

GENE7033 – Tópicos Especiais em Genética I:

Visualização de dados para publicações científicas

Profª Drª Chirlei Glienke

Drª Desirrê Petters-Vandresen

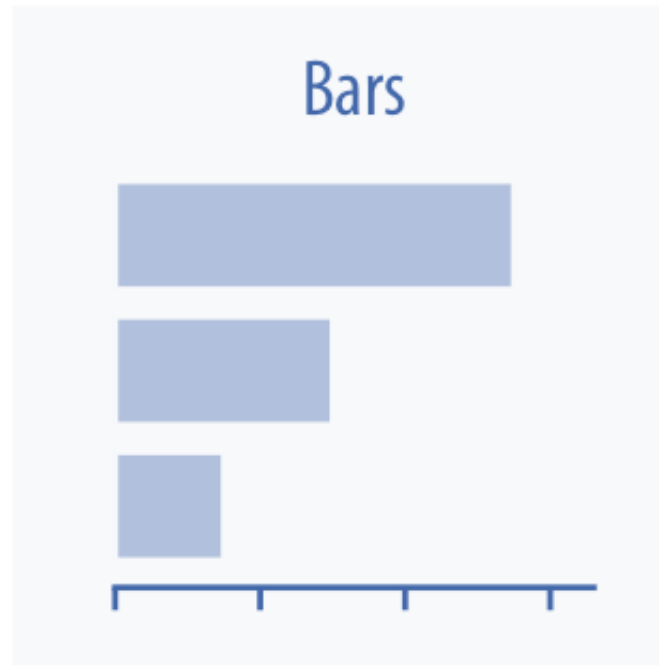
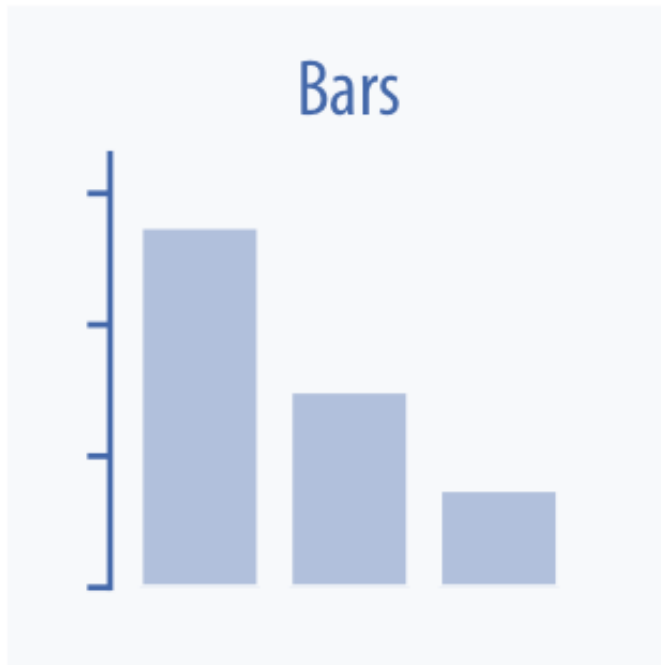
Principais modalidades de visualização de dados

Dr^a Desirrê Petters-Vandresen

03/11/2022

Quantidades

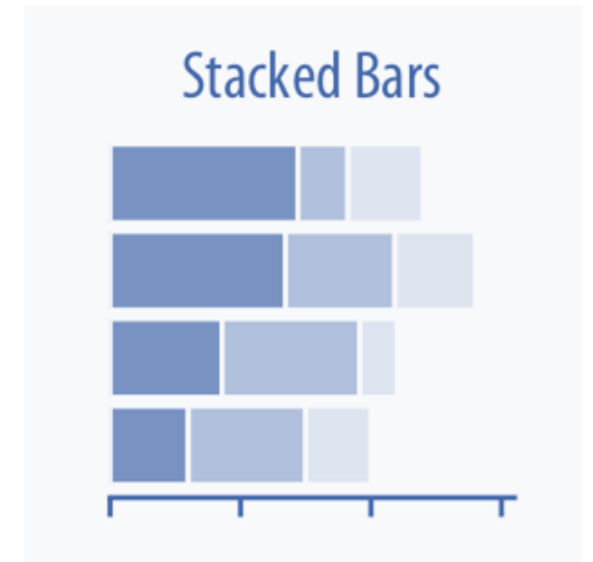
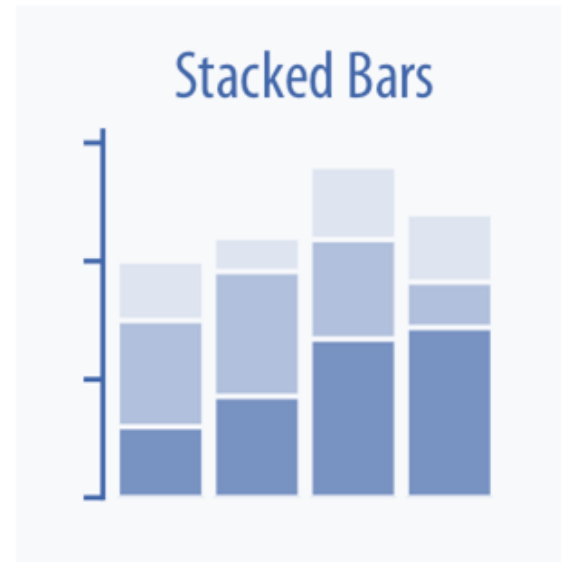
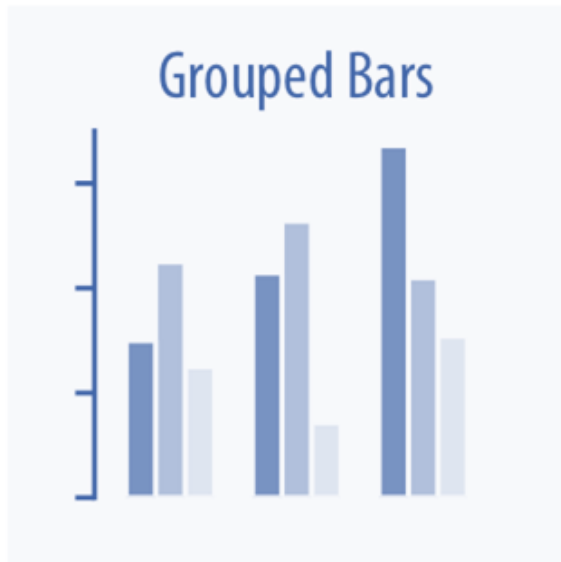
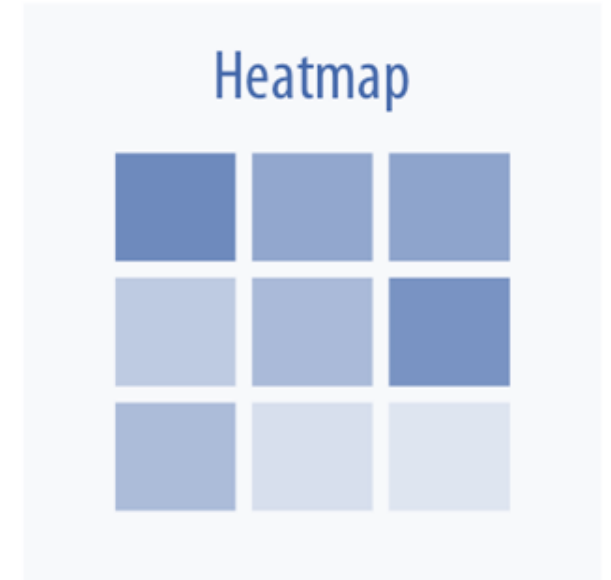
- Em geral, via gráficos de barras



Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

Quantidades

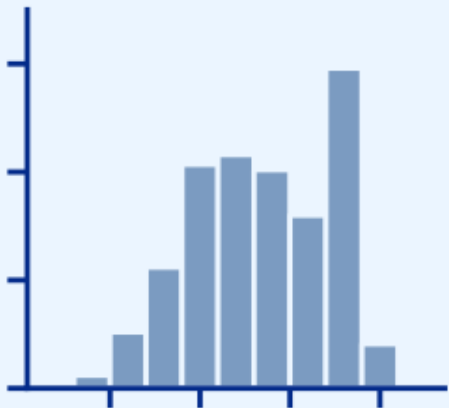
- Em geral, via gráficos de barras
- Também mapear as variáveis em mapa de calor



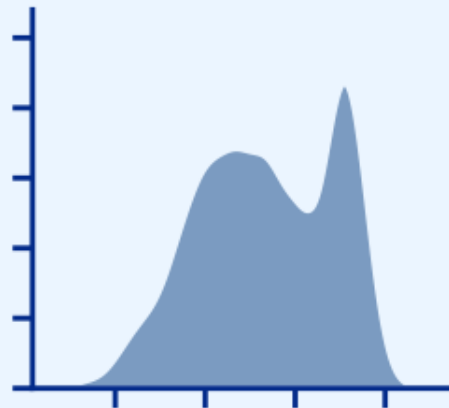
Distribuições

- Histograma e gráfico de densidade: mais intuitivos, porém requerem escolhas arbitrárias que podem distorcer a mensagem
- Densidade cumulativa e gráfico quantil-quantil: mais difíceis de interpretar, mas fiéis aos dados

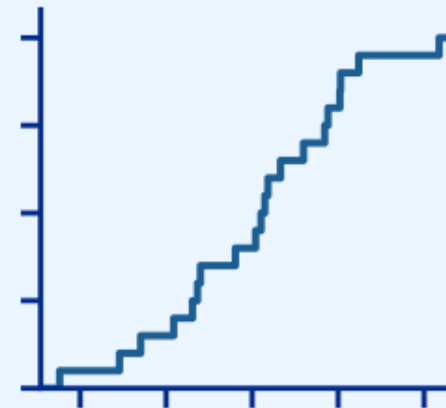
Histogram



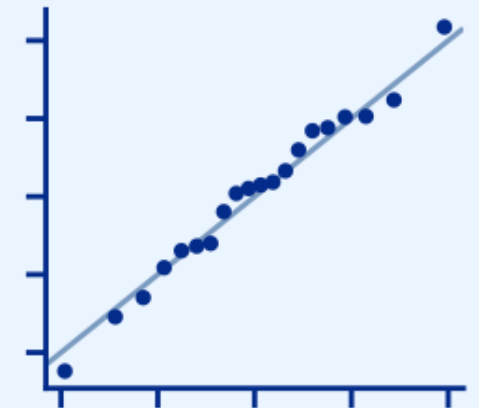
Density Plot



Cumulative Density



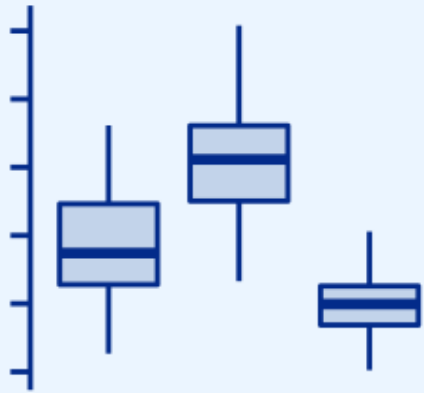
Quantile-Quantile Plot



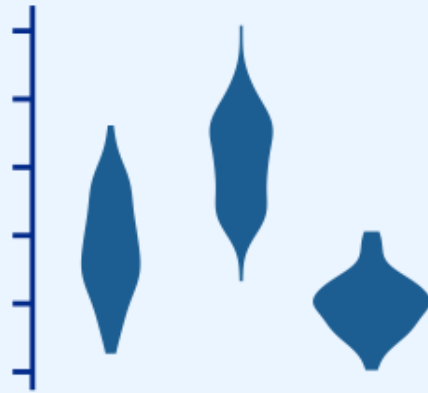
Distribuições

- Visualização de múltiplas distribuições simultaneamente

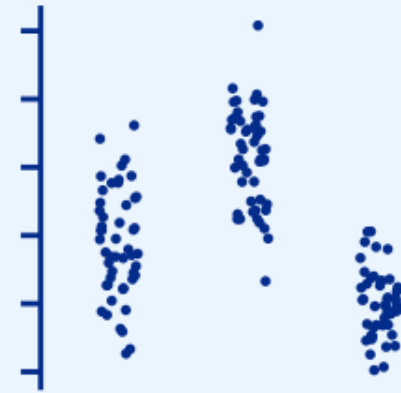
Boxplots



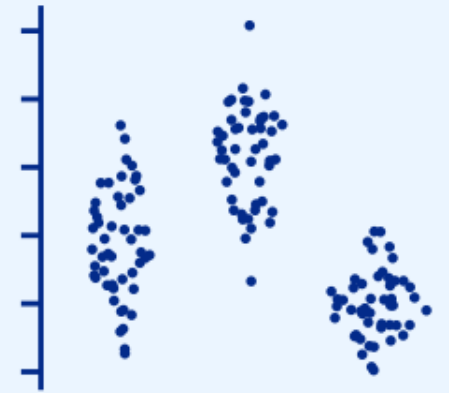
Violins



Strip Charts



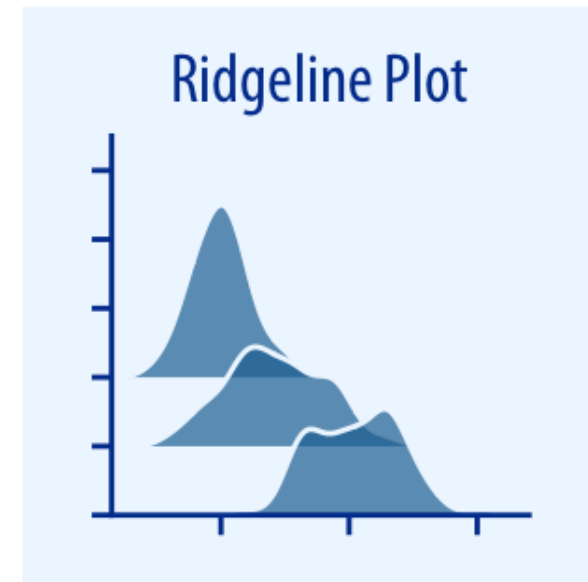
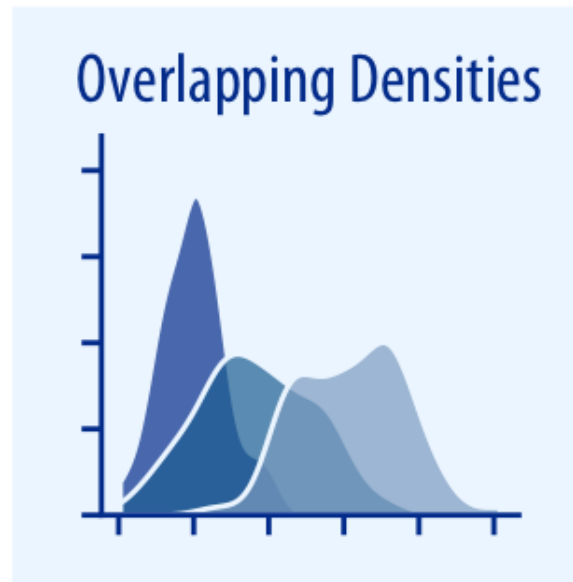
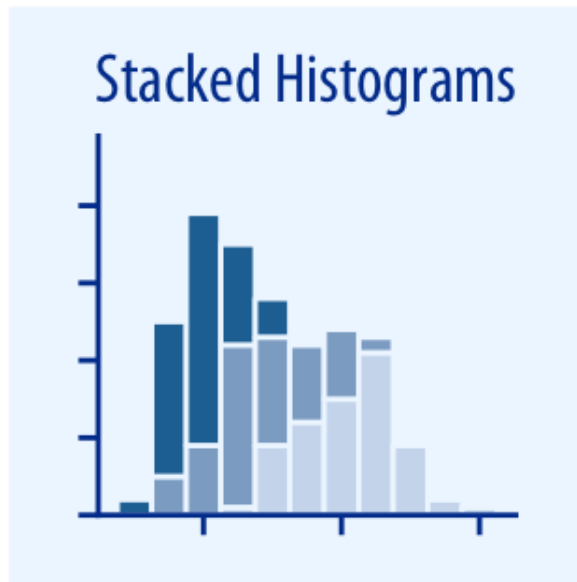
Sina Plots



Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

Distribuições

- Visualização de múltiplas distribuições simultaneamente

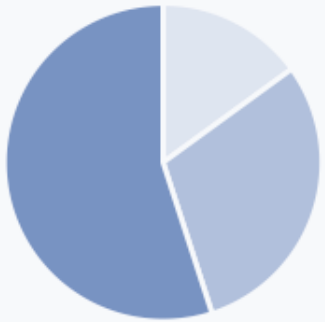


Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

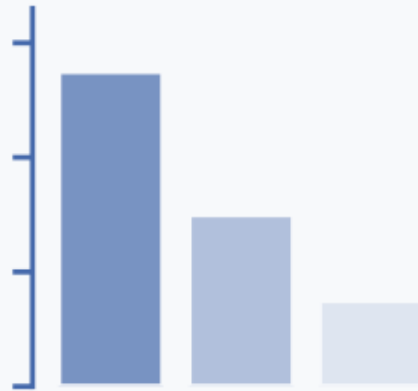
Proporções

- Gráficos de pizza: como as partes compõem o todo
- Barras: mais fácil de comparar as partes entre si

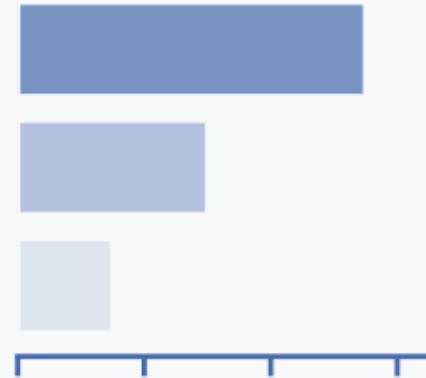
Pie Chart



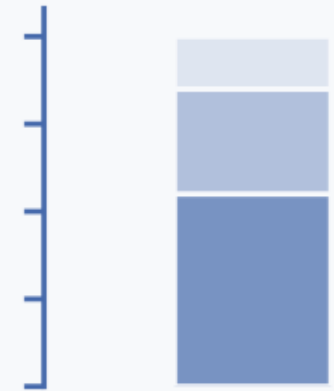
Bars



Bars



Stacked Bars



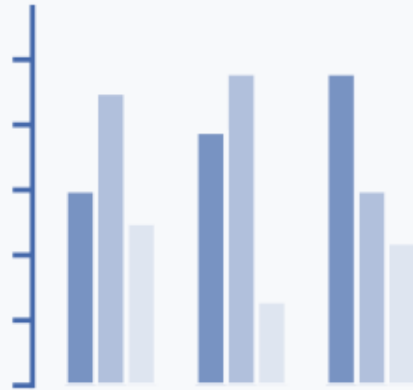
Proporções

- Visualização de múltiplas proporções simultaneamente

Multiple Pie Charts



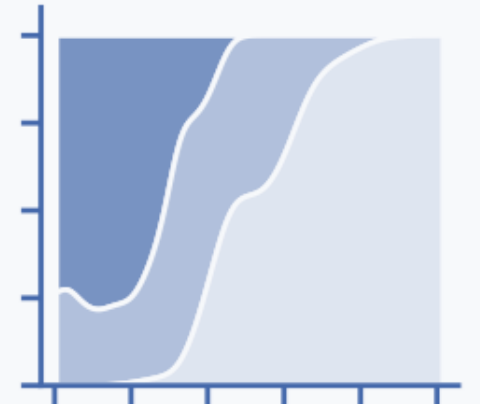
Grouped Bars



Stacked Bars

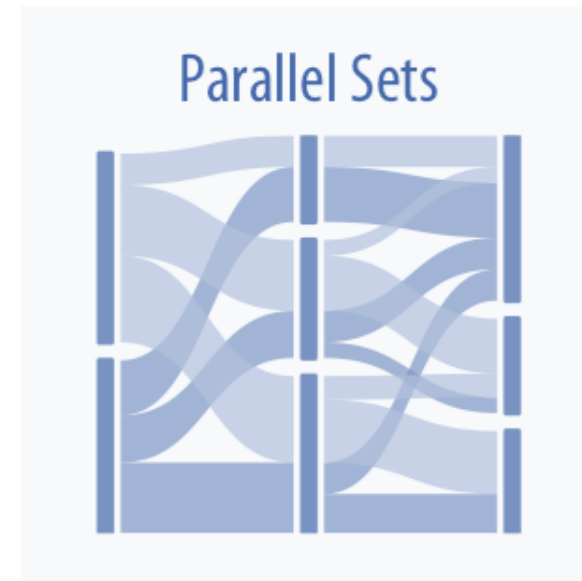
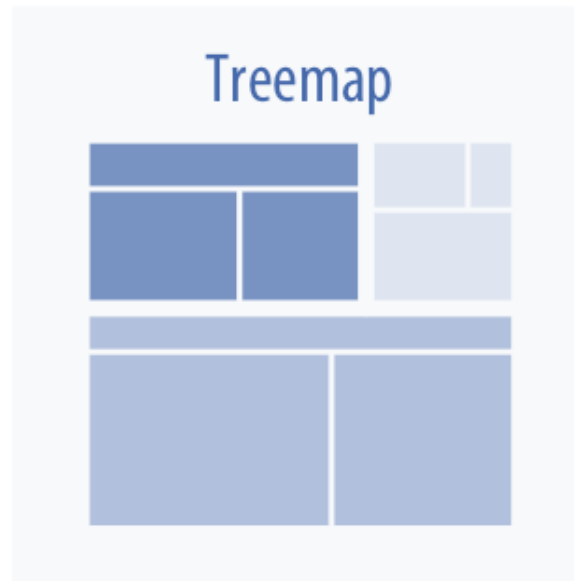
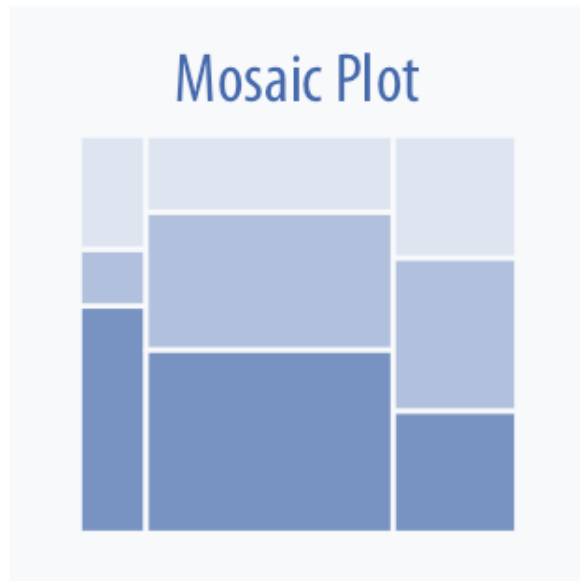


Stacked Densities



Proporções

- Visualização de proporções associadas à múltiplas variáveis simultaneamente

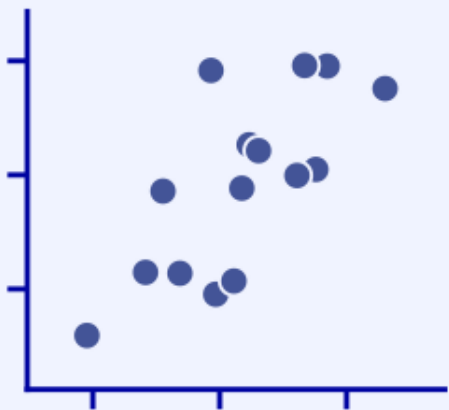


Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

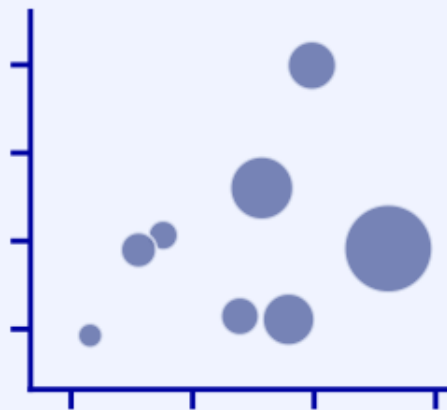
Associação entre variáveis

- Visualização da associação entre pelo menos duas variáveis, podendo adicionar uma terceira variável (tamanho da forma)

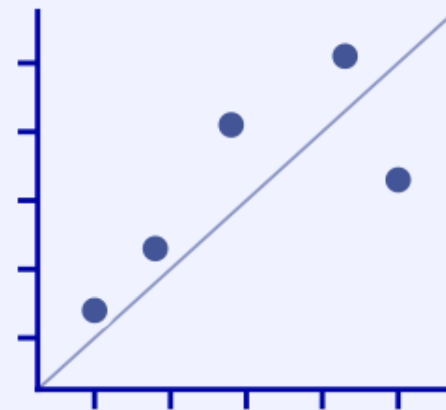
Scatterplot



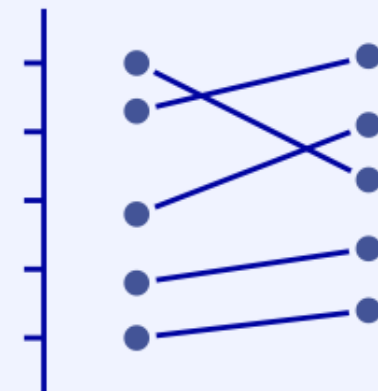
Bubble Chart



Paired Scatterplot



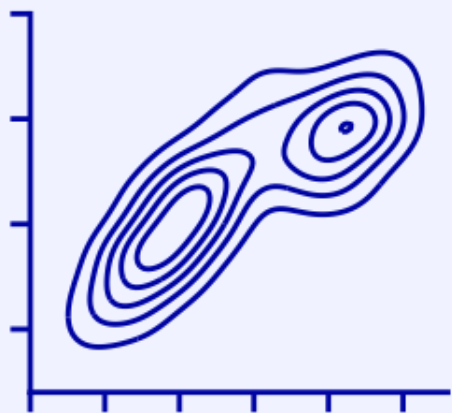
Slopegraph



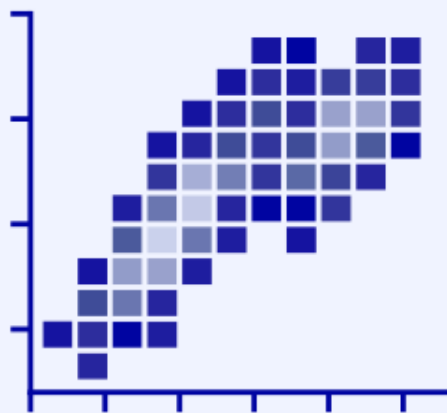
Associação entre variáveis

- Evitar sobreposição e poluição visual quando há muitos dados a serem plotados

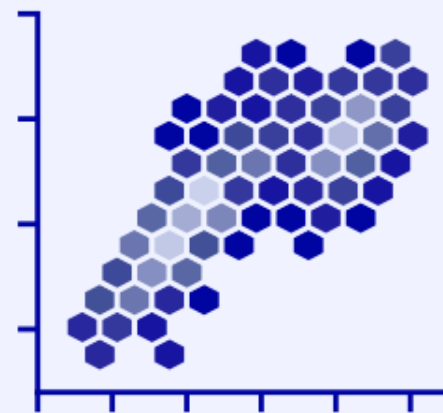
Density Contours



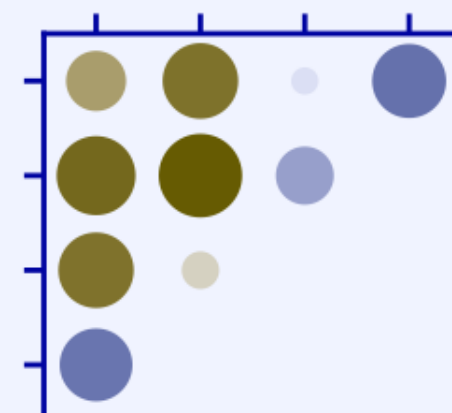
2D Bins



Hex Bins

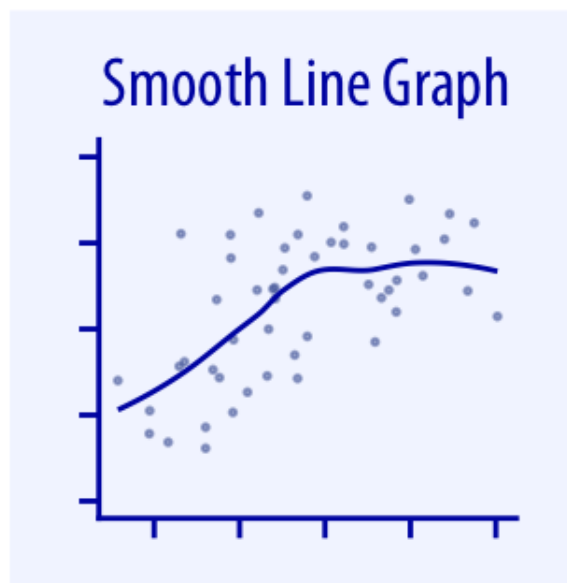
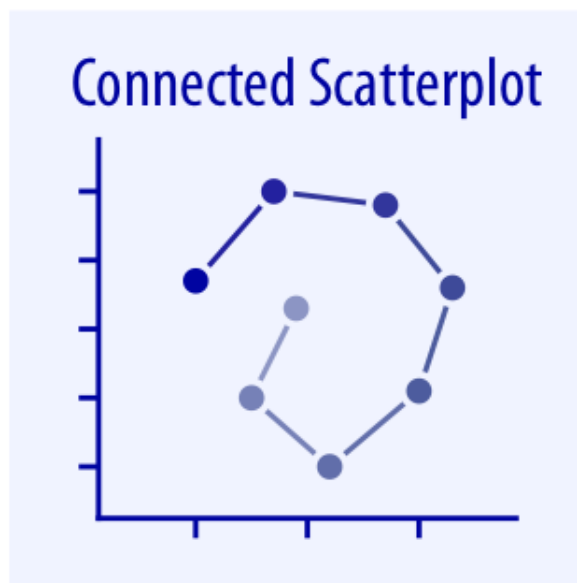
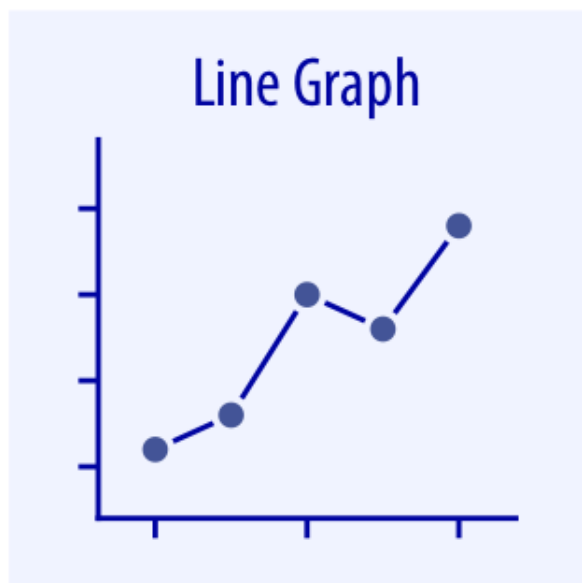


Correlogram



Associação entre variáveis

- Ideia de continuidade e sequência temporal



Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

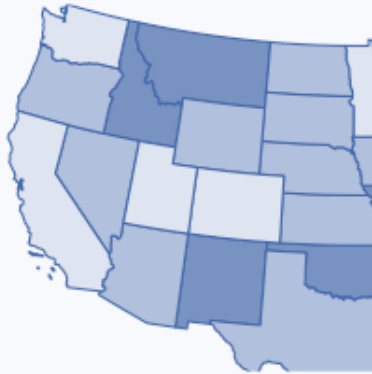
Dados geoespaciais

- Mapas convencionais e adição de informações (cores e tamanhos)

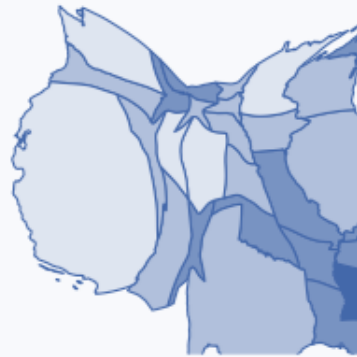
Map



Choropleth



Cartogram



Cartogram Heatmap

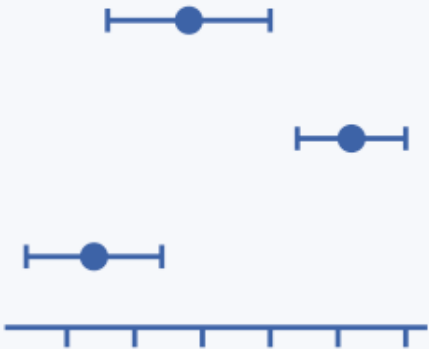


Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

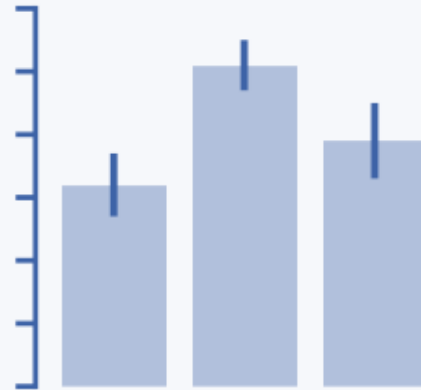
Incerteza

- Estimativas e faixas de valores, margem de erro

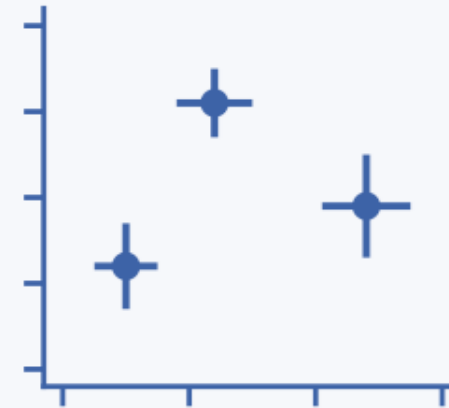
Error Bars



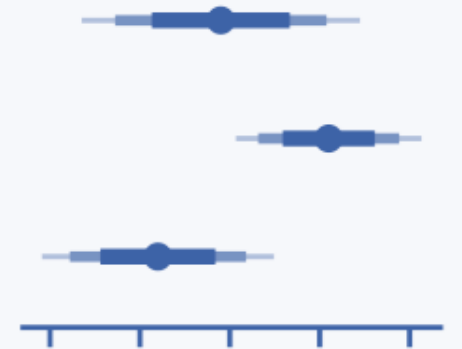
Error Bars



2D Error Bars



Graded Error Bars



Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

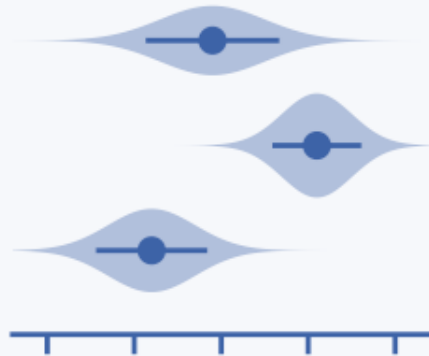
Incerteza

- Intervalos de confiança ou distribuição posterior

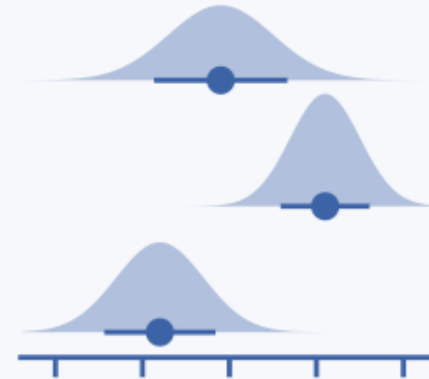
Confidence Strips



Eyes



Half-Eyes



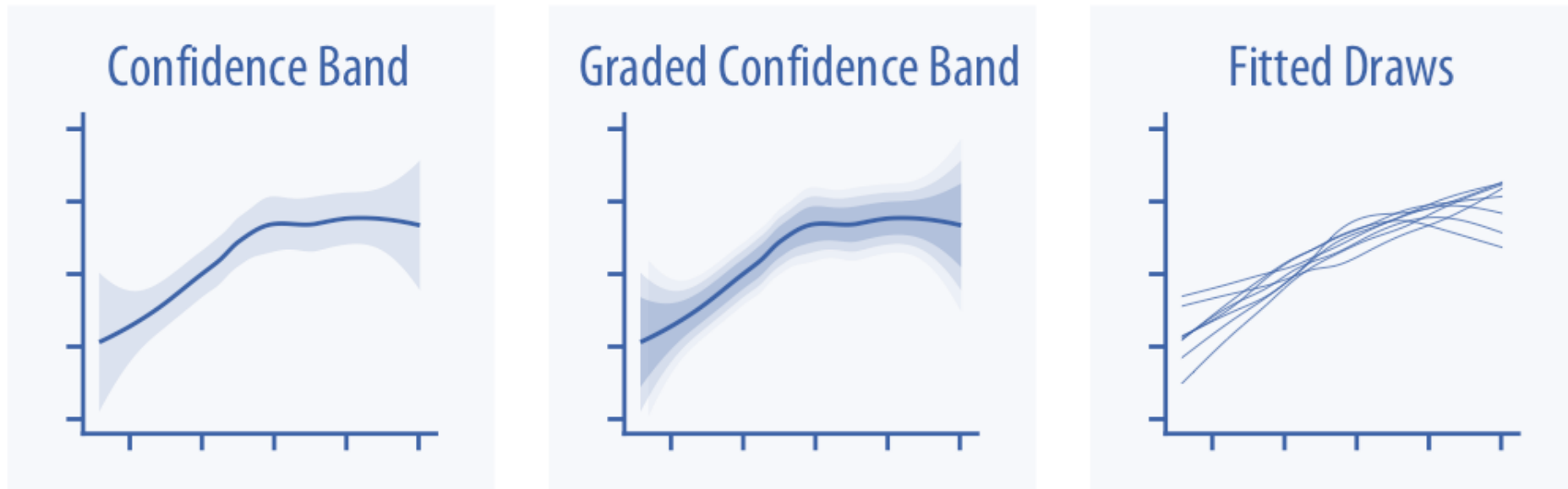
Quantile Dot Plot



Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.

Incerteza

- Intervalos de confiança ou distribuição posterior



Adaptado de:
WILKE, C. O. **Fundamentals of Data Visualization: A Primer on Making Informative and Compelling Figures**. O'Reilly Media, 2019.