Carolina Yards & Neighborhoods

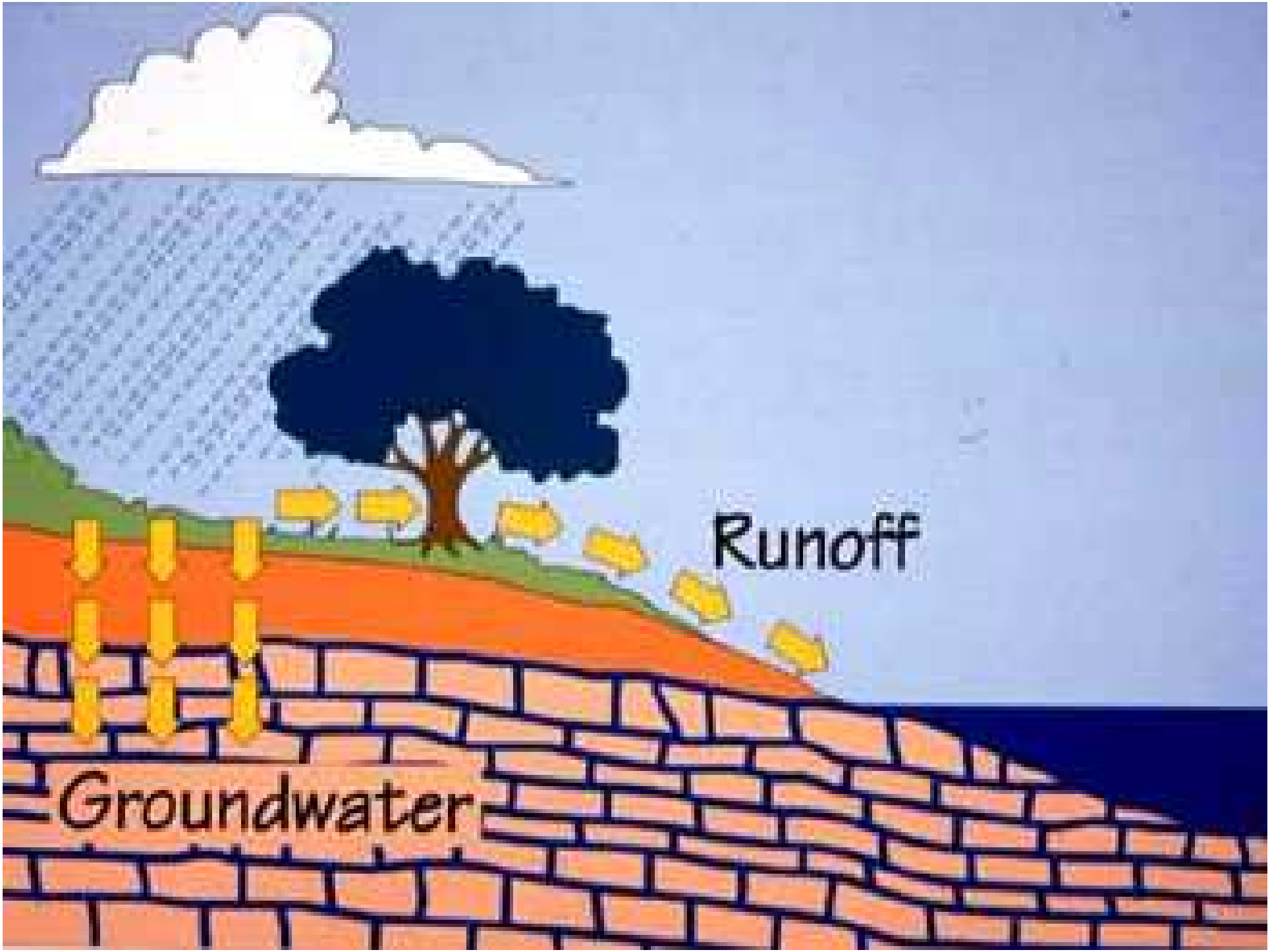
Water Efficiently

Objectives for This Course

- **Educate and encourage homeowners to make positive changes in the environmental quality of their yards, neighborhoods and surrounding waterways.**

What is Carolina Yard and Neighborhoods?

- **Preserve Carolina's natural resources by creating beautiful and environmentally-friendly landscapes. This program addresses the serious problem of soil and water quality degradation caused by** *stormwater runoff* **and** *non-point source pollution*

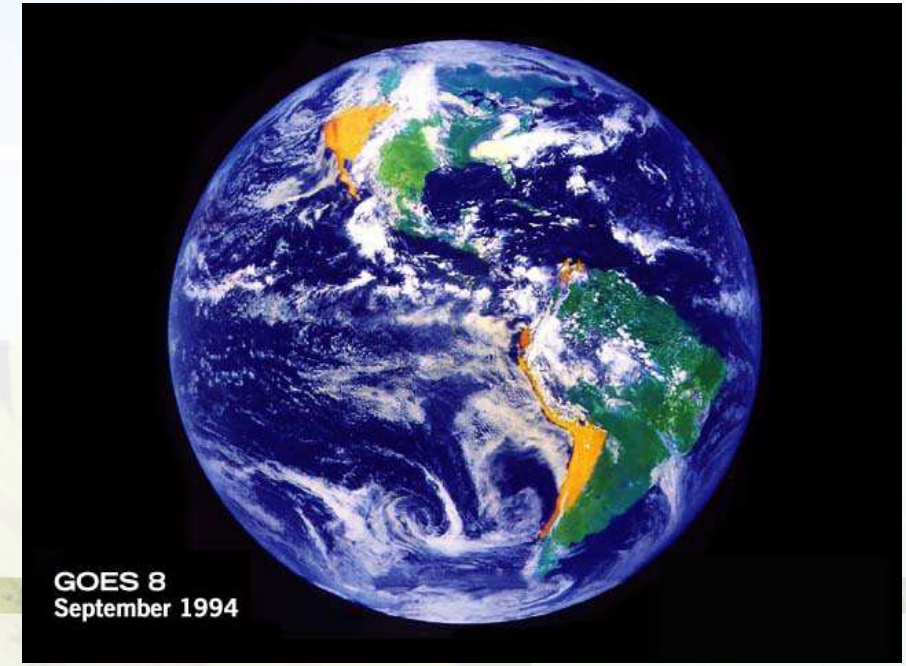

Runoff
Groundwater

Carolina Yard and Neighborhoods

- **Nine essential principles for CY&N**
  - **Right Plant-Right Place**
  - **Water Efficiently**
  - **Mulch**
  - **Recycle**
  - **Fertilize Appropriately**
  - **Control Yard Pests Responsibly**
  - **Reduce Storm-water Runoff**
  - **Attract Wildlife**
  - **Protect the Waterfront**

Water Efficiently

- **Water is the Earth's most abundant resource**
- **97% of Earth's is salt water**
- **Of the 3% fresh water, only 1% is available for human use**



Water Efficiently

- Americans use twice as much water as Europeans
- This is partly due to irrigation of lawns and landscapes
- The average American uses 80 gal per day
- Agriculture used 290 gallons per capita per day
- Grand total of 370 gallons per person per day

Xeriscape

- Seven Principles
  - Planning
  - Appropriate Lawn
  - Soil Preparation
  - Appropriate Plants
  - Effective, Efficient Watering
  - Mulch
  - Maintenance

Planning

- Microclimates
- Rain Gardens
- Use Trees

Appropriate Lawn

- Less-lawn not lawn-less
- Use Drought Tolerant Turf
- Let the Lawn Tell you in Needs Water
- Calibrate Your Irrigation System
- Appropriate Mowing Height

Appropriate Lawn

Lawn vs. Planting Bed

- **Lawns require 20 to 35 inches of irrigation water annually**
- **Mulched planting beds require approximately 10 inches annually**
- **1 inch/1000 ft^2 = 624 gallons**

Appropriate Lawn

Lawn vs. Planting Bed

Based on these numbers, 1,000 ft^2 of:

Grass requires 12,480 – 21,840 gallons of irrigation water/year.

Planting beds require 6,240 gallons irrigation water/year.

Woody landscapes can conserve up to 15,600 gallons of irrigation water/year.

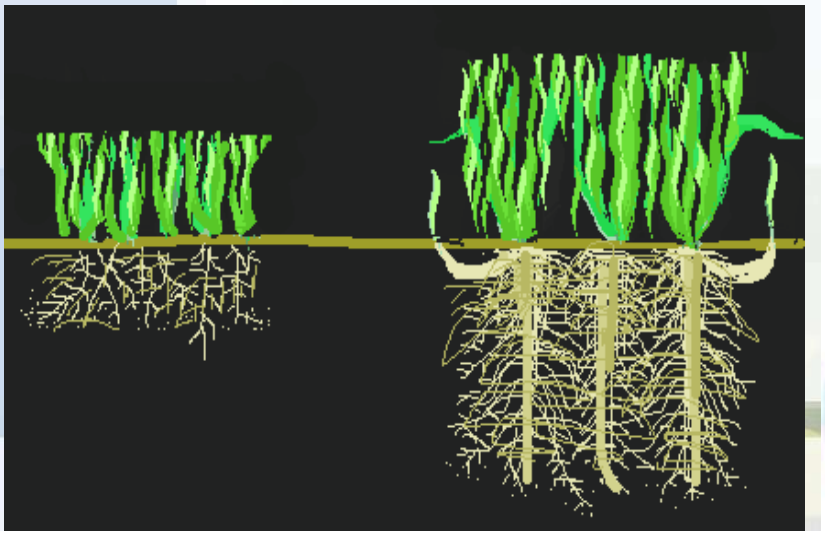
Appropriate Lawn

Drought Tolerant Turf

- Select drought tolerant turf varieties.
- Sod requires less water than seeding.
- Promote drought tolerance.
- During extreme drought, many turf species enter dormancy, ceasing growth and turning golden brown. Very little water is required to keep the turf alive and turf recovers quickly once irrigation is resumed.

Appropriate Lawn

- Never mow grass needing water.
- Never mow wet grass.
- Keep blade sharp.
  - Clean cuts heal quickly & reduce water loss.
- Mow lawn at the highest setting.
  - Taller grass has more extensive roots



Soil Preparation

- **Organic Matter, Organic Matter, Organic Matter**
- **4” OM to 12” Depth**
- **Helps to retain moisture in the soil**

Plant Selection

- **Any Plant Works in Xeriscape**
- **Native Does Not Mean Drought Tolerant**
- **Only Drought Tolerant After Established**

Effective, Efficient Watering

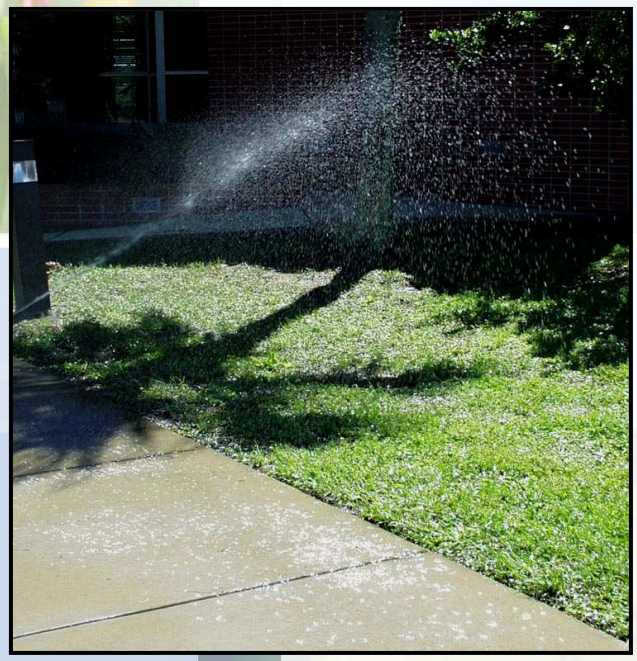
- Hydrozones
  - Separate Watering Zones
- Overhead vs Drip
- Your Irrigation System
- When to Water
- Cost of Installing an Effective System = Savings in the Long Run

Effective, Efficient Watering

- **Rain Garden**

Effective, Efficient Watering

- **Overhead vs. Drip**

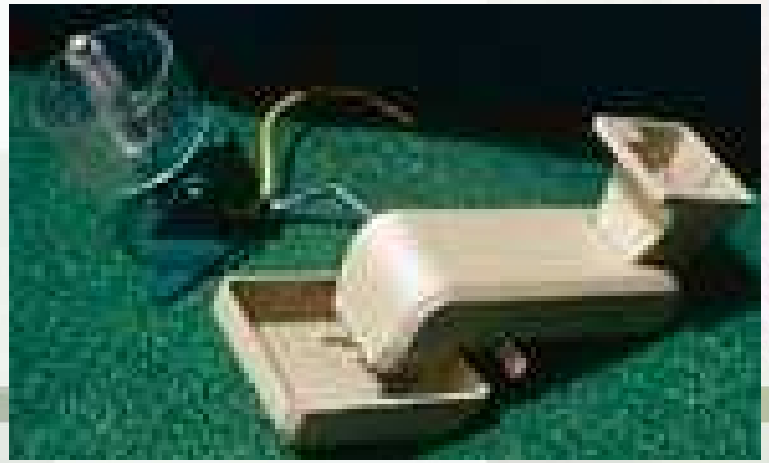


Effective, Efficient Watering

- **When to water**
  - **Time of day**
  - **Rest your warm season grass**
  - **Listen to your plants**

Effective, Efficient Watering

- **Your Irrigation System**
  - **Calibrate your sprinklers**
  - **Calibrate your drip system**
  - **Install rain shutoff devices**



Mulching

- 75% of Moisture on Bare Ground is Lost to Evaporation or Runoff
- Mulched Plants Grow Faster
- 25% Higher Soil Moisture Under Mulch
- Critical to Successful Xeriscaping

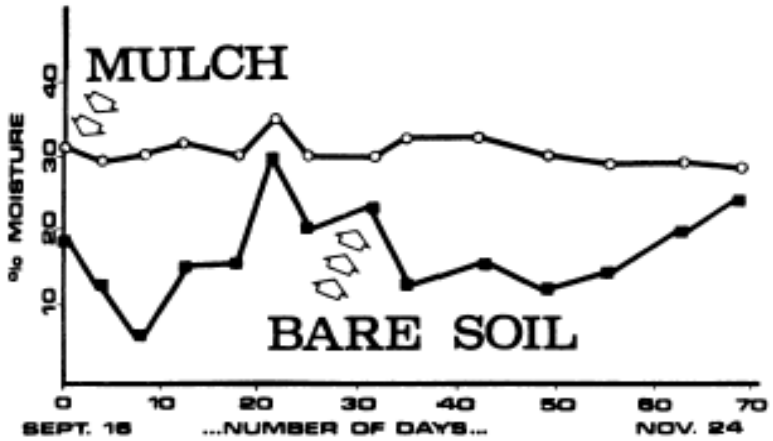


Figure 18. Moisture level of mulched vs. bare soil

Maintenance

- **Xeriscapes can Reduce Maintenance by 50%**
  - **Reduced runoff, erosion**
  - **Reduce mowing**
  - **Reduce fertilization**
  - **Reduce pruning**
  - **Reduce replacement**
  - **Reduce Weeds**
  - **Reduce disease and pests**
  - **Reduce irrigation**

Water Efficiently

- **Conserve water**
  - **Direct Downspouts (fan)**
  - **Cover pools & hot tubs to prevent evaporation**
  - **Harvest rain water**

Thank You

CAROLINA YARDS & NEIGHBORHOODS

Resources

- Carolina Yards & Neighborhoods CD
- The Carolina Yardstick Workbook
- www.clemson.edu/cyn/
- http//hgic.clemson.edu
- http://cfyn.ifas.ufl.edu/basictips.html
- http://www.xeriscape.org
- http://www.ci.arlington.tx.us/waterdice/xeriscape_explanation.html
- http://www.denverwater.org/