VISUALIZING YOUR DATA!

MAKE YOUR FIELD NOTEBOOK DATA MORE EXCITING

HOW CAN WE SHOW PEOPLE THAT OUR DATA *MEANS* SOMETHING?

TABLE 1. Values of physicochemical variables for each month: March 1989→February 1990.

Parameter	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Temperature (°C)	7	12	14	21	24	17	26	19	14	4	1	7.0
pH	7.3	7.6	7.0	7.0	7.2	7.0	7.1	7.6	7.0	7.4	7.7	6.9
DO[a] (mg/l)	7.0	6.7	2.9	3.2	5.5	2.4	3.3	4.3	6.0	7.6	6.6	7.1
DO[a], % of satrn[b]	63	61	27	32	62	23	38	45	56	57	46	58
Conductivity[c]	105	210	320	135	140	95	120	120	170	160	190	200
Turbidity (FTU)	23	24	26	38	39	26	29	35	52	88	158	101
Alkalinity[d] (mg/l)	28	43	60	43	54	37	30	37	37	37	35	35
C-dioxide[e] (mg/l)	5	2	11	7	5	6	3	1	7	2	1	7
Ammonia (mg/l)	0.22	0.26	0.41	1.28	0.60	0.78	0.73	0.55	0.91	1.28	1.73	1.28
Nitrates (mg/l)	0	0	0.39	0.73	0.85	0.58	0.55	0.64	0.79	1.13	0.99	0.95
Nitrites (mg/l)	0.002	0.019	0.039	0.043	0.023	0.013	0.017	0.017	0.030	0.058	0.090	0.058
O-phsphts[f] (mg/l)	0.38	0.30	0.28	1.49	0.50	0.91	0.70	0.18	0.20	0.25	0.27	0.41

[a] DO = Dissolved oxygen; [b] DO, as percent saturated; [c] μS/cm; [d] as CaCO₃; [e] Carbon dioxide; [f] Orthophosphates.

DISSOLVED OXYGEN CONCENTRATIONS (D.O.) IN MILLIGRAMS

WATER TEMPERATURE (W.T.) IN DEGREES CELSIUS

How Much Water Do We Use?

Shower 16.8%
Toilet 26.7%
Faucet 15.7%
Leaks 13.7%
Clothes washer 21.7%
Other 5.3%
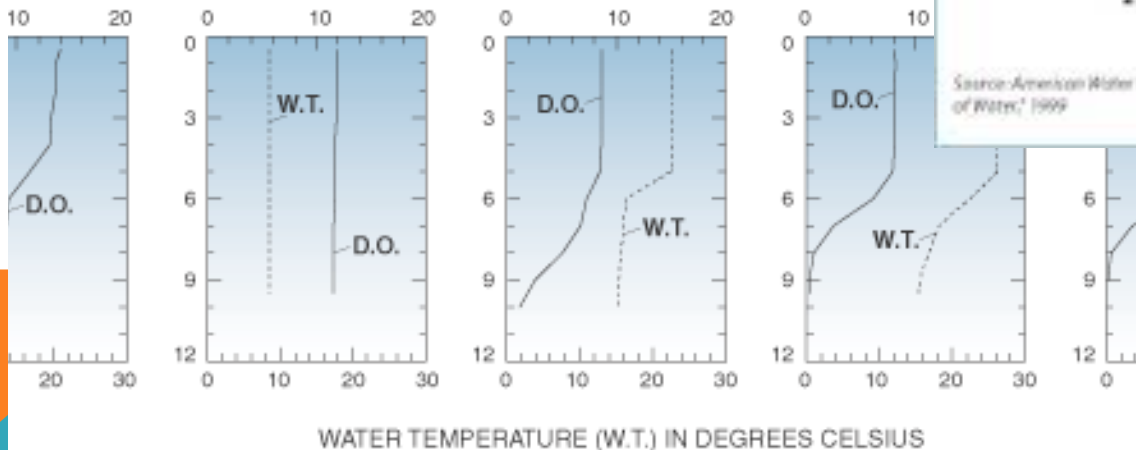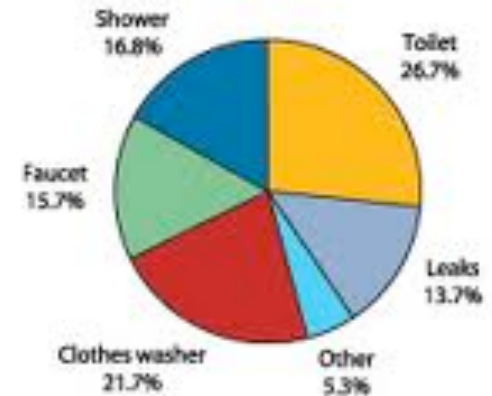
Source: American Water Works Association Research Foundation, "Residential End Uses of Water," 1999

WATER DOWN

The Embarrassing Lack of Clean Water Access in the World

According to the United Nations, unsanitary water kills more people worldwide than war. As the precious water supply dwindles, it may prove to be more than just a crisis for developing countries.
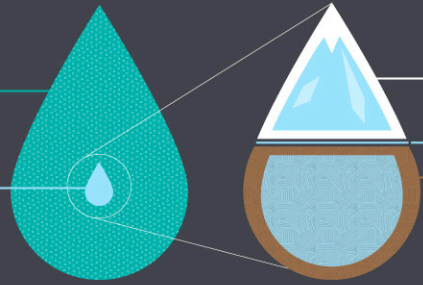
SOURCES:
WORLD HEALTH ORGANIZATION
CLEANWATERFORTHEWORLD.ORG
WATER.ORG | WATERINFO.ORG
WORLDWATER.ORG | UNICEF.ORG
UN.ORG

WHERE IS ALL THE WATER?

SALTWATER DOMINATES EARTH'S SUPPLY:

97.5% SALTWATER

2.5% FRESHWATER
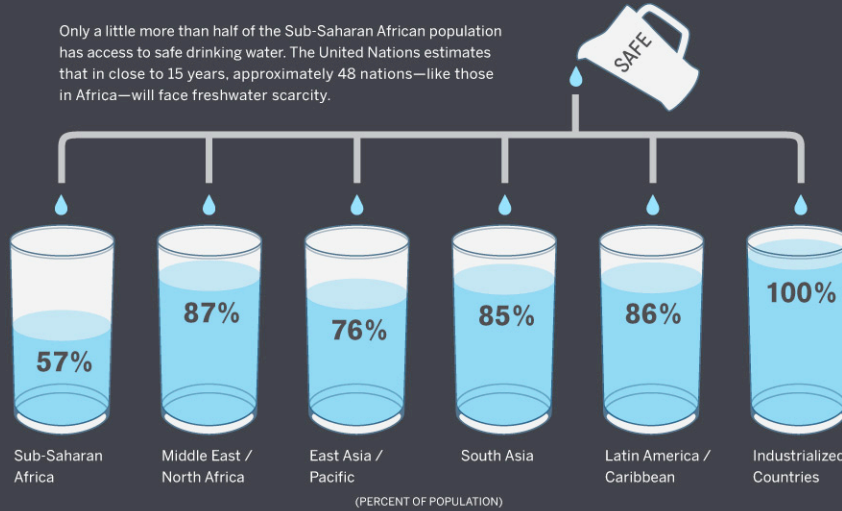
MOST FRESHWATER IS UNATTAINABLE:

70% IS FROZEN IN POLAR ICECAPS

30% LIES UNDERGROUND (most of which is too expensive to tap into and filter)

LESS THAN **1%** of the world's freshwater is available for human consumption

ACCESS TO SAFE DRINKING WATER BY REGION

Only a little more than half of the Sub-Saharan African population has access to safe drinking water. The United Nations estimates that in close to 15 years, approximately 48 nations—like those in Africa—will face freshwater scarcity.

SAFE

Region	Percent
Sub-Saharan Africa	57%
Middle East / North Africa	87%
East Asia / Pacific	76%
South Asia	85%
Latin America / Caribbean	86%
Industrialized Countries	100%

(PERCENT OF POPULATION)

ACCORDING TO THE WORLD HEALTH ORGANIZATION:

That leaves 1.1 billion people without access to clean water.

THAT'S ABOUT ONE IN SIX PEOPLE IN THE WORLD.

HOW DOES WATER GET CONTAMINATED?

Lack of sanitation is the world's biggest culprit of infection. Water-related diseases are most commonly caused by harmful micro-organisms and chemicals that get into the drinking water supply.

EVERY DAY **2 MILLION TONS** of industrial and agricultural waste are poured into the earth's waters.

APPROXIMATELY **10%** of the global population is ingesting food grown using unsanitary irrigation and fertilization wastewater.

CHILDREN ARE MOST AFFECTED

Every 20 seconds a child dies from a water-borne illness.

Worldwide, 88 percent of diarrhea cases can be blamed on unsanitary water. And children under the age of five comprise 90 percent of deaths from diarrhea-related diseases. It's the leading cause of death in this age group.

A COLLABORATION BETWEEN GOOD AND COLUMN FIVE

http://awesome.good.is.s3.amazonaws.com/transparency/web/1106/clean-water/flash.html

National Geographic :
The Hidden Data We Use

http://environment.nationalgeographic.com/environment/freshwater/freshwater-101-interactive/

INFOGRAPHICS

facebook

December 2010

MAPS : GEOSPATIAL ANALYSIS

3-D DATA: SLAP SIGNS

http://www.youtube.com/watch?feature=player_detailpage&v=SGh9K0yGqHE 1:40
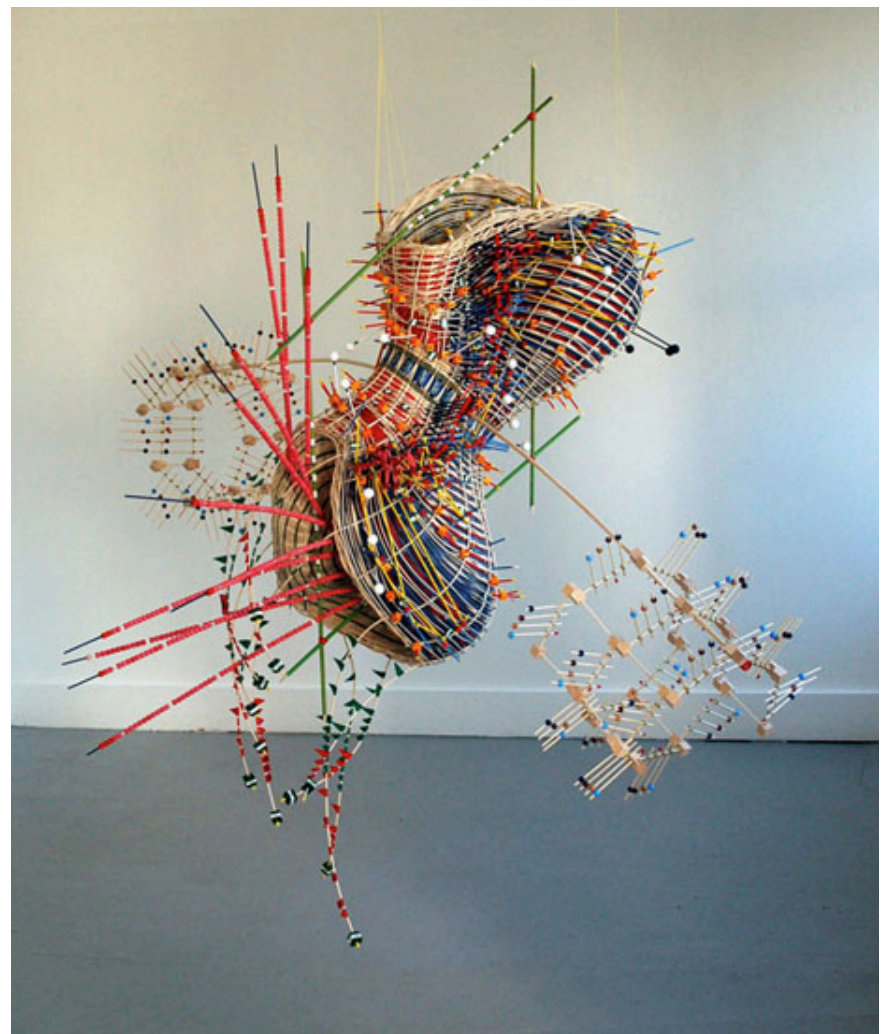
OR THEATRICAL DANCE...

HTTP://WWW.YOUTUBE.COM/WATCH?V=4Y52DRJPAA4&FEATURE=RELATED 2:11

BASKET WEAVING ATMOSPHERIC AND WATER DATA

Nathalie Miebach's Basket Weaving

http://www.nathaliemiebach.com/waters.html

Quick interview

http://www.youtube.com/watch?v=V1jG5ar95ck

WILDNESS

Percentage of land (mostly) untouched by human activity
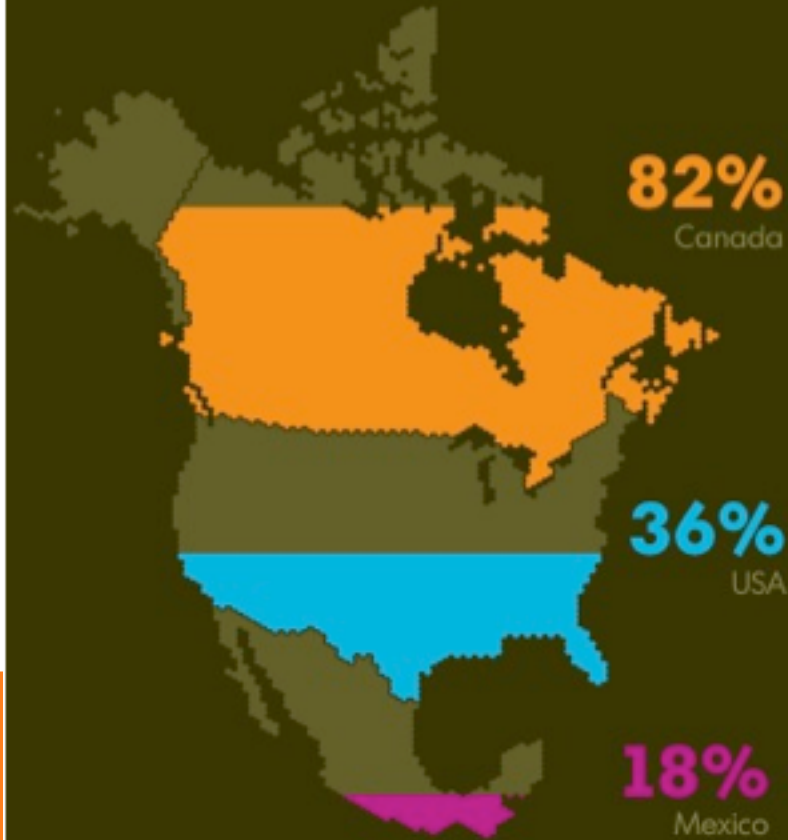
82% Canada

36% USA

18% Mexico

POPULATION

Relative population of animals in North America

• 1 human

1 beaver	66 humans
1 bald eagle	5,035 humans
1 grizzly bear	9,260 humans
1 orca	210,000 humans
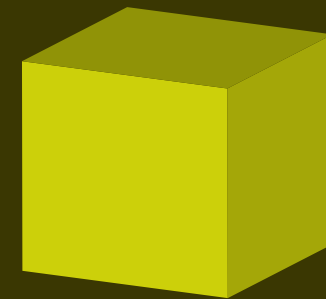
MORE EXAMPLES!

The New York Times Interactive

http://www.nytimes.com/interactive/2011/04/28/us/tornado-deaths.html

:YOUR CHALLENGE:

STEP 1: 10 minutes

- Look through your field notebook
- Find your most interesting/meaningful data
- Check out the materials
- BRAINSTORM a creative, fun, and interesting way to present that information to the class.
- Get your proposal approved by your field instructor

STEP 2: 20 minutes

- Collect materials.
- CREATE!
- Practice
- Present

PRESENTATIONS

Audience should be able to answer these questions after your presentation:

1. What relationship does the visualization show?

2. Why should we care about this data? Why is it important?

3. What part of the visualization most effectively portrays the relationship? What caught your eye or made you interested?