



# **VISUALIZING LIBRARY DATA**

**SLA Division of Pharmaceutical  
and Health Technology  
Spring Meeting**

**Hilary Davis  
North Carolina State University Libraries**

**April 12, 2011**

# LIBRARIES MEASURE A LOT OF THINGS



**Library Catalog**

chemistry  Anywhere

Search within results [Start Over](#)

**Your Current Search** 1068

Anywhere  chemistry

**Refine Your Search**

Currently available  
 Available online  
 New titles

**Subject**

Chemistry (2791)  
 Chemistry, Organic (1075)  
 Chemistry, Analytic (923)  
 Chemistry, Physical and theoretical (858)  
 Analysis (849) [Show more](#)

**Genre**

Congresses (4310)  
 Reference (965)

**Expand Your Search**

43851 results at Triangle res  
 Results at Libraries worldwide  
 Looking for articles? Try Sum

Sort By: [Rel]

**Results 1 - 10 of 25936**  
[Brief View](#) | [Full View](#)

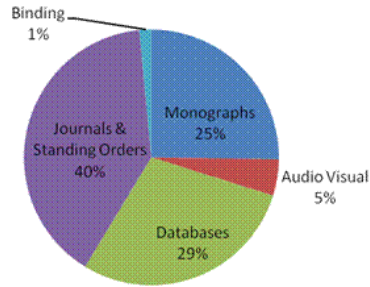
- Chemistry & chemical reactivity**  
 Author: Kotz, John C.  
 Published: c2010.  
 Format: Book  
**D.H. Hill Library**  
 Textbook Collection (Circulation Desk) QD31.3 .K68 2010 Available - On Reserve
- Organotransition metal chemistry : from bonding to catalysis**  
 Author: Hartwig, John, 1964-  
 Published: c2010.  
 Format: Book  
**D.H. Hill Library**  
 Stacks (6th floor) QD411.8 .773 H37 2010 Checked Out
- Schaum's outlines : organic chemistry**  
 Published: c2010.  
 Format: Book  
**D.H. Hill Library**  
 Stacks (6th floor) QD257 .M44 2010 Available



# WHY DO WE MEASURE THESE THINGS?

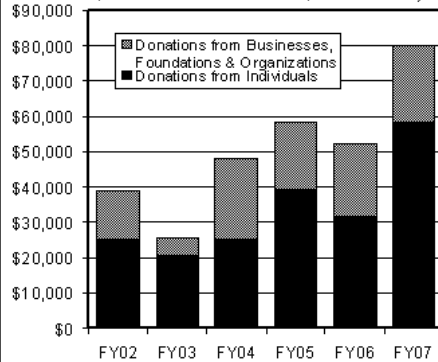
- Value for money or time
- Use of collections and services
- Demonstrate worth and fit
- Support decision-making
- Better user experiences
- Align with organizational goals

### Materials Expenditures: 2007-08



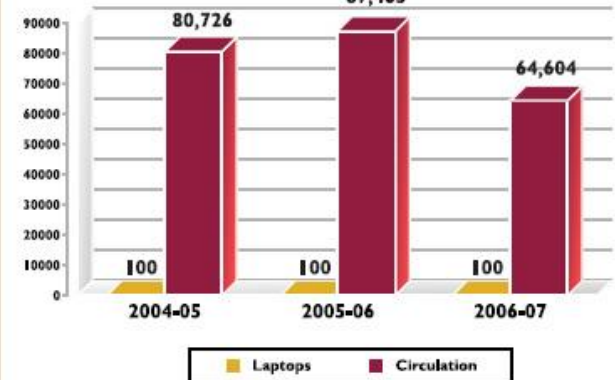
### Donations to the Fletcher Free Library

(Not including the Vermont Public Library Foundation grant funded by the Freeman Foundation, donations to or income from endowment, in-kind contributions.)



\* Note that individual donations in FY07 include a bequest of \$29,167.

### Laptop Circulation



### COLLECTIONS

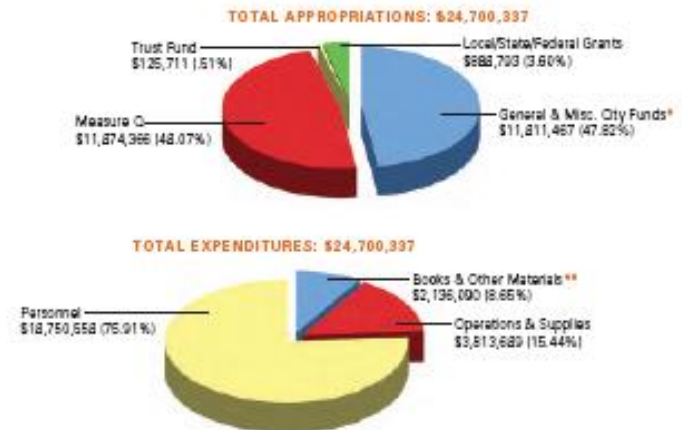
Volumes in Library		
Volumes held June 30, 2008		1,809,373
Volumes added during year - Net	93,749	
Volumes held June 30, 2009		1,903,122
Serials*		
Number of current serials, including periodicals, purchased	19,696	
Number of current serials, including periodicals, received but not purchased (exchanges, gifts, deposits, etc.)	6,434	
Total number of current serials received		26,130
Other Library Materials		
Microform units	5,535,814	
Government documents not counted elsewhere	95,734	
Computer files	8,128	
Manuscripts and archives (linear feet)	13,250	
Audiovisual Materials		
Cartographic	142,440	
Audio	27,008	
Graphic	218,715	
Film and video	4,696	

### EXPENDITURES

Library Materials		
Monographs	219,943	
Current serials including periodicals	5,004,903	
Other library materials (e.g., microforms, a/v, etc.)	101,773	
Miscellaneous (all materials not included above)	347,139	
Total library materials		\$5,673,758
Contract Binding		71,334
Salaries and Wages		
Professional staff	\$3,308,514	
Support staff	\$1,850,075	
Student assistants (including federal w/s funds)	\$356,282	
Total salaries and wages		\$5,514,871
Fringe benefits		\$1,275,625
Other Operating Expenditures		\$983,838
Total Library Expenditures (including fringe benefits)		\$13,519,426

### Financial Summary

FY 2006-2007



\* Includes Library Services fees paid by Piedmont (\$22,168) and Emeryville (\$70,000).

\*\* Does not include \$746,832 for items ordered, but not received and/or paid by the end of the 2006-2007 fiscal year.

# GOALS FOR PRESENTING LIBRARY DATA

- Impactful
- Drive home our point quickly
- Lingering impact
- Easy to digest

# QUICK POLL

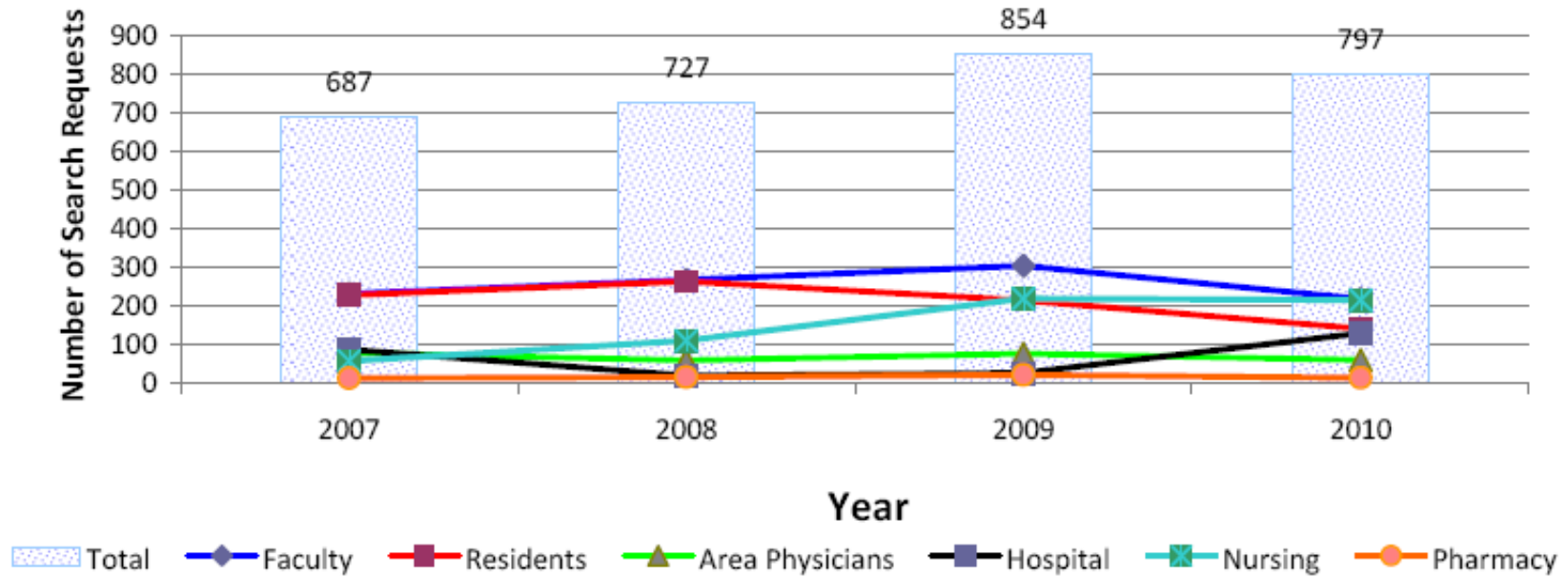
- What is your primary spreadsheet and graph/chart making tool?



Flickr: ganzalo\_ar

# MINIMIZE “NON-DATA” INK

Trends in the Number of Literature Search Requests by Primary User Type from 2007-2010

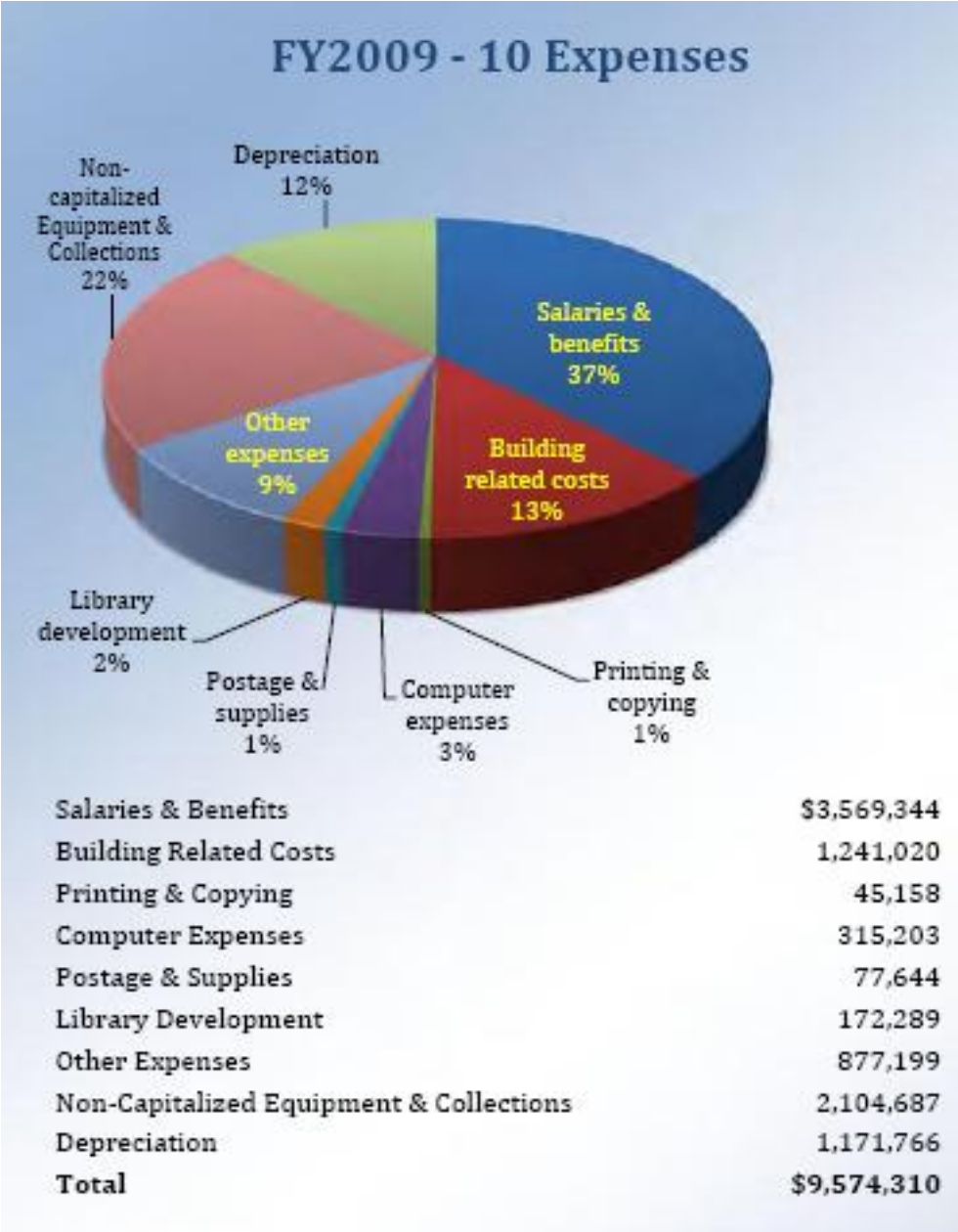


What do you find distracting?

What makes it harder to interpret?

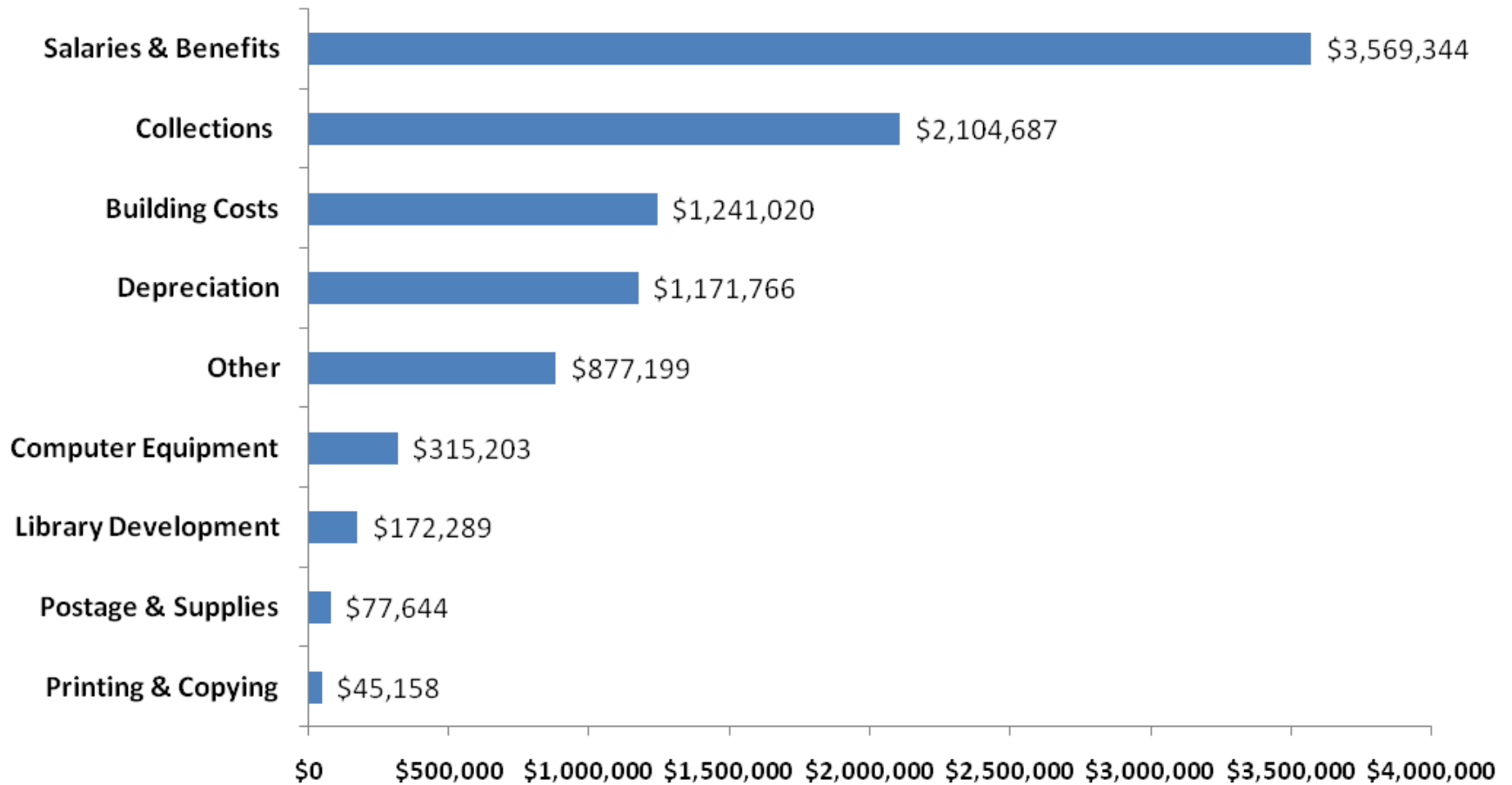
# SEQUENCE THE DATA

Before



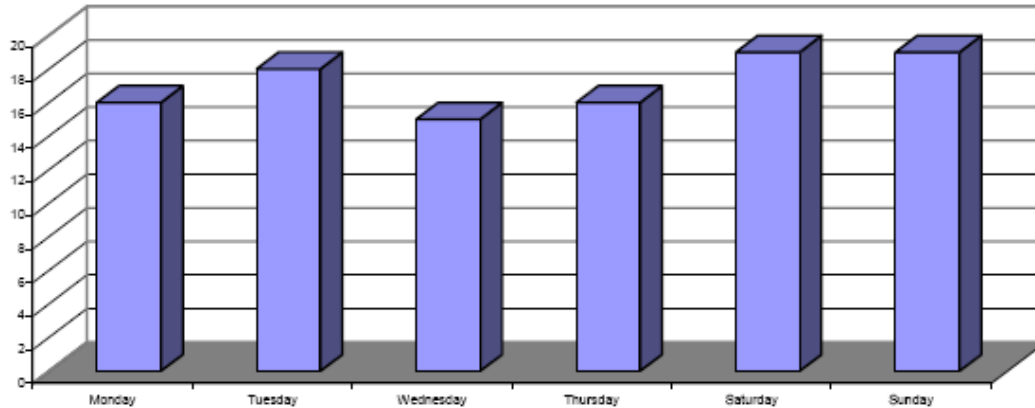
# After

## 2009-2010 Expenditures



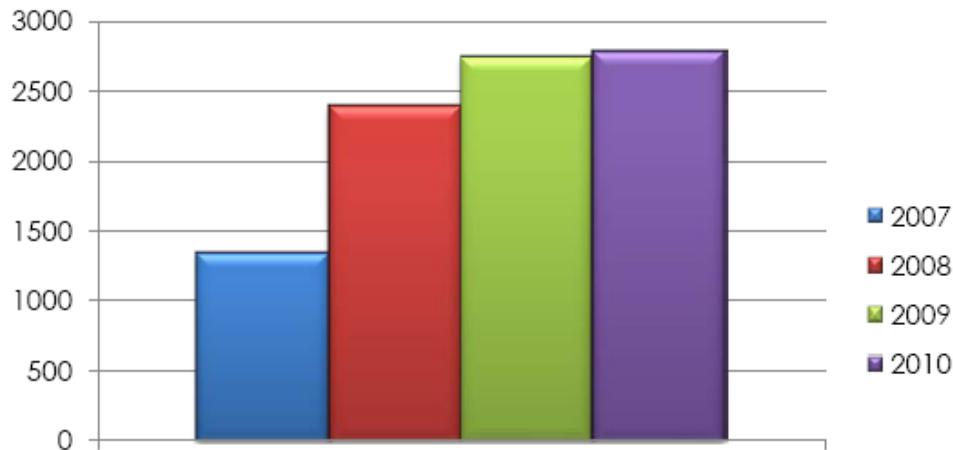
# GIVE CONTEXT

**Evening and Weekend Patron Visit Pattern  
(average)**



What makes it hard to read these charts?

What time period does this data cover?

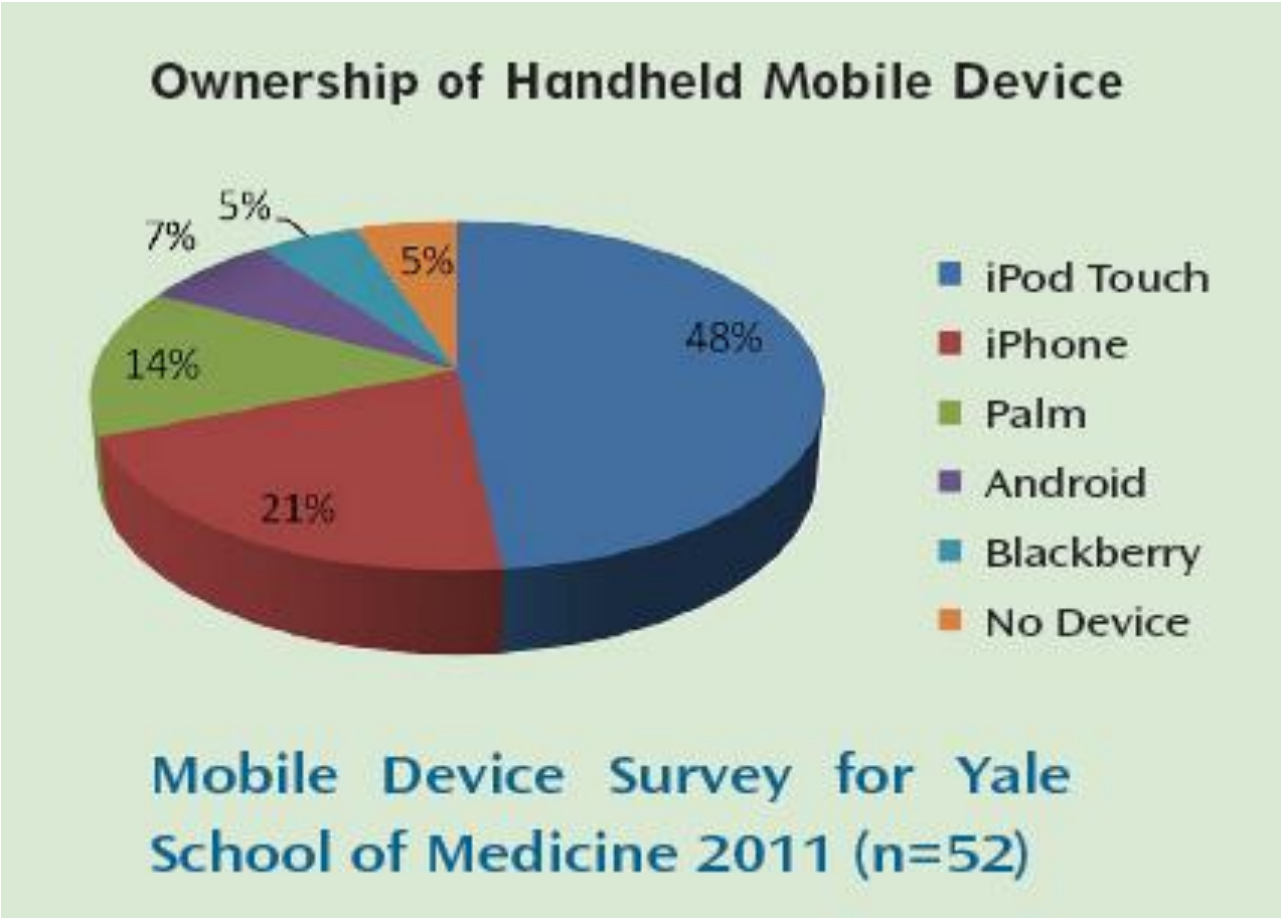


**Students Receiving Instruction 2006-2010**

What are the units of measure?

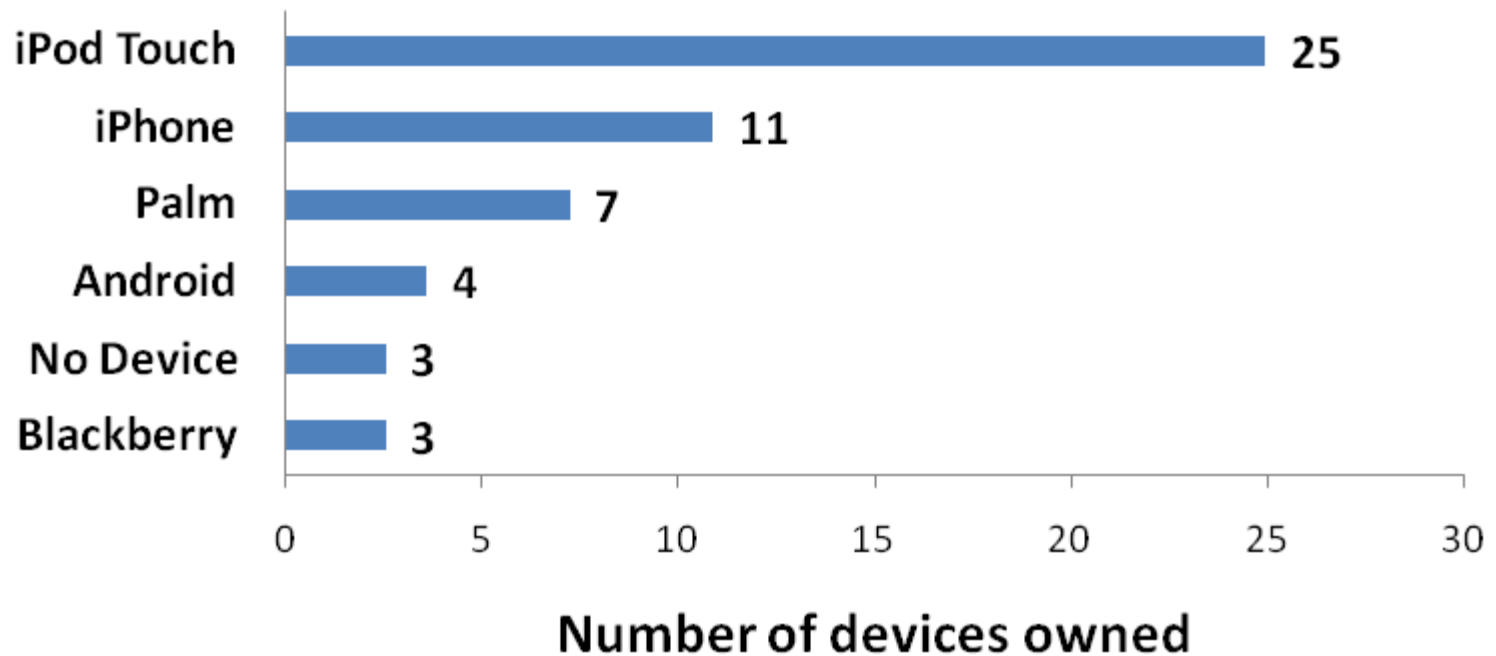
# BE STRAIGHTFORWARD

## Before



# After

**Ownership of Handheld Medical Devices  
Yale School of Medicine (2011)**



# DE-CLUTTER EXCEL

- Remove those grid lines
- No 3-D bars
- Throw away the pie chart
- Label your axes
- Remember the units
- Order the data
- What's your point?
- Don't overwhelm
- Choose the best graph/table for your data
- Excel Chart Templates



# DATA VISUALIZATION TOOLS

- Microsoft Excel
- Google Gadgets
- ManyEyes
- Tableau Public
- Swivel – defunct
- Information Dashboards



Flickr: JanneM

# GOOGLE GADGETS

Google docs ulc\_format\_use

File Edit View Insert Format Form

100% \$ % 123 10pt

	A	B
1	Format	Use
2	Journal downloads	
3	Database sessions	
4	Print circulations	
5	Digital collections views	
6	E-book usage	
7	Reserves usage	31637
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## Add a Gadget

[Featured](#)

[All](#)

**[Charts](#)**

[Tables](#)

[Maps](#)

[Web](#)

[Diagrams](#)

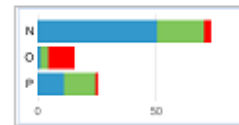
[Finance](#)

[Custom...](#)

### Have a better idea?

[Write your own gadget](#) to display data in cool new ways. Want to see your gadget on this list? Submit it to us using the [submission form](#).

Many of the gadgets in this directory were developed by other companies or by Google's users, not by Google. Please read our [Terms of Service](#) and [Privacy Policy](#) before using these gadgets.

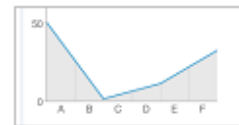


### Bar Chart

By Google

Bar Chart using Google Charts API

[Add to spreadsheet](#)

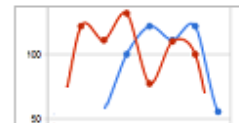


### Area Chart

By Google

Area chart using Google Charts API

[Add to spreadsheet](#)



### Line Chart

By Google

Interactive line chart, each numeric column is a line.

[Add to spreadsheet](#)



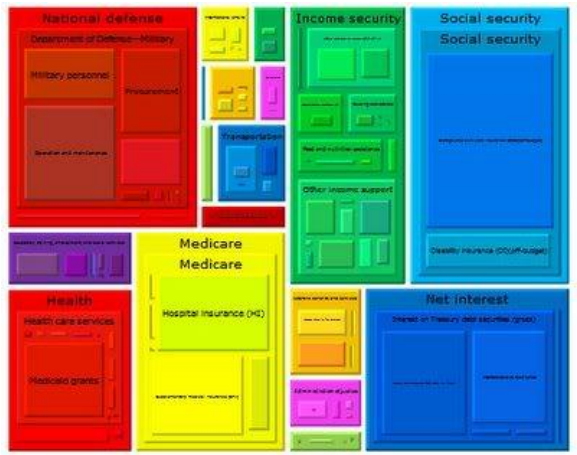
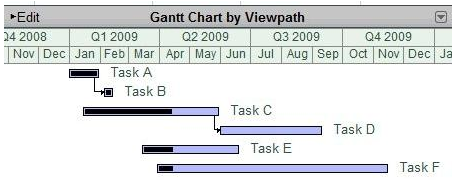
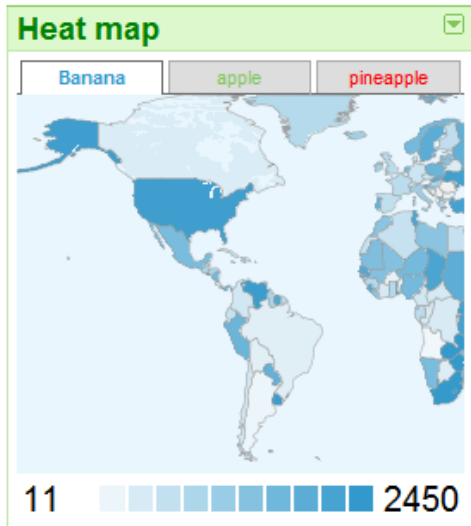
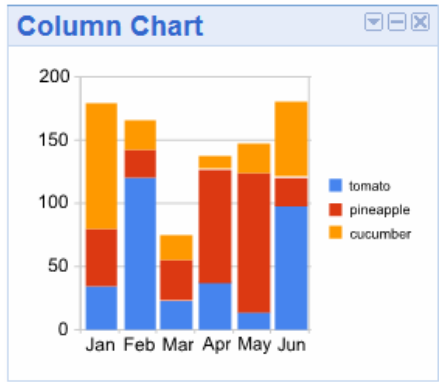
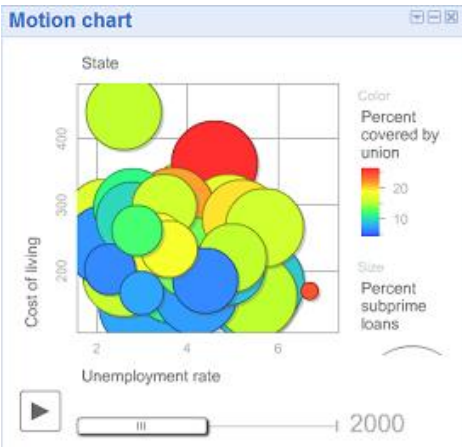
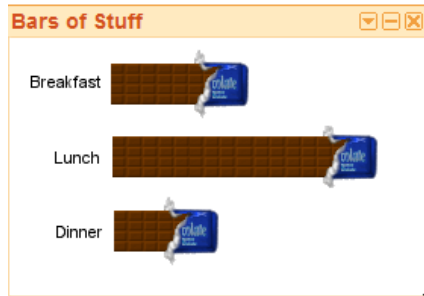
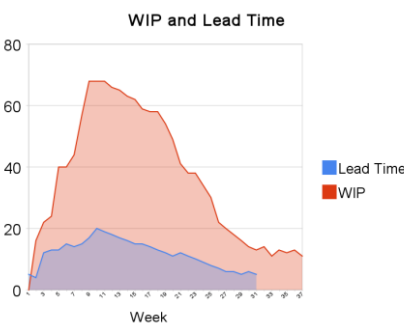
### Pie Chart

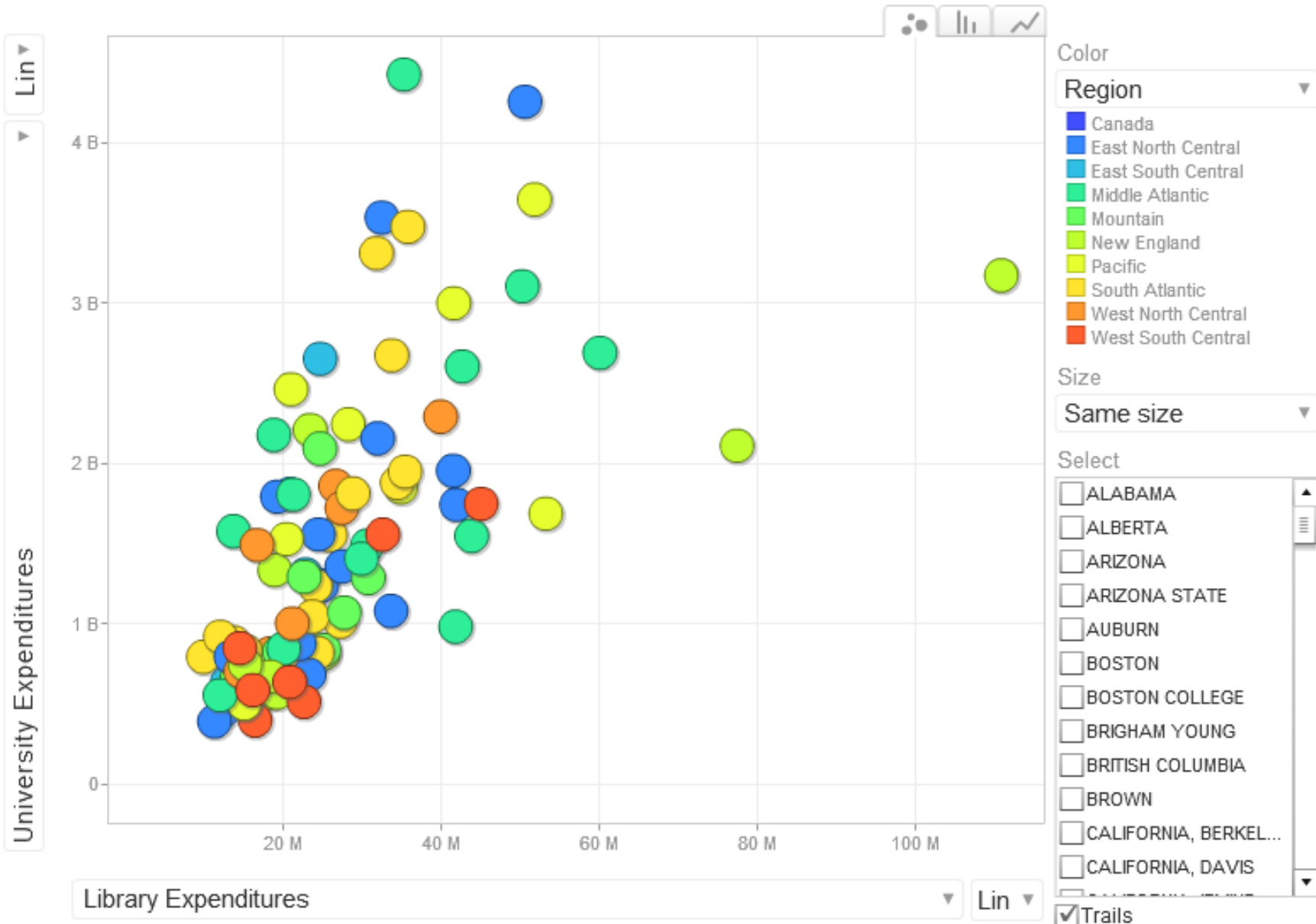
By Google

Interactive pie chart, each value is displayed as a slice.

[Add to spreadsheet](#)

# GOOGLE GADGETS





# TABLEAU PUBLIC



**HOW IT WORKS**  
see the magic happen

**GALLERY**  
see what others visualized

**COMMUNITY**  
join the conversation

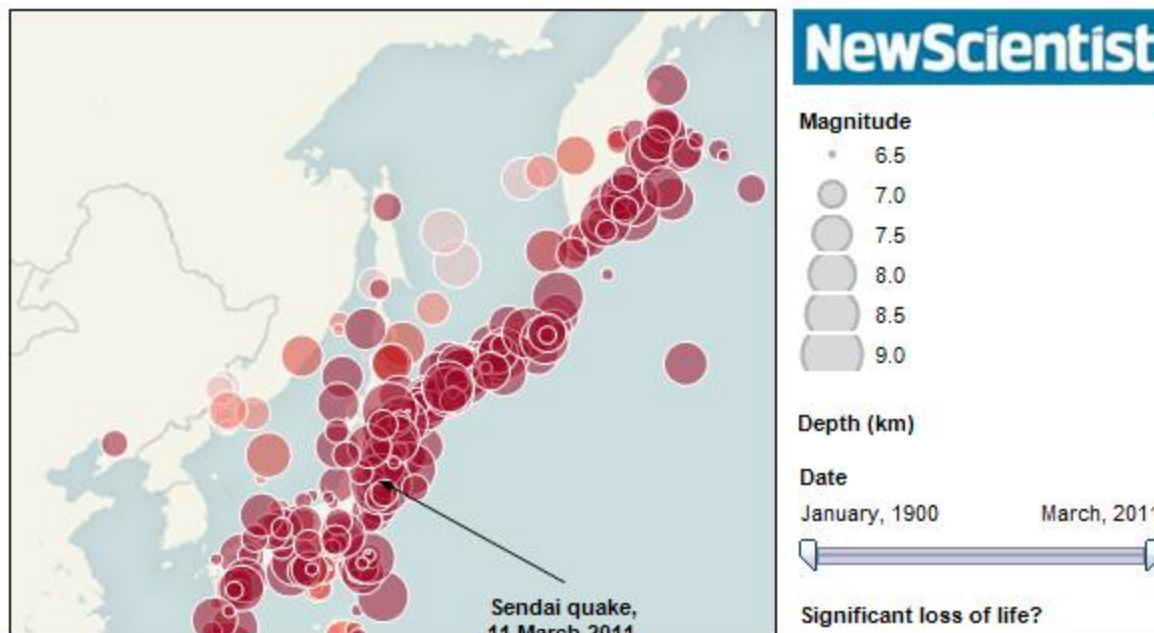
## Earthquakes in Japan Since 1900

f Like 1

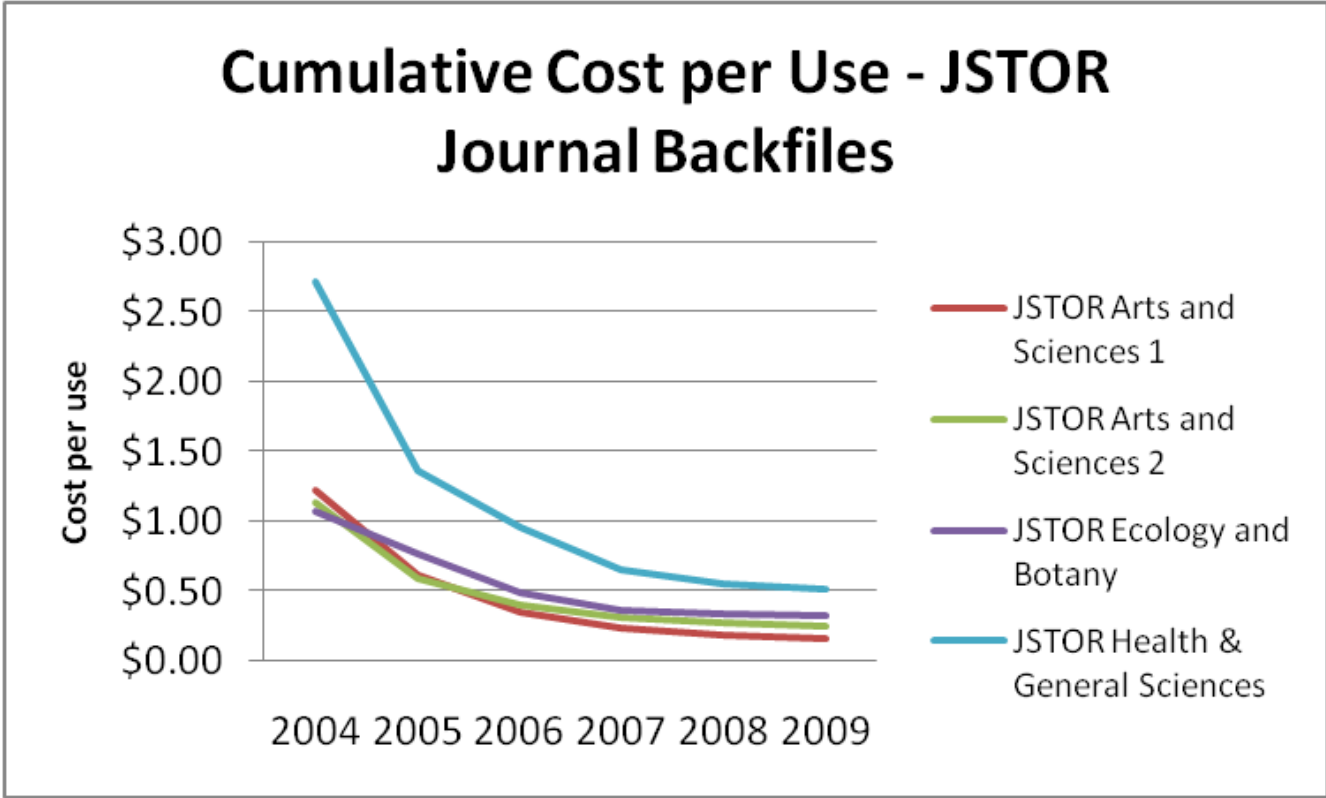
1 retweet

Author: Peter Aldhous published on [New Scientist](#)

Peter Aldhous takes us back in time with this viz of Japanese Earthquakes since 1900. Obviously, the island nation is no stranger to seismic activity.

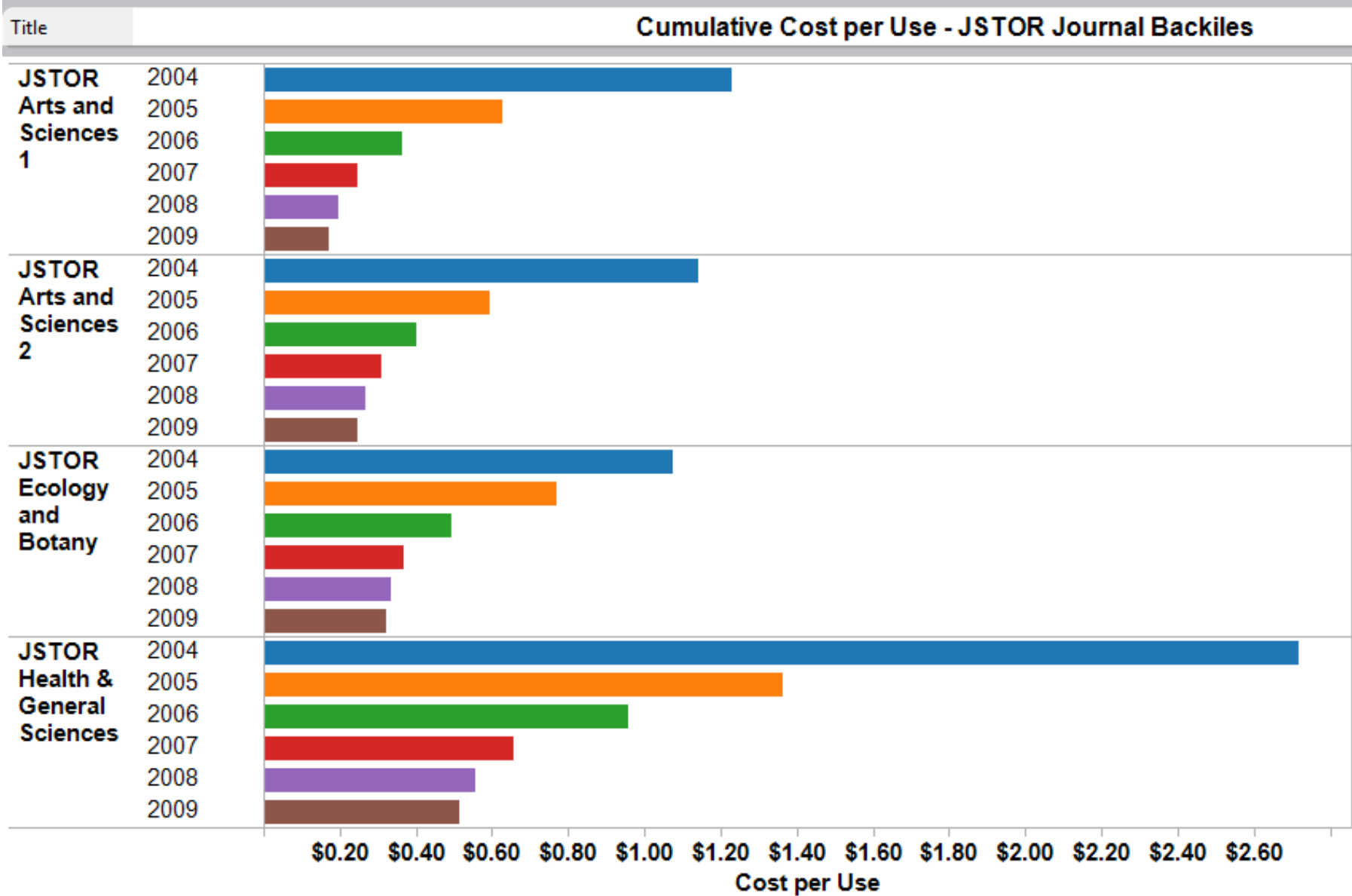


# EXAMPLE - JOURNAL BACKFILES COST PER USE



Excel's defaults don't do the data justice

# TABLEAU PUBLIC EXAMPLE



# SOURCES FOR INSPIRATION

 **FlowingData** <http://flowingdata.com/>

 **information aesthetics.** *Where form follows data.*

<http://infosthetics.com/>

visual  
complexity

<http://www.visualcomplexity.com/vc/>

 **GAPMINDER**

<http://www.gapminder.org/>

# CREDITS

- *Beautiful Data* (Segaran & Hammerbacher, 2009)
- *Show me the Numbers* (Few, 2004)
- *Now you see it* (Few, 2009)
- Lisa Kurt and Will Kurt, University of Nevada Reno
- Edward Tufte
- Cory Lown (<http://www.slideshare.net/corylown/data-visualization-7522083>)

**Thanks!**

[hilary\\_davis@ncsu.edu](mailto:hilary_davis@ncsu.edu)

<http://www.visualcv.com/hilarymdavis>