



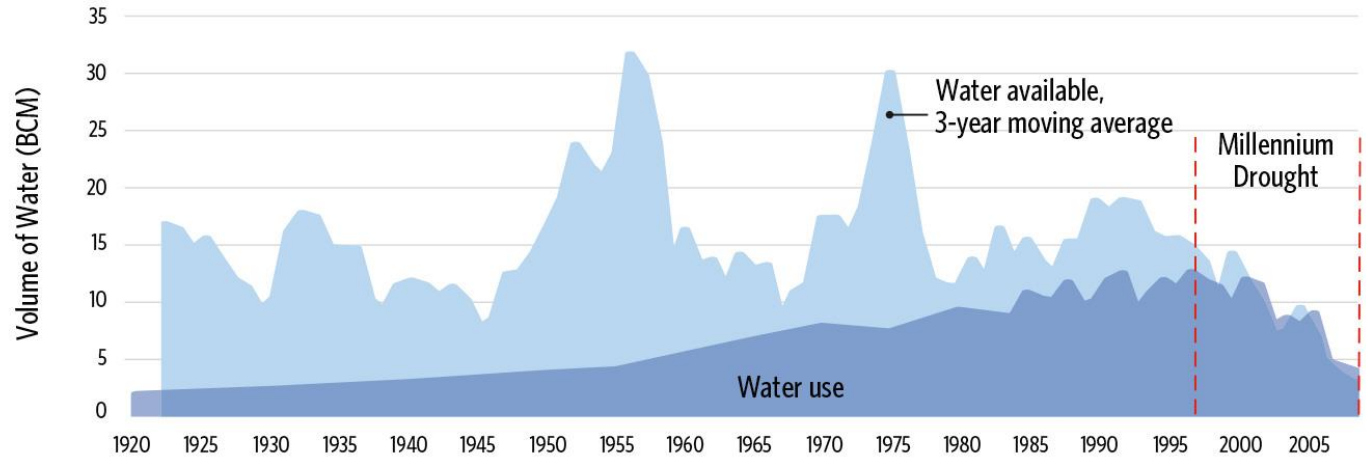
Incentivizing Farmers to Reduce Consumptive Use

Session on “Reducing waste in efficient irrigation: What pathways and who gains?”
Stockholm World Water Week 2017

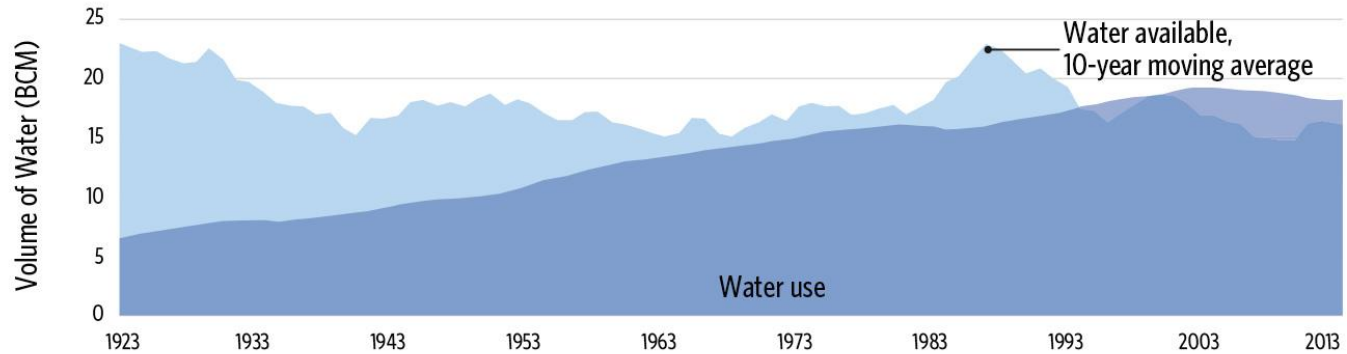
Brian Richter

President, Sustainable Waters
Professor, University of Virginia

Water availability and use in the Murray-Darling Basin of Australia



Water availability and use in the Colorado River Basin of the United States



Colorado River Delta, Mexico

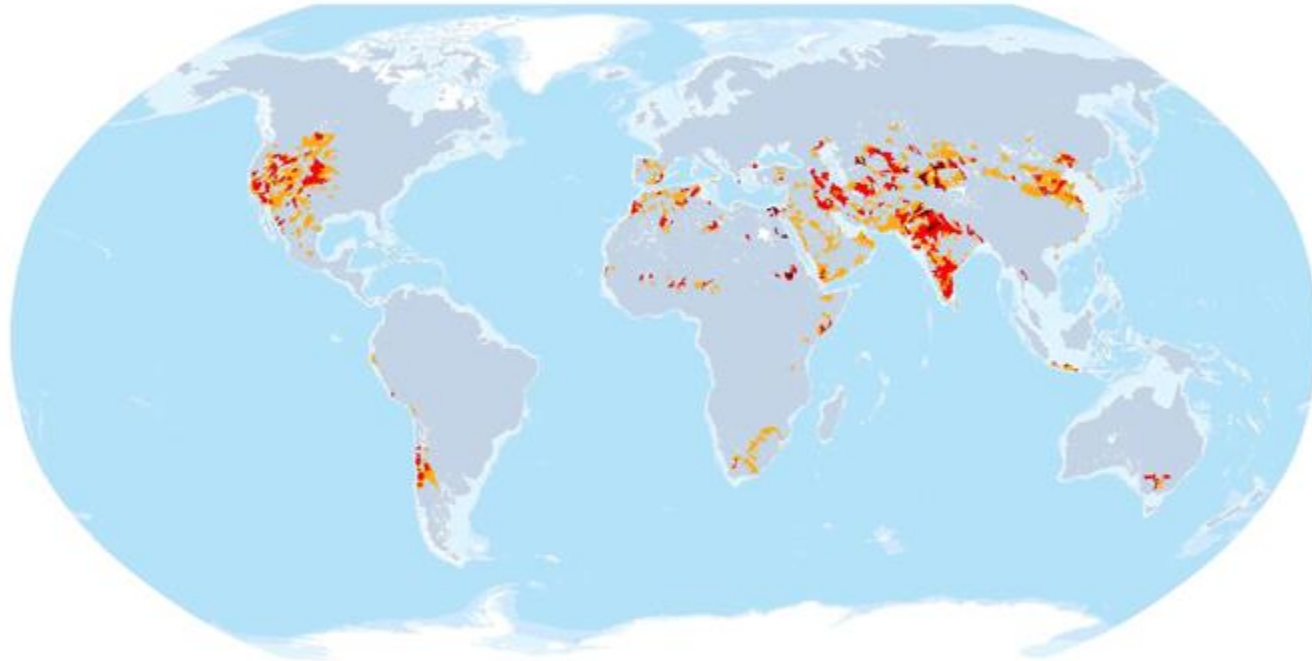


Photo: Jonathan Waterman



High Plains Aquifer, Kansas

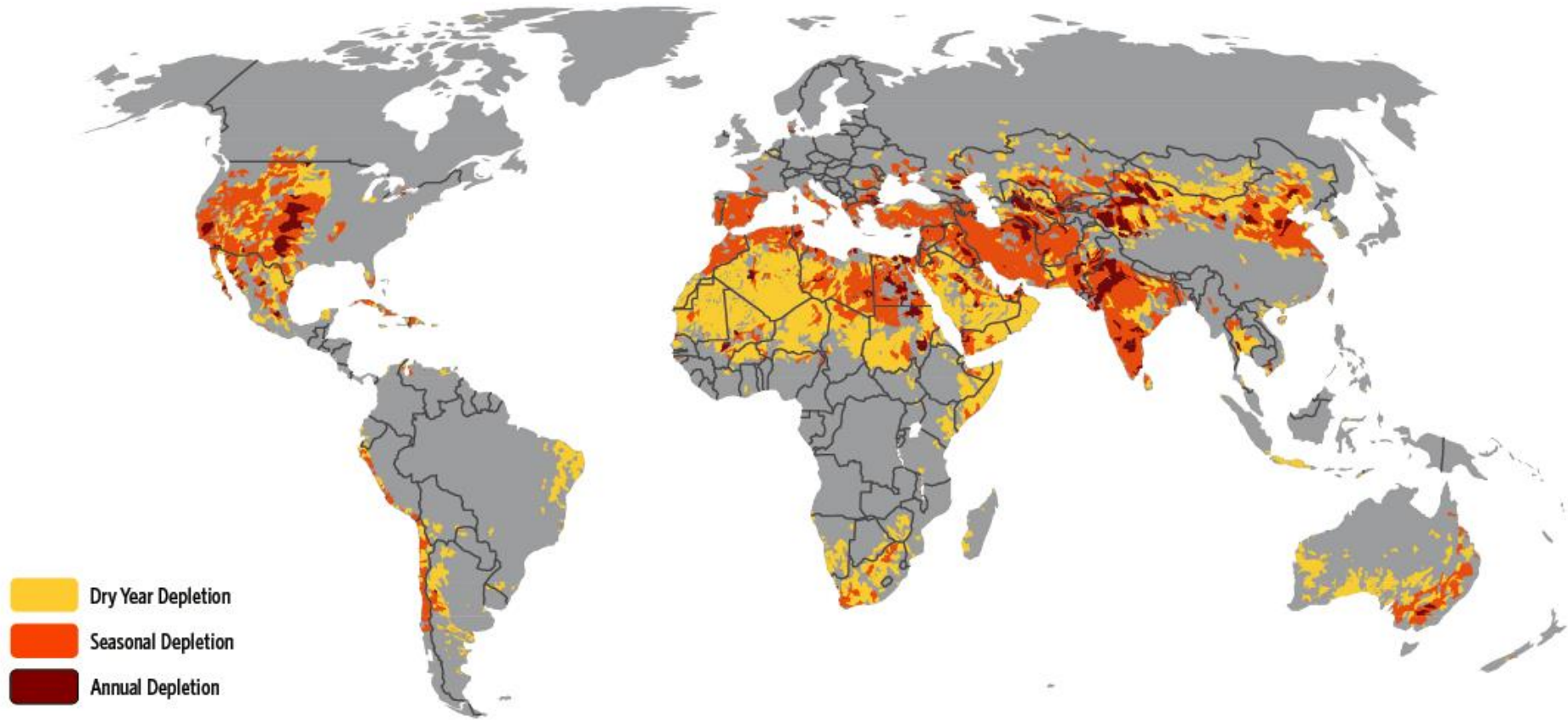
1900



Depletion Levels



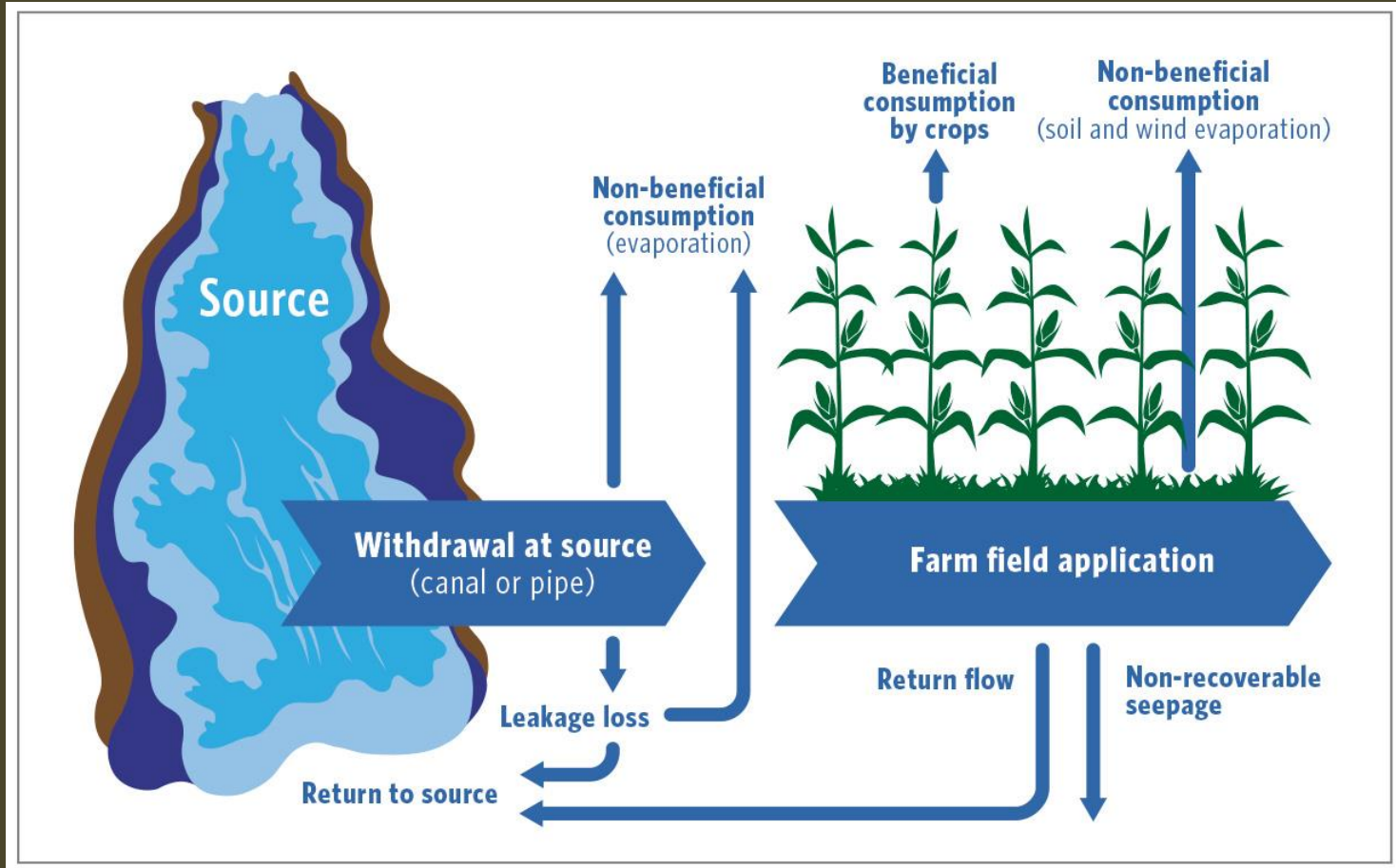
Water depletion for agricultural irrigation



Water shortages are occurring in 1/3 of the planet's watersheds and aquifers
1/2 of the world's population is affected
3/4 of the world's irrigated acreage is affected

Solution #1: Create water on farms

(each gallon we don't consume is a
gallon available for other users or
nature)



“Opportunities for Saving and Reallocating Agricultural Water to Alleviate Water Scarcity”
 (Water Policy, Richter et al, 2017)
 To be published October 2017



Flood irrigation

Improvements in water application
34-57% savings in consumptive use

Drip irrigation





Alfalfa

Converting from alfalfa to vegetable crops in California:

- 75% less water
- 9 times more revenue
- 23 times more jobs

Saving water by crop shifting
54-87% savings in consumptive use

Vegetables





No-till farming
13-54% savings in consumptive use

Solution #2:
Trade saved water through
water markets

Transfer of saved water = 1/3 of city's water supply



San Diego

USD\$60M per year to farmers



Imperial Irrigation District



Improved water use

Helping farmers make the transitions



Brian
Richter

A Guide for
Moving from
Scarcity to
Sustainability

CHASING
WATER