

Introduction to Environmental Science 120

BLMS - Mrs. L. Ketch

2012-2013

Jan 21-1:54 PM

What is this course?**Syllabus****School Website**Nature of this course:

- Project-based

ex: Case studies, discussions, debates, guest speakers,
small projects, large term project

- Independent Study Oriented

ex: personal research in areas of your own interest

Jan 29-8:47 AM

Materials / Skills required for the course:

- A flash drive will be necessary to upload documents from the website or shared student folder.

Any presentations / reports created digitally should also be stored on a flash drive so they can be shared on multiple computers.

- Physical Materials (poster boards, colouring pencils, etc...) are at the student's expense and only needed if you choose to use them.

- Students will be taught how to use PowerPoint and Notebook software programs for effective presentation purposes.

Jan 29-10:50 AM

Are you Aware of the Issues?

Grade: 12

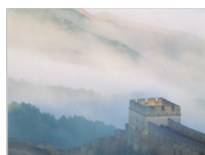
Subject: Intro to Env. Sci.

Date: January 2013

Jan 29-11:01 AM

1 When is World Environmental Day?

- A February 14
- B March 22
- C April 22
- D June 5



World Environment Day, or WED, is an United Nations-sponsored World Environment Day. Held annually during the week of June 5, the event is commemorated with an international exposition hosted in a different city each year. Started in 1972, the goal of WED is to encourage awareness of environmental issues and spark public and political action.

Jan 29-11:02 AM

2 Without human interference, how many species are estimated to reach extinction every year?

- A 1 to 10
- B 25 to 50
- C 50 to 100
- D 100 to 10,000



Based on studies of the fossil record, Paleontologists estimate the "background" extinction rate (rate of extinction without the presence of humans), to be between one and 10 species per year, per million present at the time.

However, many scientists believe that the extinction rate could now be as high as 100 to 10,000 species per year (adjusting for an estimated 10 million species on earth). The increase is attributed to loss of habitat, global warming, and diminished resources.

Jan 29-11:06 AM

3 Which country is responsible for the largest annual emission of greenhouse gasses?

- A Mexico
- B China
- C United States
- D Brazil



The United States is responsible for 22% of global greenhouse gas emissions, pumping an average of 6.049 billion metric tons into the atmosphere every year. China, with 18% or 5 billion tons, and the European Union, with 14% or 4 billion tons aren't too far behind.

Actually - documentation varies: #1 goes to US or China, with Canada rated 8th, the UK 10th and Switzerland 69th!

http://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions

Jan 29-11:08 AM

4 How much has the average global temperature increased in the last century?

- A 25 degrees
- B 5 degrees
- C 0.56 degrees
- D It's remained the same



Most scientists agree that between the 1899-1901 and 1999-2001 measurement periods, the average global temperature has risen from 13.88 degrees Celsius to 14.44 degrees, representing a 0.56 degree increase. It might not seem like a lot, but the change is alarming for a few reasons. Most worrying is that the rate of increase has climbed dramatically in the last two decades, suggesting that the future will bring radically warmer temperatures.

Jan 29-11:13 AM

5 If nothing is done to stop it, what will the financial cost of global warming be in 2100?

- A \$50 million
- B \$10 billion
- C \$230 billion
- D \$1.9 trillion



The NRDC estimates that the cost from just four things—hurricane damage, real estate losses, energy costs, and water costs—impacted by global warming could cost the United States \$1.9 trillion annually by 2100.

NRDC: National Resource Defense Council

Jan 29-11:14 AM

6 How many bicycles are estimated to be in use worldwide?

- A 500,000
- B 10 million
- C 200 million
- D more than 1 billion



Most estimates place the number of bicycles in the world between 1 billion and 1.5 billion. Compared to the global population, which now exceeds 6.5 billion, this doesn't seem like a lot. Still, it's more than twice the number of passenger vehicles, which still hovers around 500 million. While cheap cars being manufactured in India threaten to shift this ratio, several projects are also underway to bring pedal power to even more people.

Jan 29-11:17 AM

7 Half the world will be living in areas of "acute water shortage" by what year?

- A 2010
- B 2030
- C 2050
- D 2100

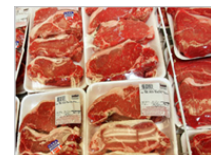


Current models show half the world's population living in areas of "acute water shortage" by 2030. Even today, access to potable water is a significant issue. In May 2009, more than 50 acts of violence over water were reported. Experts believe that using 2.5 gallons per person per day is sustainable for the world but Americans use an average of 100 gallons per day. Clearly, something must be done if we are going to avoid a "Peak Water" scenario.

Jan 29-11:18 AM

8 How much meat is produced worldwide each year?

- A 25 million tons
- B 71 million tons
- C 284 million tons
- D 500 million tons

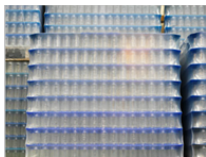


Worldwide, 284 million tons of meat is produced annually. This has increased dramatically from the 71 million tons produced in 1961. Global meat consumption has exploded due to increased affluence and the spread of industrialized production and some experts believe that consumption will double again by 2050.

Jan 29-11:19 AM

9 Worldwide, how much does the plastic that we consume annually weigh?

- A 5 million tons
- B 50 million tons
- C 100 million tons
- D 1 billion tons



Since the 1950s, global annual consumption of plastic materials has increased from 5 million tons to nearly 100 million tons. Americans alone throw away 100 billion plastic bags every year. It's true that plastic is used in a wide range of applications, from medical technology to electronics, housewares to transportation. Still, 35% of all plastic is used for packaging purposes.

Jan 29-11:20 AM

10 What's the best way to help global environmental problems?

- A Ride your bike to work
- B Become a vegetarian for a week
- C Take a "navy shower"
- D All of the above



Though environmental problems are global in reach and daunting in their severity, it's important to remember that there is still some time to effect change. Biking to work instead of driving, avoiding meat on a regular basis, and doing what you can to reduce water consumption are all ways to act locally that can have a global impact.

Jan 29-11:21 AM

Back to Basics: By the Numbers

- **Five:** Number of planets we would need if everyone lived like the average North American. If everyone lived like the average European, we'd need three. Unfortunately, we only have one.
- **500 billion to 1 trillion:** Plastic bags used by shoppers each year. This translates to about 150 bags a year for every person on earth. Remember to bring your own!
- **83 percent:** Percentage of Americans who now say global warming is a "serious" problem. This is up from 70 percent in 2004.
- **941 and 1,023:** Pounds of greenhouse gases added each year from one person eating three burgers per week.
- **2.5 to 1:** The ecological footprint of the average American, compared to that of the average Italian.

Jan 21-2:29 PM

<http://www.treehugger.com/slideshows/clean-technology/7-terrifying-global-warming-pictures/#slide-top>

Seven Terrifying Global warming pictures

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Environmental Facts

The Earth:

- Deserts are advancing and taking over the land faster than ever in Earth's history. Warmer temperatures, deforestation and poor water resource management are mainly to blame.
- The Earth has been around for 4,6 billion years. Scaled down to 46 years, we have been around for 4 hours and the industrial revolution began just one minute ago

**In that time, we have ransaked the planet to get raw materials, cause an unthinkable number of extinctions and multiplied our population to that of a plague.*

These problems can be stopped, and the damages can be reversed!

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Human Influence Facts:

- If each family in Canada used 10 fewer plastic bags per month, we would save **1 billion** bags a year!
- On average, the 14 million cars in Canada are estimated to travel 1.6 billion kilometers a day, and use 50 million gallons of gasoline doing it.
- Every ton of recycled office paper saves nearly 1,500 liters of oil.
- On average, homeowners use 10 times more chemicals harmful to the environment than farmers do.

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On the international side...

- Many banks lend large sums to developing nations. In order to pay those debts, many nations have turned to mining their natural resources as a source of financial aid.
- Every day, 40,000 children die of preventable diseases
- The population of the world is estimated to triple by the year 2100.
- The world's per capita grain production has been on the downfall since 1985, despite the use of fertilizers and pesticides.

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Attachments

Syllabus (2013).doc