

Before We Begin

Pre-workshop notes



Use headphones



Everyone their own laptop



Quiet space



Reliable internet connection



Camera on

online etiquette



Mute yourself



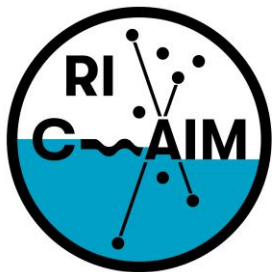
Press spacebar to unmute



Want to speak



Yes / agree



RHODE ISLAND CONSORTIUM FOR
Coastal Ecology
Assessment
Innovation &
Modeling



This material is based upon work supported in part by the National Science Foundation under EPSCoR Cooperative Agreement #OIA-1655221

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



Data Visualization Best Practices

Day 2: Making your own data visualization activity

Agenda

- 9:00 – 9:15 Welcome from Dr. Geoff Bothun (RI C-AIM Lead PI, URI)
- 9:15 – 9:30 Recap of the first day
- 9:30 – 9:45 Expectations for the second day
- 9:45 – 9:55 Break
- 9:55 – 10:55 Break out groups, round 1
- 10:55 – 11:05 Break
- 11:05 – 12:05 Break out groups, round 2
- 12:10 – 12:30 Debriefing, Q&A/discussion, Planning for Day 3

The background of the slide features a complex financial chart with a grid of dashed lines. The chart includes a candlestick pattern with green and red bars, and a solid blue line that trends downwards from the top left towards the center. The overall color palette is a mix of light blue, green, and yellow, with a semi-transparent orange banner overlaid in the middle.

Welcome from Dr. Geoff Bothun

RI C-AIM Lead PI, URI



Day 1 Recap

A brief summary of yesterday's session

Best Practices

- Understand your data (where it comes from, what patterns it shows you)
- Choose a visualization that accurately depicts these patterns
- Remember the key principles and practices

Principles

1: Show the data

- Including correct labels and metadata

2: Reduce the clutter

3: Integrate text and images

- Visualization must be able to stand alone and reinforce text

4: Portray data meaning accurately and ethically

- No cherry-picking or suggesting conclusions where there aren't any

Practices

1: Capitalize on consistency

2: Data that shouldn't be compared shouldn't be presented side by side

3: Don't limit design choices to default graphing programs

4: Focus on the take-home message for the audience

5: Minimize acronyms, jargon, and technical terms

6: Choose a font that's easy to read and reproduces well

7: Recognize the importance of color and benefits of Section 508 compliance

Tools

- Power BI
- Tableau
- Infogram
- Piktochart
- Excel
- Google Sheets



The background features a grid of dashed lines in light blue and green. Overlaid on this grid are several financial charts, including a candlestick chart with green and red bars and a line graph with a blue curve. The overall color palette is dominated by light blues, greens, and yellows.

Links

Links to data sets and tools you could use for today's activity

Data Sets

U.S. Census Bureau: <https://www.census.gov/>

- Easiest to search for what you're interested in

National Water Quality: <https://www.waterqualitydata.us/>

National Water Information

System: <https://maps.waterdata.usgs.gov/mapper/index.html>

Data Sets

DEM Narragansett Bay: <http://www.dem.ri.gov/programs/emergencyresponse/bart/stations.php>

Narragansett Bay Watershed Counts:

http://www.watershedcounts.org/marine_water_quality.html

URI Fish Trawl Survey: <https://web.uri.edu/fishtrawl/data/>

Data Sets

These 3 were graciously provided by Dr. Peter Meyer
from the Physical Sciences department at RIC

National Oceanic and Atmospheric
Administration: <https://www.noaa.gov/education>

United States Geological Survey: <https://earthquake.usgs.gov/>

- Or their new website: <https://www.usgs.gov/>
- Seems to be a collection of released
data: <https://www.sciencebase.gov/catalog/item/5474ec49e4b04d7459a7eab2>

Smithsonian Global Volcanism Program: <https://volcano.si.edu/>

Tools

Power BI: <https://wwaw.microsoft.com/en-us/download/details.aspx?id=58494>

Tableau: <https://www.tableau.com/academic/teaching/course-licenses>

Infogram: <https://infogram.com/>

Piktochart: <https://piktochart.com/>

The background of the slide features a blurred, semi-transparent view of financial data. It includes a candlestick chart with green and red bars, overlaid with a white grid and a blue trend line. The overall color palette is a mix of light blues, greens, and yellows, creating a professional and data-oriented atmosphere.

The Activity

What you will do

- Round 1: Work with your teammates to plan out an activity you think will engage students to learn about data visualization or data science
 - Fill out the checklist in Google Drive as your team progresses (make a copy before editing!):
<https://drive.google.com/drive/folders/1MKG5Ei5hqU12VQVJ24O5dsMwExoRgaCb?usp=sharing>
 - We will help you choose a tool and find data
 - The goal of your activity doesn't *have* to be a digital visualization
- Round 2: Implement the resources you've gathered and create the activity. Work together to plan out a presentation
- Tomorrow: Each group will present their work (digital or physical) and we will choose a winner on Mentimeter

Examples

Voting: Then and Now

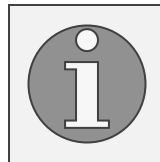
- Use theoretical data/data your students will make by participating

Torres Strait Tallies – A Chain of Achievements

- Making a physical visualization

Mapping America

- Using data to make a digital visualization



10-minute break

Pre-workshop notes



Use headphones



Everyone their own laptop



Quiet space



Reliable internet connection



Camera on

online etiquette



Mute yourself



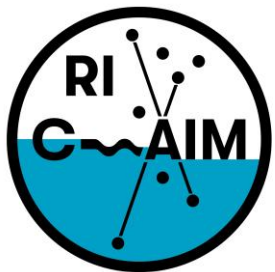
Press spacebar to unmute



Want to speak



Yes / agree



RHODE ISLAND CONSORTIUM FOR
Coastal Ecology
Assessment
Innovation &
Modeling



This material is based upon work supported in part by the National Science Foundation under EPSCoR Cooperative Agreement #OIA-1655221

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Round 1

Questions/Concerns? Contact us by chat or email (visualizationworkshop@gmail.com, shamouda@ric.edu,
lcendella_2763@email.ric.edu)

10-minute break

Pre-workshop notes



Use headphones



Everyone their own laptop



Quiet space



Reliable internet connection



Camera on

online etiquette



Mute yourself



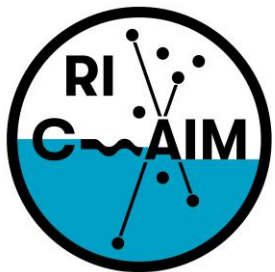
Press spacebar to unmute



Want to speak



Yes / agree



RHODE ISLAND CONSORTIUM FOR
Coastal Ecology
Assessment
Innovation &
Modeling



This material is based upon work supported in part by the National Science Foundation under EPSCoR Cooperative Agreement #OIA-1655221

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.



Round 2

The background features a grid of dashed lines in light blue and green. Overlaid on this grid are several financial charts, including a candlestick chart with green and red bars and a line graph with a blue curve. The overall color palette is dominated by light blues, greens, and yellows.

Day 3

An overview of what will happen tomorrow
and what you can do to prepare

Presenting your work

- In addition to your group presentations, students that worked on this research project will also be presenting their findings
- After them, each group will present based on a schedule we create
 - Please make sure your presentation/activity is in the Google Drive
- We will also go over the next steps you can take after this workshop ends

The background of the slide features a blurred financial chart with a grid and candlestick patterns. A solid orange horizontal bar is positioned across the middle of the image, containing the main text.

Questions and Discussions

Feel free to ask us anything