

**Achieving Consensus on
Sustainability:**

**Tucson's
Commercial
Water Harvesting
Ordinance**

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Researchers warn that Lake Mead could be dry by 2021

US Water News, 3/08

Tucson slips in ranking of sustainability because of water supply, use issues

Arizona Daily Star

Feds to cut off water to Calif. 2/21 farmers

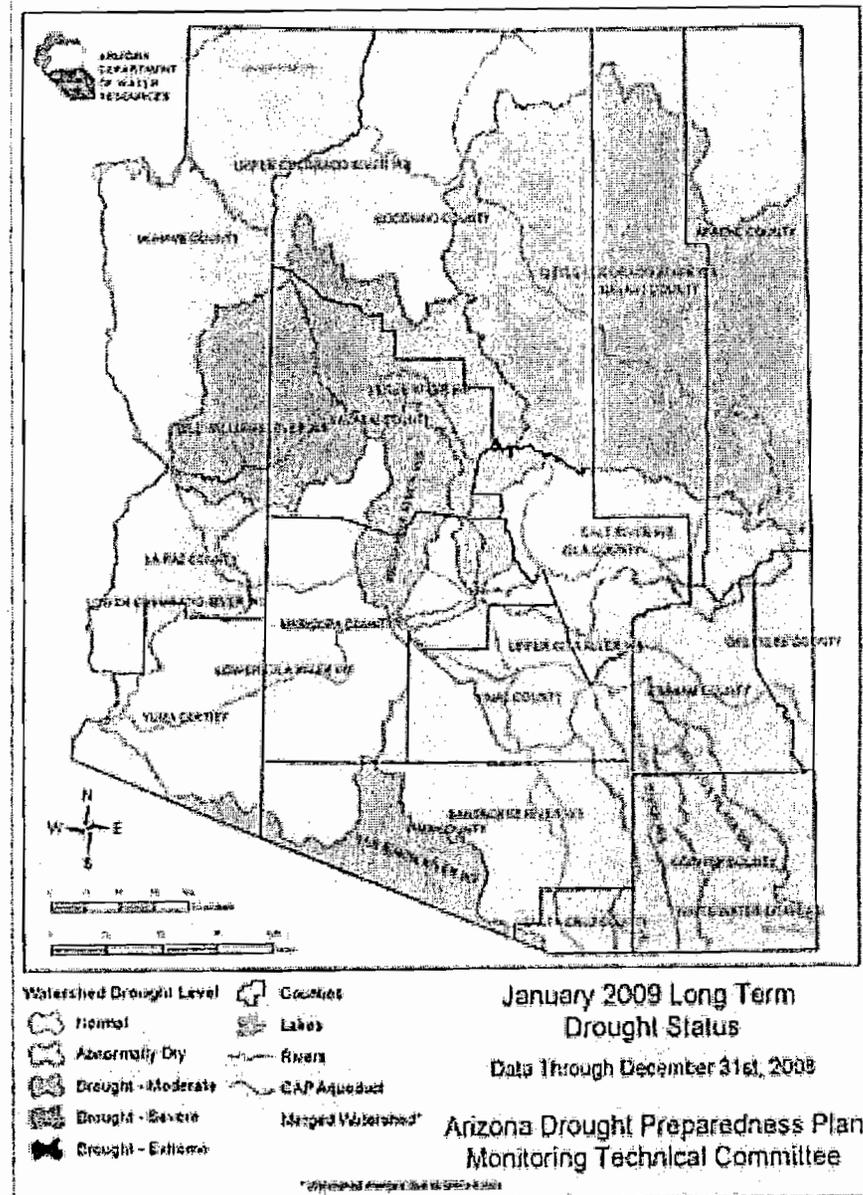
2 million in Mexico City lose water in 3-day closure

Arizona Daily Star, 2/2/09

UN meeting to examine water crisis

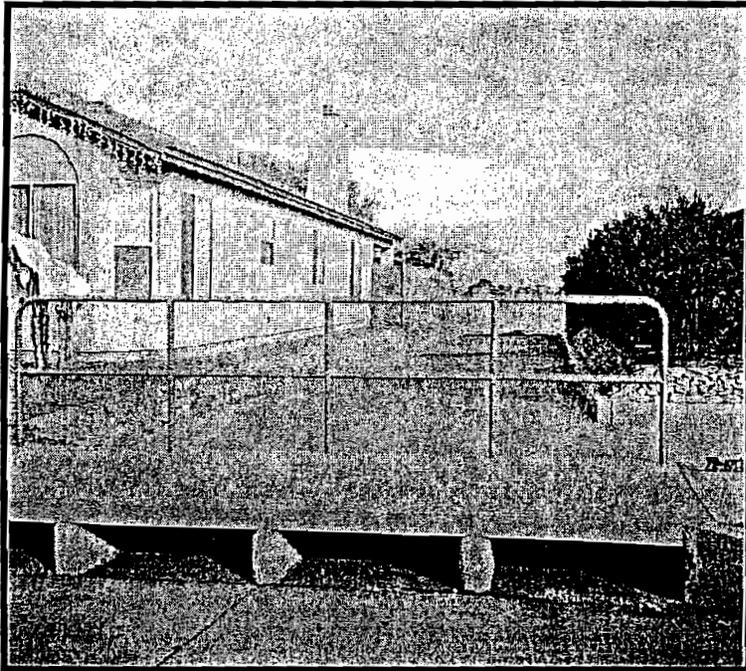
Arizona Daily Star, 3/13/09

Drought and climate change are here



Stormwater going down the drain...

- Urban street flooding
- Flashy flood peaks on watercourses
- Stormwater quality issues



One use of stormwater runoff...



Five great things about rainwater

1. There's lots of it!

Tucson Water demand = 147,000 acre-feet/year

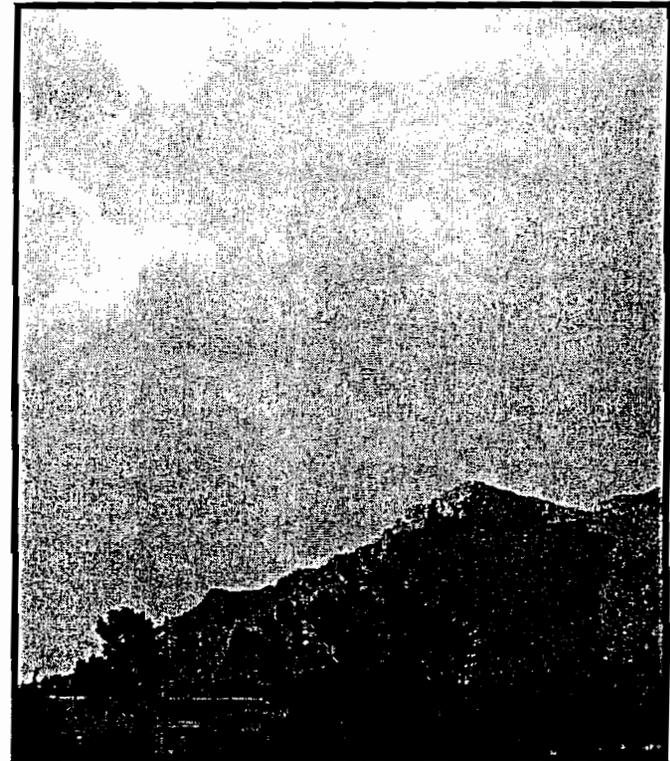
Rainfall in same area = 185,600 acre feet/year!

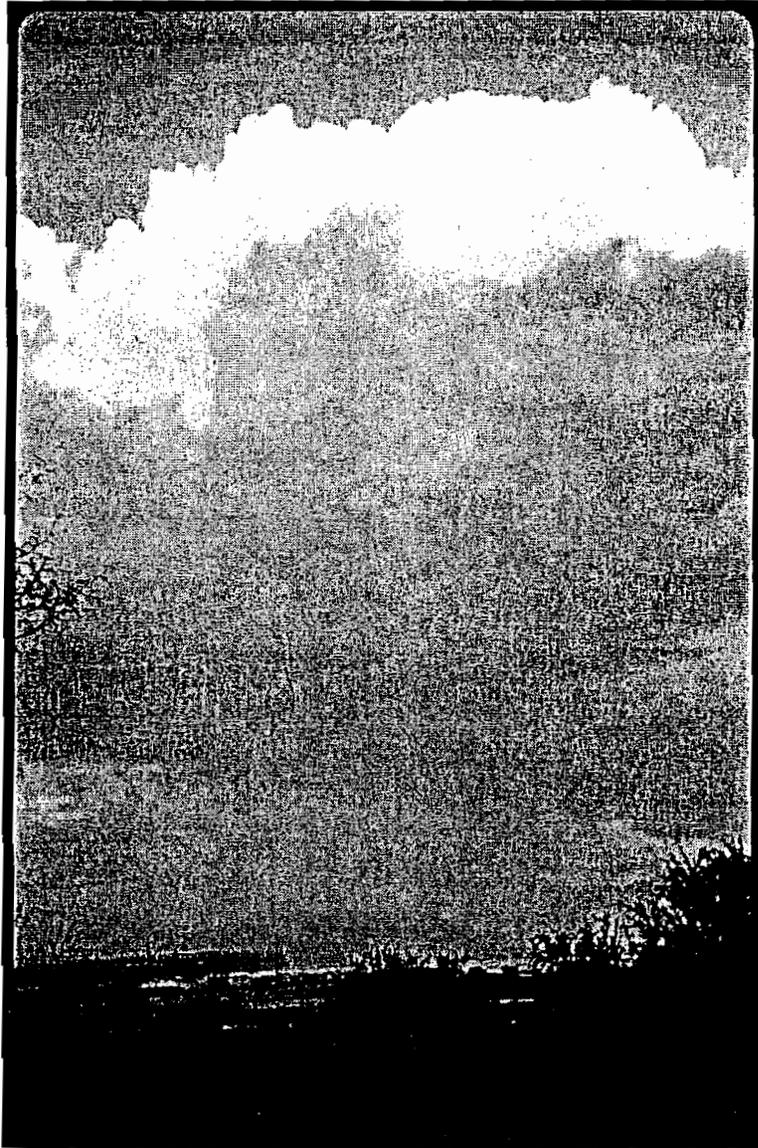
2. Its free!

3. It falls where you need it

4. Plants like low salt,
high nitrogen

5. Harvest it! Stop spending
\$\$\$ getting rid of it!





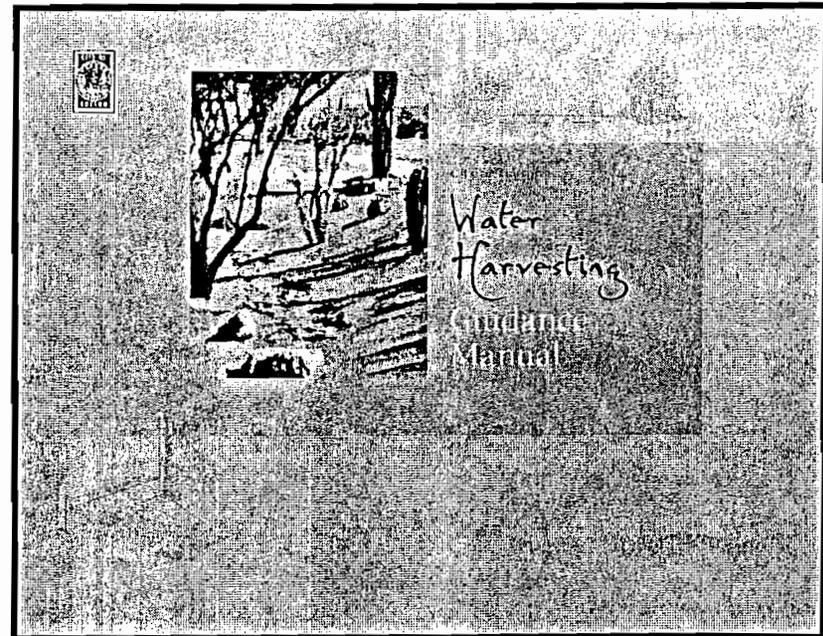
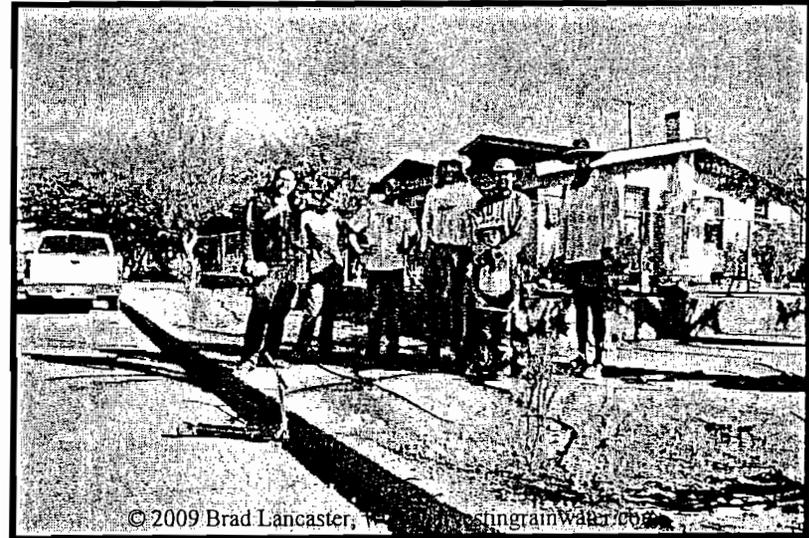
Rainwater Harvesting

...intercepting stormwater from a roof, driveway, soil or other surface and putting it to beneficial use

Tucson started early

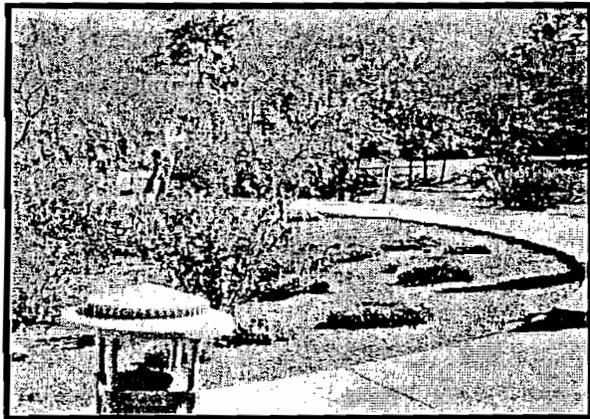
Strong grass roots
movement for 15 years

Required by the
Tucson Land Use Code
since mid-1990s
(qualitative
requirement)



Lots of ways to do it

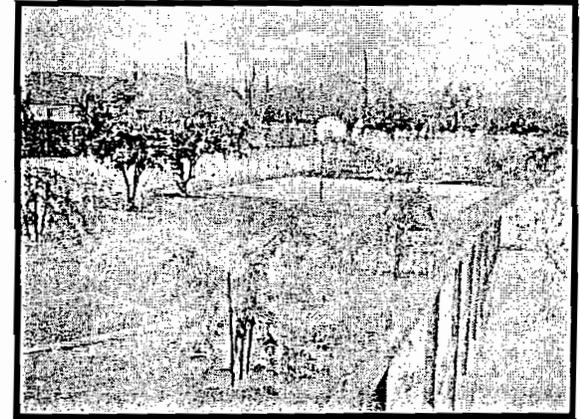
Microbasins



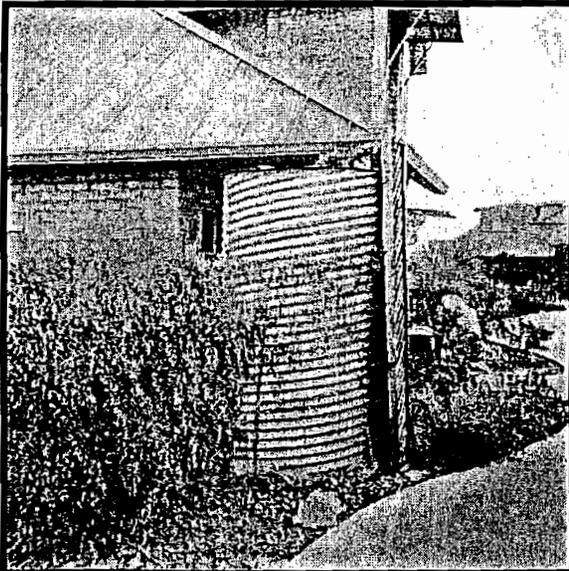
Swales



Infiltration basins



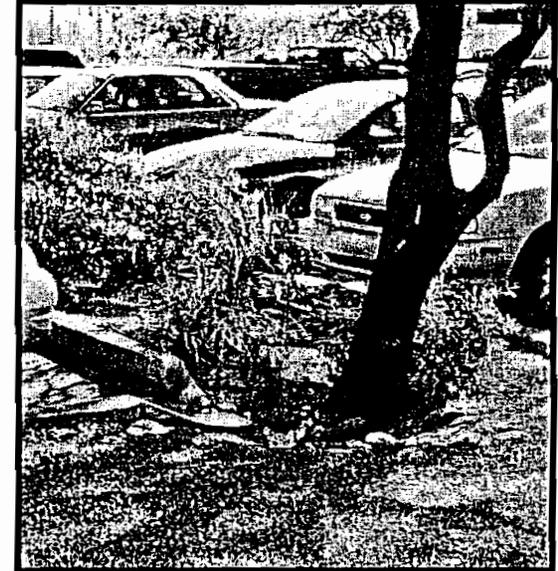
Tanks/Cisterns



Porous pavement



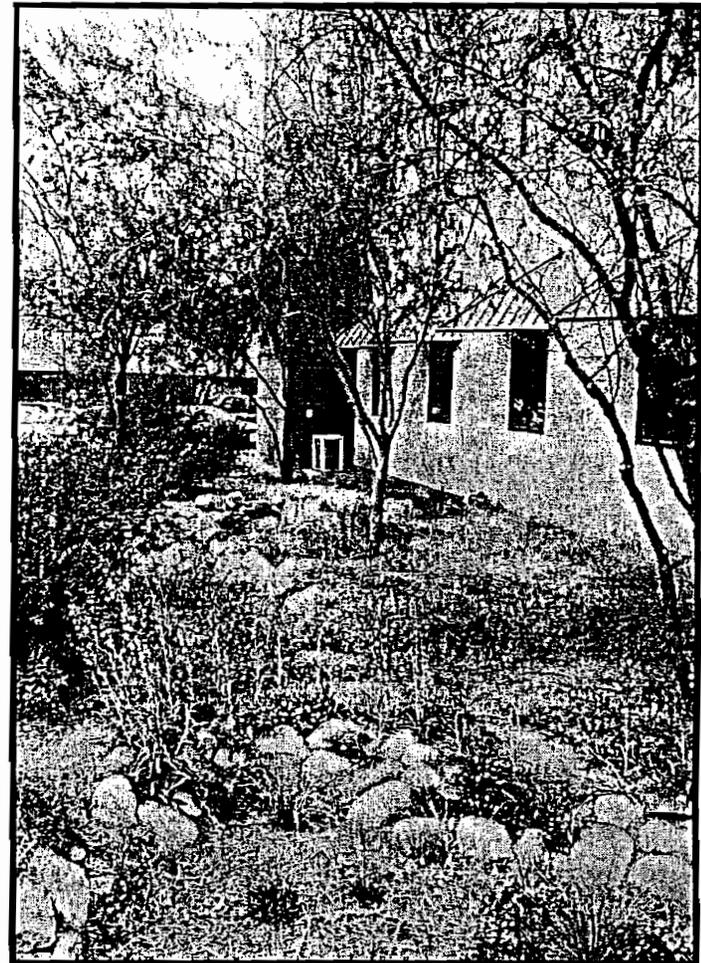
Curb cuts



***Glassman's
commitment:***

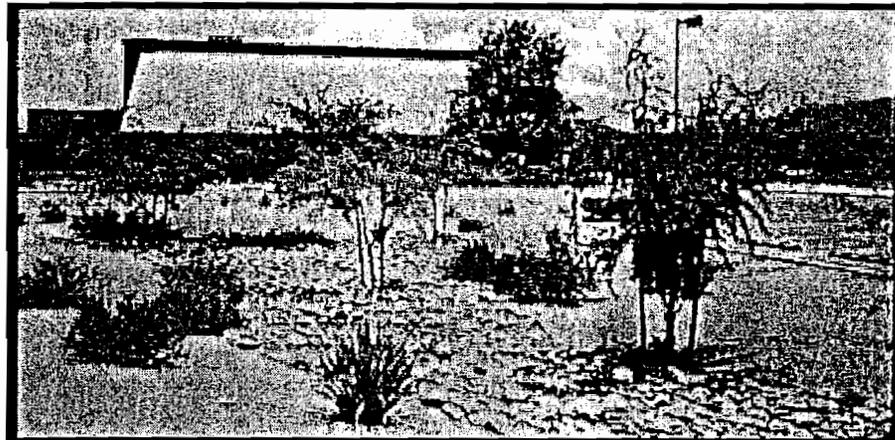
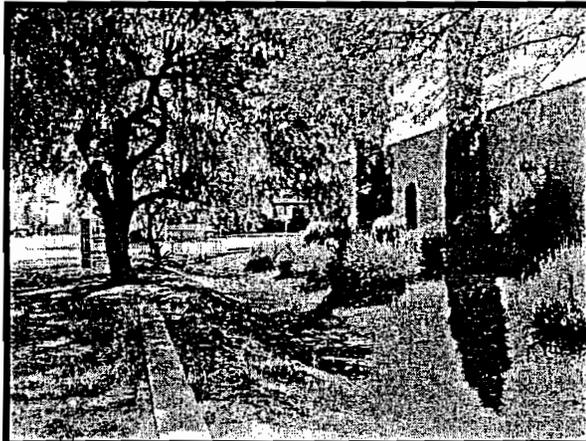
*Rainwater harvesting on
new commercial
development*

**"Provide EVERYONE with
an equal seat at the table."**



Building consensus to change the face of Tucson

1. Motion to Mayor and Council
2. Assemble City staff
3. Assemble public representatives
4. Develop Ordinance
5. Adopt Ordinance
6. Prepare Development Standard
7. Build partnerships for pilot studies

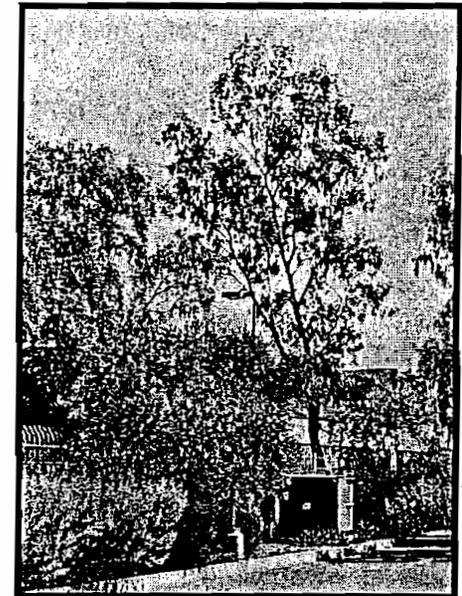


Ordinance Adoption

- First in nation to quantify commercial use requirement
- 20 organizations spoke in favor
- *"Best public hearing I ever attended."* Tucson's Mayor

Ordinance Components

- Applies to new commercial only
- Meet 50% of landscape demand
- Water harvesting plan and water budget
- 3 years to establish plants
- Meter outdoor water use
- Soil-moisture-based irrigation control
- Relief from 50% requirement in a drought
- Report annually



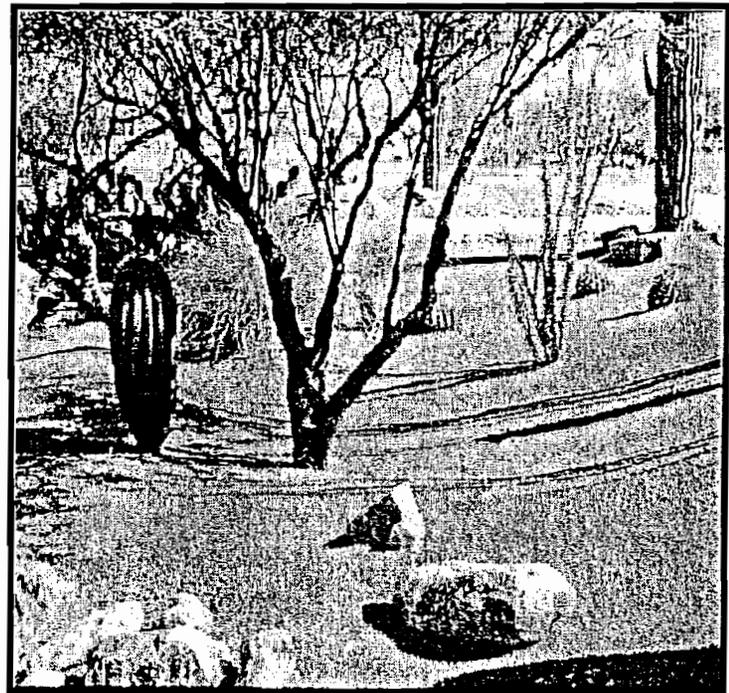
Misconceptions



- Water harvesting recharges the aquifer
.....NOT when its 250 feet to groundwater
- Why harvest rainwater when it never rains?
.....harvesting maximizes the rainwater you do get
- Rainwater harvesting breeds mosquitoes
..... Infiltrate water into soil within 24 hours to prevent breeding
- Must use tanks to harvest rainwater
..... Harvesting in soil is easy, cheap and effective
- Harvesting rainwater will deprive washes of water
.....Water harvesting reduces some runoff but not all

Lessons learned

- Use demand driven requirements not supply-driven
- Provide implementation details before adoption for support
- Start with outdoor requirements for simplicity
- Make Tanks optional
- Encourage use of native plants
- Know your surface water rights

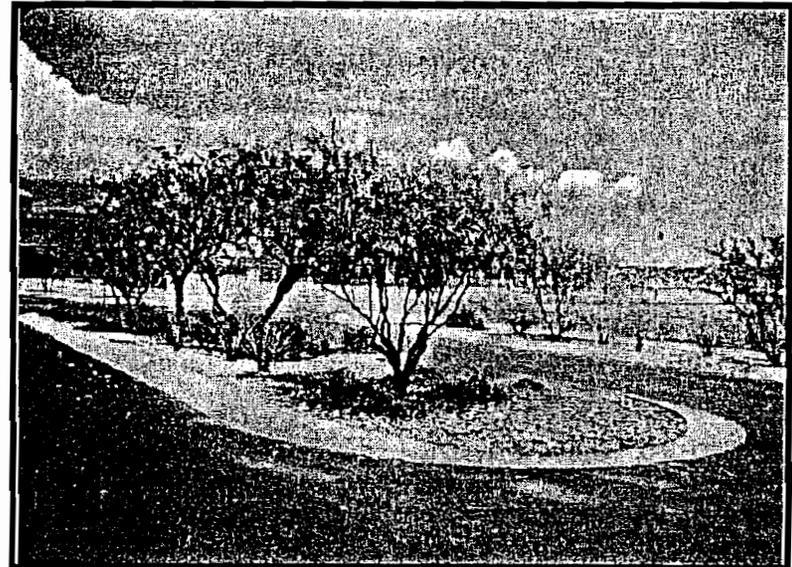


Next steps

- Conduct water harvesting pilot studies
- Adjust City Codes to be compatible with new requirements
- Educate staff and public on new ordinances
- Communicate regionally to share information

A bright future

- Develop Arizona as "go-to source" for water harvesting
- Good for business, growth industry, create new markets



Commitments become realities



ADOPTED COMMERCIAL RAINWATER
HARVESTING ORDINANCE

www.tucsonaz.gov/rainwaterharvesting



OBTAINED DEDICATED FUNDING FOR WATER
CONSERVATION PROGRAMS (July 2008)

www.ci.tucson.az.us/water/conservation.htm



CONDUCTING OUTREACH, WITH INVITATIONS
TO SPEAK THROUGHOUT ARIZONA (Flagstaff,
Prescott, Oro Valley, Sahuarita, Avondale, Mesa)

***Recipient of EPA Region 9
2009 Environmental Achievement
Award in recognition of exceptional work and commitment to
protecting the environment***

Before and after Water Harvesting

Lancaster Residence,
Public Right-of-Way
Tucson, Arizona

