ESM 438 Week Three

Slide Design

Instructor: Alex Phillips

UC SANTA BARBARA
Bren School of Environmental Science & Management

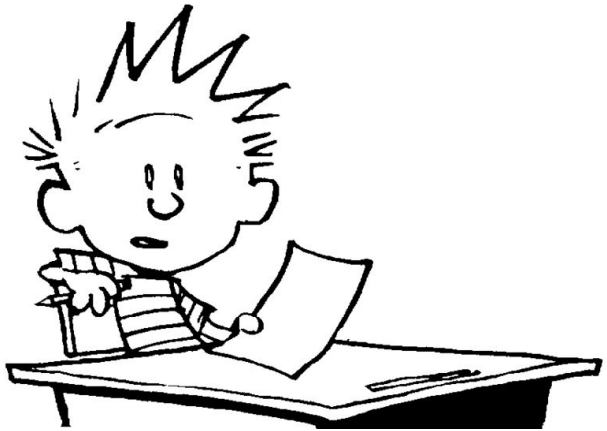
By the end of this class you will have a completed 10-15 minute presentation

Lecture	***Lab***
General Public Speaking Skills	Movie Monologues & Elevator Pitches
Outlining Presentations	Short Story & Introductions
Presenting Data & Slide Design	*Methods & Results*
Answering Questions	Conclusions with Q & A
Student Choice!	Full Presentations

Considerations for choosing a presentation platform

	Pros:	***Cons:***
Google Slides	High collaboration potential, easy to share, free	Requires internet connection, glitchy formatting
Powerpoint	Very customizable, extensive features	Expensive software, hard to do teamwork
Canva	Great default colors, fonts, & graphics	Limited utility and customization

Presenting data can be a make or break part of your presentations



Considerations:

1. Simplifying
2. Annotating
3. Animating
4. Replotting

Recommended Data Viz & Graphic Design Tools:

Drawing:	Plotting:	Editing:	Photo:	Layout:
Procreate *$10*	R Studio *free*	Affinity Designer *$55*	Capture One *$300*	Affinity Publisher *$55*
Sketches Pro *$6*	Microsoft Excel *$7/month*	Adobe Illustrator *$240/yr*	Adobe Lightroom *$120/yr*	Adobe InDesign *$240/yr*

Presentation figures can be simplified to amplify your main message and save time

“The skill of data storytelling is removing the noise and focusing people’s attention on the key insights”

- Brent Dykes

Presentation figures can be simplified to amplify your main message and save time

"The skill of data storytelling is removing the noise and focusing people's attention on the key insights"
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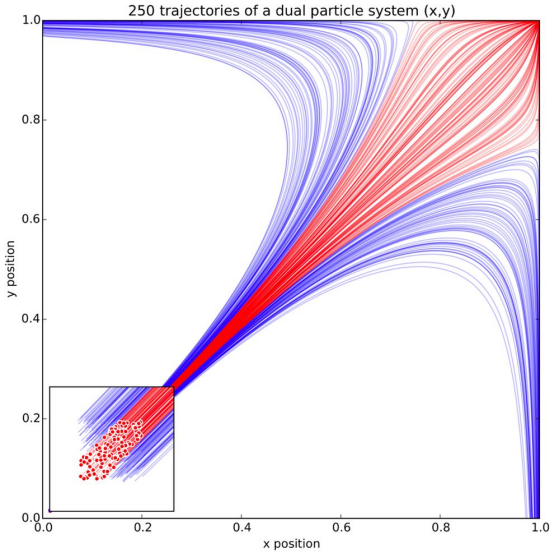
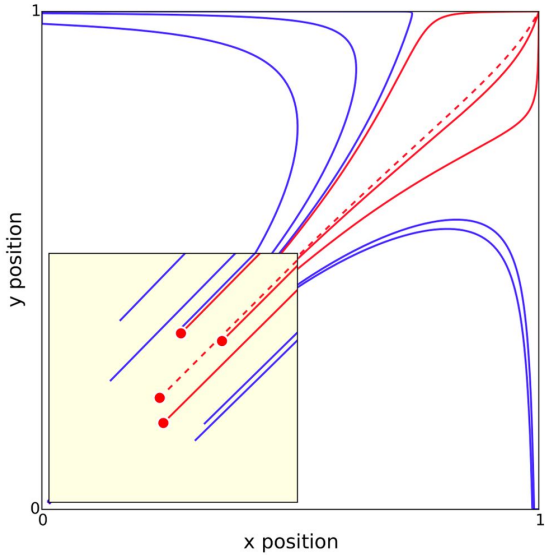
Publication:



Presentation:

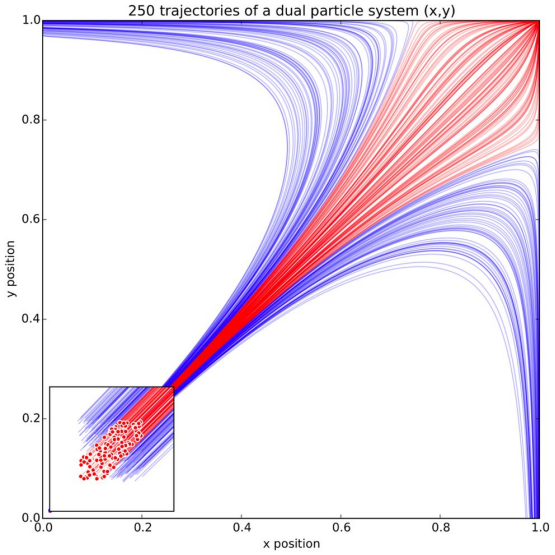


What differences do you notice?

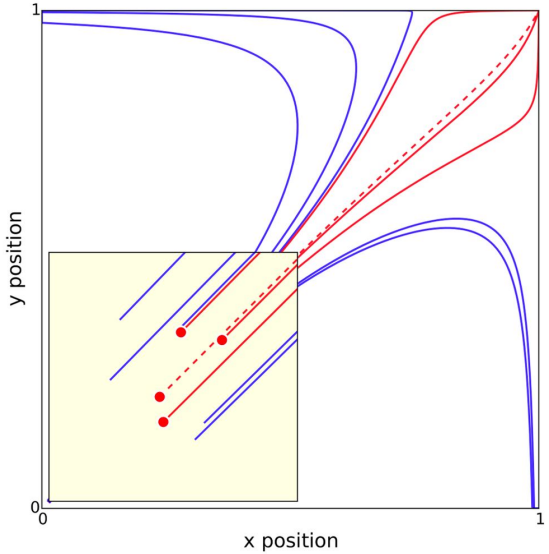
Presentation figures can be simplified to amplify your main message and save time

- Bigger axes labels
- Thicker data lines
- Larger symbols
- Reduced tick marks
- Color for attention

Publication:



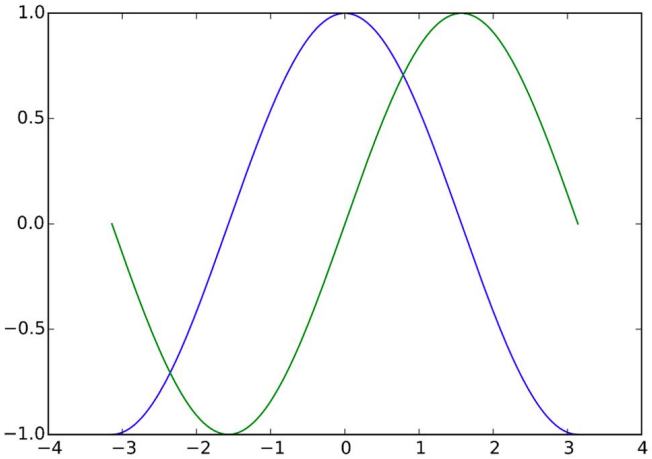
Presentation:



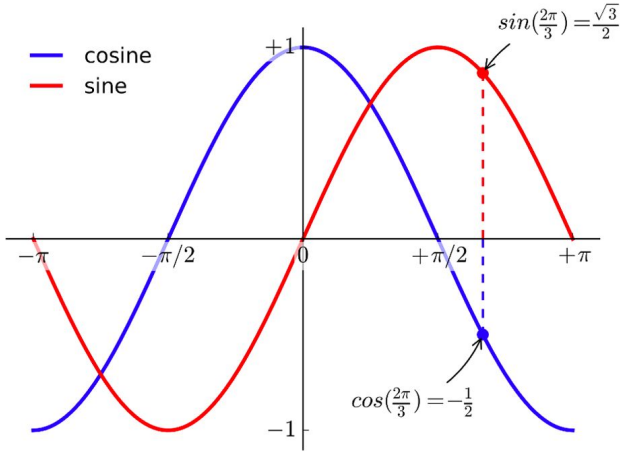
What differences do you notice?

Annotating your data brings attention to your main message

Default:



Annotated:

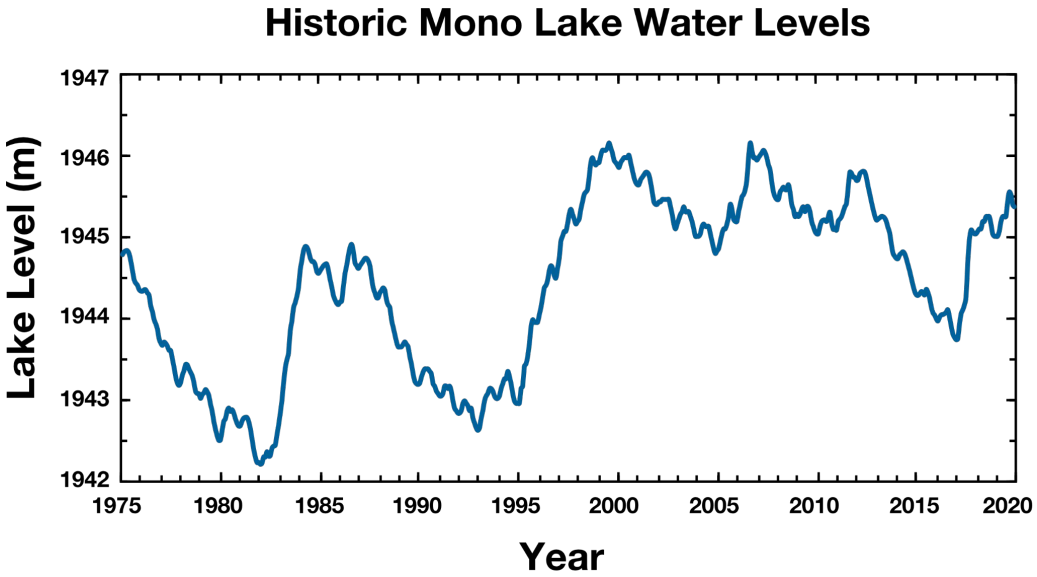


What differences do you notice?

Annotating your data brings attention to your main message

Annotation Tips:

- Threshold lines



Annotating your data brings attention to your main message

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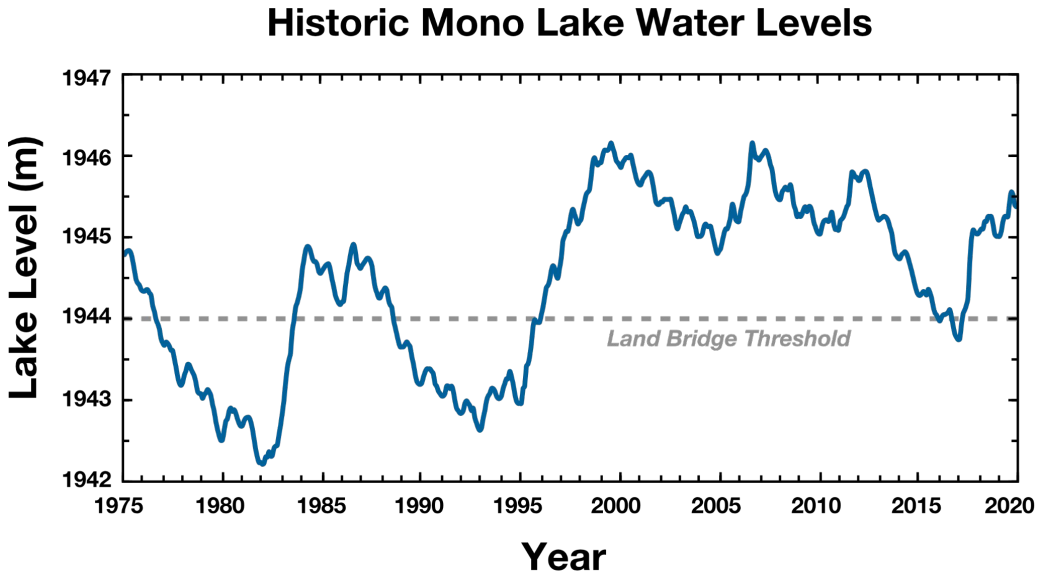
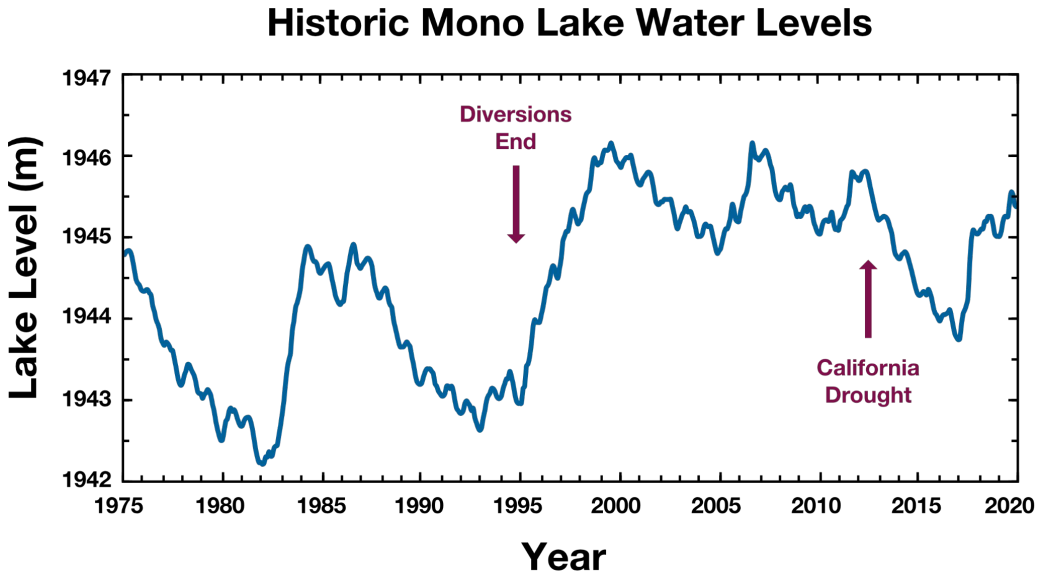


Annotating your data brings attention to your main message

Annotation Tips:

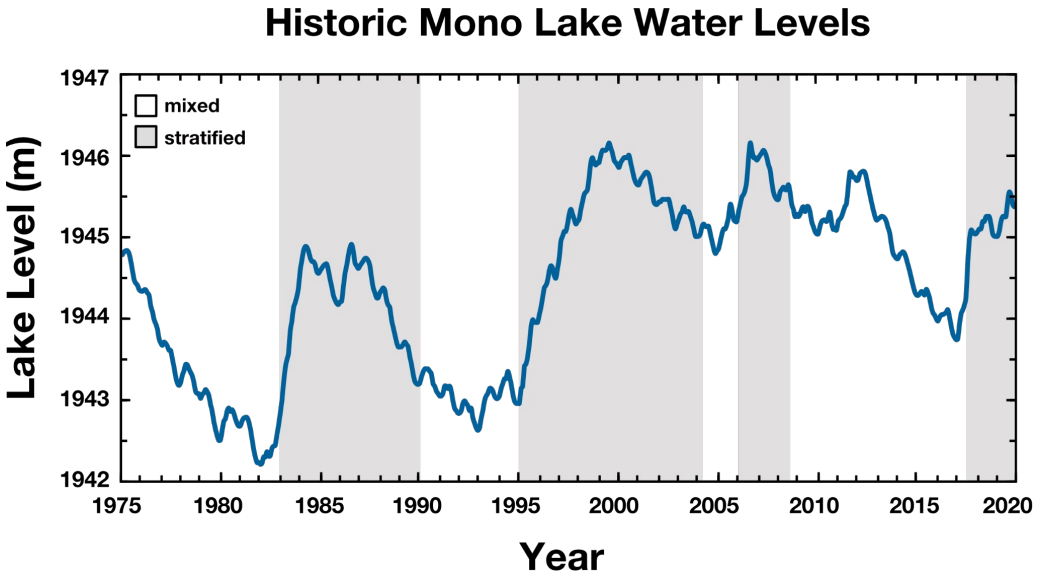
- Threshold lines
- Arrows and labels



Annotating your data brings attention to your main message

Annotation Tips:

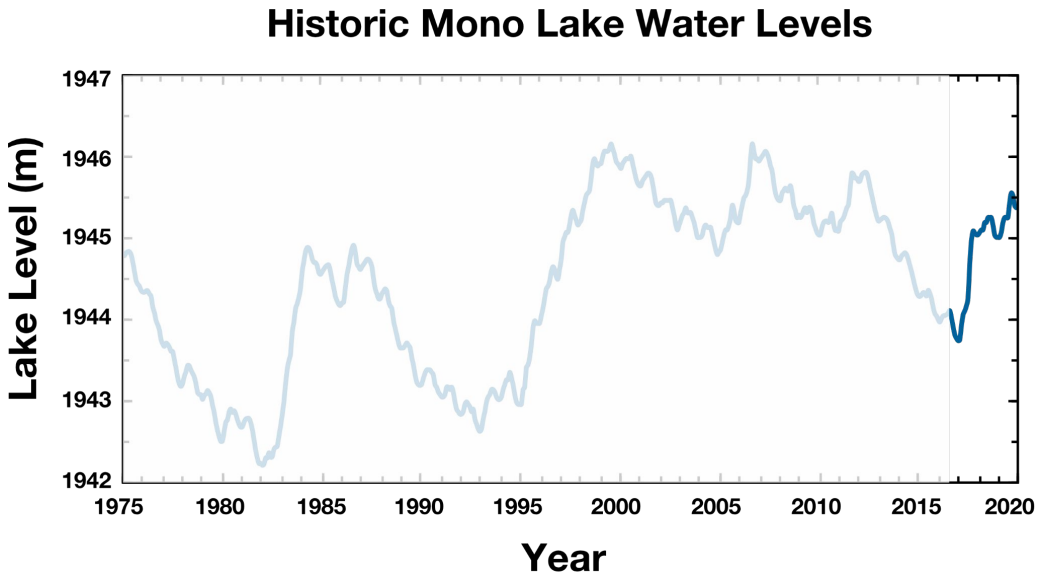
- Threshold lines
- Arrows and labels
- Background shading



Annotating your data brings attention to your main message

Annotation Tips:

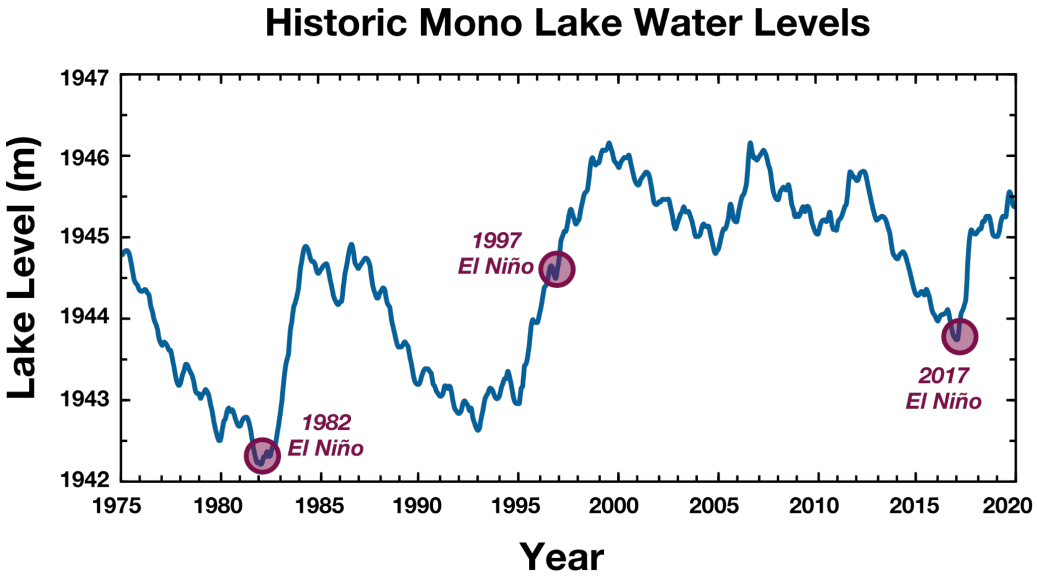
- Threshold lines
- Arrows and labels
- Background shading
- Transparent boxes



Annotating your data brings attention to your main message

Annotation Tips:

- Threshold lines
- Arrows and labels
- Background shading
- Transparent boxes
- Circles or boxes

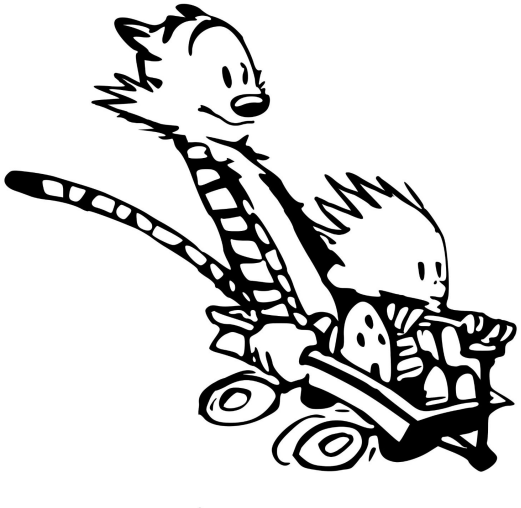


Animating your data helps anchor your audience and tell a story

Animation Tips:

- For complex plots, consider starting with just the axes
- Spend time introducing your axes, including units
- Especially helpful if axes change throughout plots
- Use animations to help tell a story and increase engagement
- Avoid multiple plots in one slide unless necessary for comparison

Example of how to animate science data



With storytelling!

From my research on the sulfur isotopes of the amino acids cysteine and methionine

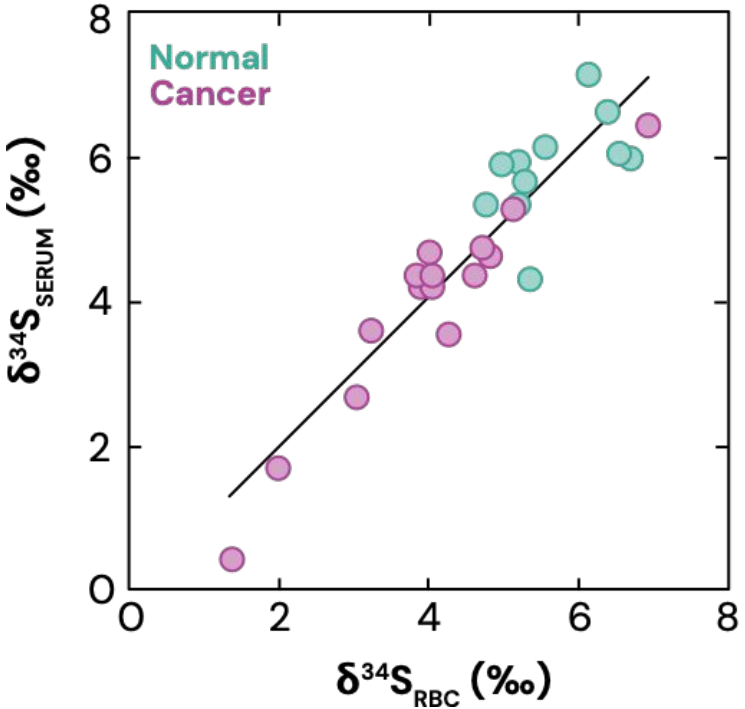
How did animation impact your impression of the data?
With the story?

Sulfur isotopes may provide a biomarker for liver cancer

“In cancer, the metabolism of copper and sulfur are dysregulated, leading to deleterious side effects”

Balter et al. 2016

Sulfur isotopes may provide a biomarker for liver cancer



"In cancer, the metabolism of copper and sulfur are dysregulated, leading to deleterious side effects"

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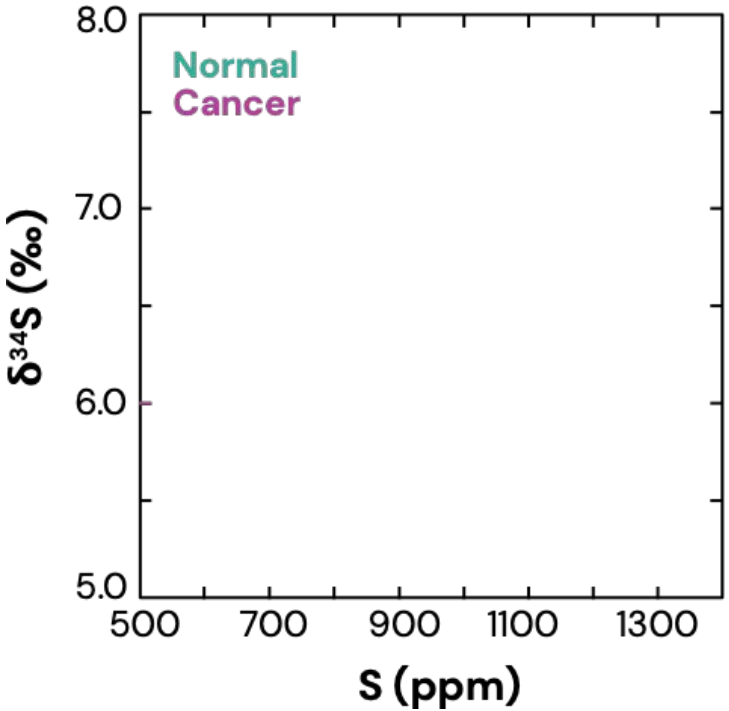
Follow up studies revealed issues with sulfate as a biomarker



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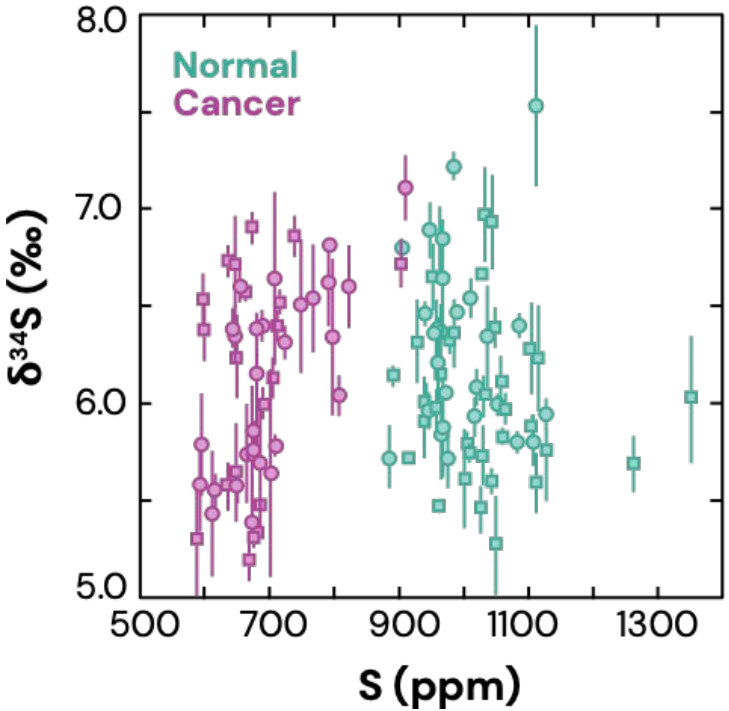
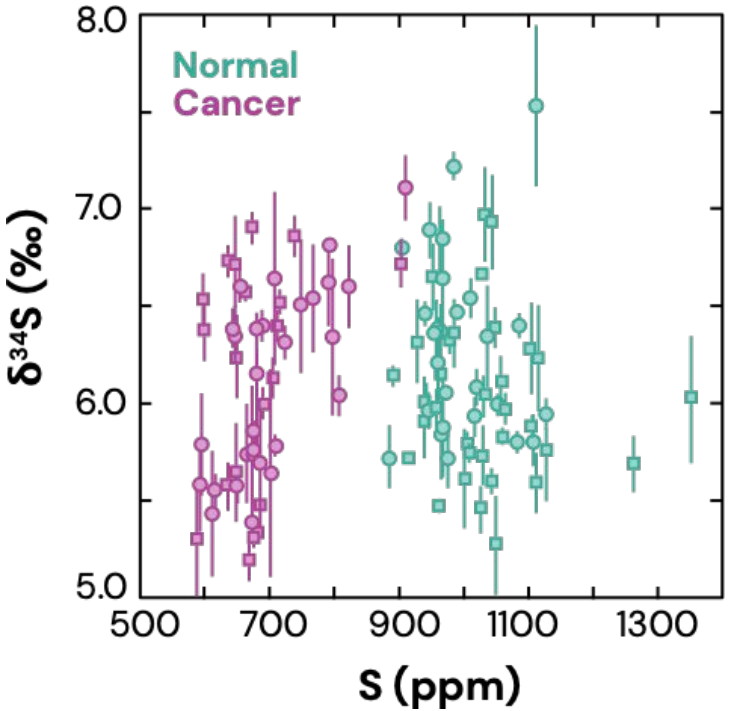


Follow up studies revealed issues with sulfate as a biomarker



"We speculate that the origin of the present scatter lies in the balance of glutathione and methionine."

Balter et al. 2016

Replotting data improves slide cohesion and messaging

When to re-plot older data:

- When you have extra time!
- Improving overall aesthetics

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When to re-plot older data:

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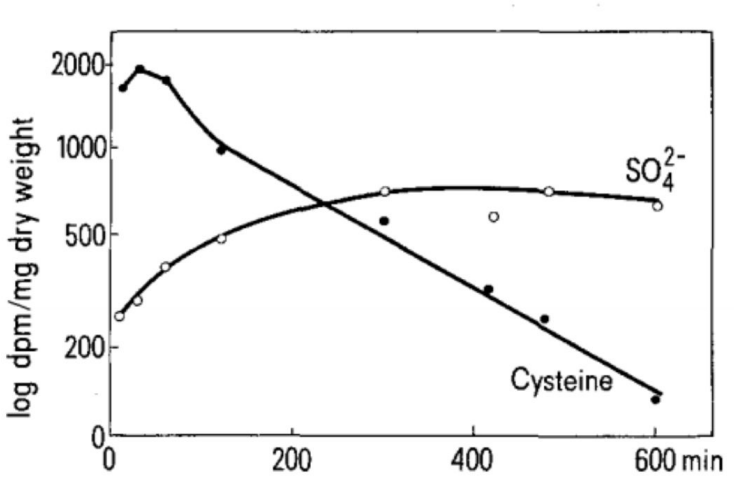
- Improving overall aesthetics
- Figure is very low resolution



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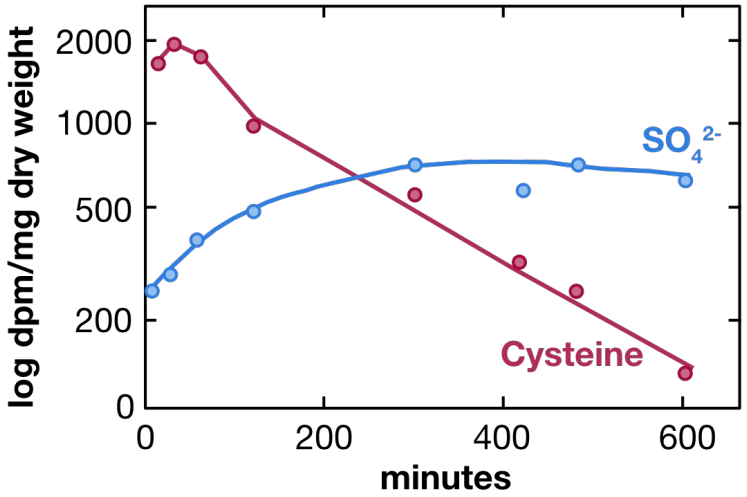

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When to re-plot older data:

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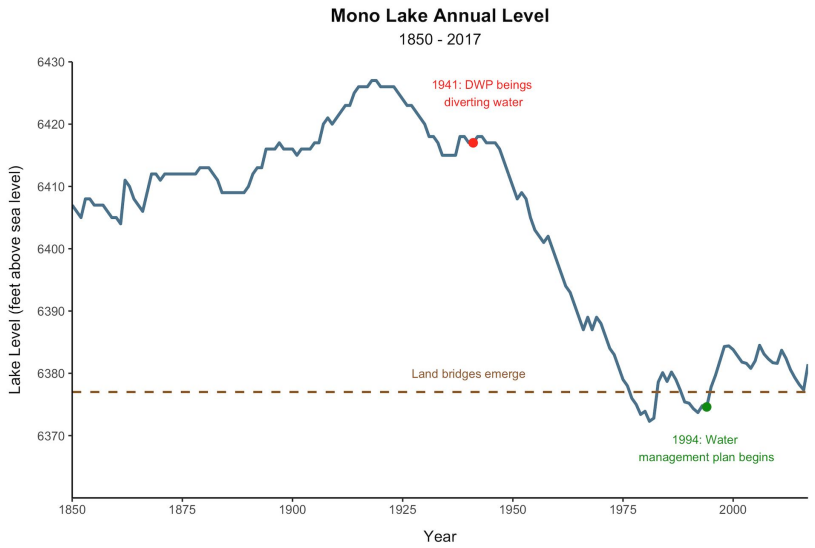
- Figure is very low resolution
- Data needs to be updated



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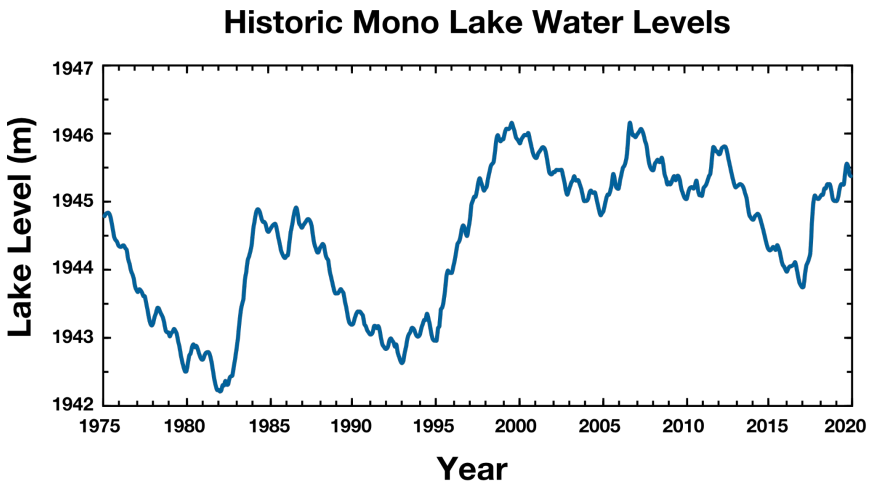

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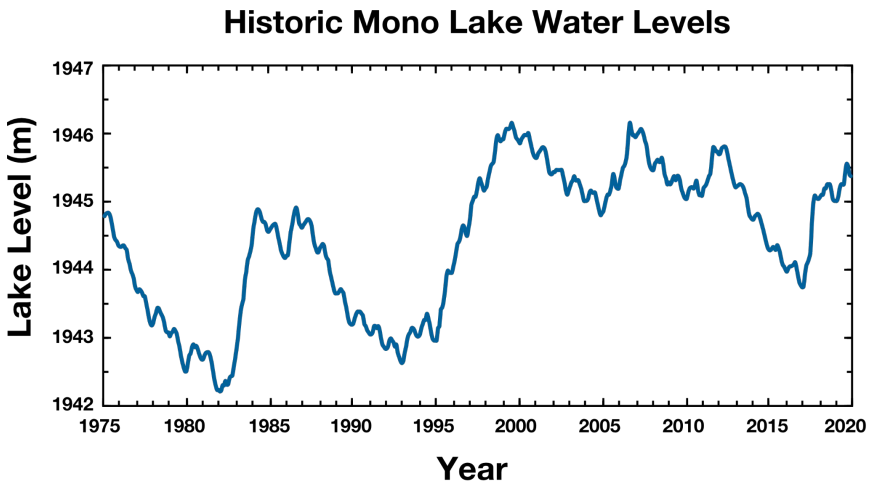
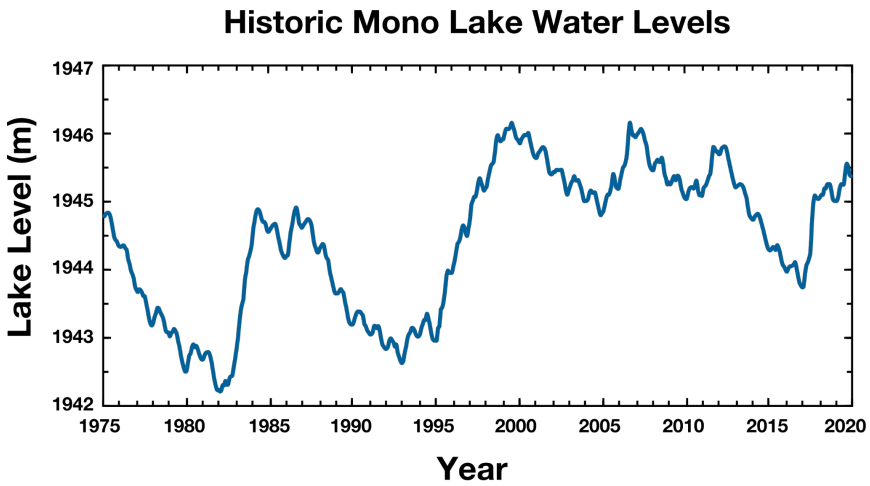
- Data needs to be updated
- Only a subset of data is needed



Replotting data improves slide cohesion and messaging

When to re-plot older data:

- When you have extra time!
- Improving overall aesthetics
- Figure is very low resolution
- Data needs to be updated
- Only a subset of data is needed
- To be able to animate it

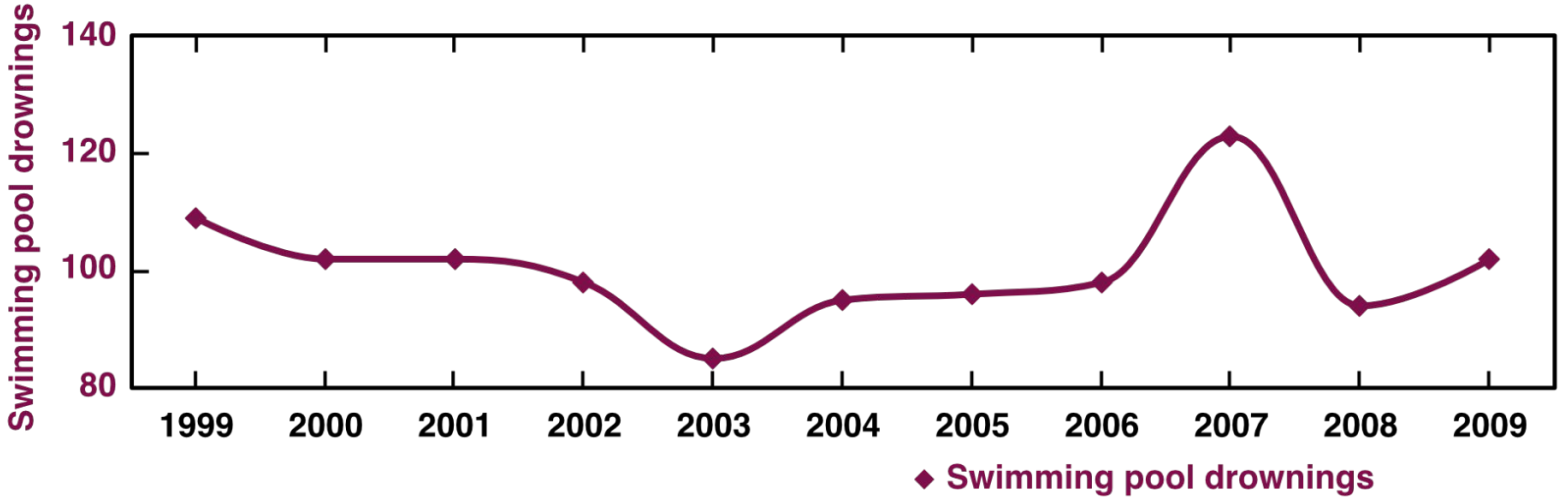


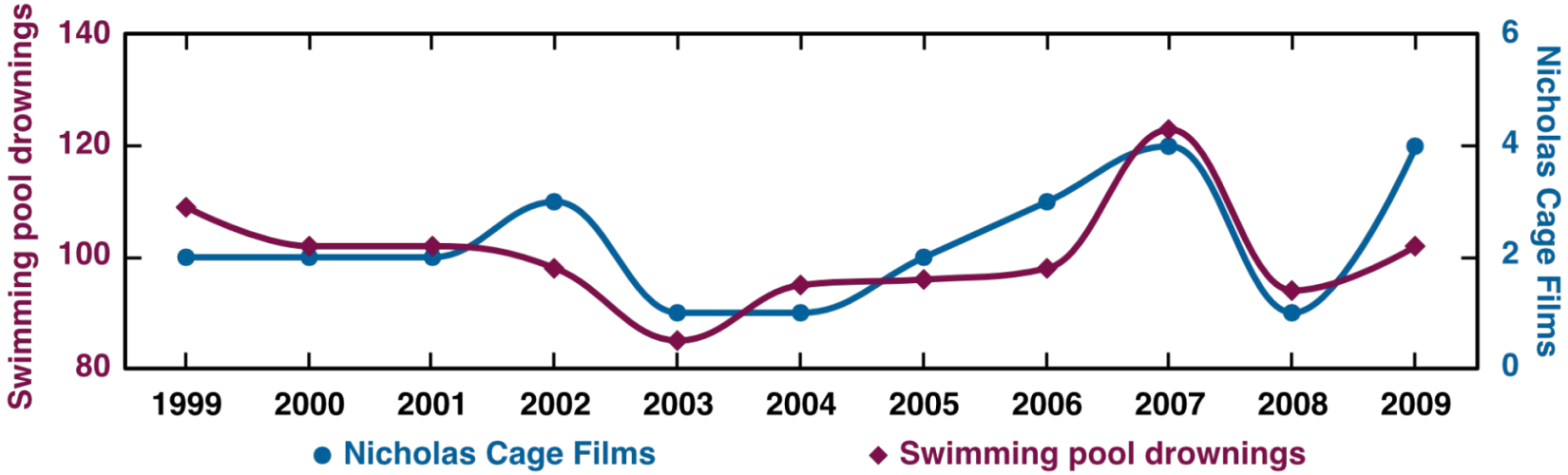
Time to practice presenting data with animations!

Powerpoint karaoke tasks:

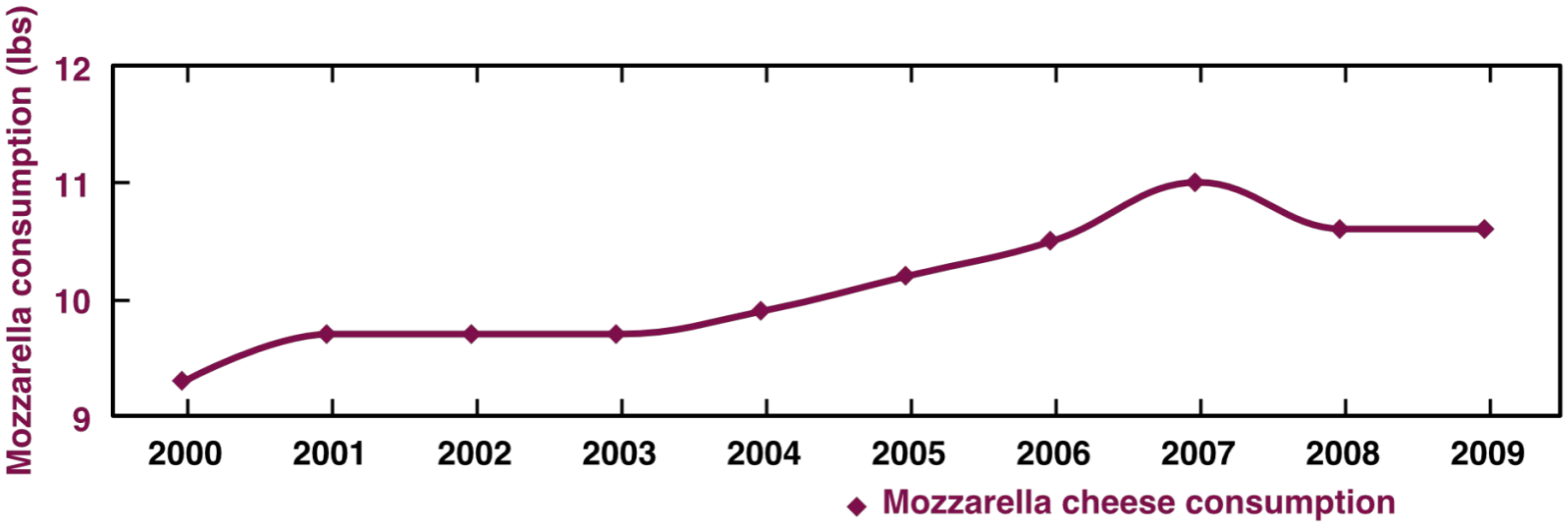
- Introduce the audience to the X and Y axes
- Explain the main data trend
- I'll click the slide and new data will appear
- Create one to two main takeaways from the correlation

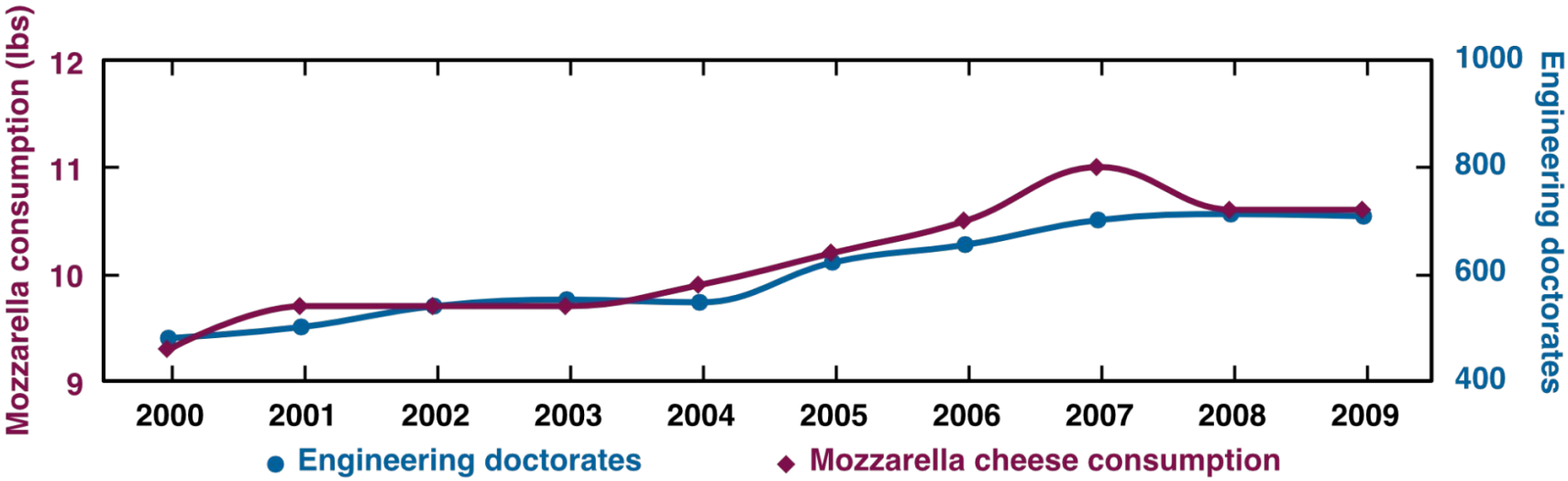
Volunteer #1!


Swimming pool drownings
140
120
100
80
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Swimming pool drownings

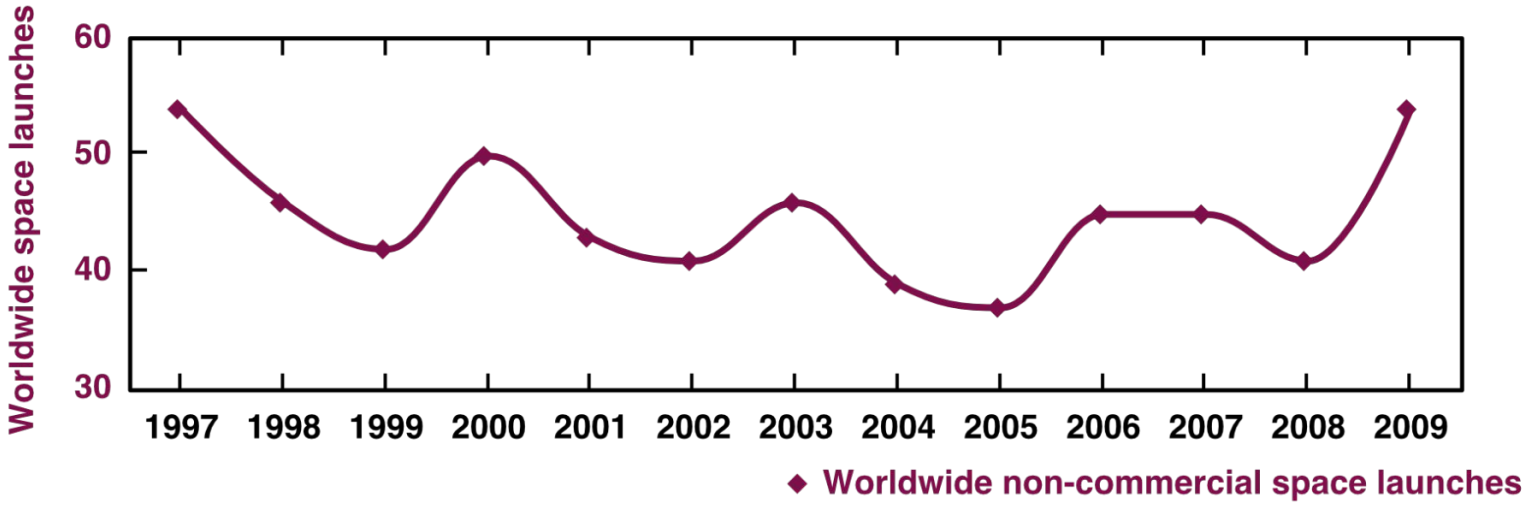

Swimming pool drownings
140
120
100
80
6
4
2
0
Nicholas Cage Films
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Nicholas Cage Films
Swimming pool drownings

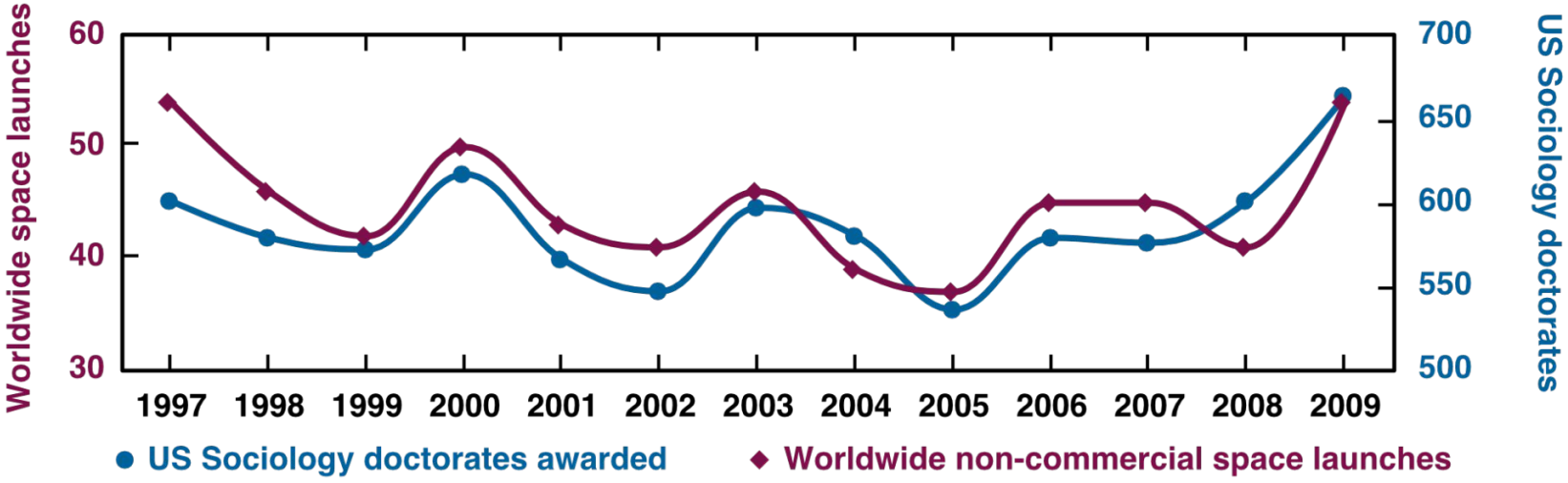
Volunteer #2!


Mozzarella consumption (lbs)
12
11
10
9
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Mozzarella cheese consumption

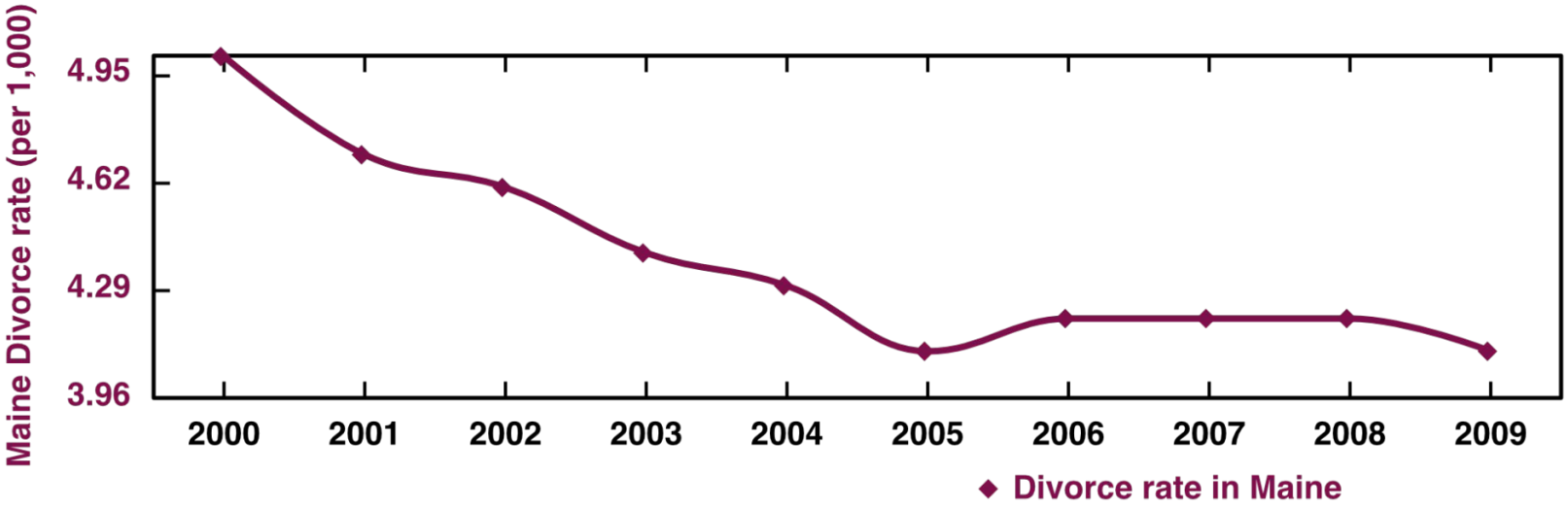

Mozzarella consumption (lbs)
12
11
10
9
1000
800
600
400
Engineering doctorates
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Engineering doctorates
Mozzarella cheese consumption

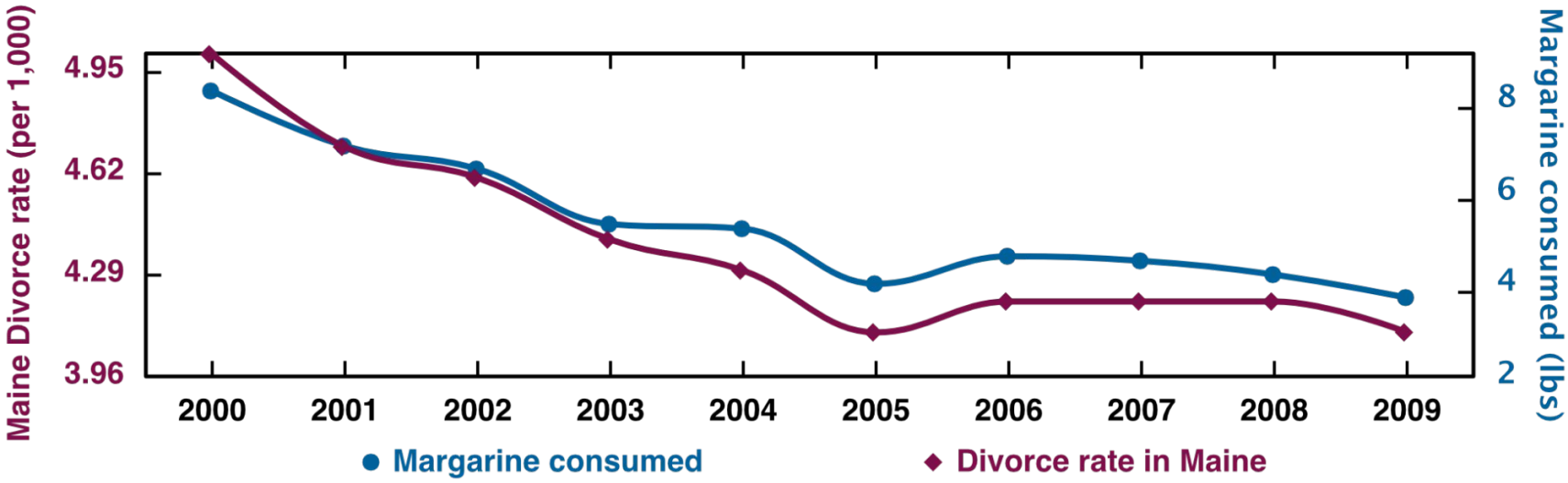
Volunteer #3!


Worldwide space launches
60
50
40
30
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Worldwide non-commercial space launches


Worldwide space launches
60
50
40
30
700
650
600
550
500
US Sociology doctorates
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
US Sociology doctorates awarded
Worldwide non-commercial space launches

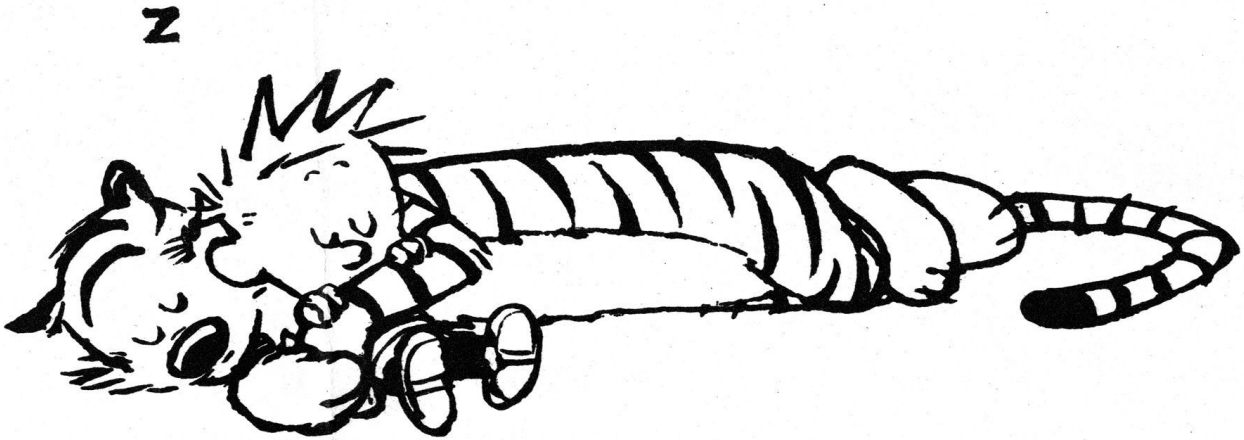
Volunteer #4!


Maine Divorce rate (per 1,000)
4.95
4.62
4.29
3.96
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Divorce rate in Maine


Maine Divorce rate (per 1,000)
4.95
4.62
4.29
3.96
Margarine consumed (lbs)
8
6
4
2
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Margarine consumed
Divorce rate in Maine

Break!

Take five to ten minutes for yourself



Good slide design should be the last step in preparing presentations

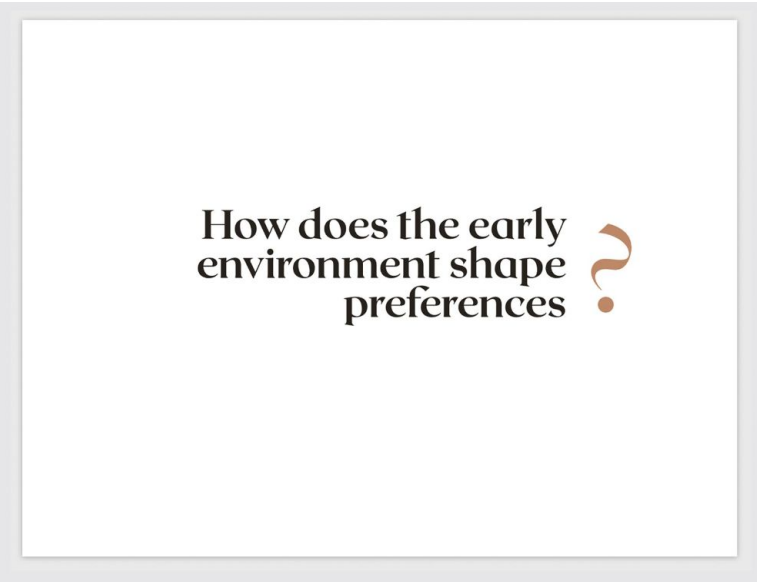
Design considerations:

1. Text
2. Colors
3. Visuals

Typography helps your presentation stand out visually

Text Tip #1: Less is More

Typography helps your presentation stand out visually



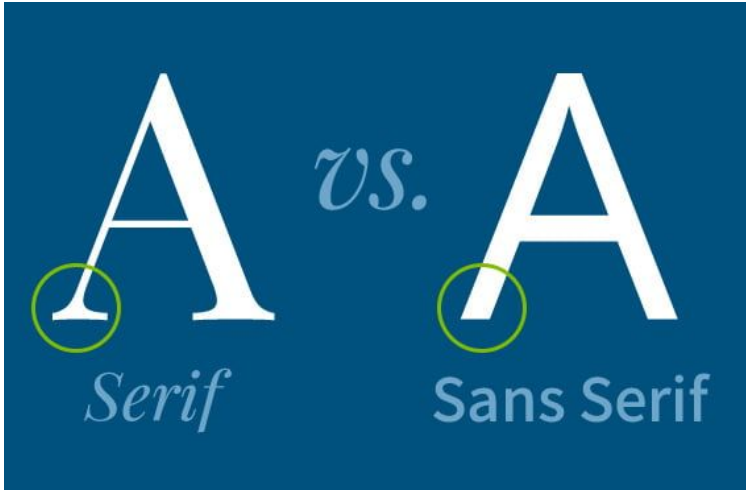
Text Tip #1: Less is More

Typography helps your presentation stand out visually

Text Tip #1: Less is More

- Minimizing text improves conversational tone
- Less text means less reading to your audience
- Remember: one slide, one idea!

Typography helps your presentation stand out visually



Text Tip #2: Use Multiple Fonts

Three fonts to choose for presentations:

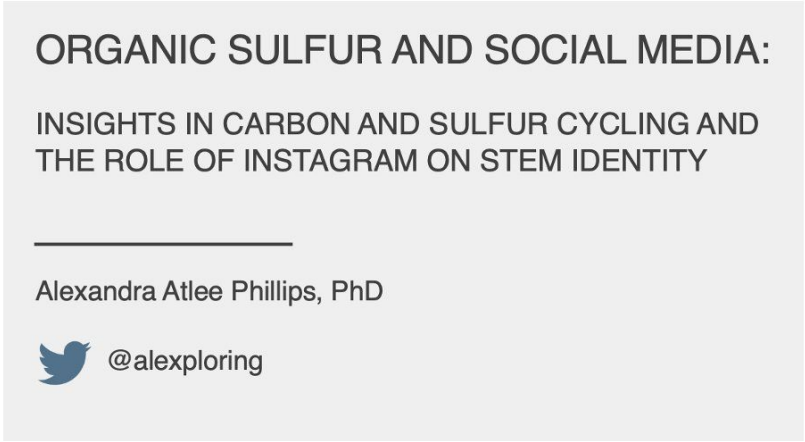
1. Titles: Large text (~30), serif or sans-serif
2. Main Text: Medium text (~20), sans-serif
3. Figures: Consistent, plain sans-serif font

- Resources: google fonts, fontpair

Typography helps your presentation stand out visually

Text Tip #3: Use bolding, italics, etc.

- Most google fonts have six or more boldness/italics options, use them!



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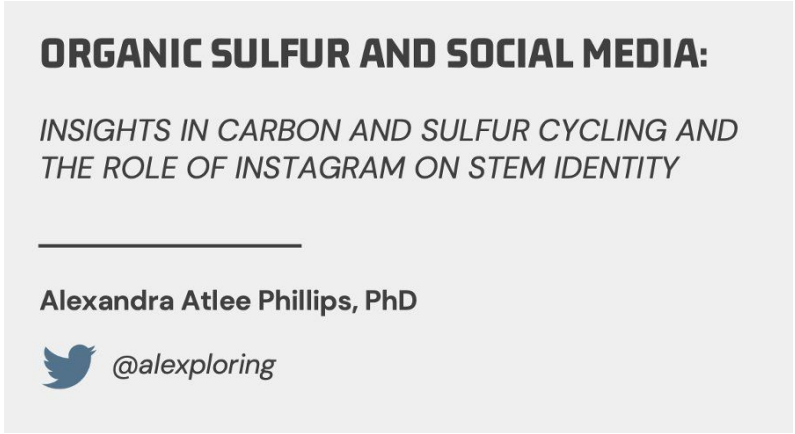
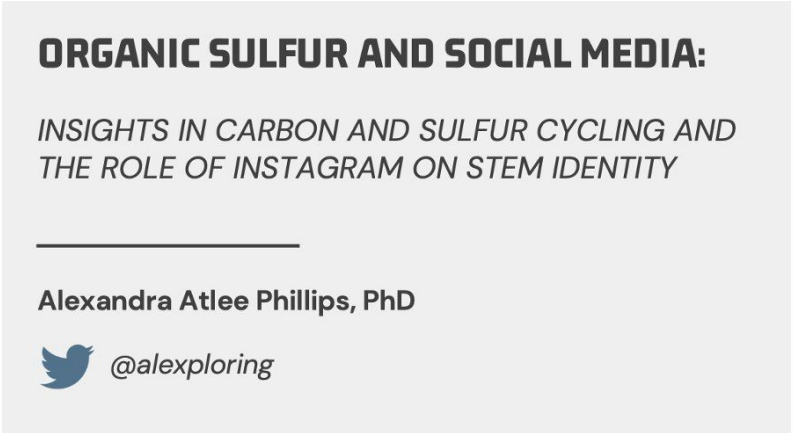


Typography helps your presentation stand out visually

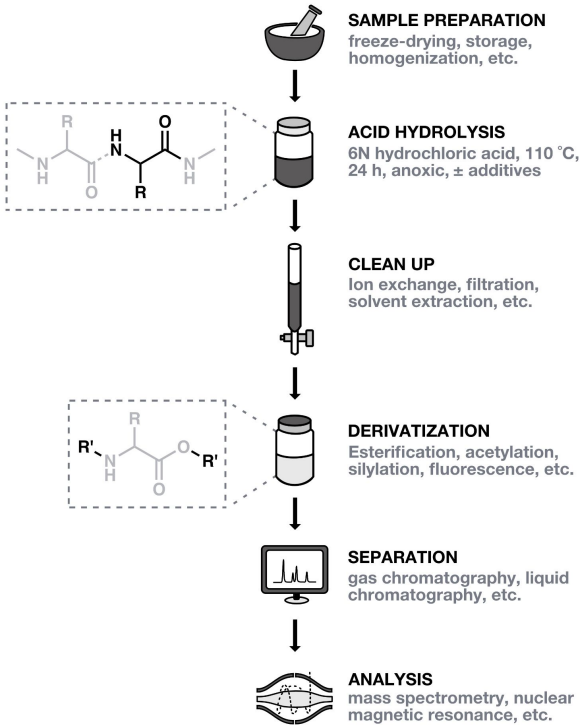
Text Tip #3: Use bolding, italics, etc.

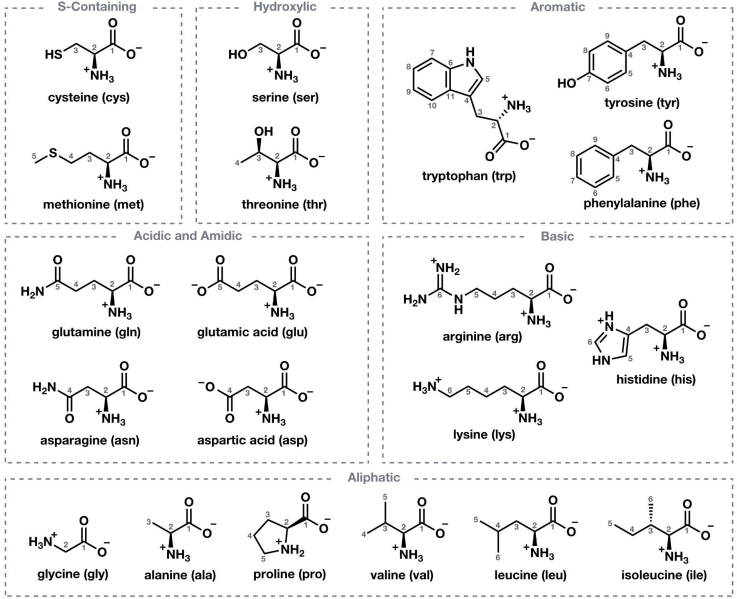
- Most google fonts have six or more boldness/italics options, use them!
- Use bolding and italicizing consistently in presentations
- Save underlining for links only!
- Consider using colored highlights



A strategic color scheme is a powerful science storytelling tool

A strategic color scheme is a powerful science storytelling tool



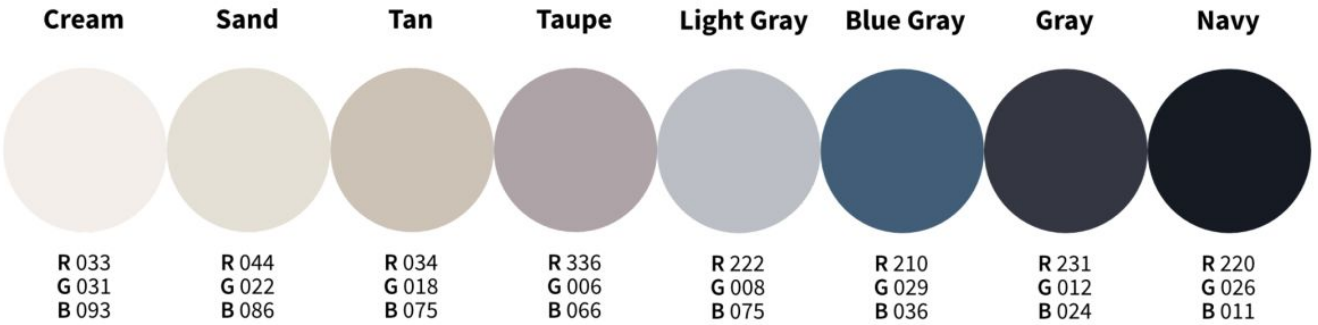


Color Tip #1: Grayscale is good!

A strategic color scheme is a powerful science storytelling tool

Color Tip #2: Establish a color scheme

- Consider local inspiration (e.g. Calecopal)
- Draw inspiration from color trends: Color Hunt, Coolers, Adobe Color
- Consider alternative neutrals like creams, greys, navys



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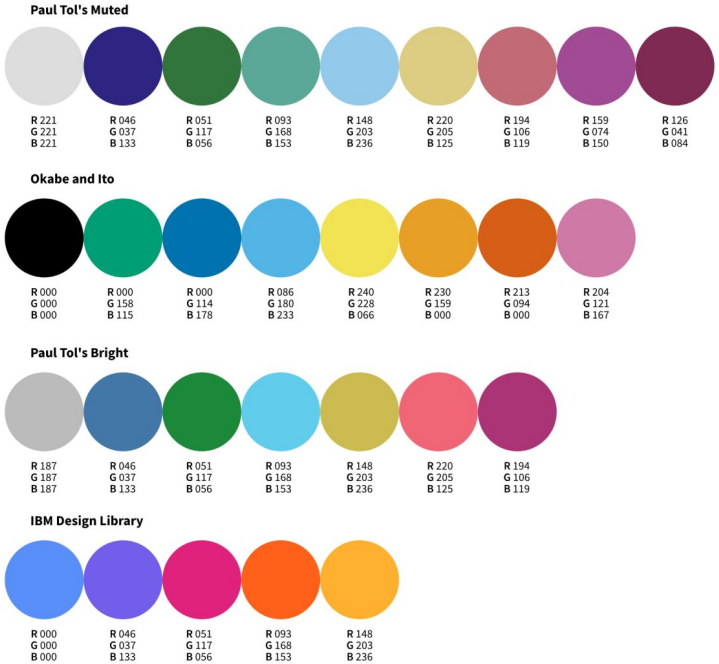

Color Tip #3: Consider Colorblind Vision

- 8% of men have color vision impairment
- Especially important for publication
- Even in presentations, avoid red/green
- Watch out for rainbow color maps
- Resources: Color Oracle, Viridis R Package, Paul Tol

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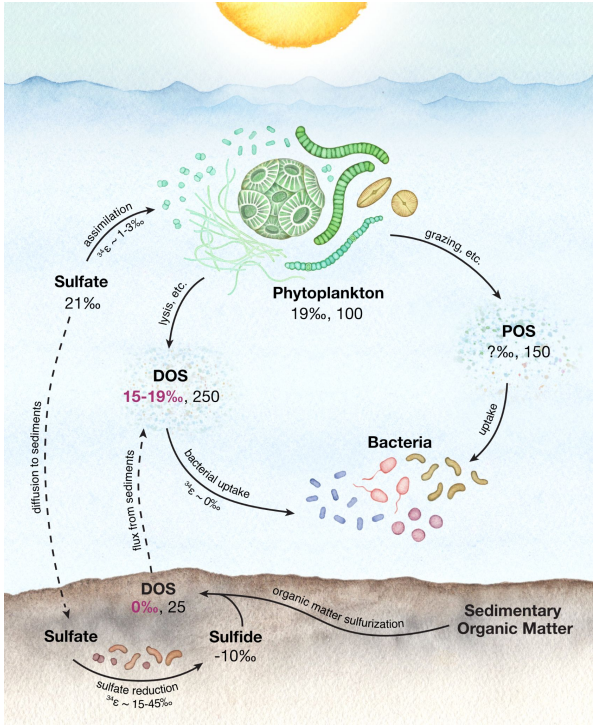
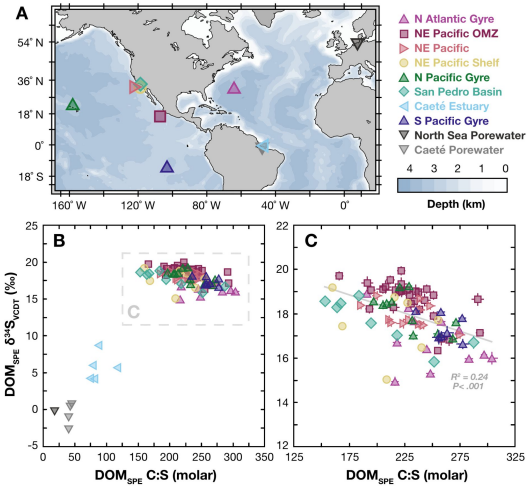
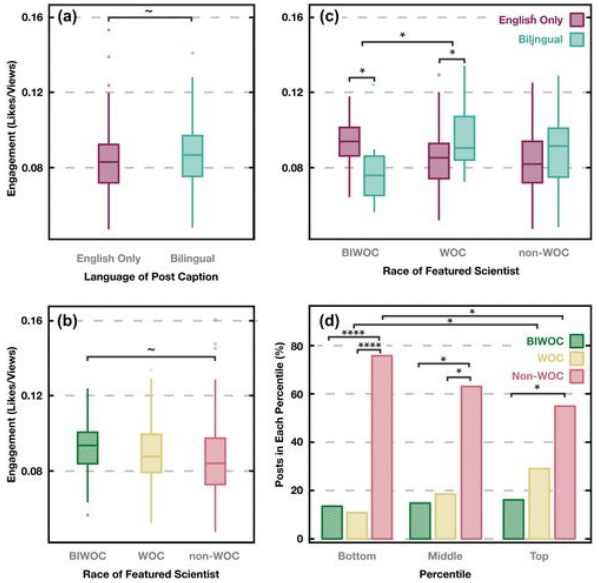
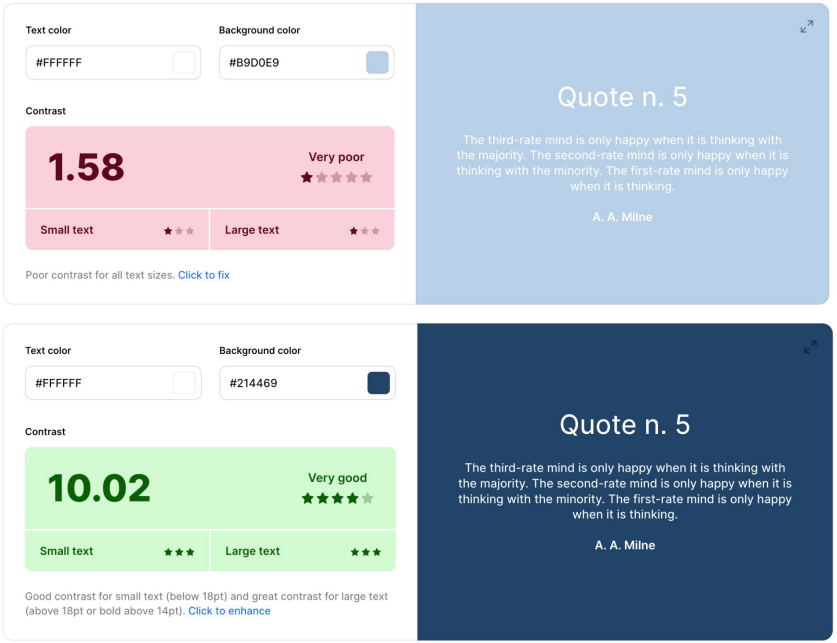






Color Tip #4: Reuse your favorites!

A strategic color scheme is a powerful science storytelling tool



Color Tip #5: Check Contrast Scores

- Web accessibility guidelines offer standards for color contrast
- Especially helpful for using colored slide backgrounds
- Resources: Coolers Contrast Checker

Create a personal logo, with a customized font and color scheme

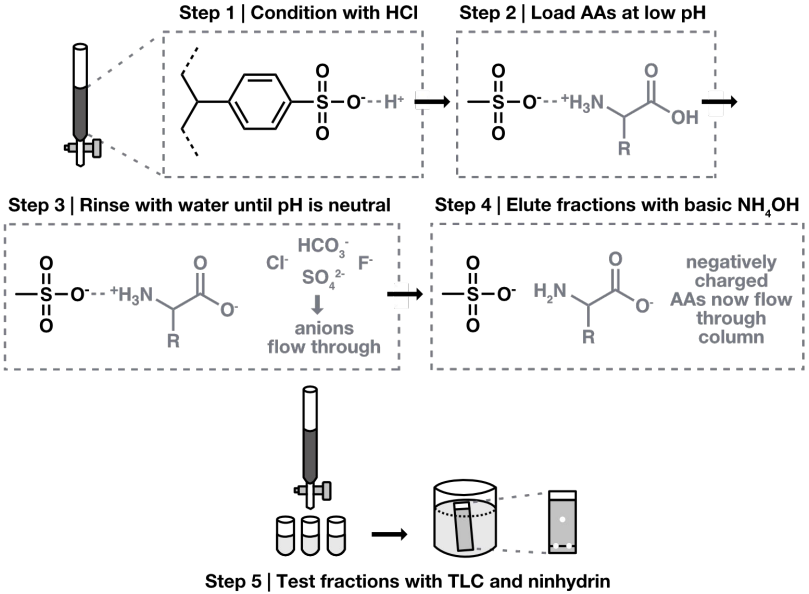
Activity!

To get a sense of your personal graphic design style, play around with the Adobe Logo Maker platform.
Example: Sam Csik, Environmental Data Scientist

Share your logo with the the class.

Effective visuals improve attention, understanding, and memory

Effective visuals improve attention, understanding, and memory



Visuals Tip #1: Consider icons

- Especially helpful for methods or “agenda” slides (headers)
- Great alternatives when you don’t have other visual options
- Resources: Noun Project, My Website, Font Awesome

Effective visuals improve attention, understanding, and memory

Visuals Tip #2: Add Photos

- Add landscapes that relate to study
- Bigger photos make bigger impacts

In 2017, Mono Lake was hit with record snow.

Effective visuals improve attention, understanding, and memory

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- Aim for landscapes with tension

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Visuals Tip #2: Add Photos

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- Aim for landscapes with tension
- Add photos of the science at work
- Don’t be afraid to show yourself or colleagues doing science!
- Do what feels like your personality

Effective visuals improve attention, understanding, and memory

Visuals Tip #2: Add Photos

- Add landscapes that relate to study
- Bigger photos make bigger impacts
- Aim for landscapes with tension
- Add photos of the science at work
- Don’t be afraid to show yourself or colleagues doing science!

Resources:

- ocean photos
- Unsplash
- creative commons
- university images

Effective visuals improve attention, understanding, and memory

Visuals Tip #2: Consider videos!

- Especially helpful to break up long talks
- Similar to photos, can be of science, scientists, or field sites
- Can *save* time by showing or emphasizing something that's hard to explain
- For longer videos, offers time to narrate

Lab one will include an activity for tone, pacing, and posture, plus elevator pitch practice

Assignment One

Prepare the middle third of your talk, focusing on data presentation, methods, and results. Edit slide design as needed.

Announcement:
No office hours this Thursday!

Any questions?

Next class: Answering Questions