



Youth Lead the Way:

A Youth Advisory Research Board Model for Climate Impact Education

Public Events Evaluation Report

June 2023

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Executive Summary

This summative evaluation study is part of Youth Lead the Way: Engaging informal science education in climate action, a three-year (2021– 2023) collaborative effort between youth, a science center, and other partners conducted with the support of the National Science Foundation (NSF, DR -2005678). Hosted by Oregon Museum of Science and Industry (OMSI), Youth Lead the Way (YLTW) offered youth from communities underrepresented in STEM to conduct content research on local climate change impacts, advise OMSI staff members on projects related to climate impact education, and develop interactive educational products designed to engage public audiences on these impacts. As part of the YLTW project, OMSI created a Youth Advisory and Research Board or YARB. Over the course of sixteen months, youth in the YLTW project YARB learned the basics of social science research and educational approaches to use in the development of “climate stories” (educational products designed to engage visitors with climate change concepts). Over the course of the program, YARB members developed, iterated, and presented their climate stories to raise public awareness about local climate change impacts.

The aim of this evaluation study was to assess the extent to which youth-led products elicited public awareness of climate science or content communicated, and the desire to keep learning more about local climate impacts. The evaluation team used qualitative approaches to collect data through exit surveys and interviews with visitors at three events that were organized by the YARB members between August 2021 and July 2022.

Findings from this summative evaluation study suggest that the youth-led products supported the project’s desired outcomes. The majority of the evaluation participants reported that the climate stories and events were easy to understand, they felt inspired to learn more about climate impacts, they felt a sense of urgency about climate change, and they increased their awareness of opportunities to learn more about local climate impacts.

Furthermore, youth educational events and youth-developed products are of interest to the public. They are perceived as approachable, appear to resonate with local communities, and present issues that impact future generations. Science museums and other organizations could benefit and learn from collaborating with youth, and providing spaces in which they can organize and share their products.

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Youth Lead the Way - Public Events Evaluation Strand

Introduction

As part of the Youth Lead the Way (YLTW) project, OMSI hosted a Youth Advisory and Research Board or YARB. Over the course of two years, youth in the YLTW project YARB, self-referred to as Youth CARE, learned the basics of social science research and educational approaches to use in the development of "climate stories" (educational products designed to engage visitors with climate change concepts). Over the course of the program, the YARB members developed, iterated, and presented their climate stories to raise public awareness about local climate change impacts. To support the iteration and refinement of the climate stories, the YARB members were trained in relevant informal STEM education programming, evaluation and research approaches by project advisors and OMSI staff, including educators and researchers. YLTW project educators provided guidance for the YARB climate stories' content and educational and public facing approaches. The YARB program training and guidance allowed youth to present, iterate, and conduct formative evaluation in the museum and during the events in which they presented their climate stories.

The program launched in the summer of 2021 and included three sessions: summer one (July-August 2021), a school session which took place from September 2021 to May 2022, and a second summer session which occurred July through August 2022. As the YARB program progressed and got updated over the course of its two project years, different programmatic activities took place and youth responsibilities shifted. The summer of 2022 incorporated youth input related to the program activities, milestones, and the development of youth individual climate stories (which were not presented in Event 3). The climate stories developed in the summer of 2021 were presented at a variety of locations in Portland, Oregon, including OMSI's main campus, a local art gallery, and various game stores. The program activities and the public presentations of the climate stories were impacted to different degrees by the global COVID-19 pandemic. Public participation in events that occurred during the first two program sessions (summer and fall 2021) was influenced by the tenor of the global pandemic that limited visitorship capacity and in which masking and social distancing was required or encouraged at the venues where the YARB members presented their stories.

The focus of this summative evaluation report is to describe the extent to which the YARB's presentation of their climate stories at three public events influenced public audiences' awareness about local climate issues, awareness of opportunities to learn more, and intention to learn more. As such, this evaluation is focused on the public experiences provided by the YARB and not an assessment of audience awareness of climate concepts.

Evaluation questions

The summative evaluation goal for the YLTW public events strand was to assess the extent to which youth-led products (climate stories and events) elicited public awareness of climate science or content communicated, and the desire to keep learning more about local climate impacts. This is an evaluation of three experiences provided by the YARB and not an evaluation of audience awareness of climate concepts.

Evaluation questions included:

- To what extent do public audience members understand the climate science content being communicated in the YARB products and activities?
- To what extent, and in what ways, do public audience members report an intention to learn more about local climate impacts?
- How, if at all, do public audience members report having the opportunity to continue learning about local climate impacts?

Settings

Throughout the program, YARB members self-organized into sub-groups to develop, present, evaluate, and refine their climate stories at a variety of venues in Portland, Oregon. The evaluation team gathered data at three events, one in each of the program phases in which the climate stories from the YARB were presented to the public. These events varied in the location and in the extent to which local co-presenters (vendors or artists) were included (see Table 1 for a brief description of the YARB program evaluation phases and the events evaluated on this report). The YARB sub-groups also evaluated their own climate stories using a Team-Based Inquiry approach (TBI; Pattison et al., 2014). The TBI approach provided a frame for the YARB members to collect data and refine their stories through all the climate stories events, with the exception of the last one (Event 3). The first event included 14 youth who self-organized in five sub-groups, the second event included nine youth who stayed through the program school session and refined their groups' climate stories (three sub-groups) from Phase 1, and the third event included six youth who each created individual stories in the form of recorded interviews in the summer of 2022.



Table 1. Event descriptions

| | Phase 1 | Phase 2 | Phase 3 |
|------------------------------------|---|--|---|
| Event | Event 1 | Event 2 | Event 3 |
| Number of youth in the YARB | 13 youth | 9 youth | 6 youth |
| Location and date | OMSI, August 28, 2021 | True North Studios, December 11, 2021 | OMSI, August 13, 2022 |
| Climate stories | Five climate stories: art gallery, one board game, two videos, and one poster | Three climate stories: art gallery, one board game, and two videos | Three climate stories from event 2 |
| Co-presenters | The art gallery included art pieces submitted from the youth public. | The art gallery included art pieces submitted from the youth public. | The art gallery included art pieces submitted from the youth public. Organizations: Sunrise PDX Blueprint Foundation Next Up Extinction Rebellion Future Generations Collaborative Oregon Bee Project |

It is important to note that the YARB-led events included the participation of different co-presenters. Prior to Event 1, the art gallery group launched a public announcement inviting youth artists to submit art pieces that evoked empathy and motivation for participating in local climate policy actions. The art pieces submitted by youth from the public were presented

through all three events. For Event 3, the YARB also invited various local organizations as independent co-presenters (see Table 1).

Methods

Study Design

This is an outcome evaluation design (summative) that uses qualitative approaches with exit surveys (See Appendices B, D, and F) and interviews (See Appendices A, C, and E). Information provided and analyzed was self-reported by participants after they exited the event organized by the YARB. Respondents were asked to indicate their awareness about local climate issues, intention to learn more, and awareness of opportunities to learn more about local climate impacts after they experienced the YARB-led event and climate stories. This summative evaluation was conducted under the oversight of an Institutional Review Board (IRB). The IRB approved protocols for consent were followed at the three events where data were collected.

Data collection

Data collection took place during three events that were organized by the YARB. Two OMSI evaluation staff members acted as data collectors and recruited attendees as they exited the space to either take a survey or complete a brief interview. Data collection for the three events usually lasted between four and six hours and depended on the event duration and the visitorship flow.

Surveys and interviews were completed by either an individual (who was part of a visiting group or attending alone) or a visiting group, according to their preference. Surveys and interviews were collected independently, and were not linked to the same person in a group nor the same group of people.

Informed consent

Prior to distributing the survey or asking to answer the interview questions, the data collectors outlined the purpose of the study to potential participants, how the information would be used, and asked the group to self-select an individual from their group, if they consented to participate. Those who verbally agreed received the survey or were asked the interview questions. Participants had the option of not completing the questions or skipping any question they did not feel comfortable answering. The survey took approximately 3–5 minutes to complete. The interviews took about 5 minutes for participants to answer the questions. Demographic information of the group was documented in the surveys only. Personal information, such as the name or address of the visitors was not asked. During the data analysis, responses were assigned a number or referred to as the row number in the Google sheet.

Sample

Participant exit surveys (Table 2) were used to gather feedback from the general public on a number of items including enjoyment of the event, understanding about local climate impacts, and interest in finding opportunities to learn more. Surveys also included demographic questions related to age, gender, and race or ethnicity of the groups (see Appendices B, D, and F).

Table 2. Survey sample size per event

| Category | Total Sample |
|----------|--------------|
| Event 1 | 8 |
| Event 2 | 4 |
| Event 3 | 17 |

Individual interviews (Table 3) were conducted to gather insights from the general public about their understanding of the event or stories' content, and interest in finding opportunities to learn more about local climate impacts (see Appendices A, C, and E).

Table 3. Interview sample size per event

| Category | Total Sample |
|----------|--------------|
| Event 1 | 9 |
| Event 2 | 3 |
| Event 3 | 3 |

Data analysis

Data from the paper surveys were entered into a Google spreadsheet. For each dataset, descriptive statistics were run, including counts and frequencies. The results for each of the public events were compiled into a set of charts. Given the small sample size, charts reported in this report include counts per survey item.

Interview notes were entered into a Google spreadsheet and analyzed using thematic analysis which allowed evaluators to identify themes and patterns. The themes were then associated/paired with the overarching questions from the evaluation and related survey items.

Limitations

Data collection for the YARB climate stories presented at three events were limited in scope. Employing an exit survey did not yield a large sample size able to support a robust statistical analysis. As mentioned before, small survey samples could have been influenced by the global pandemic in which numbers of visitors were limited and social distance was required.

Interview responses and numbers in some instances were very limited and did not support in-depth exploration of certain themes or allow for emergent themes from the participants' responses. The YARB conducted TBI formative evaluation for their own climate stories at Event 1 and 2. However, since the purpose, methods, and approaches varied across YARB sub-groups, none of the insights of those evaluations are incorporated in this report.

Group Demographics

The evaluation protocol involved an adult who self-selected to be the primary survey respondent and answered demographic questions that described their entire visiting group (See Appendices B, D, and F). Demographics captured through the survey were age, gender, and race and ethnicity. Participants had the option of not completing the demographic questions or skipping any question they did not feel comfortable answering.

Table 4. Attendee demographics: Age
What are the ages of those in your group?

| Total | Total (n = 90) | Children 0-6 (n = 10) | Children 7-12 (n = 14) | Youth 13-17 (n = 10) | Adults 18+ (n = 56) |
|---------|-------------------|-----------------------------|------------------------------|----------------------------|---------------------------|
| Event 1 | 25 | 3 | 2 | 6 | 14 |
| Event 2 | 13 | 3 | 1 | - | 9 |
| Event 3 | 52 | 4 | 11 | 4 | 33 |

Number of individuals in each age category who were part of the groups surveyed.

Table 5. Attendee demographics: Gender
What are the genders of those in your group?

| | Male | Female | Non-Binary |
|----------------|------|--------|------------|
| Total (n = 90) | 40 | 48 | 2 |
| Event 1 | 14 | 12 | - |
| Event 2 | 7 | 5 | 1 |
| Event 3 | 19 | 31 | 1 |

Number of individuals in each gender category who were part of the groups surveyed.

Table 6. Attendee demographics: Group Race and ethnicity
What is the race and ethnicity of those in your group?

| | White | Hispanic or Latino | Asian | Black or African-American | American Indian or Alaska Native | Pacific Islander | Mixed Race |
|----------------|-------|--------------------|-------|---------------------------|----------------------------------|------------------|------------|
| Total (n = 90) | 43 | 16 | 9 | 7 | 11 | 1 | 3 |
| Event 1 | 18 | 1 | - | 4 | 1 | - | 1 |
| Event 2 | 3 | 2 | 2 | 3 | 4 | 1 | 1 |
| Event 3 | 22 | 13 | 7 | - | 6 | - | 1 |

Number of individuals in race and ethnicity category who were part of the groups surveyed.

Results

The results in the following section are presented by event. Charts of survey data are accompanied by interview excerpts and quotes, when pertinent, to provide additional depth to the closed-ended items. For each event, some of the questions in the survey instruments were adapted to the project team priorities. For example, after Event 1, the project team members became interested in uncovering the motivation for visitors to attend the youth-led events; this question was added to the survey instrument for Events 2 and 3. The scales for questions related to overall experience and ease of understanding the event were edited for Event 3. Data from the overall experience question were not included for Event 1 and 2 because options in the questions did not allow for results that could provide meaningful insights.

Event 1: Summer 2021 at OMSI



The first event organized by the YARB took place for a week (August 28–September 5, 2021) in the OMSI auditorium. Data collection took place on the opening day, Saturday, August 28, 2021. Attendees consisted of museum visitors, and friends and relatives of artists featured in the Art Gallery. The event did not have a consistent flow of visitorship and fewer people than expected visited the event. Low attendance could have been influenced by a number of factors such as social distance policies, limited museum offerings, reduced allowable capacity, construction in the lobby that disrupted visitor flow, or because visitors were interested in exploring other museum experiences.

Supporting public understanding about the climate science content

The extent to which the YARB products (climate stories and events) supported public audience understanding of the climate science content was evaluated through survey questions that asked the public about the ease of understanding the content presented. The interview responses provided insights from visitors' perceptions about the climate stories presented.

Five out of eight survey respondents found that the climate stories they saw were Very easy to understand (on a scale from 1 to 10; see Figure 1).

Ease of understanding the climate story

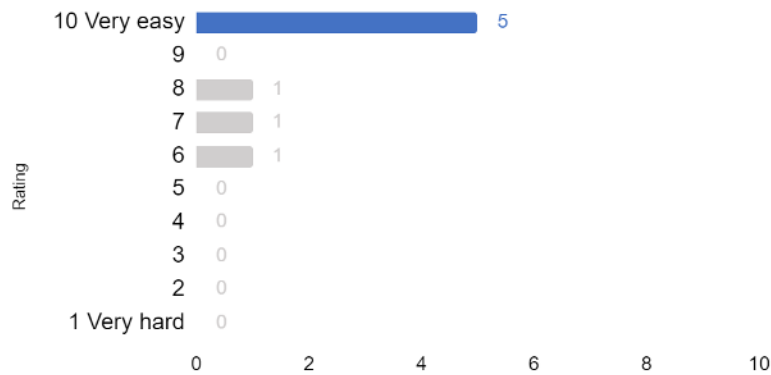


Figure 1. Event 1 participants' perception of the ease of understanding climate story

In interview responses, two themes emerged from participants' descriptions and understanding of what the event and climate stories were about: art expression related to 1) climate change, and 2) the impacts of climate change.

“Children having to grapple w/ too much, too early. Interpretation & pride on how youth are handling climate change. Equal sadness & inspiration.”

“Young students creating beautiful artwork & expressing their concerns about climate change in an artistic way.”

“Climate change & helping our Earth be better.”

“Impacts of climate change on the Earth.”

Supporting public intention to learn more and public sense of urgency

The majority of the survey participants reported that they *Strongly agree* or *Agree* (6 out of 8) that the event organized by youth made them feel inspired to learn more about local climate impacts (Figure 2).

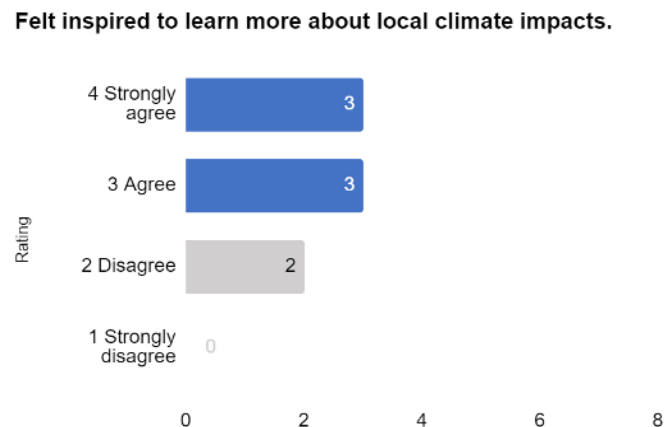


Figure 2. Event 1 participants' agreement that the event made them feel inspired to learn more about local climate impacts

Half of the survey participants (4) reported they *Strongly agree* that they felt a sense of urgency and/or worry about local climate change impacts (Figure 3). Three out of 8 respondents, however, *Disagree* with this feeling of urgency and/or worry about local climate change impacts.

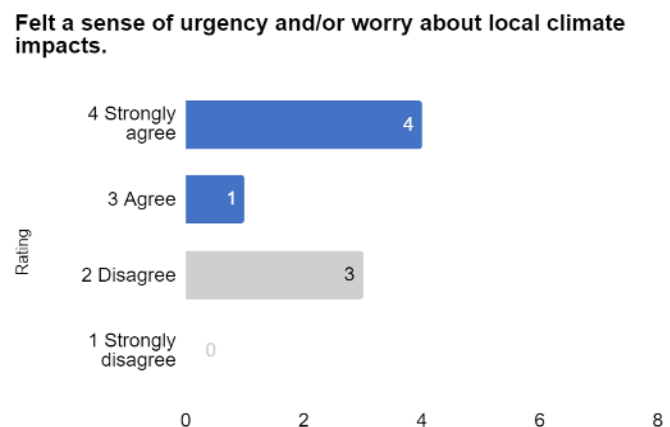


Figure 3. Event 1 participants' agreement that they felt a sense of urgency and/or worry about local climate change impacts

Examples of participants expressing a sense of urgency about local climate impacts during interviews can be seen in the quotes below.

"It's a topic we talk about often at home, it's a problem. I've noticed there's an impact on seasons [in California], changes in weather -- it doesn't rain in October and November, but those months used to be a hallmark for the rainy season. Generations that don't remember there was ever anything."

"Renews my fear, helplessness."

Supporting public learning and awareness of opportunities to continue learning

Six out of 8 participants reported they *Strongly agree* or *Agree* that they learned something new after their visit to the event. However, two respondents reported that they disagreed that they had learned something new from the event (Figure 4).

Learned something new.

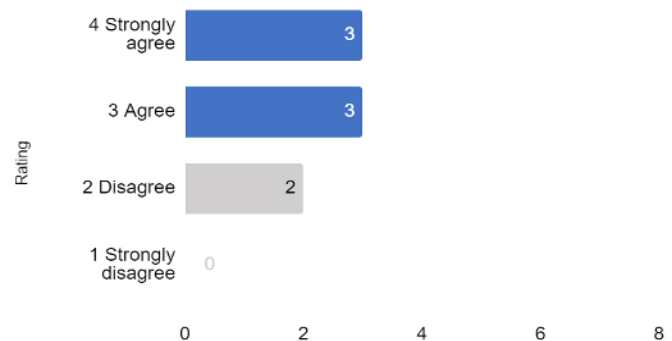


Figure 4. Event 1 participants' agreement they learned something new

The YARB event elicited an increase of awareness of opportunities to continue learning about local climate impacts (Figure 5). All the survey respondents reported that they *Strongly agree* or *Agree* that the climate story event increased their awareness.

Increased awareness of opportunities to continue learning about local climate impact.

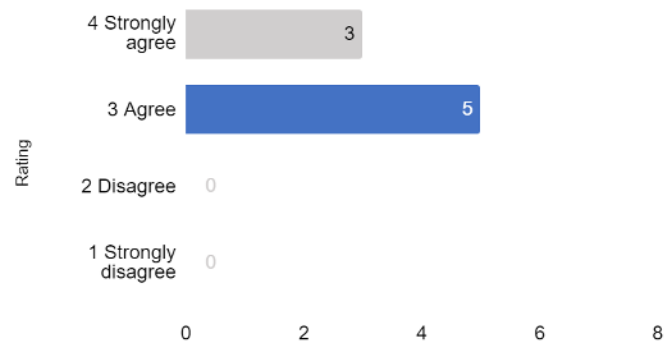


Figure 5. Event 1 participants' agreement that the event increased awareness of opportunities to continue learning about local climate impacts

In the interviews, almost all the respondents expressed their interest in wanting to learn more about local climate impacts. Several respondents mentioned looking for information related to climate impacts online, or through local opportunities or community efforts. Some respondents were not sure where to look for information beyond the current options they had online or within their communities.

“I’m not local, but I’d look for environmental organizations where I live in Texas. I look for policies in my area.”

“See if we could do more. Not so much locally, but we do have a community garden we’re a part of.”

“The internet, that’s where I look for info on everything.”

Emergent theme: youth as creators and educators

From the interview responses, participants appeared impressed that the activities were developed by youth and by the potential for learning through these activities.

“Phenomenal how students are learning. I love how students are learning this way, especially the place where people can write to city officials.”

“This is really well done & organized, especially considering they’re done by school-aged children.”

Event 2: Fall 2021 at True North Studios

The second event evaluated for this report was organized by the YARB after iterating and improving their climate stories following the summer session in 2021. They presented their climate stories in the Fall of 2021 at the True North Studios located in NE Portland, Oregon. True North Studios provides shared workspace and tools for people interested in exploring art. The climate stories presented consisted of an art gallery, a board game, and two videos. The event had few visitors, but overall was well received.

The evaluation at the second event included one additional question in the survey related to the participants’ decision to visit the event. This question was of interest to the YARB and project team to better understand participants’ motivations to visit the event.



Supporting public understanding about the climate science content

Respondents' reported the ease of understanding the climate stories presented at the True North Studies event as *Very easy* to understand (on a scale from 1 to 10; see Figure 6).

Ease of understanding the climate story

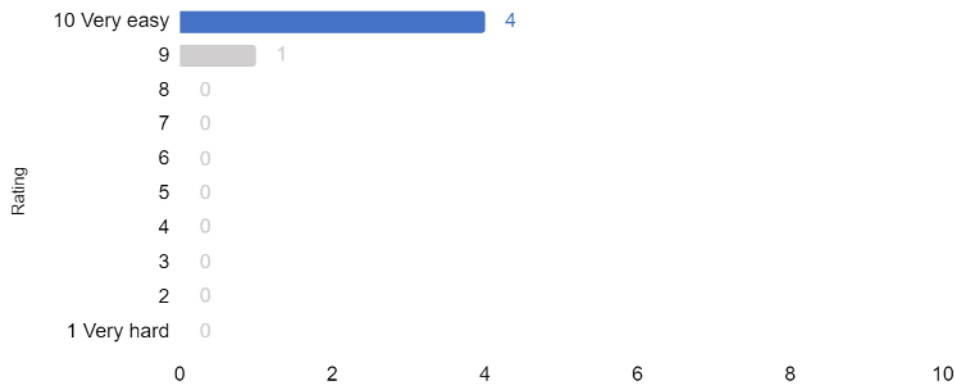


Figure 6. Event 2 participants' perception of ease in understanding climate stories

Some impressions captured through the interviews suggested that this event was effective in terms of raising awareness.

"I taught for 40 years and it's good to see this type of stuff happening. It's never too early. I'm impressed with how they are integrating things. Loved reading their statements, it shows that the kids get it. It's good that there's awareness."

Interview respondents described the event as youth-led and related to climate change and environmental impacts.

“Youth-led camp to bring attention to climate and PDX with a local focus more than global”
“Environmental impacts and showing awareness. Especially with summer wildfires (2020).”

Supporting public intention to learn more and public sense of urgency

All the event visitors who participated in the survey reported that they *Strongly agreed* or *agreed* that the event made them feel inspired to learn more about local climate impacts (Figure 7).

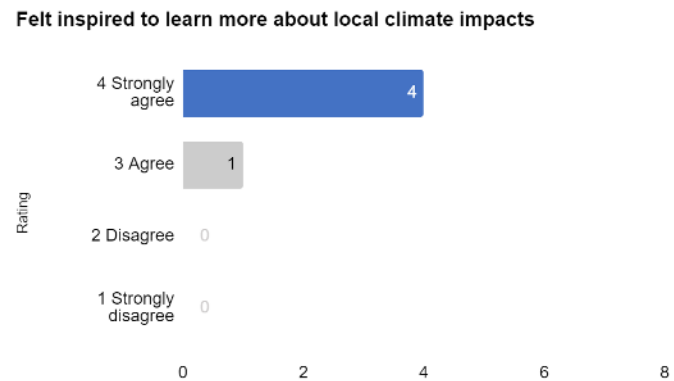


Figure 7. Event 2 participants’ agreement that the event made them feel inspired to learn more about local climate impacts

Similar responses occurred for the survey questions about feeling a sense of urgency and/or worry about local climate change impacts (Figure 8). All the survey respondents reported they *Strongly agreed* or *Agreed* with that feeling.

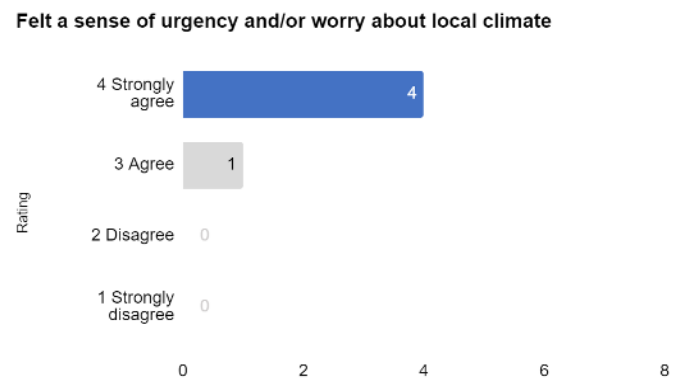


Figure 8. Event 2 participants’ agreement that they felt a sense of urgency and/or worry about local climate change impacts

Supporting public learning and awareness of opportunities to continue learning

For the survey questions about increasing urgency about climate impact and the extent to which the event provided the opportunity for participants to learn something new, responses from the event visitors were in the *Strongly agree* and *Agree* options (Figures 9 and 10).

Felt a sense of urgency and/or worry about local climate

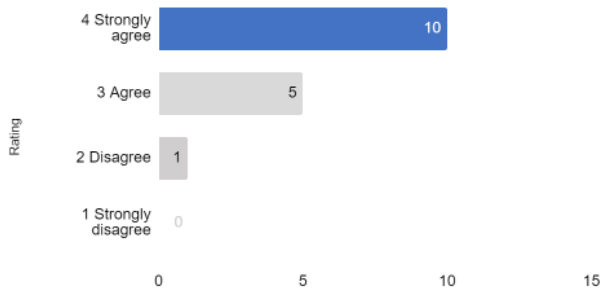


Figure 9. Event 2 participants' agreement that the event increased urgency about local climate impacts

Learned something new.

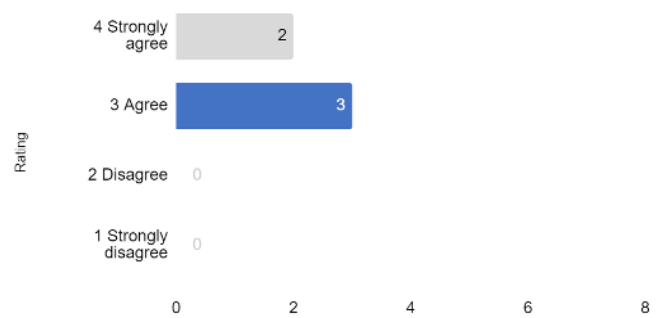


Figure 10. Event 2 participants' agreement they learned something new

Interview participants expressed that after visiting the event at the True North Studios, they wanted to learn more about local climate change impacts. One interview participant mentioned their involvement with climate action, and another participant mentioned they sought information in the media.

“Sure. On TV, OPB. Reading publications (it’s been hard to go out).”

“I’m already involved in climate action but, yes. If there is anything related to the community here, that would be useful.”

Reasons for attending the event

The three most common reasons survey participants reported for attending the event were because 1) someone invited them, 2) they were interested in youth-led activities, and 3) they were curious about the event (respondents were asked to only select two options).

What supported the decision to attend the event

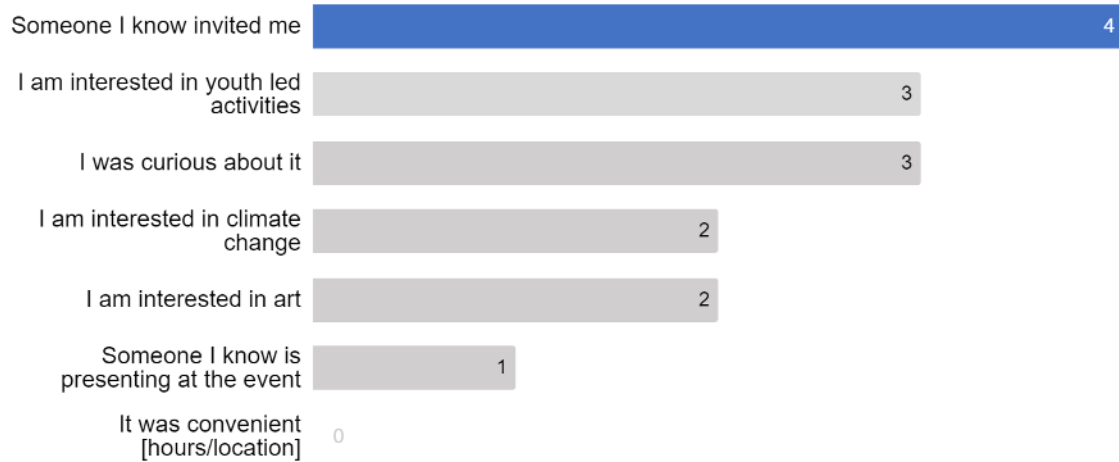
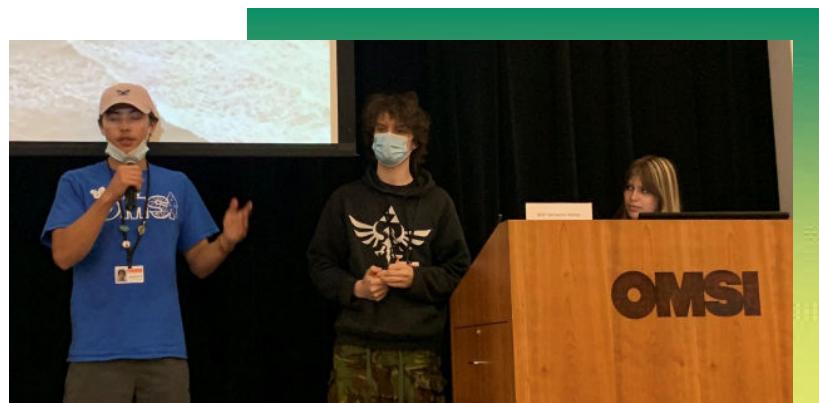


Figure 11. Event 2 participants' reasons to attend the event

Event 3: Summer 2022 at OMSI

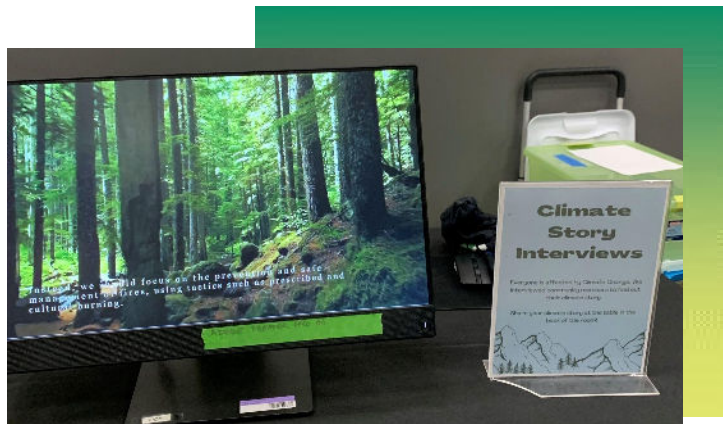


The youth who continued as YARB participants in the summer of 2022 presented the climate stories that they developed and revised in the previous program sessions. For this event, the YARB invited local organizations that had environmental or climate change related goals to be co-presenters. The event was held in the OMSI auditorium on a Saturday in August of 2022. This event included independent co-presenters. It should be noted that survey and interview responses are not focused on the YARB climate stories only, but rather the event as a whole.

Supporting public overall experience and understanding about the climate science content

The survey item used to rate participant overall experience of the event was updated to utilize a scale used by museums and zoos nationally to capture overall experience ratings of museum visitors. The corresponding item from the previous survey used a scale from 1–10 with categories ranging from *Very hard to understand* to *Very easy to understand*; the scale used for this event went from 1–5 scale from *Poor* to *Outstanding*.

For this event, 10 out of 17 survey participants reported that their overall experience after viewing the climate stories was *Outstanding* (Figure 12).



Overall experience after viewing the climate stories

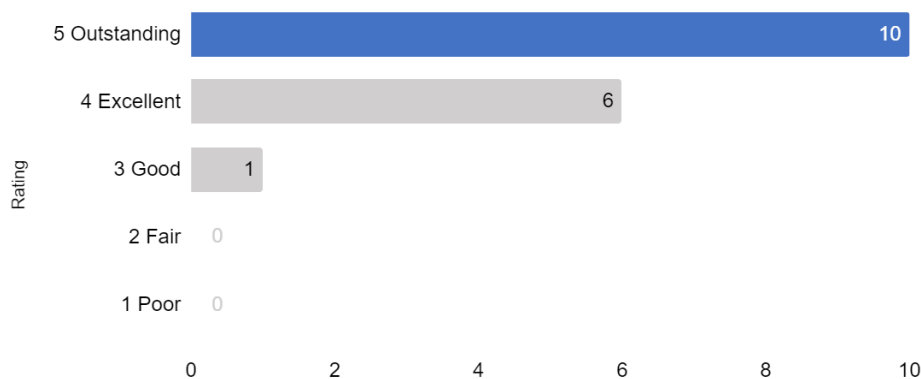


Figure 12. Event 3 participants' overall experience after viewing climate stories

An interview participant mentioned that the event was fun and interesting for their group.

“Kids liked it, so I had to get them out. Interesting for me, fun for them.”

Survey responses rated the climate stories presented at the Event 3 as *Very easy* to understand. Nearly all (16 out of 17) rated the stories as *Very easy* or *Easy* to understand (Figure 13). Bear in mind, responses were not limited exclusively to the YARB-led stories, they also included materials and activities presented by independent organizations invited to the event.

Ease of understanding the climate stories

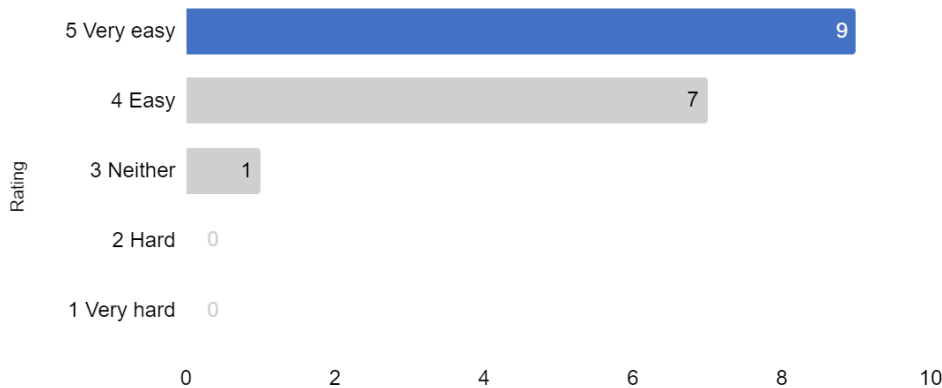


Figure 13. Event 3 participants' perception of ease in understanding climate stories

In the interview responses, respondents described the event presentations and the topics as environment-related.

“A few different environmental booths.”

Supporting public intention to learn more and public sense of urgency

Survey participants reported that after experiencing the event, they *Strongly agreed* or *Agreed* they felt inspired to learn more about local climate impacts (Figure 14).

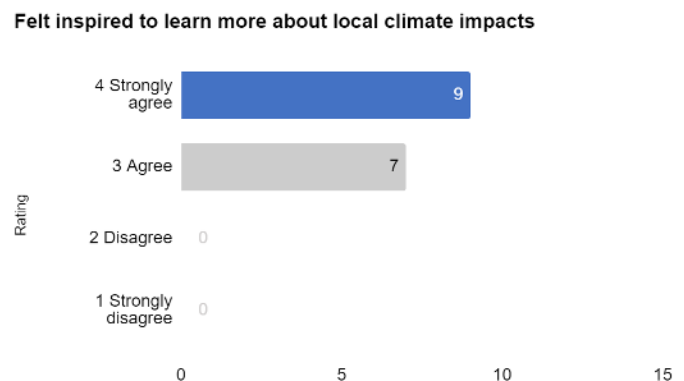


Figure 14. Event 3 participants' agreement that the event made them feel inspired to learn more about local climate impacts

The majority of survey respondents, 15 out of 16, reported that they *Strongly agreed* or *Agreed* that they felt a sense of urgency and/or worry about local climate change after experiencing the event (Figure 15).

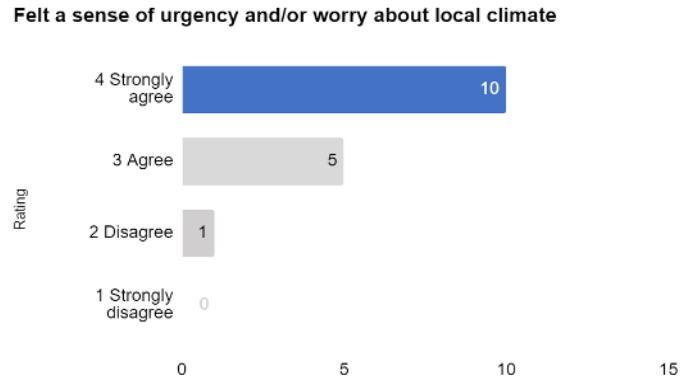


Figure 15. Event 3 participants' agreement that they felt a sense of urgency and/or worry about local climate change impacts

Supporting public learning and awareness of opportunities to continue learning

Regarding opportunities to continue learning, the event participants who responded to the survey reported that they *Strongly agreed* or *Agreed* that the event increased their awareness of opportunities to continue learning about local climate impact (Figure 16).

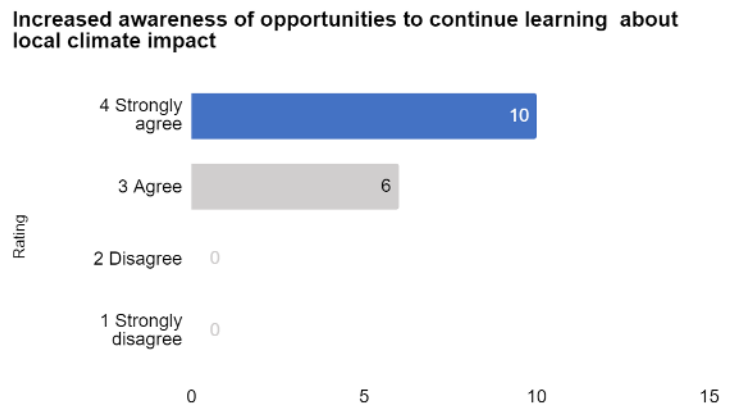


Figure 16. Event 3 participants' agreement that the event increased awareness of opportunities to continue learning about local climate impacts

As in the previous item, all the survey participants reported that they *Strongly agreed* or *Agreed* that they learned something new after their visit to the event (Figure 17).

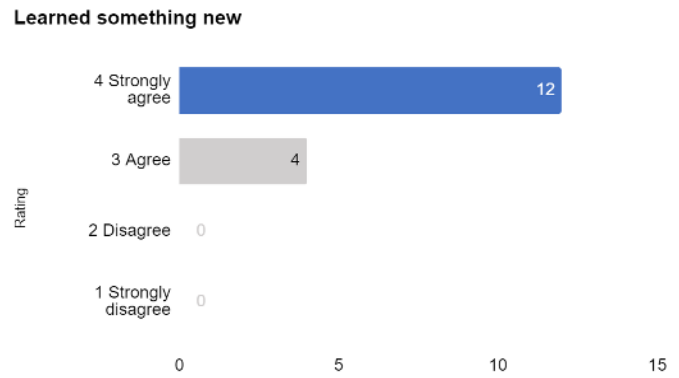


Figure 17. Event 3 participants' agreement they learned something new

Interview participants mentioned that after experiencing the different activities at the event they were interested in learning more about local climate impacts. Some of the responses alluded to specific topics, such as bees, and other responses alluded to places to look for information.

Reasons for attending the event

The two most common reasons survey participants reported for attending this event were 1) their interest in art and 2) their curiosity about the event (respondents were asked to only select two options (Figure 18).

What supported the decision to attend the event

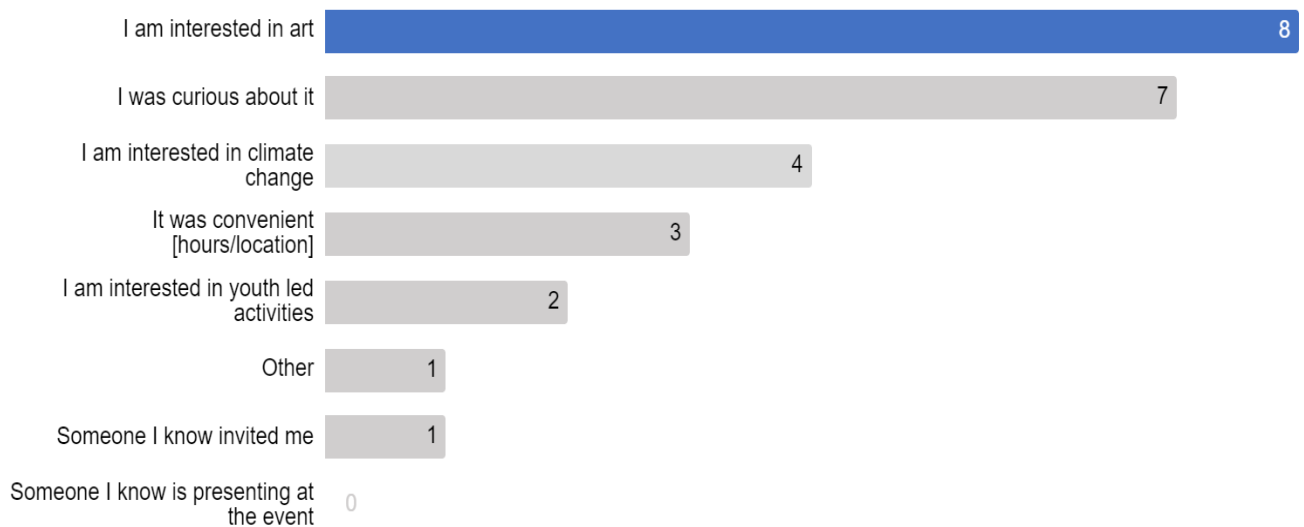


Figure 18. Event 3 participants' reasons to attend the event

Discussion

The goal of this report was to summarize data and findings from three events organized by the YARB and explore the extent to which those events supported public awareness of local climate impacts, intention to learn more, and awareness of opportunities to learn more about local climate impacts.

Responses from the attendees who participated in the surveys and interviews suggest that the youth-led products supported the project's desired outcomes. The majority of the evaluation participants reported that the climate stories and events were easy to understand and inspired them to learn more about climate impacts. Participants also reported that after seeing the climate stories they felt a sense of urgency about climate change and had increased their awareness of opportunities to learn more about local climate impacts. In the interviews, visitors to the events reported that they would describe the events as youth-led, geared towards environmental and climate action, and/or art events.

Due to a number of factors, the impacts of the climate stories developed and presented by the youth during the three events evaluated in this report are not directly comparable. For example, responses could have been influenced by the setting in which they were presented, and the profile of visitors who attended the events. Since the first and third event were presented at OMSI, responses could have been influenced by visitors who already have interest in climate, research, or ecosystem science, while the second event, presented at an art-themed space, may have had a very different visitor demographic.

The YARB participants conducted their own improvement-oriented evaluations for their climate stories at some of the public events. The evaluation approaches used by the YARB members included voting dots, engaging with visitors to answer their questions and taking notes from that. Approaches were creative, tailored as a dynamic part of their stories, and in some instances prolonged the engagement of the public with their stories. For example, in the Event 1, the YARB sub-group who created a board game, used the opportunity of teaching and playing along with public participants to observe areas for their content improvement and the public reactions.

Overall, YARB products were well-received by the public. Interestingly, some of the key public motivation for visiting the events included youth-led activities (Event 2) and interest in art (Event 3). The YARB events impressed the public in the sense that youth were perceived as creators and educators invested in issues that affect their local communities. Youth educational products have the potential to connect and resonate with different audiences. At events, youth presentations were cohesive, and the YARB's ability to select and curate relevant co-presenters fostered opportunities to enhance the visitor experience and provide

additional opportunities for the public to experience compelling approaches to storytelling, and perceive the importance of climate change impacts.

Furthermore, as educators, the YARB participants were able to provide novel approaches to incorporating art into their stories through the three events evaluated. Science museums and other organizations would benefit from collaborating with youth and providing spaces in which they can organize and share their products (climate stories or other educational interventions). Youth-led products have the potential to be approachable, resonate with local communities, and present issues that impact future generations in ways that benefit museums and public learners.

References

Pattison, S., Cohn, S., & Kollmann, L. (2014). *Team-based inquiry: A practical guide for using evaluation to improve informal education experiences*. Second edition. Retrieved from: <http://nisenet.org>)

Herrán, C., Shagott, T., & Zybina, M., (2023). *The OMSI Youth Advisory Research Board (YARB) Program Evaluation Report*. Oregon Museum of Science and industry.

Appendix A: Event 1 - General Audience Interview Instrument

Hi, my name is _____, and I work for OMSI. We are talking with people about today's event and would very much appreciate you taking a few minutes to tell us about you and your group's experience. Nobody will see your responses. It's anonymous. Your participation in this interview is totally up to you and you can stop answering questions at any time or decide not to answer any questions you don't feel like answering.

Would you like to participate in the interview today? Yes_____ No_____ (If "no": Thank and move on.)

Great! Then just to let you know this should take no more than 5 minutes. Please think about the event as a whole and your experiences across the different activities.

1. How would you describe the event to a friend or relative? What would you say it was about?

2. After experiencing the different activities in the auditorium, did you feel you wanted to learn more about local climate impact?

Yes.

[What or where would you look for information about climate impact?]

No or not Sure

[What would make it so you would be interested in learning more about climate impacts?]

3. Is there anything else you would like to share with us?

Appendix B: Event 1 - Survey Form



Answering these questions is voluntary and you can stop anytime with no negative consequences. Your response is anonymous and the survey takes only a few minutes of your time.

We are glad you chose to come today and we look forward to receiving your feedback.

1. Please rate your overall experience after viewing the demo/the climate stories (circle one)

| | | | | | | | | | | |
|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| Very hard to understand | | | | | | | | | | Very easy to understand |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

2. How easy was it to understand the climate story/demo that you just saw?

| | | | | | | | | | | |
|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| Very hard to understand | | | | | | | | | | Very easy to understand |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. Please rate your level of agreement with the following statements.

| As a result of the visit today... | (1) Strongly disagree | (2) Disagree | (3) Agree | (4) Strongly agree | N/A |
|---|-----------------------------|-----------------|--------------|--------------------------|-----|
| I felt inspired me to learn more about local climate impacts | 1 | 2 | 3 | 4 | N/A |
| I felt a sense of urgency and/or worry about local climate impacts | 1 | 2 | 3 | 4 | N/A |
| The presentations increased my awareness of opportunities to continue learning about the local climate impact | 1 | 2 | 3 | 4 | N/A |
| I learned something new | 1 | 2 | 3 | 4 | N/A |

OMSI believes that it is important to know about our visitors' identities in order to better serve the people who visit OMSI and all of their community events.

6. Including yourself, how many adults, teens, and children are in your group today?

Adults (18+): _____ Teens (13-17): _____ Children (7-12): _____ Children (0-6): _____

7. Including yourself, how many people in your group identify with the following genders?

Female: _____ Male: _____ Non-binary: _____ Prefer not to say: _____

8. Including yourself, how many people in your group identify with the following racial/ethnic categories?

American Indian or Alaska Native: _____ Asian: _____ Native Hawaiian or other Pacific Islander: _____

Black or African-American: _____ Hispanic or Latinx: _____ White: _____

Mixed Race: ____ Prefer not to say: _____ Thank you! We appreciate your feedback.

Appendix C: Event 2 - General Audience Interview Instrument

Hi, my name is _____, and I work for OMSI. We are talking with people about today's event and would very much appreciate you taking a few minutes to tell us about you and your group's experience. It's anonymous. This should take no more than 5 minutes. Your participation in this interview is totally up to you and you can stop answering questions at any time or decide not to answer any questions you don't feel like answering.

Would you like to participate in the interview today? Yes_____ No_____ (If "no": Thank and move on.)

Great! Then just to let you know Please think about the event as a whole and your experiences across the different activities.

1. How would you describe the activities that were at the center of this event to a friend or relative? [What would you say it was about?]

2. After experiencing the different activities in this event , did you feel you wanted to learn more about local climate impact?

Yes.

[What or where would you look for information about climate impact?]

No or not Sure

[What would make it so you would be interested in learning more about climate impacts?]

3. Is there anything else you would like to share with us?

Appendix D: Event 2 - Survey Form



Thank you for agreeing to help us make better events!

Answering these questions is voluntary and you can stop anytime with no negative consequences. Your response is anonymous and the survey takes only a few minutes of your time.

We are glad you chose to come today and we look forward to receiving your feedback.

1. Please rate your overall experience after viewing the demo/presentations (circle/mark one)

| | | | | | | | | | | |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------------|
| <i>Very hard to understand</i> | | | | | | | | | | <i>Very easy to understand</i> |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

2. How easy was it to understand the climate demo/presentations that you just saw? (circle/mark one)

| | | | | | | | | | | |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------------|
| <i>Very hard to understand</i> | | | | | | | | | | <i>Very easy to understand</i> |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

3. Please rate your level of agreement with the following statements.

| As a result of the visit today... | (1) Strongly disagree | (2) Disagree | (3) Agree | (4) Strongly agree | N/A |
|---|--------------------------|-----------------|--------------|-----------------------|-----|
| I felt inspired to learn more about local climate impacts | 1 | 2 | 3 | 4 | N/A |
| I felt a sense of urgency and/or concern about local climate impacts | 1 | 2 | 3 | 4 | N/A |
| The presentations increased my awareness of opportunities to continue learning about the local climate impact | 1 | 2 | 3 | 4 | N/A |
| I learned something new | 1 | 2 | 3 | 4 | N/A |

5. What supported your decision to come to this event (Please select only TWO options)

- | | |
|---|--|
| <input type="checkbox"/> Someone I know invited me | <input type="checkbox"/> I am interested in climate change |
| <input type="checkbox"/> It was convenient (hours/location) | <input type="checkbox"/> I am interested in youth led activities |
| <input type="checkbox"/> I am interested in art | <input type="checkbox"/> Someone I know is presenting at the event |
| <input type="checkbox"/> I was curious about it | <input type="checkbox"/> Other: _____ |

OMSI believes that it is important to know about our visitors' identities in order to better serve the people who visit OMSI and all of their community events.

6. Including yourself, how many adults, teens, and children are in your group today?

Adults (18–25): _____ Adults (26+): _____ Teens (13–17): _____
Children (7–12): _____ Children (0–6): _____

7. Including yourself, how many people in your group identify with the following genders?

Female: _____ Male: _____ Non-binary: _____ Prefer not to say: _____

8. Including yourself, how many people in your group identify with the following racial/ethnic categories? Please select all that apply.

American Indian or Alaska Native: _____ Asian: _____ Native Hawaiian or other Pacific
Islander: _____ Black or African–American: _____ Hispanic or Latinx: _____ White: _____
Mixed Race: ___ Prefer not to say: _____

Thank you! We appreciate your feedback.

Appendix E: Event 3 - General Audience Interview Instrument

Hi, my name is _____, and I work for OMSI. We are talking with people about today's event and would very much appreciate you taking a few minutes to tell us about you and your group's experience. It's anonymous. This should take no more than 5 minutes. Your participation in this interview is totally up to you and you can stop answering questions at any time or decide not to answer any questions you don't feel like answering.

Would you like to participate in the interview today? Yes_____ No_____ (If "no": Thank and move on.)

Great! Then just to let you know, please think about the event as a whole and your experiences across the different activities.

1. How would you describe the activities that were at the center of this event to a friend or relative? [What would you say it was about?]

2. After experiencing the different activities in this event, did you feel you wanted to learn more about local climate impacts?

Yes.

[What or where would you look for information about climate impacts?]

No or not Sure

[What would make it so you would be interested in learning more about climate impacts?]

3. Is there anything else you would like to share with us?

Appendix F: Event 3 – Survey Form

Thank you for agreeing to help us make better events!

Answering these questions is voluntary and you can stop anytime with no negative consequences. Your response is anonymous and the survey takes only a few minutes of your time.

We are glad you chose to come today and we look forward to receiving your feedback.

1. Please rate your overall experience after viewing the activities/presentations (circle/mark one)

| | | | | |
|-------------|-------------|-------------|------------------|--------------------|
| 1 ○ Poor | 2 ○ Fair | 3 ○ Good | 4 ○ Excellent | 5 ○ Outstanding |
|-------------|-------------|-------------|------------------|--------------------|

2. How easy was it to understand the climate demo/presentations that you just saw? (circle/mark one)

| | | | | |
|--------------------------------|---------------------------|--|---------------------------|--------------------------------|
| 1 ○ Very hard to understand | 2 ○ hard to understand | 3 Neither hard nor easy to understand | 4 ○ Easy to understand | 5 ○ Very easy to understand |
|--------------------------------|---------------------------|--|---------------------------|--------------------------------|

3. Please rate your level of agreement with the following statements.

| As a result of the visit today... | (1) Strongly disagree | (2) Disagree | (3) Agree | (4) Strongly agree | N/A |
|---|--------------------------|-----------------|--------------|-----------------------|-----|
| I felt inspired to learn more about local climate impacts | 1 | 2 | 3 | 4 | N/A |
| I felt a sense of urgency and/or concern about local climate impacts | 1 | 2 | 3 | 4 | N/A |
| The presentations increased my awareness of opportunities to continue learning about the local climate impact | 1 | 2 | 3 | 4 | N/A |
| I learned something new | 1 | 2 | 3 | 4 | N/A |

5. What supported your decision to see this event (Please select only TWO options)

- Someone I know invited me
 I am interested in climate change
 It was convenient (hours/location)
 I am interested in youth led activities
 It was convenient (I came to visit OMSI)
 Someone I know is presenting at the event
 I was curious about it
 Other: _____

OMSI believes that it is important to know about our visitors' identities in order to better serve the people who visit OMSI and all of their community events.

6. Including yourself, how many adults, teens, and children are in your group today?

Adults (18–25): _____ Adults (26+): _____ Teens (13–17): _____
Children (7–12): _____ Children (0–6): _____

7. Including yourself, how many people in your group identify with the following genders?

Female: _____ Male: _____ Non-binary: _____ Prefer not to say: _____

8. Including yourself, how many people in your group identify with the following racial/ethnic categories? Please select all that apply.

American Indian or Alaska Native: _____ Asian: _____ Native Hawaiian or other Pacific
Islander: _____ Black or African-American: _____ Hispanic or Latinx: _____ White: _____
Mixed Race: _____ Prefer not to say: _____

Thank you! We appreciate your feedback.