Innovations in Development: Community-Driven Projects That Adapt Technology for Environmental Learning in Nature Preserves

University of Maryland

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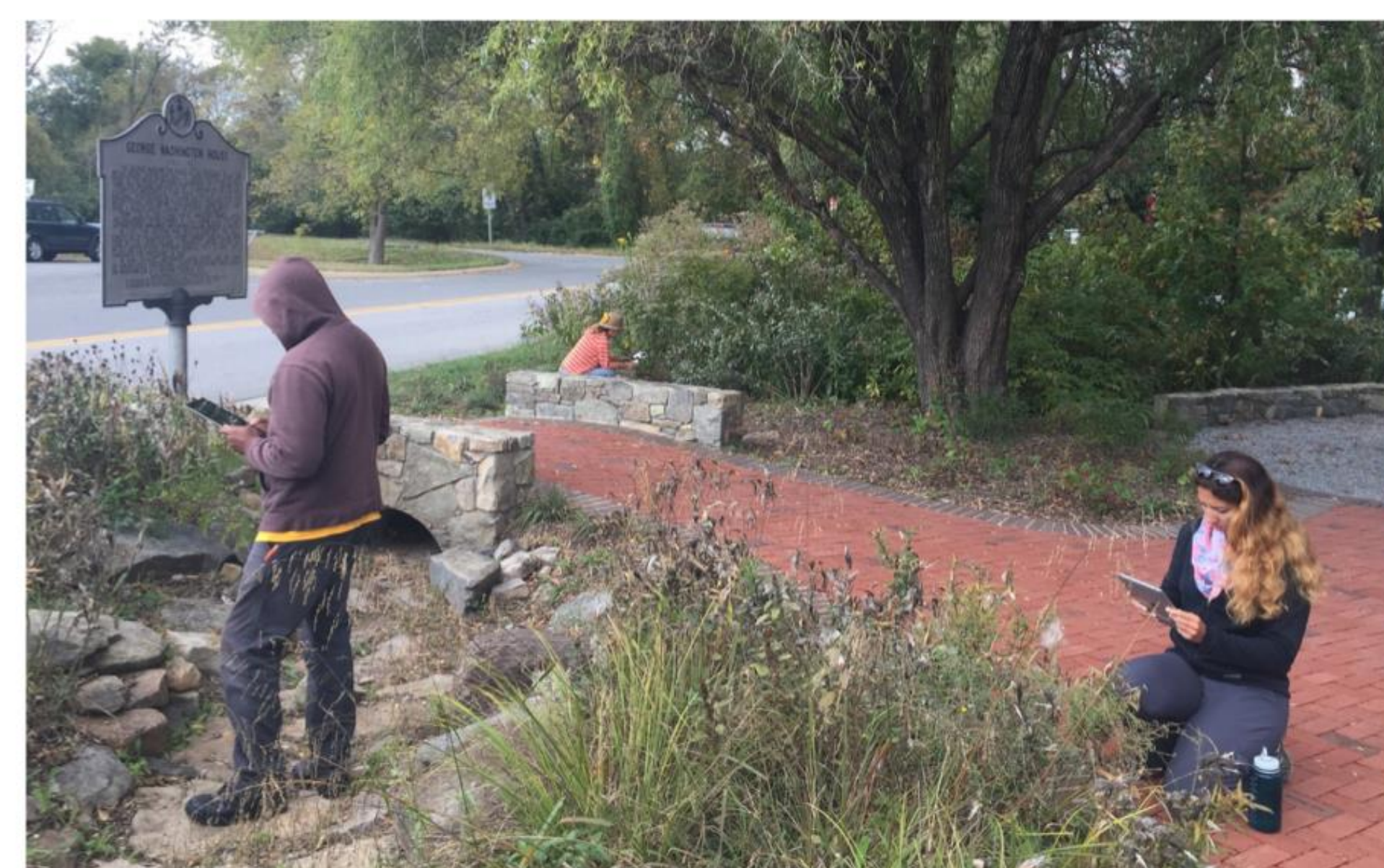### University of North Carolina, Charlotte

- Mary Lou Maher, PI
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Research assistants

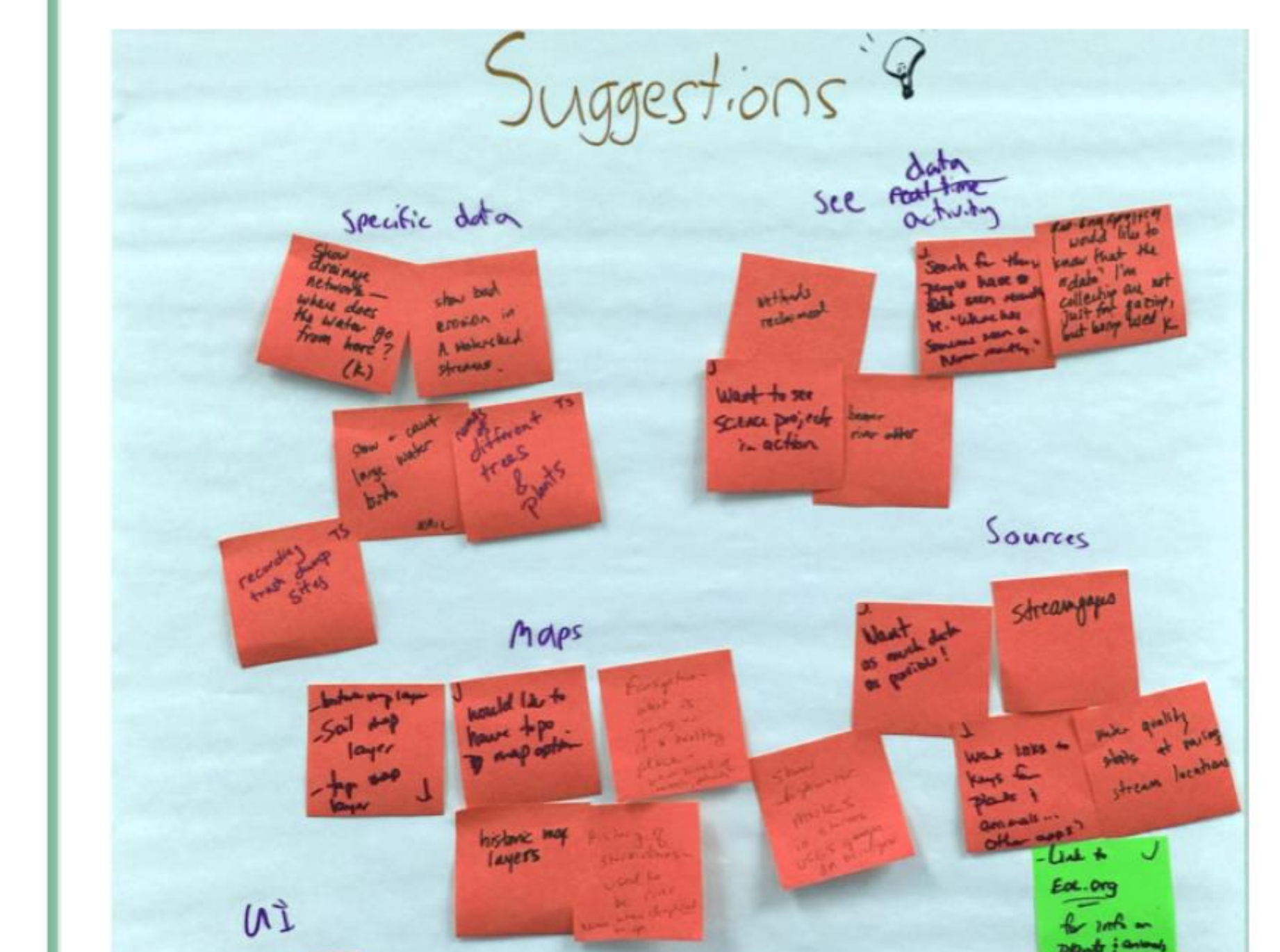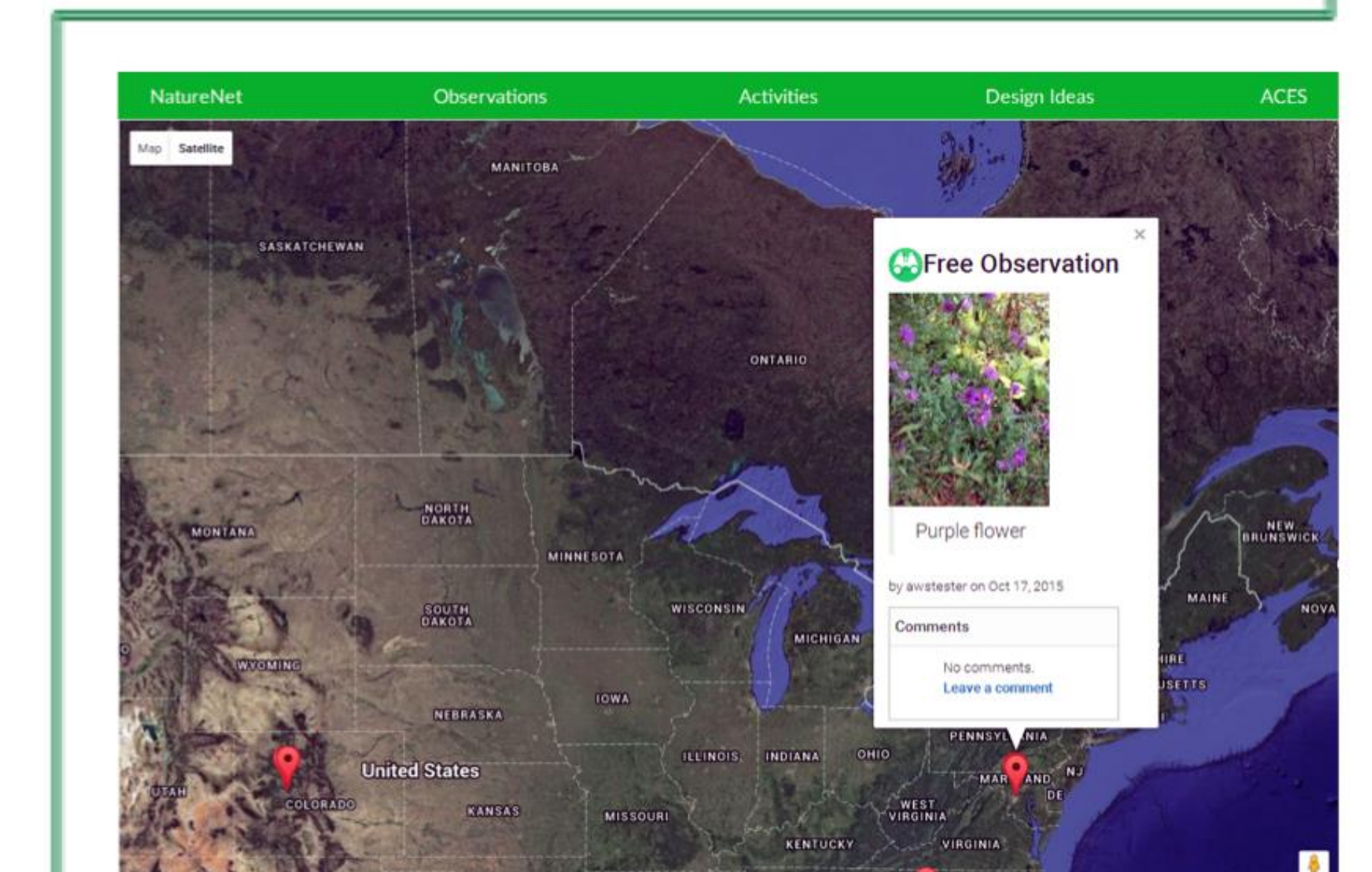- 7 graduate students
- 1 undergraduate student

This project engages members of racially and economically diverse communities in identifying and carrying out environmental projects that are meaningful to their lives, and adapts technology known as NatureNet to assist them. NatureNet, encompassing a cell phone app, a multi-user, touch-based tabletop display and a web-based community, was developed with prior NSF support.

Main Audiences

- Diverse community members interested
- Visitors to nature preserves
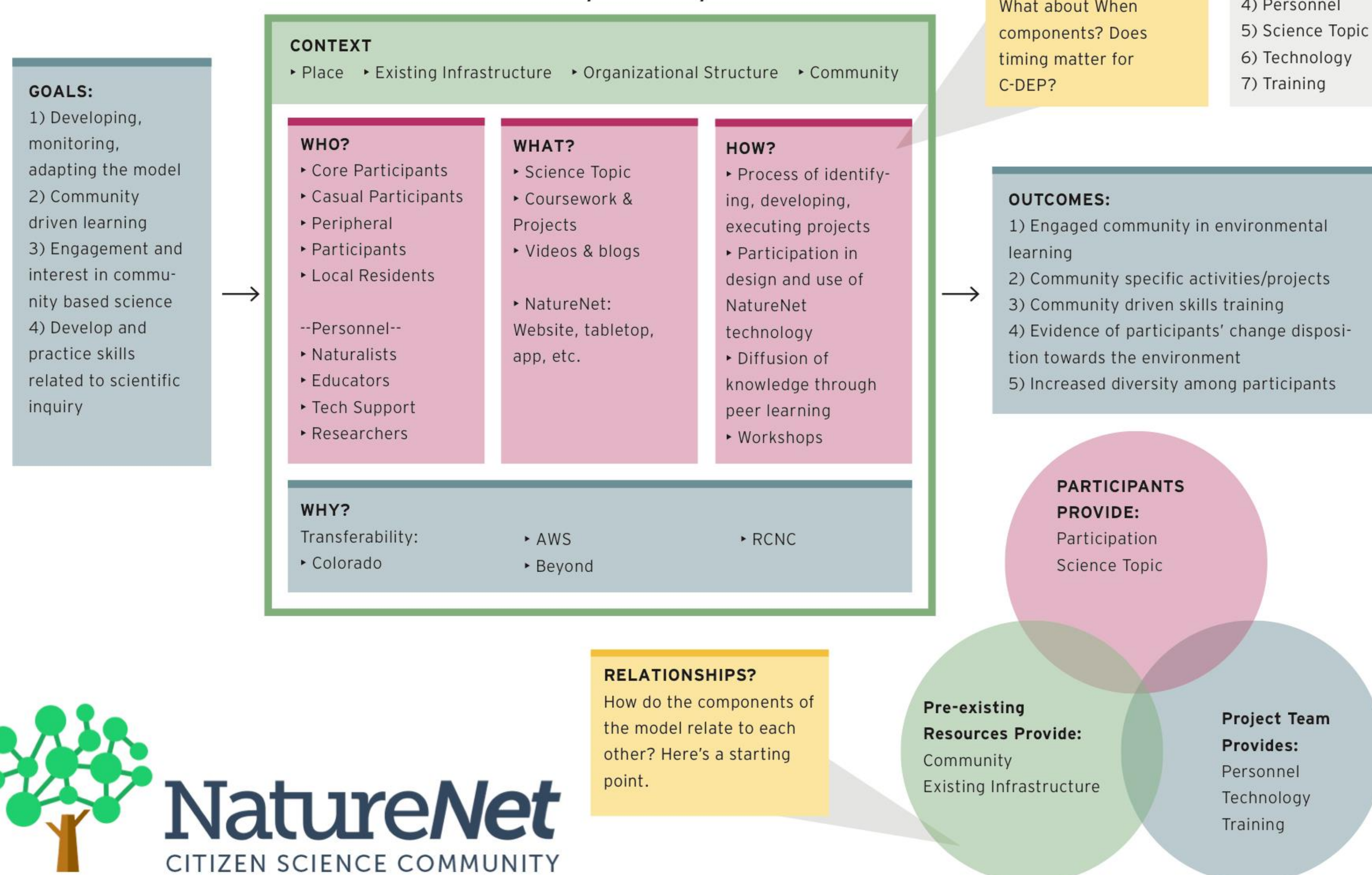- Naturalists and environmental educators

Research Goals

- Develop and test the Community-Driven Environmental Projects (C-DEP) model
- Refine NatureNet technology
- Assess participants' learning outcomes
- Compare program adaptation by each partner site
- Contribute to STEM theory and practice related to sociocultural models of community learning with technology for under-represented communities

Research Questions

1. How do community-driven informal environmental learning projects impact participants, including their motivation to actively participate in science issues via technology and their disposition toward nature preserves and scientific inquiry?
2. What are the key factors (e.g., demographic composition of participants, geographical location) that influence the development of community-driven environmental projects?

Insights & Challenges

- Budgeting for costly technology development
- Reaching large numbers of diverse participants while ensuring informed consent and understanding of privacy rights
- Working effectively as a distributed team
- Focusing on long-term sustainability of community partnerships

Pilot-Year Evaluation Activities
Developing the C-DEP Model

NatureNet CITIZEN SCIENCE COMMUNITY