

# Advanced Water Educator Workshop

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# Paperwork

- Please fill out:
  - W-9
  - ASU Photo Release Form
  - U of A Photo Release Form
  - Pre-workshop Evaluation



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Are you doing business in Arizona for purposes of sales/use tax collection and remittance? <input type="checkbox"/> Yes <input type="checkbox"/> No				
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<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.				
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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:

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# Extreme Weather Events

- Goal:
  - Enhance your knowledge about how extreme weather events occur, consequences of extreme events and designing cities
- Agenda
- Reflection Notebook
- Housekeeping



# Objectives

Through this workshop, you will:

- Learn how and why city planners design with green infrastructure
- Use storm water data to determine the impact of various rain events in metro Phoenix
- Understand the formation and development of both dry and wet storms in Southern Arizona
- Analyze particulate data to determine whether dust storms are becoming more frequent in Arizona
- Explore health issues associated with extreme weather events in Arizona



# Let's Talk About the Monsoon



# Reflection & Break



# Southwest Climate Change Projections—More Extremes?



# Reflection





# Lunch



# Understanding Storm Dynamics with Data



# Reflection



# Post Wildfire Debris Flows



# Reflection & Break



# The Thunderstorm

Project WET Curriculum and Activity Guide 2.0, p. 209

**Focus Question:**

**How do scientists track and map precipitation patterns across the Phoenix Valley?**



# Wrap-up





# Day 2: Extreme Weather Events

Recap





# Poll Everywhere Activity



# Cultivating Green Infrastructure



# Reflection & Break



# Heat in Cities



# Reflection



# Lunch



# Dust & Valley Fever



# Reflection





# Humans and Heat

- When it comes to heat, humans have a 'comfort' level  
*'Comfort is the absence of discomfort'*
- Feedback from body sensors indicate need to react to any discomfort
  - Note Chain Reaction article pg. 30-33



# Humans and Heat

- What in our environment interacts with our body sensors?
  - Note Chain Reaction article pg. 34
  - EE lessons focused on Temperatures



# Humans and Heat

- What are ways humans avoid heat?
  - External changes
- Historically
- Read Chain Reaction Article pgs. 8-10
  - Are kids in your schools likely to live in neighborhoods more impacted by UHI?
    - If so, how do they deal with summer heat?
    - If not, how could you help your kids understand these impacts on lower socioeconomic communities



# How Heat Hurts

- Internal Changes
  - Note page 11
  - Read About Heat Illnesses



# Heat Illness Lesson

[https://ecologyexplorers.asu.edu/docs/explorers/lesson\\_plans/4\\_heat\\_illness\\_lesson.pdf](https://ecologyexplorers.asu.edu/docs/explorers/lesson_plans/4_heat_illness_lesson.pdf)

- Scenarios—choose the correct treatment



You're playing soccer after school. Your friend looks pale and sweaty. She gets muscle cramps and the coach sends her to the bench because she's in a lot of pain.



# Understanding Heat

- EE lessons on responses to heat in plants and animals

[ecologyexplorers.asu.edu](http://ecologyexplorers.asu.edu)



# Reflection & Break



# Concepts: Moving Content to Classroom





# Thanks for Coming!

- PPT & Lessons will be available at [dcdc.asu.edu](http://dcdc.asu.edu)
- Heat Island lessons at [ecologyexplorers.asu.edu](http://ecologyexplorers.asu.edu)
- Final Evaluation (both sides)
- Certificates

• Chain Reaction Magazines

