

Urban Runoff

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Urban Runoff Problems

- Pollution
 - Beach closures
 - Water quality impairment
 - Fish kills
- Physical alteration of the watershed / water bodies
 - Stream incision / erosion / deposition
 - Habitat destruction

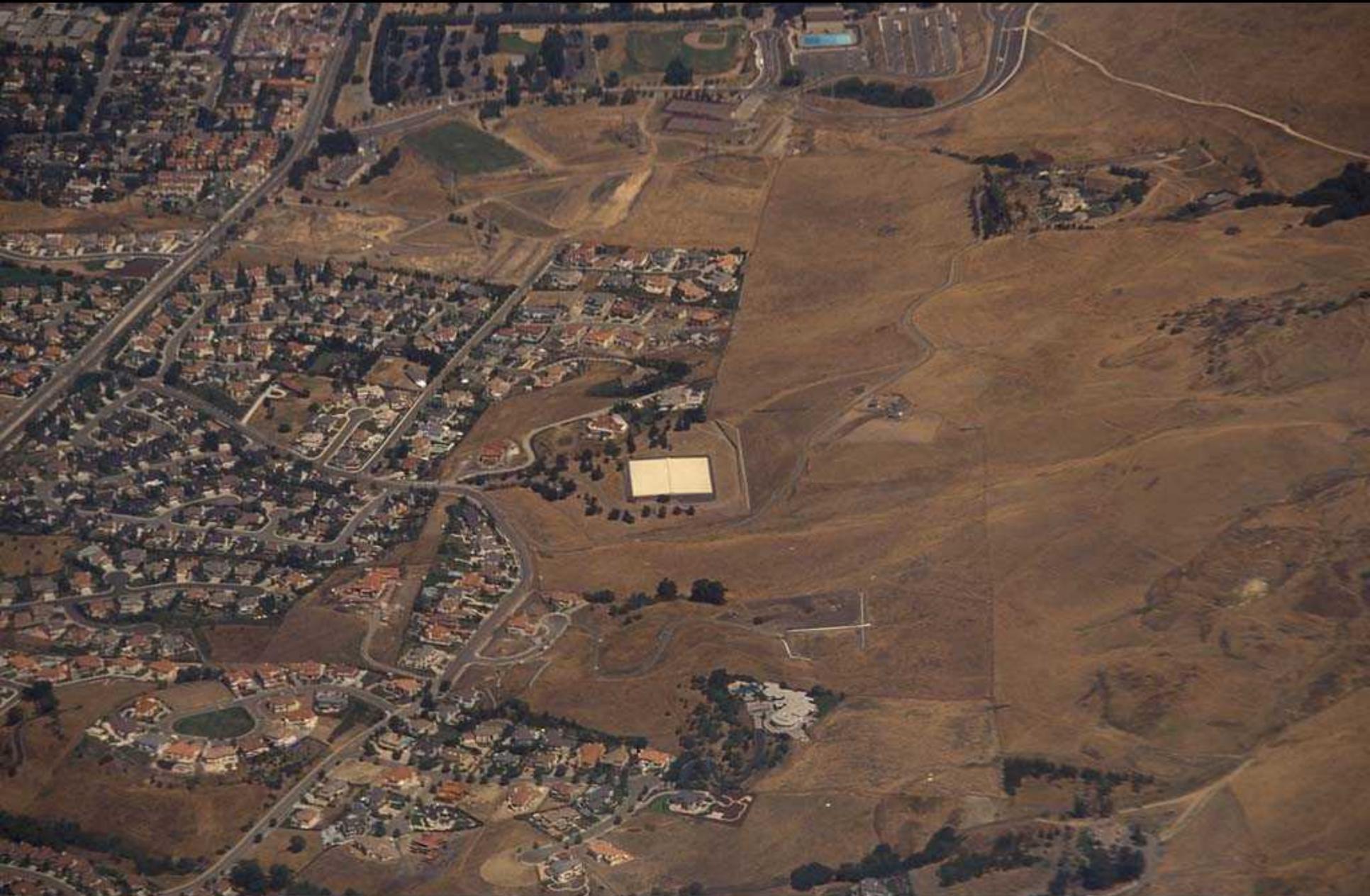


HEALTH ADVISORY

AVOID WATER CONTACT ACTIVITIES

Due to the presence of elevated levels of bacteria, the San Luis Obispo County Health Dept. advises that you avoid contacting and ingesting the water.

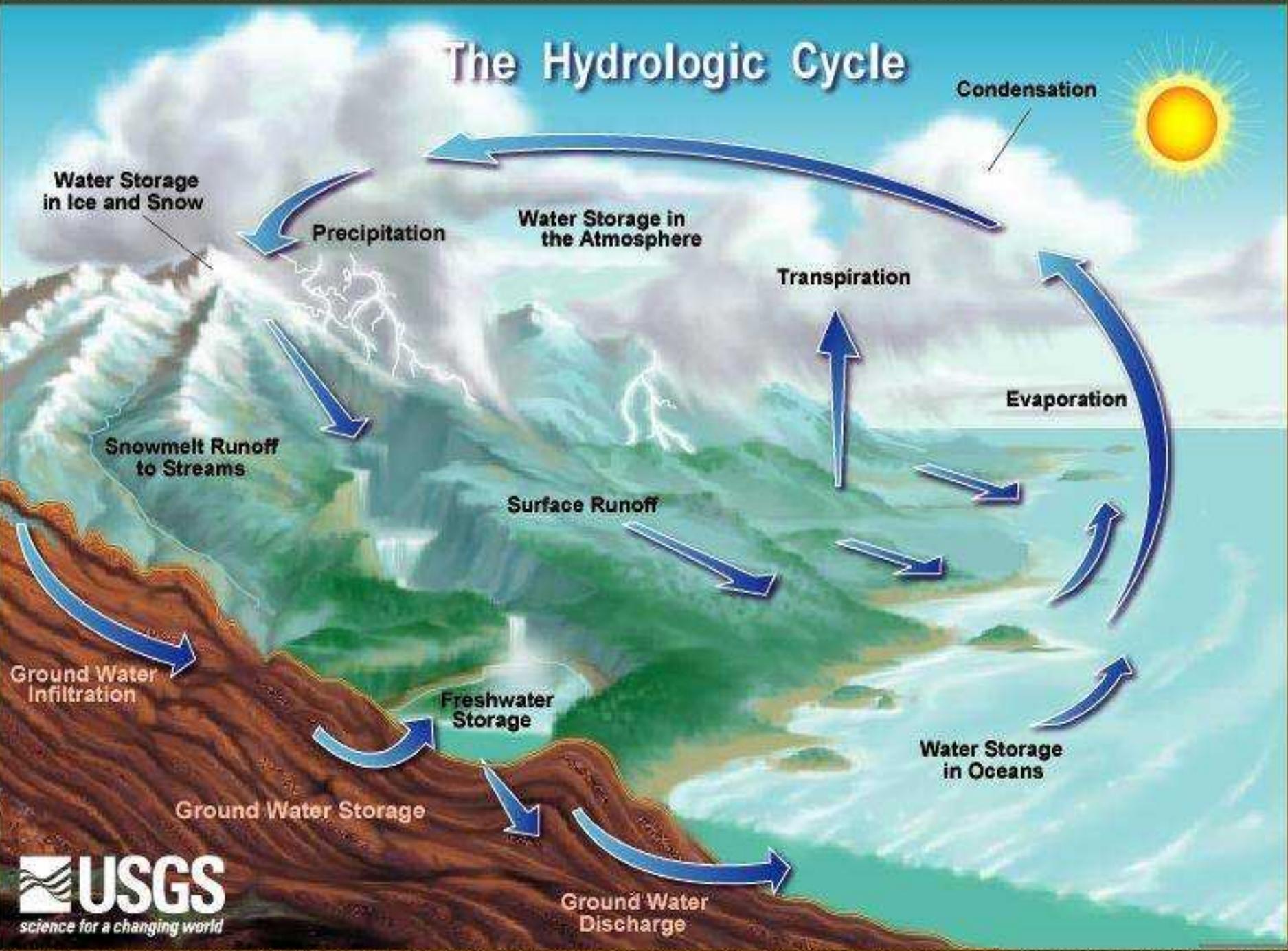








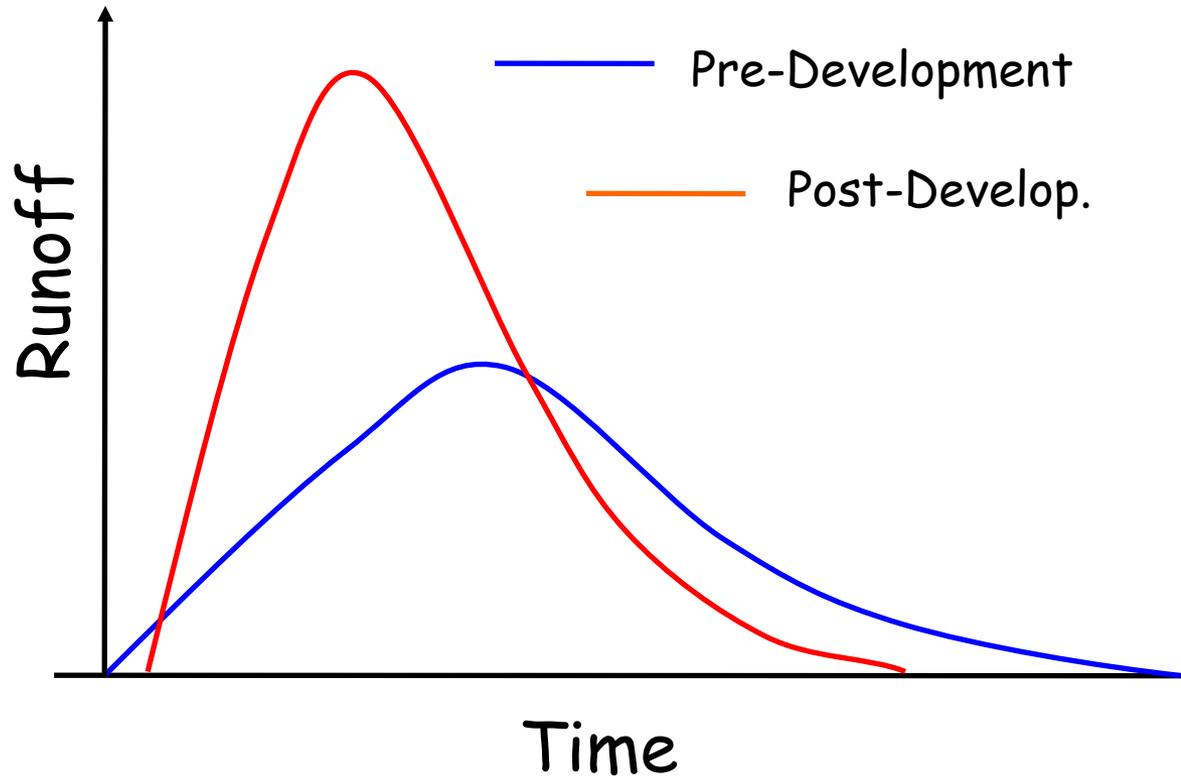
The Hydrologic Cycle



Hydrologic Changes

Urbanization tends to increase storm water runoff:

- peak flows
- volume
- frequency

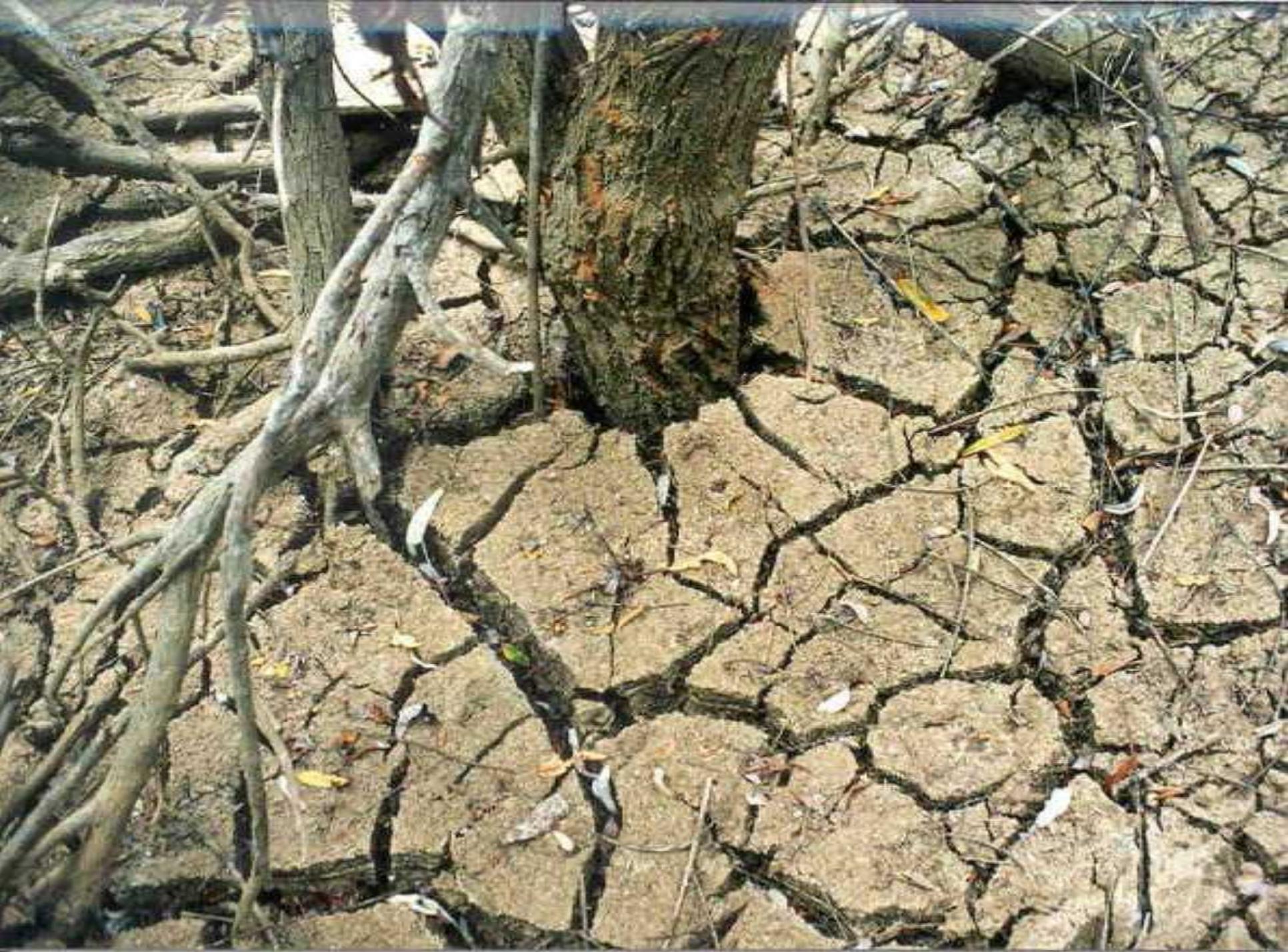


From Haltiner (2006)









Regulatory Solution

- Stormwater Program
 - A Clean Water Act-based program
 - A permitting solution
 - “Forces” stormwater peg into the existing hole designed to protect surface waters
 - Has evolved over the years to include new tools and connect to TMDLs

Overview of the Clean Water Act

- Federal Water Pollution Control Act of 1972, amended 1977
 - NPDES programs
 - Permits are a privilege, not a right
 - Effluent limits must be both technology and water quality based
- 1987 – added Section 402(p) to CWA covering stormwater

Overview of the Clean Water Act

- All “point sources”
 - “Discharging a pollutant”
 - Into a “Water of the U.S”
- >>>>Must obtain a NPDES (National Pollutant Discharge Elimination System) Permit

What is a Point Source ?

- Point Source
 - Discharge through a discrete conveyance into waters of the US
 - Industrial facilities
 - Sewage treatment plants
 - Stormwater from industrial sites and storm sewers
 - Non-point source
 - Runoff that is not a point source

What is a Water of the U.S ?

- All waters currently used, used in the past, or susceptible to use for interstate commerce including all waters which are subject to the ebb and flow of the tide

US Waters – Examples

- Rivers, lakes and streams
- Tributaries
- Territorial seas
- Wetlands
- Ephemeral washes

Stormwater Program Overview

- Municipal Program – urban runoff
- Industrial Program – industrial sector specific runoff
- Program Overlap
 - Many industrial sites discharge INTO Municipal Separate Storm Sewer Systems (MS4s)

Municipal Stormwater Permits

- Municipal Separate Storm Sewer Systems (MS4s)
 - Phase I
 - Municipalities > 100,000 population
 - Phase II
 - Small municipalities and others
 - 9th circuit court decision 1992

Industrial Stormwater Permits

- Industrial General Permit (SB Order 97-03-DWQ)
 - Sector/SIC code specific
- Construction General Permit (SB Order No. 99-08-DWQ)
 - Construction and development industry
 - All projects that disturb 1 acre or more of land must obtain coverage

