



Knowledge to Action

Building Community
Resiliency









Overview

- Action Competence Learning
- Systems Thinking
- Climate Change Threats
- Citizen Science
- Engineering Design
- Mitigating & Augmenting Threats









Learning to Know Learning to Do



Decision Making

Adaptation

Shared Rights

CHARTENCE CHARTENCE Responsibilities

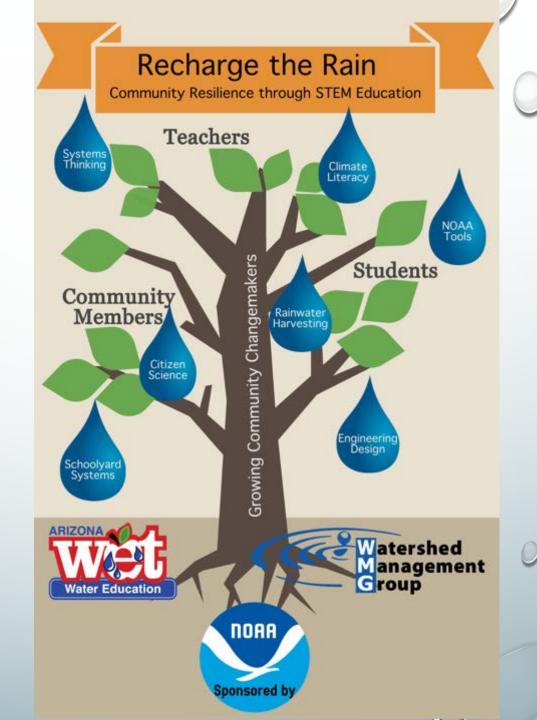
Social Justice















Systems Thinking

Making Distinctions

- What is Climate?
- What is Climate Not?

Systems

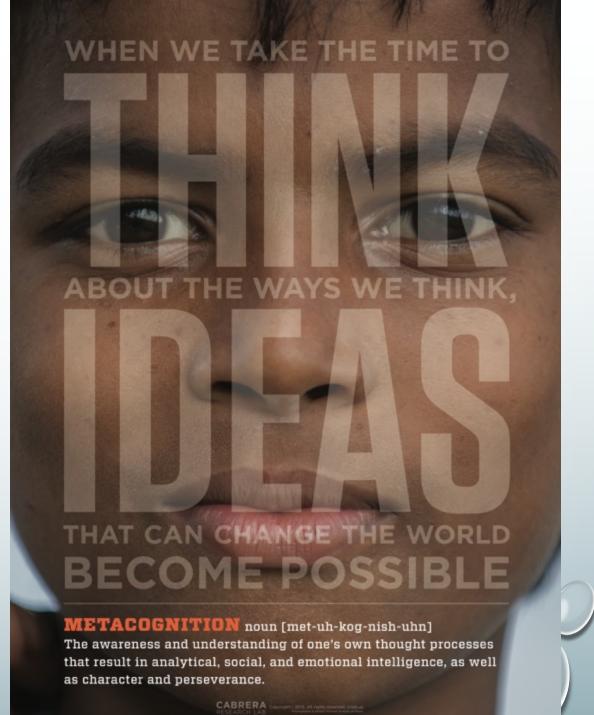
- What are the parts of Climate?
- What is Climate a part of?

Relationships

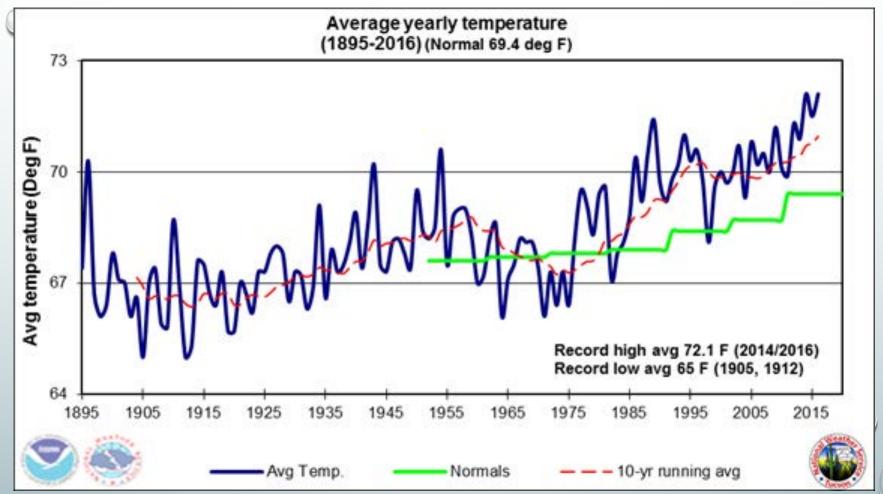
Perspectives







Increased Temperatures Tucson, AZ





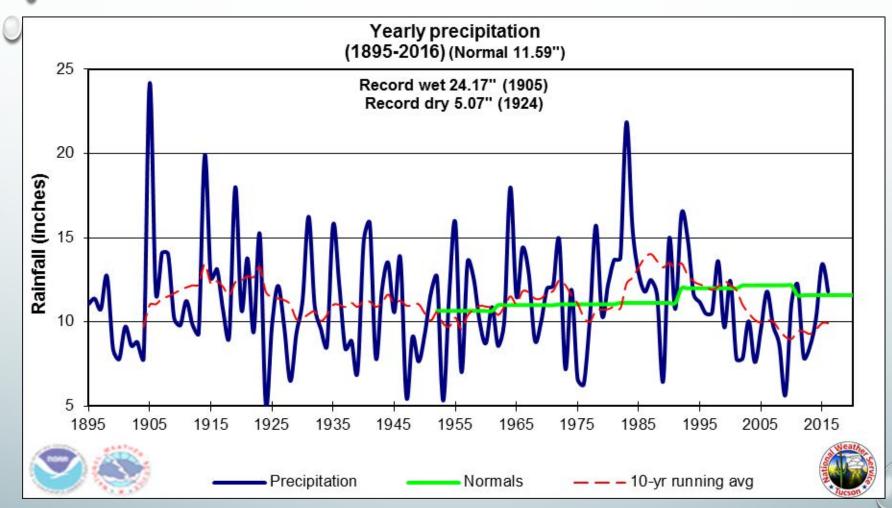








Extended Drought Tucson, AZ













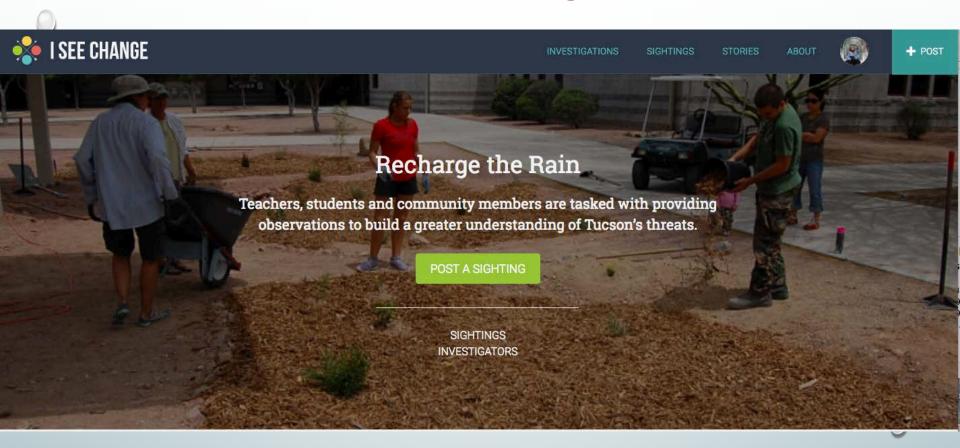
Extreme Storms Tucson, AZ







<u>iSeeChange</u>













Engineering Design Process

EXPLORE ASK Keep in Mind: What have others done? Address the problem What is the problem? **Explore options** Satisfy constraints What are the constraints? **Explore materials** Meet the criteria What are the criteria? Think Trade-offs Be creative Consider everyone's ideas **PLAN** Failure is an important part of the process **Brainstorm** Choose the best idea Engineering Design is an adaptable and open Make a plan process. **IMPROVE** Analyze your data How can you make it better? **CREATE** Follow your plan **TEST** and start **PRODUCTION** Try it out! building Design satisfies the goal Present your design Collect data Reflect Record observations Adapted from University of Arizona College of Engineering

Solutions

















College of Agriculture & Life Sciences

Water Resources Research Center

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