

# How much do Students Know about Water and their Environment?

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# Outline

- Why
  - writing & diversity
- Classes
  - Travels
- Results
  - Physical Systems of the Environment (GEOG G107)
  - Environmental Conservation (GEOG G315)
- Conclusions





# Why?

- Writing... to include diversity in the curriculum
- Something we take for granted
- Travel
- Environmental Conservation... Survey



# Writing, Water & Environmental Awareness

- 1995....push to include



- Have water and environmental awareness as part of the writing



# Classes Water ... something we take for granted

- Courses with water and environmental emphasis
- Three entry level courses
  - Physical Systems of the Earth (Physical Geography)
  - General Geology (Physical Geology)
  - Physical Geology Laboratory
- Four Upper level courses
  - Environmental Conservation (Science)
  - Environmental and Urban Geology
  - Understanding Wetlands
  - Hydrogeology





# Travels

## Physical Systems of the Environment (GEOG G107)

- G107 Syllabus
- “...As part of this course, students would be required to travel outside the North American continent, examine how location, gender, class, economics, and politics affect water quality and quantity. Students who successfully complete this course will relate their activities to the environment and the environment to their activities. Students will be assessed through exams, class projects and reports.”
- <http://users.ipfw.edu/isiorho/G107FallSyllabus.html>



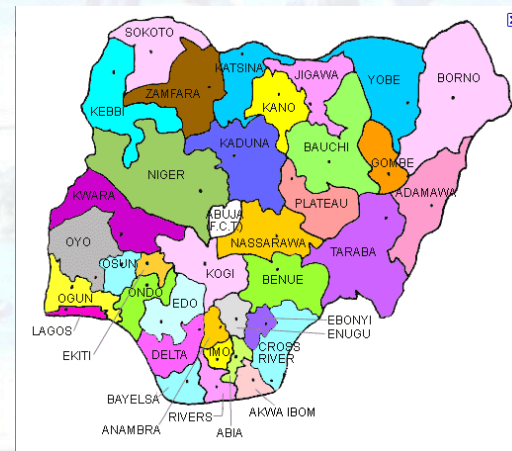


# Report: Six-page Report

- Six-page report on water quality & quantity
  - "Water report (21%). Write a 6-page double space report on the effects of "CLASS STANDING" i.e. social standing /status on water quality & quantity from any two different locations (one location from Africa and the other from North America (outside of the state of Indiana))
  - NOTE: YOU CANNOT COMPARE A COUNTRY TO A STATE OT CITY... You compare a city with a city, state with a state, region with a region, or country with a country.... must follow the report format given. Looking for the role of diversity in water supply and your personal reflection in your report....Three references required."

# Results (Intro Physical Geog. G107)

- Compare North America with Africa
  - A country with a country, region with region or city with city...etc



- Several students compared cities in the US to the continent of Africa and in some cases, to countries in Africa



# Result cont'd

- Water report 'forced' some of the students to 'travel' outside Indiana and were emotional at some of their findings.
- A seven-question survey at the end of the fall semesters from 2005 through 2009 (488~ students), shows that more than 80% of the students claimed to have become aware of their environment as a result of the assigned water report.
  - Some student reports compared water between cities
    - Chicago, Colorado, Louisville, Los Angeles, New Mexico, New York, Washington DC, Tucson with Alexandria, Cairo, Durban, Harare, Johannesburg, Lagos, Nairobi, Mombasa etc
  - Countries
    - USA with Cameroon, Egypt, Nigeria, and South Africa
  - States
    - California State with Lagos State.



# Results: Excerpts from Reports

- “This report gave me a wealth of information about a total different cultures water systems, and how it directly effects lives and the way that they live them.” 2005
- “Water supply and sanitation is directly linked to a healthy food supply which is then directly linked to an individual’s overall health. “The next world war will be over water” (Rothfeder, 2002).” 2006



- “Mexico City & Tshwane...In looking at this issue, I wonder why are we, who have the funds and who are able to give not only with our money but our hands- are we not helping more and trying to achieve a more environmentally sustainable life? **If only for selfish reasons, because it will eventually reach its way around and benefit us**, with a potential import of goods and services that one day may be needed. This is what I have learned and how I have expanded my thinking process while doing this report.” 2007
- “...I found it frustrating that South Africa had such a difficult time with adequate water supply... The US statistics were surprising in that only about 86% of the US population was using public water supply in 2005. The amount of water wasted in the United States is somewhat disappointing...Not only is water wasting costly but not beneficial to the environment.” ER 2009



# Results: Students responses to survey question

- Students response to the question about awareness of their environment (Spring 2005)
- "Through the water report, I learned that the natural resources in America, due to their "abundance", are often misused. Africa, on the other hand, due to scarcity, places greater value on resources, water in particular."
- **"Water is a large economic factor. As I learned from my water report--the poor do not have such readily available access to water as do the wealthy. Thus, the poor are more susceptible to diseases as a result of poor water"**
- "The people who control the water control the power. It is the single most important resource and we need to start looking at water with respect."
- "those of low socioeconomic status face a hard time obtaining water and are exposed to more disease and sickness, for example in developing countries like africa. Also, here in the U.S. even though we have great access and water quality mostly, we still abuse our water...and take advantage of what we have"
- **"I can tell by my research on the water report how big of an impact your class standing, race, and even your job can determine the water quality. People in Africa use water to get to and from work, Americans primarily use the water for recreation."**
- "I learned that the quality of water you have is tied into the amount of resources you have. There is a lot of diversity in the amount of resources people have. Those with the most money have the best water, and areas with greater resources of water have it better than those who do not have as much. Also, things concerning the amount of people drinking from a certain amount of water play a part in your quality of water."



<http://www.maui.net/maui-people/photos/0/1/252/>

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# Environmental Conservation Course

(GEOG G315)

- Survey ... a two-year study of Environmental perspective of teenagers undertaken by a student
- Survey of 100 High School student (14-20)
- Ten statements & two open-ended questions



## Environmental Survey

Age: \_\_\_\_\_ Zip code: \_\_\_\_\_ Grade: 9, 10, 11, 12

I have taken the following Science classes: (circle all that apply)

Biology      Earth Science      Int. Chemistry/Physics      Chemistry

Other: \_\_\_\_\_

1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree, 5=Strongly Agree

1. The choices I make everyday can affect the environment.	1	2	3	4	5
2. People are responsible for taking care of the Earth.	1	2	3	4	5
3. There is no need for conservation; there are plenty of resources for everyone.	1	2	3	4	5
4. The "Global Warming" crisis has been greatly exaggerated.	1	2	3	4	5
5. People must take care of the animals and plants.	1	2	3	4	5
6. It is ok for people to change the Earth for their needs.	1	2	3	4	5
7. Recycling must be done by everyone in order to save the Earth.	1	2	3	4	5
8. People need to follow the laws of nature or we will become extinct.	1	2	3	4	5
9. The Earth is becoming overcrowded.	1	2	3	4	5
10. No matter what humans do, the environment/nature will find a way to heal itself.	1	2	3	4	5

\*My biggest concern regarding the environment is \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

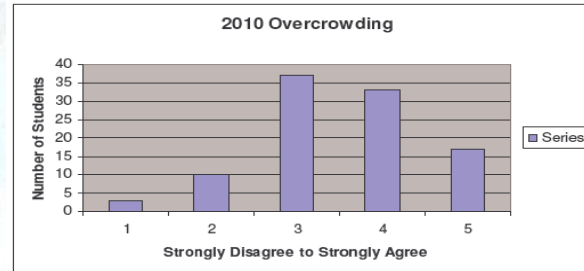
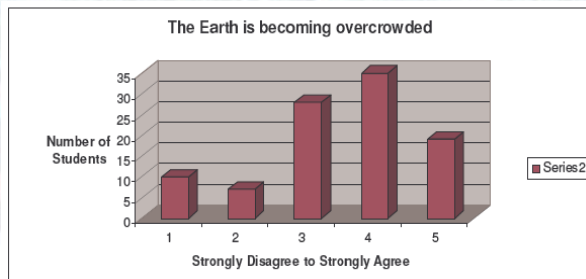
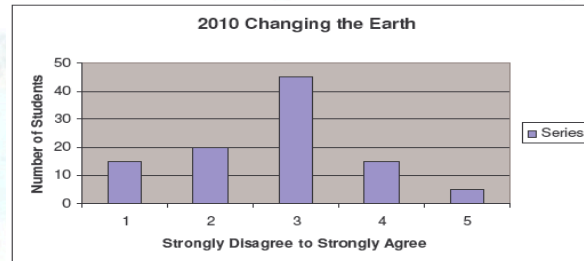
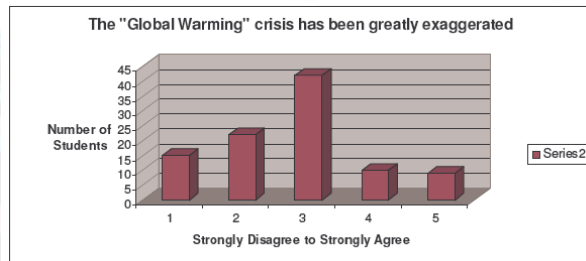
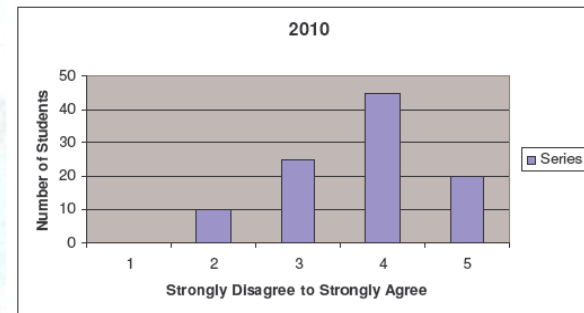
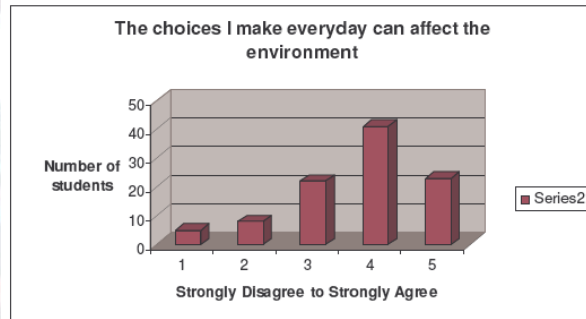
\*In order to ensure continued resources for all, I can \_\_\_\_\_

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# Some results

- From Survey





# Survey Results



- From the open ended questions, the data shows that students (Teenagers) are worried about Global Warming, pollution and waste production.
- Have awareness of water conservation
- World Water Day March 22, 2011



# Summary & Conclusions

- Majority of students are aware of their water resources and their environment, based on the water written assignment
- A student declares from his research project that EVERY DAY SHOULD BE WORLD WATER DAY
- Research Projects from other courses indicate that students are becoming aware of their surroundings



# Acknowledgement

- I will like to thank my students for their research projects
- Thanks To J. Walker for the two year survey project

**Thanks for listening**

**Any Questions?**