Using Partnerships to Leverage Limited Resources: The Biscayne Bay Drift Card Study

Chelle King - Patricia and Phillip Frost Museum of Science; Laura Bracken - University of Miami Rosenstiel School of Marine & Atmospheric Science; Rebecca Peterson - Vizcaya Museum and Gardens

Cultural and educational institutions often lack the resources to individually host a dynamic citizen science program. The Biscayne Bay Drift Card Study (#BayDrift) leverages limited institutional resources, including funding and staff, using a robust partnership model. This project was initiated by Vizcaya Museum and Gardens, an historic home, and the Patricia and Phillip Frost Museum of Science to answer a question about the origin of the trash that litters Miami's shorelines. Upon formulating the question, the two cultural institutions made contact with the Consortium for Advanced Research on Transport of Hydrocarbon in the Environment (CARTHE) at the University of Miami, which studies the movement of ocean currents. None of the three institutions have the capacity to develop and implement a complete citizen science project, but combined, each brings an essential and unique skillset to the team, maximizing the project’s impact, while minimizing the burden to any one partner. Through this unconventional partnership, we have reached university, science museum, and historical site audiences, as well as K-12 students through educational partnerships forged by the three partner institutions. This talk will cover various aspects of forging cross-disciplinary partnerships for citizen science projects, including strengths, as well as potential pitfalls, reaching diverse audiences, effectively communicating science, and ensuring scientific integrity.


Nicole Colston - Oklahoma State University; Jacqueline Vadjunec - Oklahoma State University/Department of Geography; Todd Fagin - Oklahoma Biological Survey

Modeling citizen-science deliberation processes is crucial to addressing environmental problems associated with climate change. Community engagement in scientific research, and scientist involvement in social learning, offers a means to improve collective decision-making and community adaptation. Lack of attention by scientists to intracommunity dynamics can limit participatory research efforts. Additionally, scientist communication is hindered by difficulty matching appropriate scientific information with the needs of local decision-makers. We propose a dynamic model of adaptive drought communication that attends to dimensions of academic-community partnership capacity and to the scientific inputs at various stages of decision-making. This case study describes the planning of public meetings designed to share research findings related to drought resiliency and vulnerability in Cimarron County, OK and Union County, NM. At meetings, researchers shared data related to drought and agricultural adaptations, including land change maps. The format of the meetings allowed for small group discussions about how individuals and the broader community understand and negotiate drought vulnerability. An exit survey aimed to capture individual perceptions about the most important drought management tasks, as well as solicit recommendations for additional scientific inputs or policymaking strategies. The results revealed the perceived value of and need for more dialogue and knowledge-sharing between community members themselves. While meeting participants expressed a variety of ways for understanding drought impacts, very few had ideas for policy prescriptions. We conclude by emphasizing the need for and utility of dynamic models for academic-community partnership capacity that can minimize the spatial and temporal gaps between research and decision-making processes.
Measures to Facilitate Collaboration Between Citizen Science Projects - an Approach for Sharing Resources

Barbara Heinisch - University of Vienna, Centre for Translation Studies

Collaboration in the field of citizen science usually means the collaboration between researchers and citizen scientists. However, far too little attention has been paid to the collaboration between citizen science projects. Based on a literature review, this paper provides an overview on comprehensive measures intended to foster (global) collaboration within the citizen science movement. Currently, these measures include (national) websites and catalogs for presenting citizen science projects, toolkits, guidelines for launching citizen science projects and best practices. Among these initiatives are citizen科学.gov or the Citizen Science Data and Metadata Working Group that promote the sharing of knowledge and (interoperability of) data repositories. These initiatives have a strong focus on making information on citizen science projects centrally available. Although they promote the sharing of knowledge of citizen science in general, they do not emphasize the collaboration between projects or the combination of citizen science projects. Therefore, this paper proposes the establishment of e-infrastructures to efficiently use (openly accessible) resources such as data, services, tools and applications that have been created by citizen science projects. This paper shows how to make use of distributed resources, linked data and the semantic web within the citizen science movement. These aspects are an important step towards the comprehensive collaboration between projects throughout the research lifecycle. Furthermore, they help promote a more globally connected (citizen science) research landscape that adopts a more interdisciplinary approach.