

2027 AMS Annual Meeting AMS Short Course Agenda Outline
Title: Co-producing Environment and Health Solutions: Community Science and Participatory Research in Practice
AMS Board on Environment and Health & AMS Board on Higher Education
Course Length: 8 hours (480 minutes; breaks included)

Time	Session Title	Activity/Method	Content Focus and Description	Support Materials
15 minutes	Welcome and Introduction	Course Introduction Participant Icebreaker Activity	Course instructors will introduce the course overview, goals, objectives, and how this aligns with the AMS 2027 theme (PEOPLE). Introduce speakers and their backgrounds. Participants will briefly introduce themselves, their backgrounds, their interests in the environmental-health nexus, and what they hope to gain from the course.	Presentation slides with speakers information, short course agenda, and participant icebreaker question
25 minutes	Setting the Stage: The Connections Between Environmental Drivers and Health Outcomes	Background Lecture Guided Discussion	Introduce the connections between environmental drivers and health outcomes (e.g. heat stress, air pollution, water quality, etc.). Highlight historical and recent extreme weather events, disasters, disease outbreaks, etc. that address the increasing overlap between environmental and human/animal/ecosystem health outcomes.	Presentation slides; Conceptual diagrams; Real-world examples of environmental-health issues
30 minutes	Searching for Accessible Data and Criteria Assessment	Live Demonstration Audience Engagement	Mini demonstration of how to find accessible community science datasets and resources online. This will address the various online resources, as well as the wide range of accessibility, quality, and usability of different resources. Live demonstration of how to target your search for accessible community science datasets and resources to have tailored weather/environmental information across broad audiences (e.g., K-12 students, older adults, health workers, scientists, policymakers, etc.). Address criteria to account for when assessing the data and resources (e.g. clarity, visual design, language, display on phones versus computers, does it need Wi-Fi, etc.). This will address the relevance and importance of having rapid and accessible environmental data and participatory science that can empower communities for improved health outcomes.	Examples of datasets, tools, apps, and dashboards Checklist and criteria when searching for and assessing community science datasets and tools
30 minutes	Accessing and Interpreting Weather and Environmental Data	Live Demonstration Guided Exploration	Introduce fast, publicly accessible data sources, such as open data portals, community sensors, accessible geospatial data, real-time dashboards, and more. Participants will also explore how to interpret the weather and environmental data for informed health outcomes (e.g. What are the safety precautions and ways to prepare for an upcoming heat wave based on the heat indices?)	Examples of tools, live websites, and datasets Step-by-step guiding questions and instructions to access and interpret weather and environmental data
15 minutes	Break			

60 minutes	Introduction, Applications, and Live Demonstration: iCHARM app	App Introduction App Demonstration Mini Exercises	Introduce the iCHARM app (https://icharm.sdsu.edu/) and how to visually deliver weather and environmental data to the general public, including K-12 students, university students, older adults, health professionals, scientists, and federal partners. The app allows health workers to easily access past climate data very quickly (in seconds, without needing any programming skills) using a phone, tablet, or computer. The tool can visualize, analyze, and deliver climate data. We will demonstrate the different kinds of datasets, ranging from hourly to daily to monthly data, from gridded to station data, from climate models to remote sensing data.	Presentation slides; Live tool; Step-by-step guide
45 minutes	Lunch Break			
40 minutes	Visualizing Data for Impact	Background Lecture Guided Discussion	Introduce best practices on how to visualize environmental data, such as geospatial maps, interactive dashboards, easy-to-interpret charts. Emphasize how tailoring visual designs in an accessible and engaging way is foundational for data interpretation, knowledge exchange, and end-user engagement.	Presentation slides; Live tools, websites, and dashboards; Step-by-step guide
30 minutes	Communicating Risk and Value	Background Lecture Guided Discussion Mini-Exercises	Address key examples of end-user groups that subject matter experts have communicated with and directly worked with through their research. Highlight how different audiences require tailored messaging, visual designs, and to factor in language accessibility, accessible color design, and platform access (e.g. does the end user have a cellphone?). Emphasize how to communicate uncertainty and risk clearly when working in community science and participatory research.	Presentation slides; Discussion prompts; Short videos and images
40 minutes	Case Studies: Environmental Data to Actionable Health Solutions	Case Study Overview Guided Discussion	Showcase real-world examples from invited subject matter experts and partners across various disciplines to showcase how visualized data and accessible messaging can inform health decision-making and are shaped by community action. Introduce the background history, required skills, research and knowledge gaps, challenges, and successes.	Presentation slides; Case summaries; Discussion prompts; Short videos and images;
15 minutes	Break			
75 minutes	Hands-On Workshop: Community Science and Participatory Project Design	Group Work Activity Instructors and Subject Matter Expert Guidance	Short course participants will be grouped together and design a project scope that integrates: 1) Fast-access and publicly accessible environmental data 2) Community participation and stakeholder mapping 3) Specific end-user messaging and visual communication strategies	Project scope templates; Worksheets, pens, and pencils; Whiteboards and markers; Example datasets

45 minutes	Project Presentations and Feedback Session	Hands-on Exercise Participant Presentations Peer Review	Each group will present their project scopes that focus on the community-specific environmental-health issue, accessible data sources, communication strategies, and actionable next steps. Instructors, subject matter experts, and other participants will have an open discussion and provide feedback that assesses clarity, community relevance, and overall feasibility.	Presentation templates; Evaluation rubric; Online voting app
15 minutes	Wrap-Up: Community Empowerment Through Environmental Data and Health Decision-Making	Facilitated Discussion Wrap-Up	The learning lessons and takeaways will be synthesized into key outcomes from the hands-on workshop, project presentations, and feedback session. The tools, platforms, data sources, and presentation slides will be shared for follow-up opportunities and continued learning. Highlight the role of interdisciplinary approaches to utilize accessible environmental data to inform health outcomes and empower communities through community science and participatory research. Answer any remaining questions and introduce the online feedback survey. Wrap-up and end the short course.	Resource list; Links to the featured tools, platforms, and presentation slides; Online feedback survey