Nature in the city; ecology of the city
ESA Water Cooler

Bringing Ecology Home

George Middendorf, Howard University
Bruce Grant, Widener University
Gretchen Lebuhn, San Francisco State University
Warm-up/check-in

- How did labs go this semester?
- Share your best descriptor in a brief phrase in the chat.
Water Cooler Guidelines

- Please post questions in “chat”
  (we’ll review and organize to maximize)
- If you’d like to comment, please “raise hand” (we’ll recognize in order)
- Please try to minimize your comments
  (we’d like to maximize participation)
Zoom norms of behavior
Chat and questions.

• It helps to have folks type their questions and comments into chat.

• Chat can sometimes be overwhelming so, we’ve built required pauses into the Water Cooler session today where we’ll run through any of the questions that are posted.

• If the question or comment is something a bit off the topic we are dealing with right now, we may cover that in a response in the chat at the end of the session.
Four-Dimensional Ecology Education Framework | 4DEE

Core Ecological Concepts: Organisms, Populations, Communities, Ecosystems, Landscapes, Biomes, Biosphere

Ecology Practices: Natural history approach, Fieldwork, Quantitative reasoning and computational thinking, Designing and critiquing investigations, Working collaboratively, Communicating and applying ecology

Human-Environment Interactions: Human dependence on the environment, Human accelerated environmental change, How humans can shape and manage resources/ecosystems/the environment, Critical thinking about the values underlying environmental problems, challenges and opportunities

Cross-Cutting Themes: Structure & function, Pathways & transformations of matter and energy, Systems, Space & time – Evolution, scale, stability and change, biogeography
Bringing Ecology Home

- Pedagogy
- Experimental design and analysis
- Student community-building and bonding
- Nuts and bolts
- Opportunities and outcomes
Chat check

- We will pause here.
- Pop your questions into the Chat.
Growing Rachel Carsons & Charles Darwins at Home

**Collection Methods**

**Plants/Fungi**
- tree surveys
  - plot-based in yards
  - transects block walks
- shrub/herb surveys
  - transects in yards
  - time constrained sampling

**Animals**
- birds (BirdNet app)
- squirrels, etc.
- terrestrial inverts
  - Berlase traps
  - pitfall traps
- flying inverts
  - flower visitor counts
  - timed counts, transects
  - bait traps (sugar solutions)
  - nocturnal UV light traps

**Specimen Methods**

**Identification**
- INaturalist
- Google slides
- www sites
digital guides

**Archiving**
- Google Slides
  - temporary (school glue to card stock)
  - permanent (deposition in natural history collection)

**Crosscutting Themes**

**Natural History of Your Home – Making Observations Asking Ecological Questions**

**Data Science**

**Nature In vs Ecology Of the City**

**Bioregional Identity**

**Natural History & Citizen Science**

**Overcoming Socioecological Inequity & Inclusion**

**Data Management**

**Data Analysis**

**Data Sharing**

**Data Life Cycle**

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Figure 1. The data life cycle model, courtesy of DataONE.
What can ecology classes look like in the fall and beyond?

- Place-based education has a new meaning and new opportunities.
- Incredible opportunity to show that place-based education can improve science engagement and literacy
- Challenges and Opportunities!
• Stickies.io

• Real-time sticky notes for teams. Create, move, cluster and upvote stickies in real-time. Perfect for affinity maps, retrospectives and brainstorming sessions.

• In the chat, you’ll find an invitation to a Stickies board. Click on the link associated with your last name (A-E, F-J, K-O, P-T, W-Z) and sign in to participate.
Breakout groups/
Find your Sticky board

• Group 1 https://stickies.io/boards/5ecd7344268a390540964ac1#1
• Group 2 https://stickies.io/boards/5ecd7344268a390540964ac1#2
• Group 3 https://stickies.io/boards/5ecd7344268a390540964ac1#3
• Group 4 https://stickies.io/boards/5ecd7344268a390540964ac1#4
• Group 5 https://stickies.io/boards/5ecd7344268a390540964ac1#5
• Group 6 https://stickies.io/boards/5ecd7344268a390540964ac1#6
• Group 7 https://stickies.io/boards/5ecd7344268a390540964ac1#7
• Group 8 https://stickies.io/boards/5ecd7344268a390540964ac1#8
• Group 9 https://stickies.io/boards/5ecd7344268a390540964ac1#9
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