Nitrogenous Fate Project

CSE 583 UW Fall AY 2023-24

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The Nitrogenous Fate Software assists researchers in identifying pathways of nitrogen within marine communities using metabolite data of isotopically-labeled molecules (Nitrite, Ammonia, and Urea) through simple data visualization.

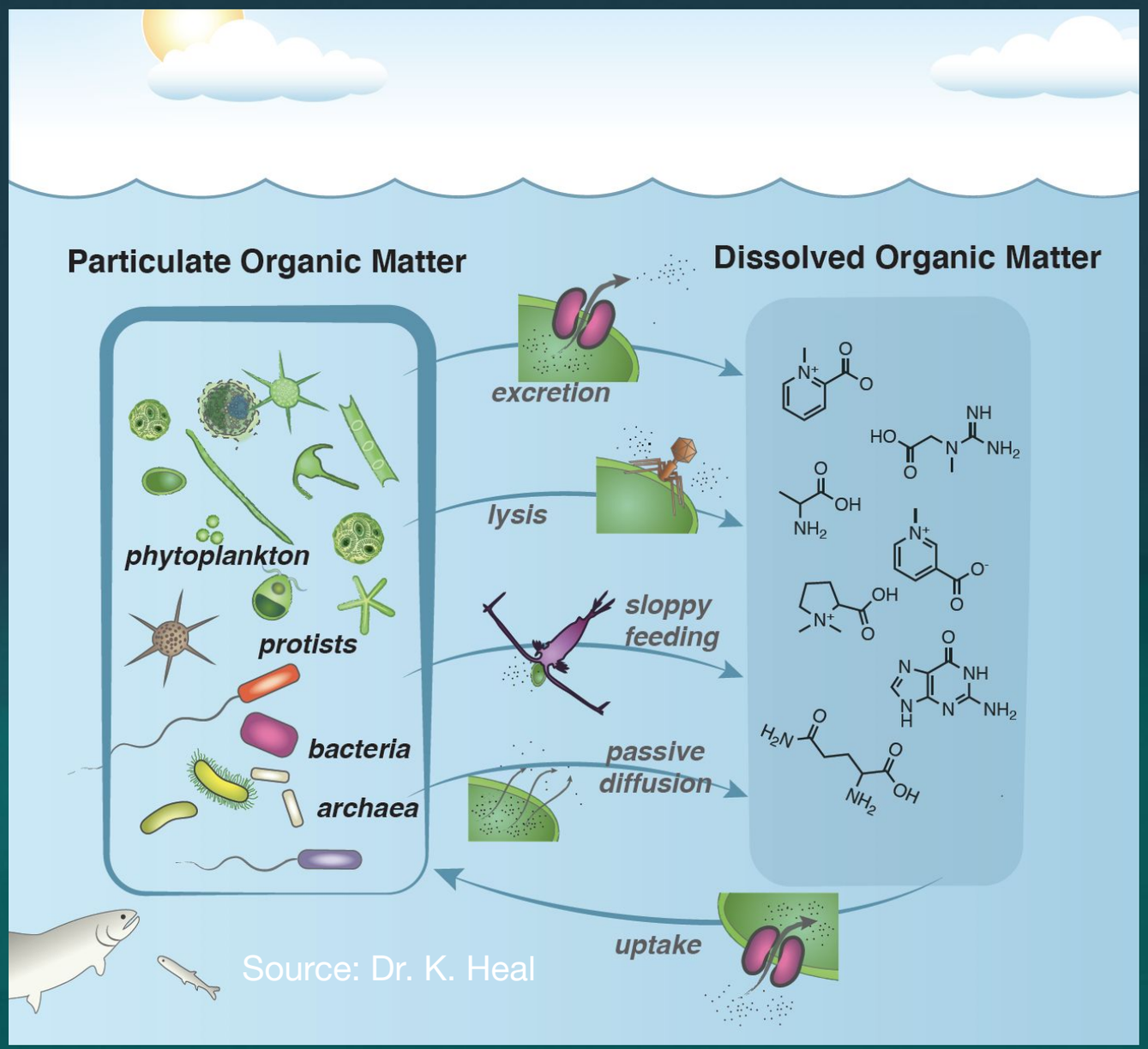


image source: Garcia, S. *et al* (2023)


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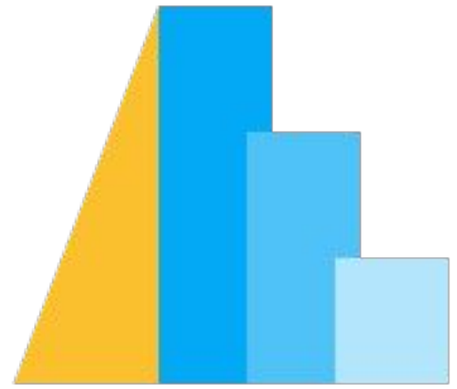
Technological Review

- Matplotlib, low-level visualization with python
- Seaborn, high-level statistical data visualization based on Matplotlib
- Vega-Altair, high-level declarative statistical visualization



Seaborn

Fun fact: named after a character from West Wing (Samuel Norman Seaborn)

Positives:

- Standard plots out of the box
- Perfect for statistical analysis
- Fast to use for standard plots

Negatives:

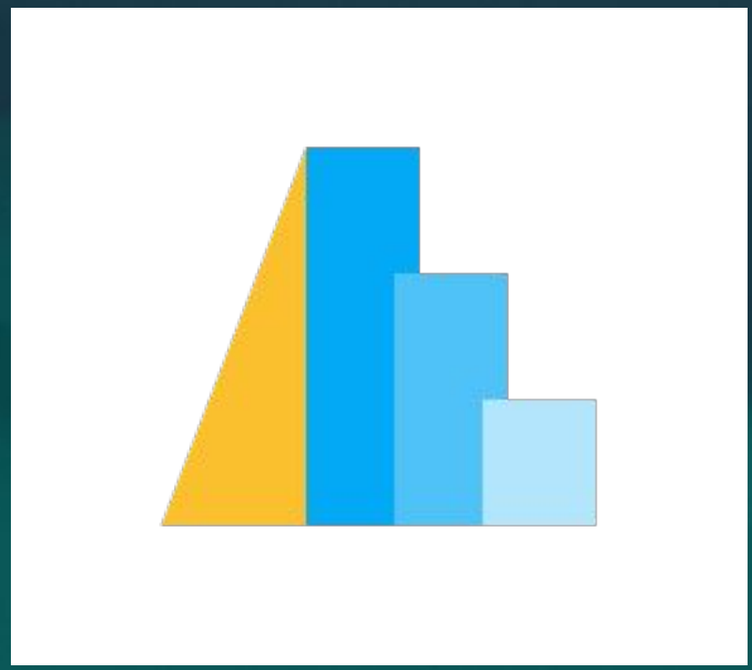
- Built on top of matplotlib
- Less ability to customize

Altair

Built on top of Vega and Vega-Lite grammars

Positives:
- Intuitive and structured approach to plotting
- Altair is interactive (zoom in, pan and grab, tooltips, etc)
- Flexible

Negatives:
- No 3D plotting
- Not as customizable



Summary

- Will use Seaborn for exploratory data analysis
- Will use Altair to develop interactive plots