

Using Public Data for Jump-Starting Research

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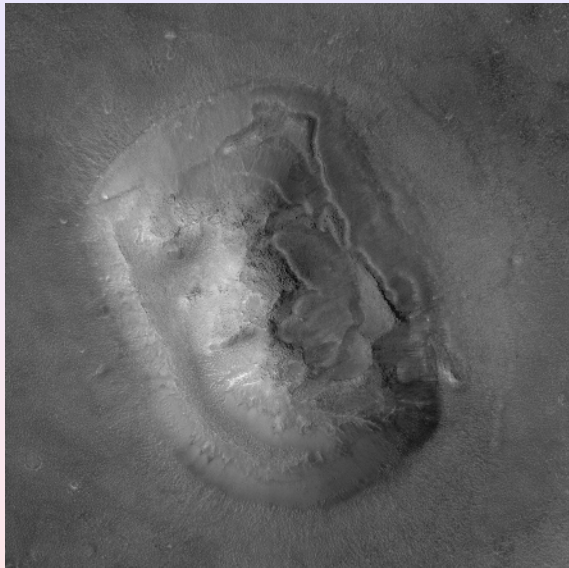
Starting something new



We evolved to see patterns



1976 Viking image



2006 high-resolution image

We use the patterns

Iranian cleric: Promiscuous women cause quakes

AP Associated Press



Buzz up! 220 votes



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By SCHEHEREZADE FARAMARZI, Associated Press Writer — Mon Apr 19, 1:35 pm ET

BEIRUT — A senior Iranian cleric says women who wear immodest clothing and behave promiscuously are to blame for earthquakes.

Iran is one of the world's most earthquake-prone countries, and the cleric's unusual explanation for why the earth shakes follows a prediction by President Mahmoud Ahmadinejad that a quake is certain to hit Tehran and that many of its 12 million inhabitants should relocate.

"Many women who do not dress modestly ... lead young men astray, corrupt their chastity and spread adultery in society, which (consequently) increases earthquakes," Hojatoleslam Kazem Sedighi was quoted as saying by Iranian media. Sedighi is Tehran's acting Friday prayer leader.

Women in the Islamic Republic are required by law to cover from head to toe, but many, especially the young, ignore some of the more strict codes and wear tight coats and scarves pulled back that show much of the hair.

"What can we do to avoid being buried under the rubble?" Sedighi asked during a prayer sermon Friday. "There is no other solution but to take refuge in religion and to adapt our lives to Islam's moral codes."



AP — FILE - In this Saturday, Dec. 1, 2007 file photo, two conservatively-dressed Iranian women walk past ...

Earthquakes Video: 6.5 magnitude earthquake hit southwest of Taiwan

Testing the pattern

Location	Magnitude	Deaths
Los Angeles	6.7	61
Bam, Iran (pop 97,000)	6.6	26,271



An example closer to home

"Hurricane Katrina was, in fact, the judgement of God against the city of New Orleans."



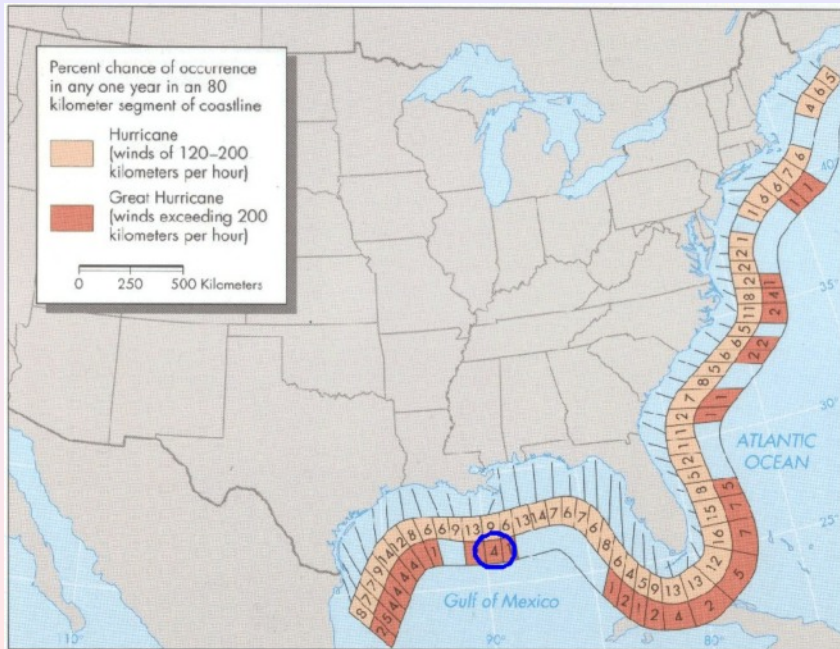
"New Orleans had a level of sin that was offensive to God," Pastor Jon Hagee said, because "there was to be a homosexual parade there on the Monday that the Katrina came."

About half of those killed were greater than 75 years old



*\$75 million
for
restoration
of Baptist
Seminary*

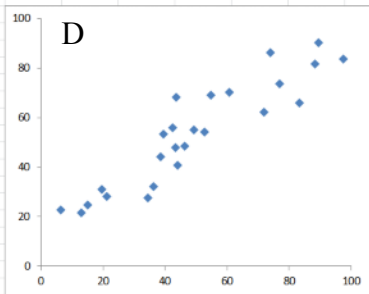
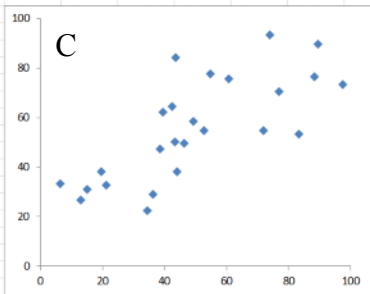
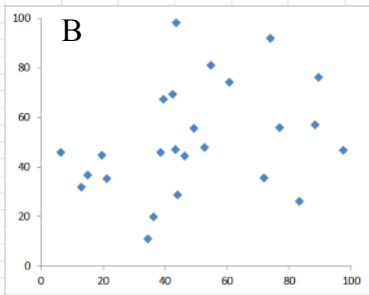
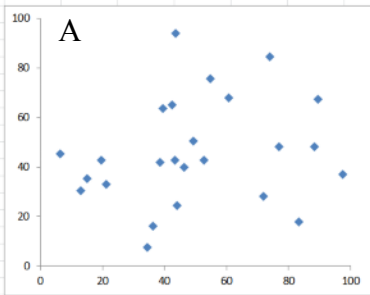
Historical data



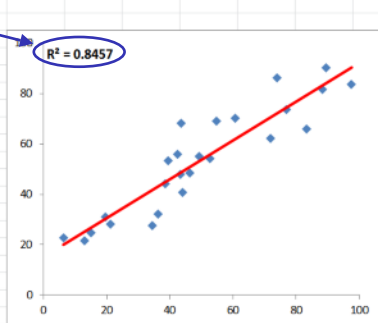
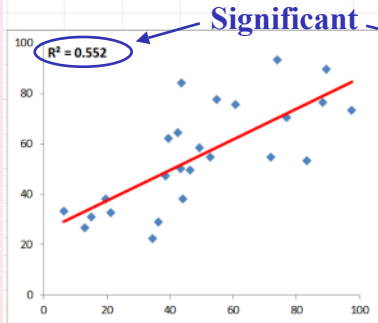
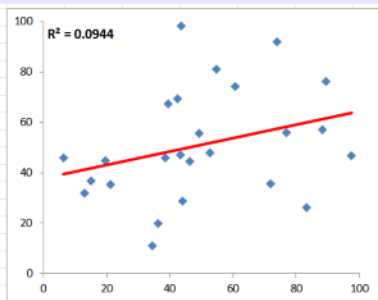
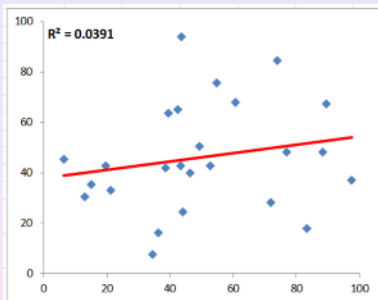
My old home in New Orleans



Testing the hypothesis



Testing the hypothesis



Significant

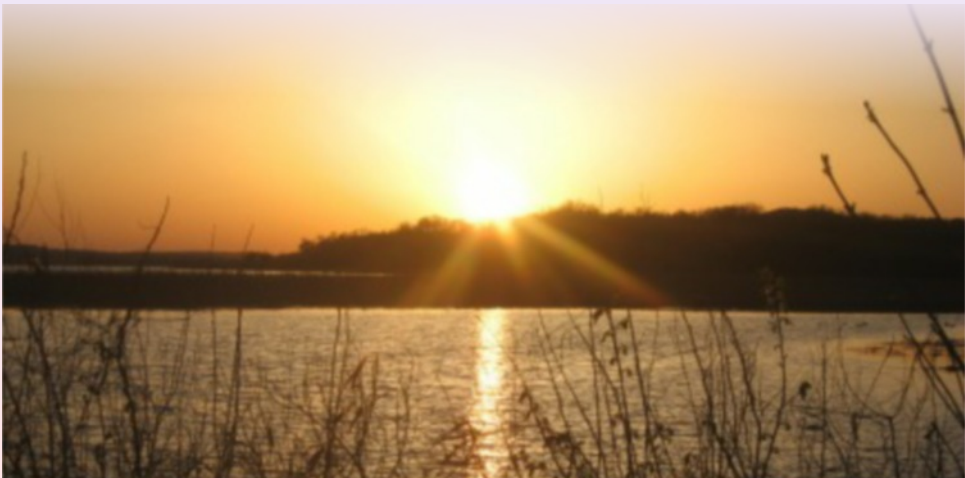
Case 1: Classroom use of historical data

Source:



National Water Information System: Web Interface

[USGS Water Resources](#)



Notice the pattern

	A	B	C
1	Date	Discharge	Rank
2	7/16/1950	25000	1
3	7/27/1940	23800	2
4	6/22/1954	23800	3
5	6/13/1947	22300	4
6	6/25/1949	14100	5
7	1/25/1967	14000	6
8	2/23/1961	13400	7
9	6/13/2008	13000	8
10	2/8/1966	12500	9
11	8/13/1943	12300	10

Ice dams and hail storms

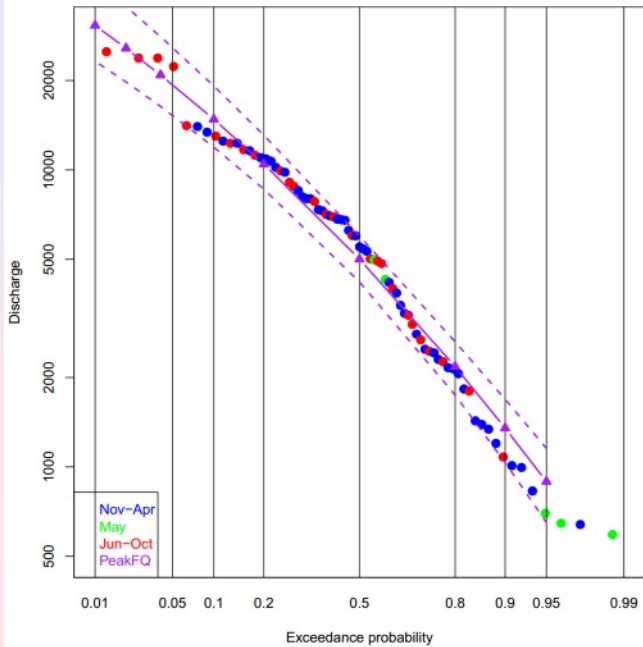


My ceiling in Dubuque

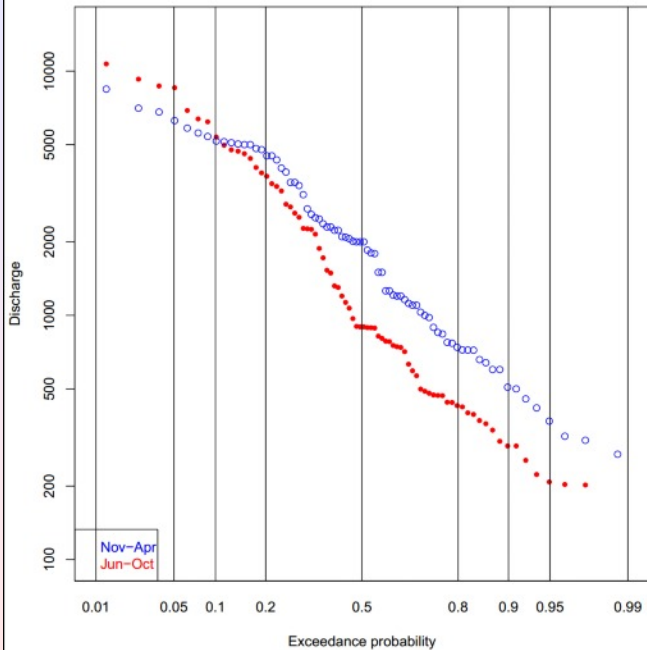
Grant River

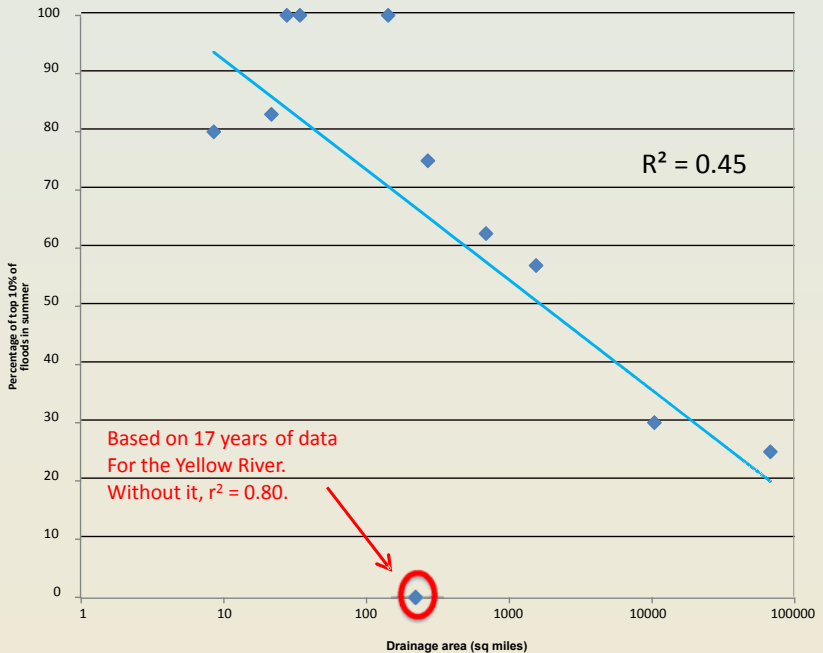


Grant River at Burton WI



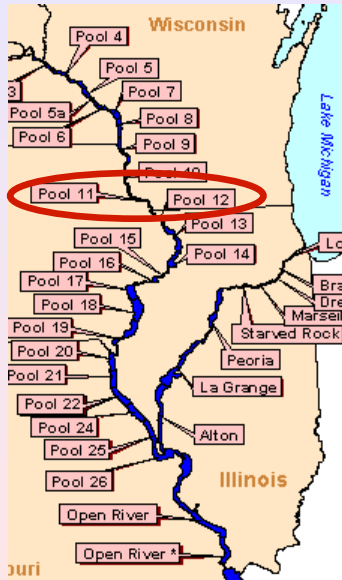
Grant River at Burton WI





Drainage area plotted against percentage of extreme floods in summer, showing impact of drainage area and seasonality upon flooding.

Case 2: Intro to Statistics in J-term, 2014



Sediment database



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Sediment-Contaminant Database for the Upper Mississippi River System and Selected Tributaries (*version 2*)

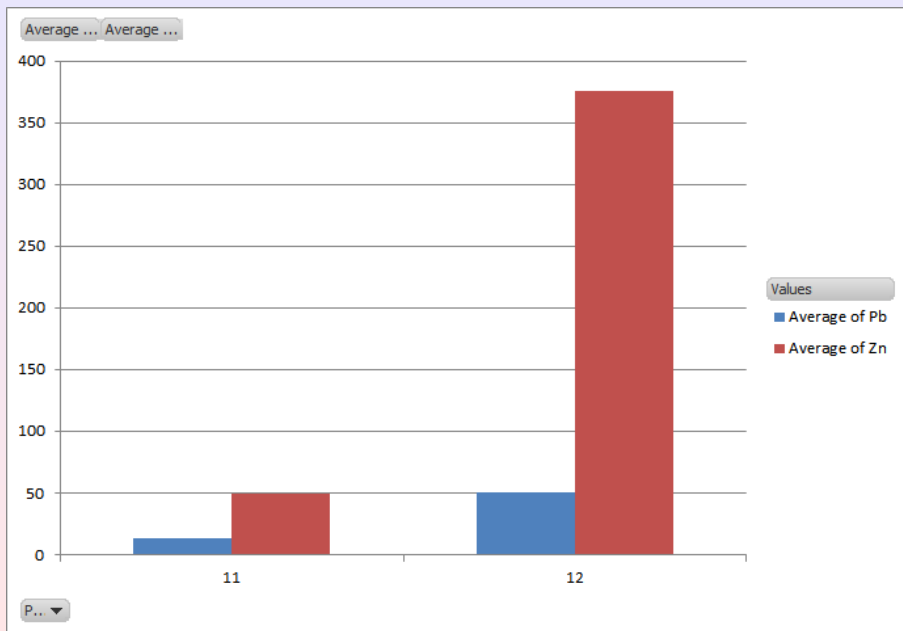


Last updated on April 17, 2006

- [Sediment-contaminant data \(entire data set\)](#)
- [Sediment-contaminant file format \(definition of variables\)](#)
 - Rich Text format - [format.rtf](#)
- [Sediment-contaminant data, by data set number](#)
- [Sediment-contaminant site locations](#) (GIS coverage and JPEG image)
- Spatial data query and visualization tool (in preparation)
- Metadata



Excel contingency tables and charts



Excel t-test results

A	B	C
t-Test: Two-Sample Assuming Unequal Variances		
	<i>Pool 11</i>	<i>Pool 12</i>
Mean	13.2619	51.25
Variance	61.2905	1979.66
Observations	21	44
Hypothesized Mean Difference	0	
df	48	
t Stat	-5.48821	
P(T<=t) one-tail	7.5E-07	
t Critical one-tail	1.67722	
P(T<=t) two-tail	1.5E-06	
t Critical two-tail	2.01063	



Hypothesis

Lead and zinc levels are higher in Pool 12 than pool 11 because of the history of mining.

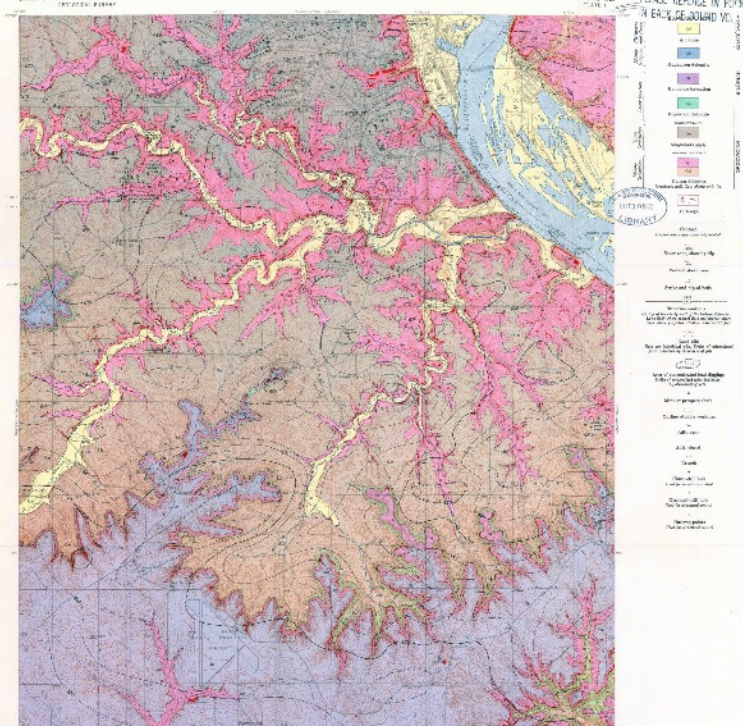


Dubuque Shot Tower

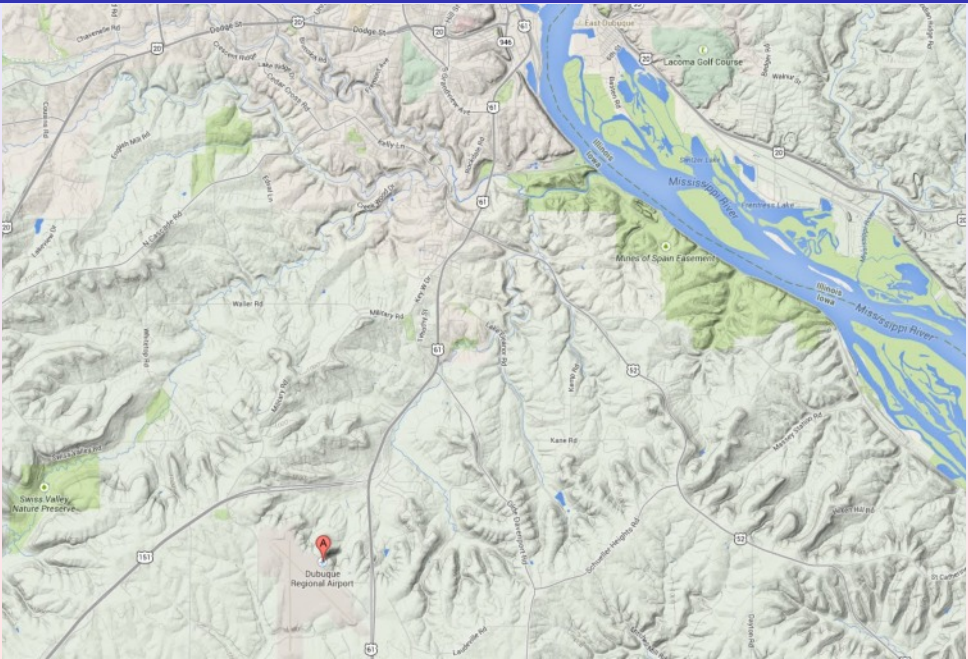


Mississippi-Valley-type deposits





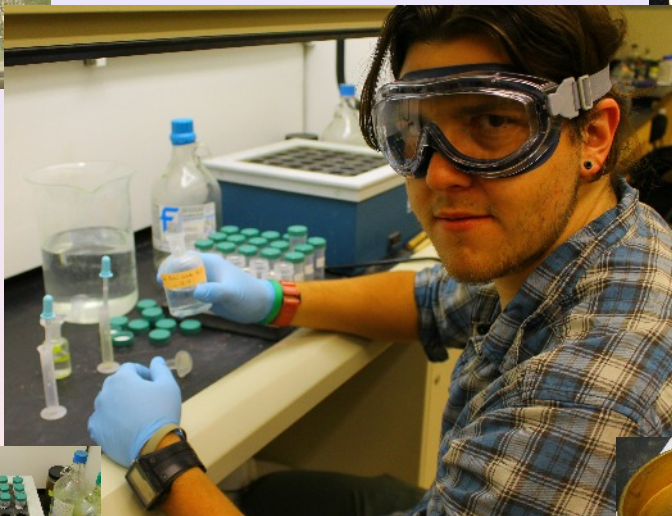
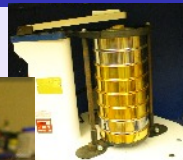
Escarpment from Silurian to Ordovician



Sample collection

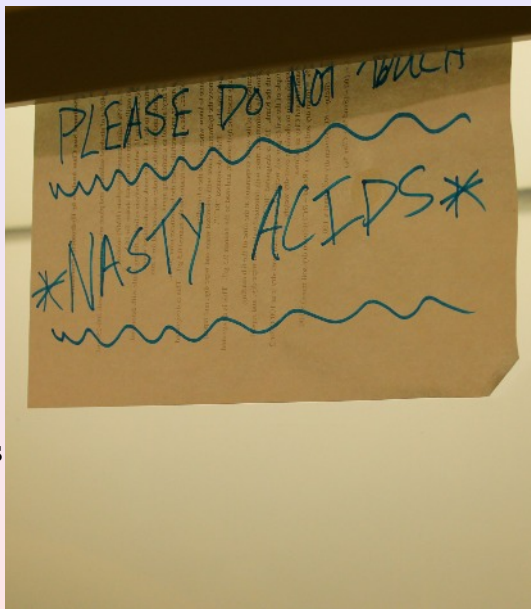


Lab techniques



Preliminary Results

- Higher concentrations of lead near the known lead mines
- Lower concentrations upstream near Silurian outcrops
- Lead concentrations near the threshold levels for remediation of sediment as called for by the E.P.A. where use is unrestricted



Concluding thoughts: Is the relationship real and useful?

- On January 15, my mom told me that she had just received results from her oncologist visit.
- Her CEA was 8.2
- Her average for the last two years is 3.3, based on quarterly tests.
- She has had colon cancer twice, with her last surgery in the summer of 2011.
- How do you interpret this?



Why put forth the effort?



“I don't like work—no man does—but I like what is in the work—the chance to find yourself. Your own reality—for yourself not for others—what no other man can ever know. They can only see the mere show, and never can tell what it really means.”

Heart of Darkness by Joseph Conrad

