

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

RETURN TO ASU	ARIZONA STATE UNIVERSITY SUBSTITUTE W-9 & VENDOR AUTHORIZATION FORM		DO NOT SEND TO IRS
Foreign persons who are non-residents for US Tax purposes do not complete the ASU Substitute W-9 form. Instead, complete IRS Form W-8 BEN available at http://www.irs.gov/pub/irs-pdf/fw8ben.pdf			
▶ Taxpayer Identification Number (TIN)		<input type="checkbox"/> Employer ID Number (EDN)	<input type="checkbox"/> Social Security Number (SSN)
▶ LEGAL NAME: <small>(must match TIN above)</small>			
Are you doing business in Arizona for purposes of sales/use tax collection and remittance? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If "Yes" please provide Arizona License # _____ and sales/use tax rate charged <input type="checkbox"/> % DUNS# _____			
▶ LEGAL MAILING ADDRESS: <small>(Where tax information and general correspondence is to be sent)</small>		DBA/Branch/Location:	
ADDRESS:		ADDRESS:	
ADDRESS LINE 2:		ADDRESS LINE 2:	
CITY:	ST:	ZIP:	
▶ REMIT TO ADDRESS: <input type="checkbox"/> Same as Legal Mailing Address		DBA/Branch/Location:	
ADDRESS:		ADDRESS:	
ADDRESS LINE 2:		ADDRESS LINE 2:	
CITY:	ST:	ZIP:	
▶ ENTITY TYPE			
<input type="checkbox"/> Individual (not a business)	<input type="checkbox"/> Sole proprietor (individually owned business) or sole proprietor organized as LLC or PLLC	<input type="checkbox"/> Corporation (NOT providing health care, medical or legal services)	<input type="checkbox"/> Corporation (providing health care, medical or legal services)
<input type="checkbox"/> Partnership, LLP or partnership organized as LLC or PLLC	<input type="checkbox"/> The US or any of its political subdivisions or instrumentalities	<input type="checkbox"/> A state, a possession of the US, or any of their political subdivisions or instrumentalities	<input type="checkbox"/> Tax-exempt organizations under IRC §501
<input type="checkbox"/> An international organization or any of its agencies or instrumentalities	<input type="checkbox"/> State of Arizona Employee		
▶ CERTIFICATION			
Under penalties of perjury, I certify that:			
1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me).			
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding.			
3. I am a U.S. person (including a resident alien).			
Certification instructions: You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return.			
The Internal Revenue Service does not require your consent to any provision of this document other than the certification required to avoid backup withholding.			
Signature of U.S. Individual			Date:

NOTE: IF BOTH PAGES OF THIS FORM ARE NOT COMPLETED THE FORM WILL BE RETURNED TO YOU. Arizona State University (ASU) is fulfilling a mandate associated with state agencies increasing procurements from Arizona Small and Diverse Businesses.

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



Break

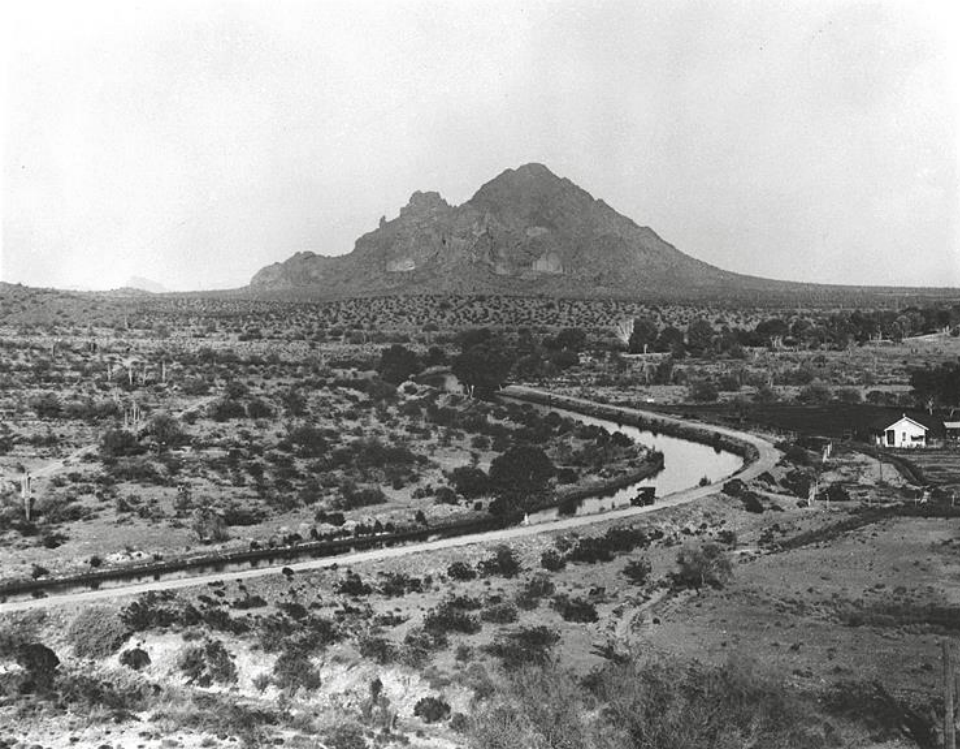


Simple Technology

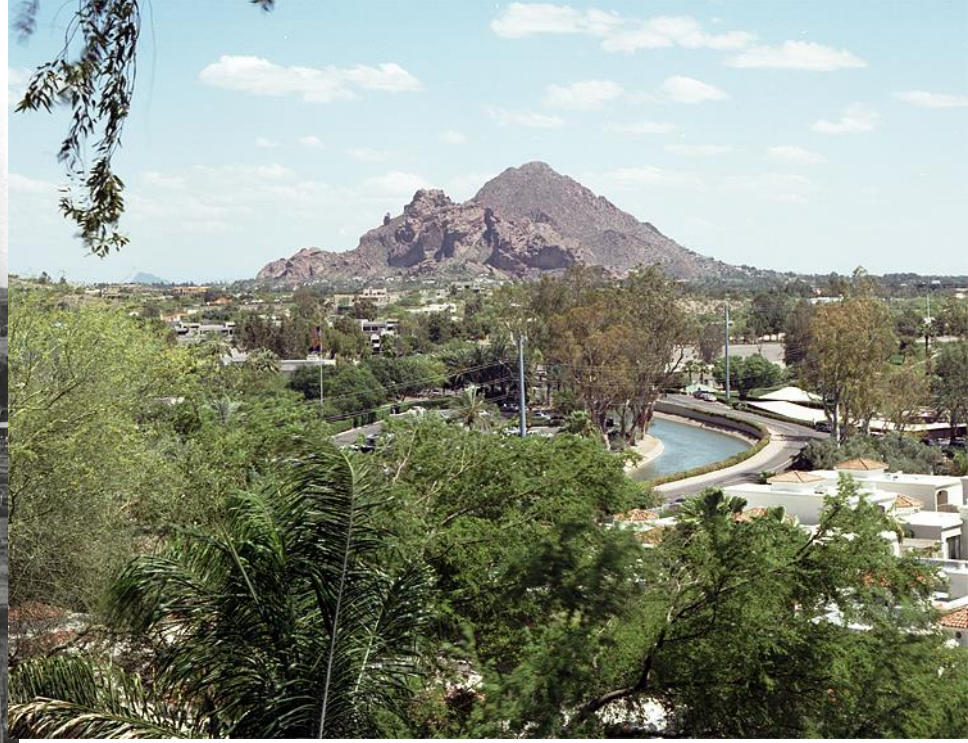


Photography





1912



2003

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

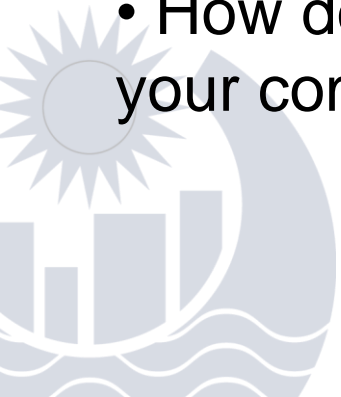
- Photovoice is a process by which people can identify, represent, and enhance their community through a specific photographic technique.
- Photovoice has three main goals:
 1. to enable people to record and reflect their community's strengths and concerns
 2. to promote critical dialogue and knowledge 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 BREATH. 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



Street Torture

*Black asphalt absorbs the heat
and releases it very slowly.*

Only a fool would cross this street barefooted!



-- Aldo

Grandma's House



Planting bushes and trees for shade can help cool off people's homes.

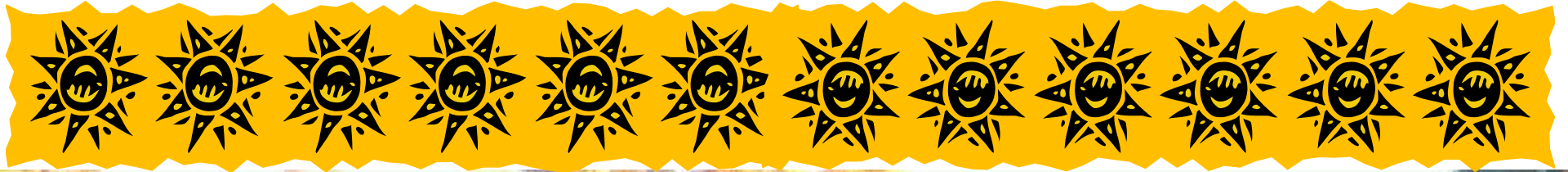
I think Grandma needs to plant more shade trees around her house!

-- 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

A photograph of a playground area covered by a large blue canopy. In the foreground, there is a large, light-colored slide structure on the left and a blue geodesic dome structure on the right. The ground is covered in sand. In the background, there is a fenced-in green field, possibly a tennis court, and some trees. The text "Playground equipment that's covered." is overlaid on the right side of the image.

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/>
- Photovoice lesson

