



HUMANITIES AND THE SUNSHINE STATE

TEACHING FLORIDA'S CLIMATES
In partnership with the Florida Humanities Council

JUNE 15-29, 2018 UNIVERSITY OF FLORIDA

ACTION PLAN TEMPLATE (IN PROGRESS)

Teacher(s): Cameron Barton

Grade(s): 6th Grade

Subject(s): Science

Title of Lesson: Relevance of Blue.

Learning Objectives: **Reconnecting the next generation of Floridians to our fragile freshwater.**

A look at FL Springs through the years to determine changes to the system and how to provide HOPE for the future.

Sources of FL's Fresh Water, Today's challenges of quality and quantity of FL Fresh water, Water use, Threats, Political and economic forces shaping water we use, Hopeful discussion of climate change, Connect human experiences of climate change through systems thinking, Changing our Water Ethic, Adding Humans to the Hydrologic Cycle, Teaching Environmental History.

Lesson Outline:

Then and Now narrative of FL Springs

Intro Springs/Aquifer Basics, Systems

Intro FL Nature Photography, Power of Art

Choose Spring to research. Description (physical/geology/hydrogeologic setting/springshed characteristics/GW flow/Land use/Aquifer vulnerability/human population/GW use/Spring Water balance/Water Quality/Nitrogen sources/Biology/Human use/Status/Restoration Goals/description of impairments/Vision for Future/Challenges/Solutions) of spring system with interactive map. Research then/now. Changes over time. Degradation. ID sources of change over time. Investigate and document changes using Restoration Plans (Springs Institute). Visuals/Nature Photography by Moran.

Create Oral History/Personal Connections/Wakulla Springs/ Old photos, Stories for Creative Display.

Personal Nature Photography outing to Spring.

Underwater cameras for Spring Visit.

Visual display for Library Exhibit.

Creative Messages focusing on Theme: We can live differently. Change our Ethics towards Nature and Water.

Science Concept(s):

FL Hydrology, Flow, Water Quality, Water Calculator

FL water issues/threats

Sustainability

Data/Graphs

Change over time

Humanities Concept(s):

Human impacts on System

Science/Humanities Connection

Technique(s)/Resource(s) Incorporated from Teaching Florida's Climates Workshop:

<http://floridaspringsinstitute.org/>

<http://floridaspringsinstitute.org/Florida-Springs-Map> Interactive Map for student research

<http://floridaspringsinstitute.org/floridan-aquifer> Aquifer Basics

<http://floridaspringsinstitute.org/Silenced-Springs> Literature for students. Bob Knight's *Silenced Springs* is a timely assessment of the current plight of Florida's over 1,000 artesian springs, including their former glory, how they came to be impaired, and the hopeful path to their eventual restoration and protection.

<http://www.johnmoranphoto.com/> Resource for before/after images of springs. Source is "Springs Eternal" photo project by Moran.

<http://johnmoranphoto.com/springseternal/SpringsEternalcasestatement-10-12-2012.pdf>

This project seeks to inspire all Floridians to value, conserve and restore our precious waters.

Florida is home to the world's largest and most impressive array of freshwater springs. Ichetucknee, Weeki Wachee, Rainbow, Wakulla and Silver—these "liquid bowls of light," in the

words of writer Marjorie Stoneman Douglas, have lured explorers, investors, tourists, artists and nature-lovers since the time of the Timucua. And yet Florida's springs are seriously imperiled—due to long-term rainfall deficit, groundwater overpumping, pollution and neglect.

Springs Eternal: Florida's Fragile Fountains of Youth pairs photos from Moran's 30-year archive, and historical photos from state archives, with contemporary views to create a then-and-now narrative of Florida's springs and the changes we have seen. .

Pictures have a way of reaching people in ways that words alone cannot. This project seeks to inspire public participation in the increasingly urgent statewide conversation about the fundamental role of water in defining Florida's future.

Tools: Research and Restoration Projects found at www.springsinstitute.org For major springs.

<http://www2.csr.utexas.edu/grace/education/> GRACE Satellite images showing Aquifer levels over time. Snapshot of wetness difference over 50 years.

<https://www.floridamemory.com/> Archives for Springs related material.

<http://www.jenniferadlerphotography.com/walking-on-water> **Reconnecting the next generation of Floridians to our fragile freshwater.** Walking on Water is a place-based environmental education program for 5th graders in Florida. It consists of a field trip to the springs to learn underwater photography and a classroom visit where students explore the aquifer via a 360° virtual tour.

<https://walkingonwaterfl.org/information-for-teachers/>