Advanced Water Educator Workshop

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Paperwork

- Please fill out:
  - W-9 (both sides must be signed)
  - ASU Photo Release Form
  - U of A Photo Release Form
  - Research Consent Form
Using Technology to Better Understand (and contribute to) our World

• Objectives:
  – Enhance your knowledge about how technology can assist scientists, engineers, water managers, and everyday citizens to plan for and use water more efficiently in the Phoenix area.

• Agenda
• Reflection Notebook
• Housekeeping
Water Footprints & Citizen Science
Reflection & Break
Technology & Water Management
Lunch

School of Sustainability
Presentation
WaterSim 5

• Brief Overview
• Activities & Feedback
  – Intro WaterSim 5 (wizard and scavenger hunt)
  – Water Policy Activity (individual & group)
  – Wrap-up Evaluation
Intro to WaterSim 5

• Find WaterSim wizard
  – Worksheet for your notes

• What is available in WaterSim
  – Scavenger hunt for your notes
Break

10 minutes
Water Policy

• Individual Worksheet
  – Share results with your group

• Water Manager Activity
  – How will your group define and manage water sustainability in 2050?
  – What about with potential impacts of climate change?

• Evaluation
Simple Technology
Photography
Rephotography

Photos courtesy of: the McLaughlin Collection (1912), Michael Lundgren (2003)
Collecting Data with Pictures

• Photos tell us about the environment
• Photos tell us about the photographer
• Qualitative Data vs Quantitative Data
• Photovoice
Photovoice with kids

• Read “Picturing Heat”
Photovoice Methodology

- Photovoice is a process by which people can identify, represent, and enhance their community through a specific photographic technique.
- Photovoice has three main goals:
  1. to enable people to record and reflect their community's strengths and concerns
  2. to promote critical dialogue and knowledge about important issues through large and small group discussion of photographs
  3. to reach policymakers
- Photovoice can be applied to specific goals, groups and communities

(Wang and Burris, 1997)
Photos from Middle School Kids

• What is going on in this picture?

• How does this picture relate to temperature?

• What does this picture mean to you?

• What is the real story this photo tells?

• How does this relate to your life, the lives of people in your community, or both?
Melting Ice Cream

This picture was taken at my house, my sister is holding a melting ice cream in the hot sun. You can see how the ice cream is melting, it represents how temperature affects food whether its cooking, freezing, or melting. This picture is one of my favorites because it really represents how the heat is melting the ice cream…G. Marquez
This is my next favorite picture because I like dogs and I play with them which makes me sweaty and thirsty. You should drink plenty of water during the day. When you run, walk the dog, play sports, or even work outside. You always need to drink water...B. Escalante
I started off with this picture because it really explains what happens when you don’t give any water to a large piece of land. Another reason I picked this picture is that the area with shade actually does have a small patch of grass. This can be a way plants or people can be relieved from the heat....C. Payne
For one my dog got shaved because it's so hot and he is in the shade to cool off. And it effects him because it's so hot! Good thing he got shaved because he would be burning up. This one is one of my favorites because, well he's my dog....Tajah
This is one of my favorite photos because you can see the sun’s radiation hitting the plant. We get burned by the sun. Plants do too. That’s why we need to irrigate them allot. They can get dehydrated just like us humans. We should take care of our plants because they give us oxygen to breathe. So the next time you see a plant wanting to die give it some water and take good care of it!...B. Escalante
This picture is a nest of a Gila Woodpecker and it doesn’t make a nest in the tree because it’s cooler inside the cactus. I took this picture because it’s a great example on how animals adapt to heat…M Gamboa
Black asphalt absorbs the heat and releases it very slowly.

Only a fool would cross this street barefooted!

-- Aldo
Planting bushes and trees for shade can help cool off people’s homes.

I think Grandma needs to plant more shade trees around her house!

-- Marisa
Keep cool and drink plenty of fluids to avoid dangerous dehydration! -- Lexy
To escape the unbearable heat, people go inside their comfortable air conditioned homes. Unfortunately, A-C units generate more heat directly to the outside, which actually increases temperatures in the urban areas. -- Lorraine
Playground equipment that's covered.
DCDC Grad Student Project

• Communicating about complex systems through photography
• “Finding Water in Arizona”
  – A photography project exploring communication about sustainability and complexity in our water system
The Challenge, Take a Photo that:

1. Represents a **sustainable solution or creative use of resources in the water system**
2. Represents **something unique to the central Arizona water system**.
3. Represents a **problem or concern you have about the water system**.
4. Represents an **aspect of the water system that is poorly understood**.
UHI Unit

- [http://ecologyexplorers.asu.edu/overview/urban-heat-island/](http://ecologyexplorers.asu.edu/overview/urban-heat-island/)
- Photovoice lesson