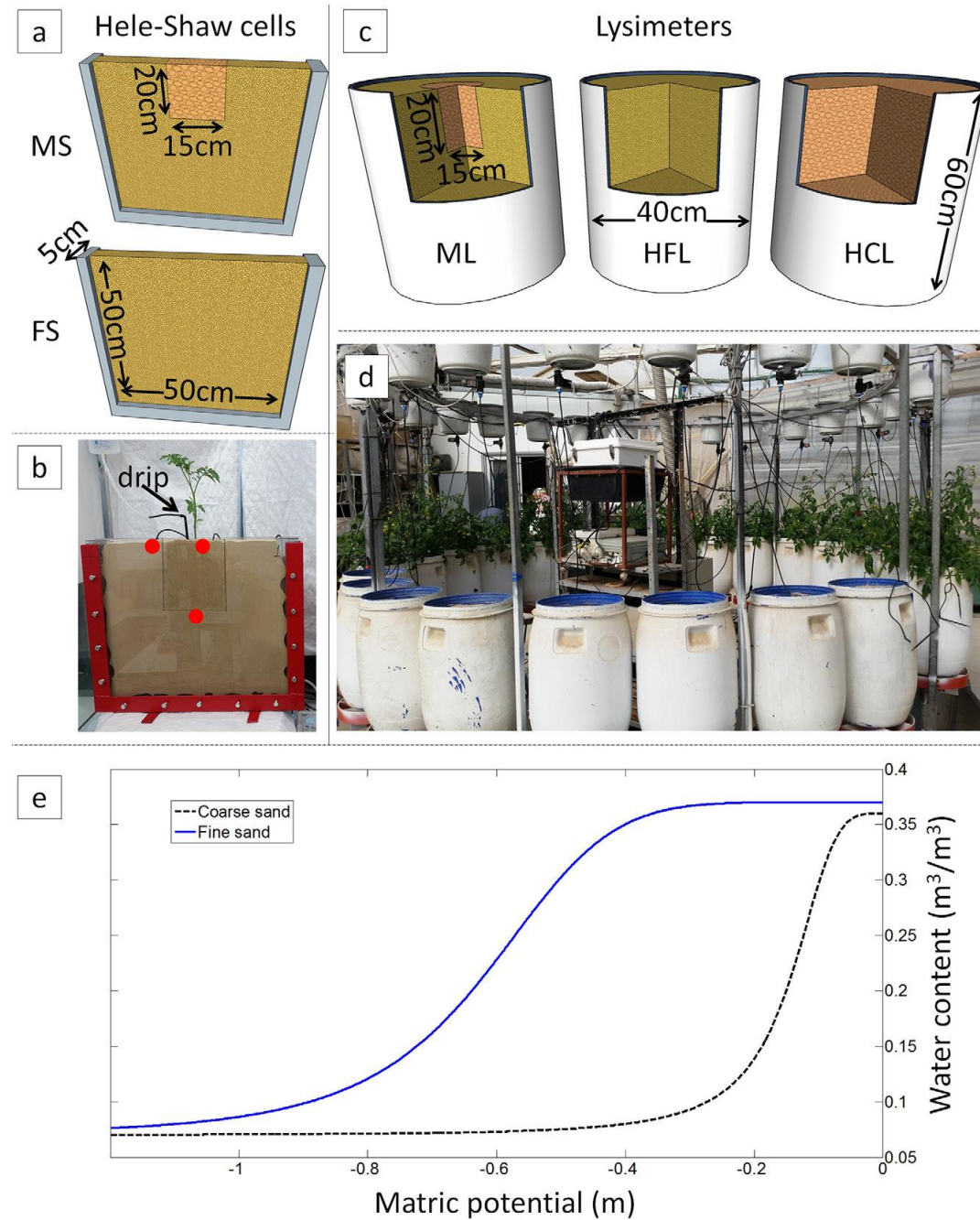


Drip irrigation and soil salinization

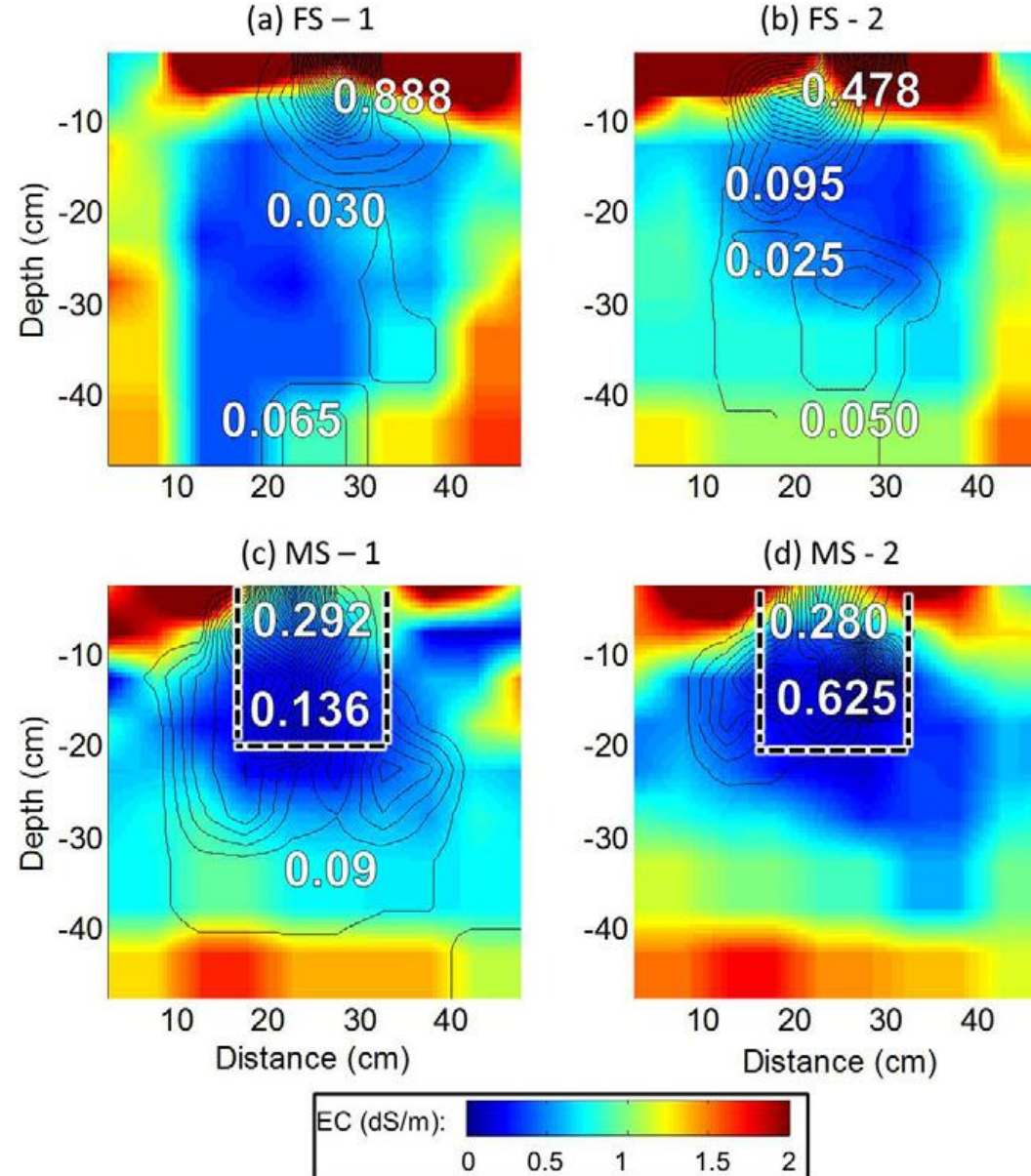


Drip irrigation and soil salinization





Drip irrigation and soil salinization



Summary:

- Elevated water resources by WWT and desalination
- Precise irrigation and fertigation
- “Controlling the weather”
- All of the above have pros and cons that require consideration.

