



Association for
**Science and
Discovery Centres**

Next Gen Earth **Case studies report**



Natural
Environment
Research Council

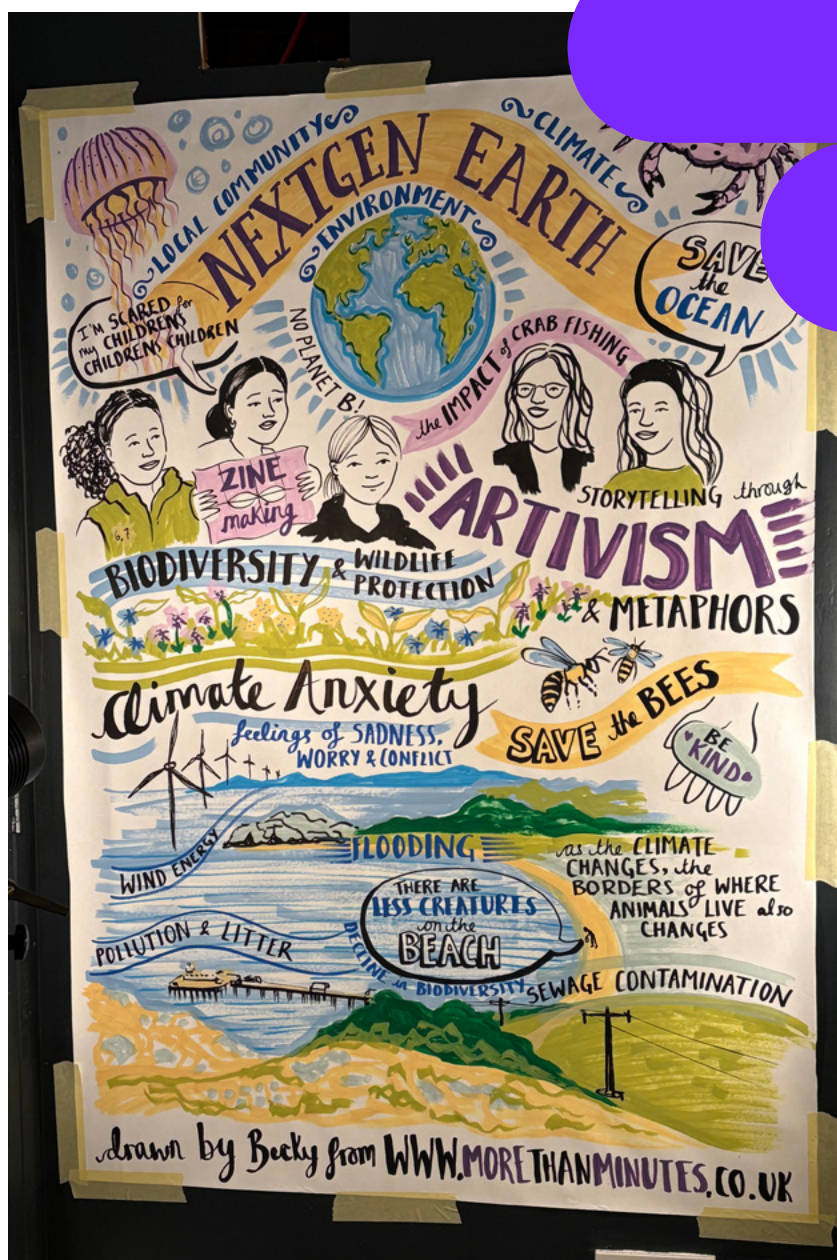
Foreword

Foreword By Cait Campbell, Project Manager, ASDC

The Next Gen Earth programme has brought together a diverse group of organisations across the UK to explore new approaches to engaging young people with environmental science. Through a shared commitment to inclusion, co-creation and NERC science and innovation, partners have worked with young people in their communities to design and deliver experiences that connect scientific research to real lives, places and futures.

Across the nine projects there were 1,276 participant interactions resulting in 3,708 interaction hours, with a key focus to engage with young people historically underrepresented in environmental sciences. These case studies capture the breadth and depth of that work. From coastal communities to city-based youth groups, from museums to science centres and outdoor environments, each project has responded to the needs, interests and contexts of the young people involved. Across all partnerships, a consistent theme has emerged: when young people are given meaningful agency, supported by relatable role models and hands-on experiences, their confidence, curiosity, and sense of belonging in environmental science can grow significantly.

The programme has also highlighted important insights into the barriers that continue to shape engagement with environmental science. These include access to opportunities, confidence,

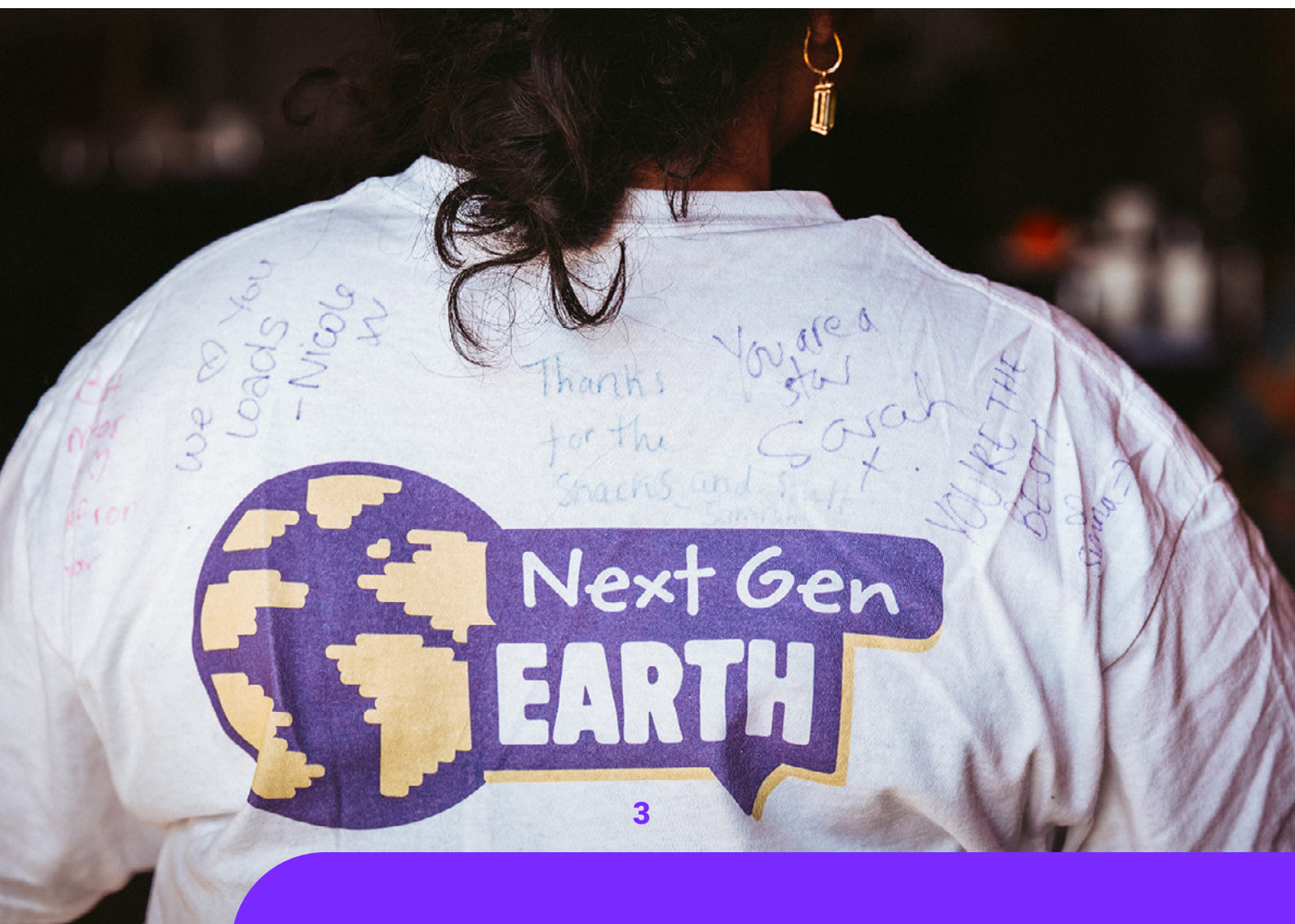


representation, and awareness of pathways into environmental careers. Encouragingly, the projects demonstrate that these barriers can be reduced through sustained, relationship-led approaches that prioritise creativity, relevance, and participation over more traditional models of engagement.

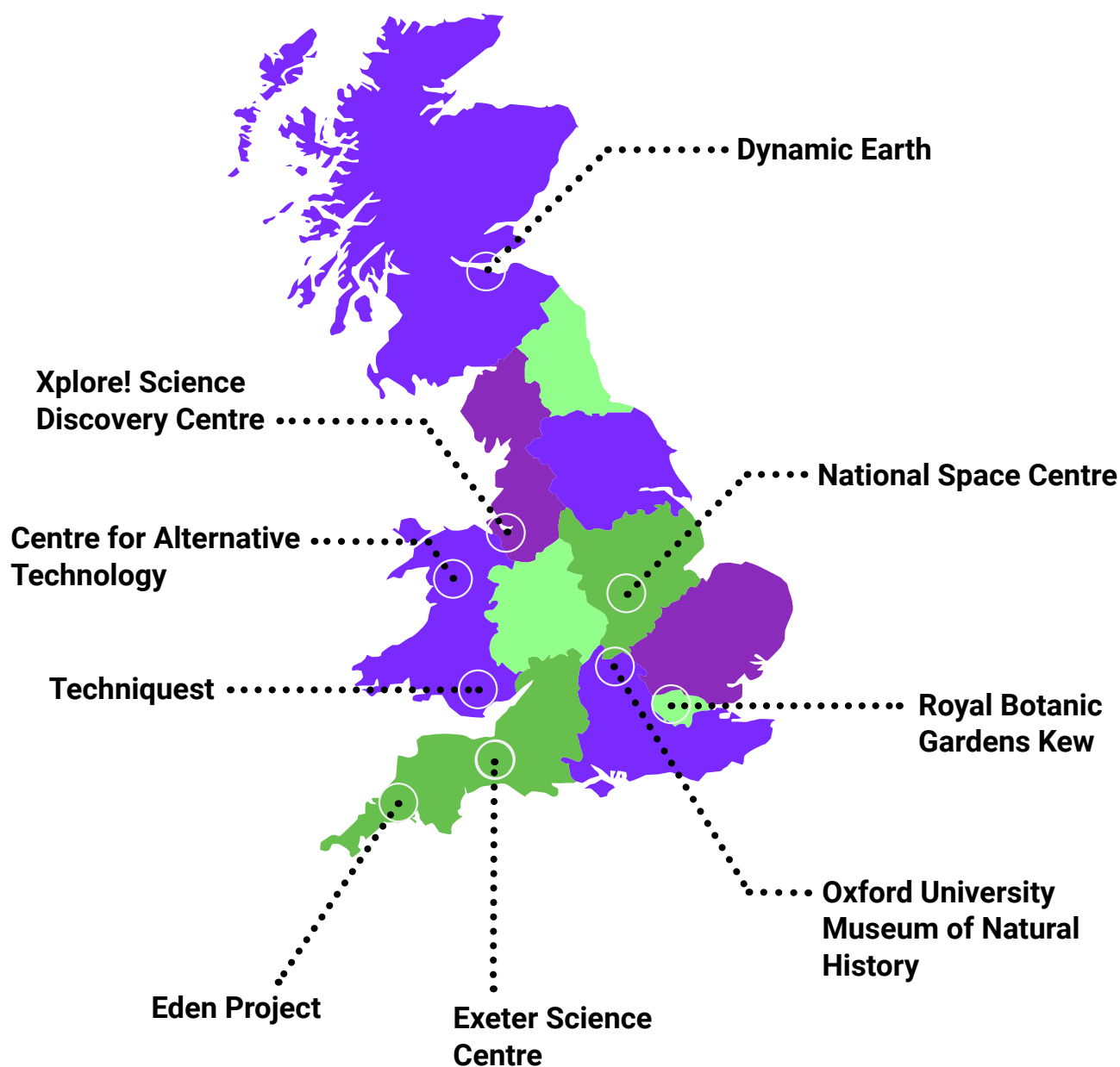
Importantly, Next Gen Earth has not only supported young people but has also created space for organisations and researchers to test, reflect on, and evolve their own practice. Many of the approaches developed through this programme are already being taken forward, demonstrating a strong and growing legacy.

Each case study has been written by the project lead and includes a description of their project goals, summary of delivery, barriers to engagement with environmental science identified during delivery, what worked well and challenges. In addition, each has an Evaluator's Insights section that brings in reflections from the evaluator and the participant survey data. The surveys used the question bank and tools provided by the **ASDC Theory of Change** to measure the participant outcomes.

We hope the case studies offer valuable insight into what effective, inclusive environmental engagement can look like in practice and provide inspiration for future work across the sector.



Next Gen Earth delivery partners



Centre for Alternative Technology (CAT)

By Amanda Smith, Head of Learning



Project goals

Through this project we really wanted the young people to feel that a positive, hopeful future is possible and that the actions they take contribute to that, by inspiring young Welsh learners with the resilience, confidence and drive to play an active role in shaping the future of Wales. We aimed to look at skills for the future and how these are for everyone, how empowering it is to take these steps.

We wanted to explore what the young people already know about climate change, how they feel about it and what impact they have seen in their own communities. Through discussion we encouraged the group to see that this (environmental science) was for them too. An example of this was the wind turbine workshop, a co-chosen activity that gave them the opportunity to get hands and led so many to say they wanted to work in renewable energy.

I think the main achievement was about raising awareness in what environmental science is and what study and career choices there are. This definitely interested

and inspired the young people. We did this by encouraging understanding about what the opportunities are, getting people to share the different paths they took to become environmental scientists.





Max cohort capacity:

19

Age range:

12-14yrs

Interaction hours:

188

Summary of delivery

The project began with an introductory planning session attended by the NERC researcher and community partner, followed by recruitment of two school groups. Initial school sessions introduced the programme, explored young people's existing knowledge and experiences of climate change, and shaped activities around their interests. We explored what the young people already know about climate change, how they feel about it, what impact they have seen in their own communities and what they would like to see for their communities in the future. We looked at the skills they will need to make their visions a reality, exploring the role of environmental science in future study and work, identifying barriers and looking for solutions. We embedded co-creation

with the young people, a key approach underpinning our project, meaning we adapted the programme to their needs and interests.

“ It was fantastic to see the group's confidence and engagement with environmental science grow as the programme went on ”

- Project lead

A joint site visit to CAT then provided hands-on workshops in renewable energy, sustainable building, and future-focused environmental thinking, alongside career

insights from professionals in the field. The programme culminated in a celebration event at Bangor University, where participants engaged with marine research, took part in an Ocean exploration Lego

What worked well

The contacts and experience of our youth partner really enriched this programme and made elements of it possible. Their trusted contact with Ysgol y Moelwyn enabled us to engage the young people from this area. They really supported us and took responsibility for planning and organising one of the engagement days. They brought in students from their Mentoring Programme who were so helpful and enthusiastic and closer in age to them. They accompanied the young people as they followed the programmed activities as well as talking to them and getting a sense of their reflections through discussion, providing anecdotal feedback that was richer than if the staff had asked them questions. Adding to this the researchers in the room, provided a clear line of sight into environmental related careers from school student to university mentor to researcher.

Challenges

Initially, contact with the school was more difficult because the route to contact was through our partner, which caused an inevitable delay. As we got further into the programme, we had direct contact with the school which eased the pressure on everyone.

Good communication between us enabled this programme to be successful.

robotics session, and an action planning workshop, supporting them to translate their learning into practical steps to take back to their communities and local area.

For the final session at Bangor University the NERC researcher turned out to be from “the same town and had been to the same school” as one of the groups, challenging the perception that “that’s not for people like us. We don’t do that. That’s for somebody else.”



We have agreed that we would like to work together in the future but have no specific plans as yet. When we embarked on the programme our intention was to establish a youth panel which would continue beyond the project, but the tight timeline meant we did not progress this aspect as we needed these initial sessions to break down the barriers to environmental science first before establishing a panel.

Barriers to environmental science

We explored environmental science subjects and careers and identified the following barriers for our young participants:

- Limited awareness of environmental science subjects and careers including the range of roles available
- Limited recognition that future career choices can contribute to environmental action and can create positive change in the world
- Narrow perceptions of what environmental science involves
- Perception among many students that environmental science was “not for them”

Evaluator insights

This project stood out for the depth of its co-creation and the way it explicitly linked climate change, young people’s emotions, and their future pathways. From the outset, the intention was not to deliver a fixed programme but to build something “with them and for them”. That co-creative approach extended beyond activities into how environmental science itself was framed. Young people moved from feeling “we don’t know about environment... it’s not for people like us” to recognising that “environmental science is really the connection between humans and the environment” and that “there’s something there that I could do”. The project lead described the resulting shift as “evidence-based hope... that there is hope, because I can now do this”.



15.9%

increase in agreement
with the statement

“I could work with environmental science in the future if I wanted to
(Possible selves)

13.8%

increase in agreement
with the statement

“I felt/feel my ideas are heard during environmental science activities
(Possible selves)

Dynamic Earth

By Emma Clark, Learning and Engagement Manager
(Community Programmes) and EDI Chair



Project goals

Dynamic Earth aimed to build on our existing partnership with Multi-Cultural Family Base, a community organisation supporting young people from ethnically diverse backgrounds in North Edinburgh, to deliver a six-session programme exploring Earth and environmental sciences.

We chose to work with them because they support children aged 7–14 from ethnically diverse backgrounds who may be experiencing challenges related to migration, loss, language barriers, racism, poverty, inadequate housing, or social isolation. Their values and approach align closely with our aims to make environmental science accessible to all and this helped us shape the way we planned and delivered our activities.

We aimed to create an environment where Participants will have a space/platform to meaningfully engage with environmental topics, feel a sense of belonging to Dynamic Earth and see themselves, and their views, represented in our centre and feel confident

in having conversations with their families/communities/support networks and reflecting their views in climate change conversations.





Max cohort size:

12

Age range:

7-14yrs

Interaction hours:

100.5

Summary of delivery

We started the project with an introductory session, to allow the young people to explore multiple topics and vote on the direction of the project. We used their interests, questions, and engagement levels from each session to shape the next one. This meant that young people's interests and questions were explored, they felt empowered to ask more questions and played a major part in the direction of the project, increasing a sense of agency and ownership.

Highlights included investigating real fossils, experimenting with ocean acidification, exploring coral reefs through brand-new VR opportunities made possible by this funding, and taking part in ROV simulations and marine animal surveys. The group also had the chance to meet a marine scientist from

the National Oceanography Centre, asking thoughtful questions about her work and life at sea. These activities helped the young people see the variety of roles within marine science and engage with environmental issues in a way that felt relevant, exciting, and accessible.

The activities were designed to span a wide range of marine science careers, from hands-on fieldwork to data analysis, creative interpretation, and remote operated vehicle work, helping the group see that there is no single "type" of scientist. Meeting a scientist from an ethnically diverse background who had studied in Edinburgh further increased relatability and provided a role model that 'looked like them'. A deliberate effort was made to reflect the young people in

“ They hadn't experienced the fun of science. By the end they did enjoy all of it. You wouldn't have thought they didn't like science having spent the sessions with them. ”

- Project lead, Dynamic Earth

the scientists involved, recognising the importance of representation in building confidence and belonging.

One young person initially said she wanted to be a scientist but then dismissed the idea as “too hard and boring.” After our discussion about the many different ways someone can “be a scientist,” she engaged enthusiastically in later sessions and asked

detailed questions during the ‘Meet the Scientist’ call. This shift suggests a growing sense of possibility.

“there is absolutely a possibility for people like us and a place we can thrive”
- Youth Centre lead

What worked well

Starting with an introductory session where the young people explored different topics and voted on their focus worked extremely well. It helped me get to know them, understand their interests, and plan sessions that felt genuinely tailored. I now use this approach with most new community partners.

The session where the young people were able to “be a marine scientist” was particularly successful. The variety of activities - experiments, VR, ROV simulations, arts and crafts, and games - kept them engaged and helped them understand that marine science involves many different skills and approaches. Building relationships over

the weeks also helped natural conversations develop, which increased their confidence in discussing environmental issues.



Challenges

It was difficult to find scientists who represented the young people and were available within the short timeframe. The team reached out to several contacts specifically asking for a researcher from the BAME community to be involved and eventually a marine researcher from National Oceanographic Centre was able to take part in a session online with the group. I believe

the group would have engaged even more strongly with the scientist if they had been there in person.

Sessions were also shorter than planned due to transport delays, meaning we had less time to explore topics in depth. More sessions would have allowed us to build further on their growing interest, however they adapted the sessions plans accordingly.

Barriers to environmental science

Several barriers emerged throughout the project:

- Literacy challenges: Many young people struggled with reading English, which slowed engagement with written tasks.
- Lack of representation: At the start, every young person said they did not feel environmental science was “for people like them.”
- Limited exposure: Many had never seen fossils, VR, ROVs, or marine science tools before, which initially made the content feel unfamiliar.
- Difficulty finding representative scientists: It was challenging to find scientists from ethnically diverse backgrounds who were available within the project timeframe. When I contacted organisations such as the National Oceanography Centre and Empowerment via Education, they also shared that they were struggling

to identify diverse scientists who were available, highlighting that this is a wider systemic issue rather than a challenge unique to our project.

Evaluator insights

For their work with a group of ethnically diverse young people aged 7 to 14 they went into each session ready to respond to the young peoples’ interests. In between sessions staff then reflected on what had happened and what the young people wanted to know more about, before bringing together some ideas for the next session. Relationship building was important as many of the young people didn’t see science as being for them and hadn’t had a positive previous experience with science. These perceptions and attitudes changed over the course of the sessions, with the project lead noting that they enjoyed the sessions and had the opportunity to see the potential of science.



61.4%

increase in agreement
with the statement

“Environmental science feels
relevant to me and things I care about
(Relevance)

26%

increase in agreement
with the statement

“Environmental science matters in
my everyday life
(Relevance)

Exeter Science Centre

By Alice Mills, Co-Director



Project goals

For this programme we wanted to build on our existing collaboration with SPACE Youth service – a Devon based charity that supports young people to learn, create and realise their potential. We were really keen to engage in a longer term project that built a stronger relationship with them as a partner and helped us get to know and build trust with some of the young people.

We engaged with young people at two youth centres, working with the senior group at

Bideford Youth Centre (age 14-19) and the Juniors group (age 11-14) at Barnstaple Youth Centre.

Above all, we aimed to create a meaningful, lasting connection with these young people and their youth leaders, offering them a platform to share their views, building a sense of their belonging within science and helping us learn how best to serve them through environmental science engagement and education.





Max cohort size:

15

Age range:

11-16yrs

Interaction hours:

97

Summary of delivery

We aimed to give the young people a stronger sense of agency: Our activities for this project were strongly steered by the young people. We introduced a broad range of themes and options and discussed with them what activities they enjoy and what inspires and worries them in the environment. We then planned future activities based on these responses.

Raised aspirations: By connecting with local STEM-linked organisations like the North Devon Biosphere, the young people were able to see environmental science as accessible, interesting and relevant. We involved a number of different NERC-remit researchers and people working in environmental careers in our sessions to highlight some really varied and impactful careers being undertaken by local people. These included an ecologist from the North Devon Biosphere, an analytical chemist specialising in water quality monitoring and a marine acoustics specialist from Seiche.

Skills development: Through collaborative activities and discussion we aimed to increase the young people's confidence and communication skills. It took time to build trust with the young people and there was one girl in particular who would not even talk to us in the first session but by the final session was helping to lead activities.

“ We need much more work like this happening with young people. The work gave me hope. ”

- Youth Centre lead

Deeper belonging: Many of the young people initially had negative feelings towards science in the first sessions. Some had previous negative experiences of science learning. Through framing science within local environments and lived experience,

building trust through repeated interactions and providing engaging, hands-on activities, we believe we helped to create a sense of relevance and inclusion and began to shift their attitudes towards science. One of the

girls in the Barnstaple group spoke to us in the first session and told us she 'hated science' and 'wasn't interested'. She was the only girl that signed up for the field trip at the end of the project.

What worked well

Adapting the delivery model to allow more time and consistency with smaller groups helped to build trust and led to a noticeable positive shift in young people's engagement. Holding sessions in familiar, youth-led spaces and informally integrating activities

into existing drop-in environments also proved valuable, helping participants feel comfortable and enabling more authentic interactions, with one-to-one approaches at times supporting deeper conversations.

Challenges

Initial assumptions around session structure, group size and engagement levels were unrealistic, and the drop-in format made it difficult to maintain consistent attendance or compete with other activities at the youth centre. However, by engaging with the young people in their space and taking part in their activities, we were able to build trust and share in the things they enjoy whilst also humanising scientists.

“ I feel much more confident about talking about environmental science now ”

- Participant



Practical challenges, particularly around obtaining parental consent and coordinating field trip participation, also limited involvement and highlighted the need for simpler, more accessible processes. Simplifying this process by digitising the forms and sharing via Whatsapp improved the situation.

Barriers to environmental science

- Some young people did not know what environmental science was and had no idea of careers within that field
- Due to extenuating circumstances the environment was not seen as a priority for some of the young people
- Poor experience of science at school
- Perception of environmental science being “for clever people”
- Impact of myths / misinformation / impact of AI about environmental topics, which distanced young people from environmental science

Evaluator insights

The youth centre staff noted that the relationship building was enhanced because the project team joined in with whatever activities the young people themselves were doing, playing board games or a musical instrument, showing scientists as “normal people”.

In terms of whether the project was a success, the project volunteer commented that “The combination of informal interaction, local environmental focus, and experiential learning (such as the beach visit) helped demonstrate that science can be relevant, approachable, and empowering.” The young people showed an increased interest in the topics and both the project team and youth centre staff observed that the young people felt more confident talking about environmental issues.



18.4%

increase in agreement
with the statement

“I feel comfortable when doing
environmental science activities
(Belonging)

16.6%

increase in agreement
with the statement

“I feel/felt my ideas are heard during
environmental science activities
(Belonging)

National Space Centre

By Darcy Kitchener, Community Engagement Manager



Project goals

We worked with students across the city of Leicester that were actively part of our after-school space clubs to create a youth voice forum.

The participants took ownership over a green area on the space centre grounds and looked at how to best create a sustainable environment for biodiversity. We proposed using an area of land that is part of the National Space Centre's plot but also on an open area, that has a lot of through traffic from pedestrians and cyclists, next to the canal. The group would need to look at what is sustainable, works for the local area, cost effective and impactful for our local residents.

The main goals for the youth involved in the programme were for them to be able to take part in an accessible programme of activities in which they can work towards a common goal with ownership over the outcome. Along this journey they learnt new skills, formed new friendships and a sense of belonging and increased their science capital in areas such as environmental

awareness, budgeting and gardening. We also engaged with staff onsite to give insight into local biodiversity and from space park Leicester to give a more world context.





Max cohort size:

15

Age range:

7-14yrs

Interaction hours:

337.5

Summary of delivery

The project allowed the National Space Centre to create 'Youth Voice', a group of 10 young people aged 7–13 from nearby communities who face barriers to engagement. Together, they co-designed and delivered 'Space to Grow', a community garden nestled between the River Soar and the Centre itself.

“ This project is a prime example of why we do the jobs we do ”

- Community staff member,
National Space Centre

Across 19 sessions, the group moved from early exploration and site assessment into hands-on design and build, using tools to consider climate, biodiversity and space, and

developing plans for features such as living willow hedges, wildlife habitats, pathways and creative installations. Visits to established community gardens and practical workshops helped them understand sustainable sourcing, budgeting, and how to create welcoming, inclusive spaces.

Experts generously shared practical lessons exploring environmental and space science topics, providing the foundations for informed decision-making. Contributions from organisations including the National Centre for Earth Observation and the National Space Academy introduced the group to satellite data, biodiversity monitoring and atmospheric science, while partners such as the Leicestershire and Rutland Wildlife Trust and Wildwater Ponds supported habitat creation through planting, pond installation and ecological design.

Creative collaborators also enabled the group to express their ideas through public art, resulting in a mural that captured the project's identity. Through these experiences, participants developed a wide range of skills, including teamwork, problem-solving, environmental stewardship, and increased awareness of local careers linked to the space and environmental sectors.

“ Thank you for helping us grow ”
- Participant

The group showed grit and determination in their commitment to physically demanding outdoor work through the winter months, overcoming challenges such as repairing vandalism and refining their designs as the garden took shape. This sustained effort resulted in notable growth in confidence,

What worked well

Our approach to promoting youth leadership in this project is something we wish to take forwards into future work with local young people due to its success in achieving our goals for participant personal and skill development. This includes small, conscious choices about how we set up the space

Challenges

Challenges included commitment and attendance early-on in the programme, due to weather and behaviour-related absences such as participants having after school detentions at the same time as our sessions. I feel as though this improved quickly and

connection, aspiration and creativity, as well as a strong sense of ownership over the space they had created. The project culminated in a celebratory launch event featuring a planetarium presentation, video showcase, ribbon cutting and garden tour, marking not only the opening of 'Space to Grow' but also the achievements of the Youth Voice group as emerging leaders and changemakers within their community.



and furniture when facilitating, as well as bigger shifts in the type of language we use, the structure of a programme to allow more room for creativity to flourish, and the deliberate exchange of decision-making authority, without losing a sense of respect, control and group collaboration.

the weather became less of a reason to not come along to sessions once we had switched up the narrative to create fun in the rain, sleet and chilly temperatures! End of session hot chocolates were a very important part of this perception change!

“What you are doing has real impact. These kids are incredible”

- Community lead from partner organisation

Barriers to environmental science

- Limited awareness of environmental research careers and specialist subject areas
- Lack of ongoing engagement opportunities – insufficient sustained pathways for young people to explore specialist subjects, develop their interests, and build relevant skills over time.
- Socioeconomic and geographic barriers – Factors such as household income and postcode can affect access to opportunities, resources, and experiences that support career development.
- Personal and educational barriers – Educational background, existing interests, health, and time constraints

can all influence a young person's ability to engage with and progress towards environmental science careers.

Evaluator insights

The 'Space to Grow' garden provides a physical link between the young people and the National Space Centre. This link extends out into the local community via these young people, their friends and families.

The National Space Centre observed that when faced with eco-anxiety affecting their young people, they found that being able to tie this in with climate monitoring using satellites and knowing that people are working on such a scale helped. The young people also felt “empowered” by sessions on biodiversity and the partners who delivered sessions “gave them that little bit of fire to want to take the action and to know that that action, A, was realistic and practical and they could do it and B, they understood how that was going to make a difference.”



44.5%

increase in agreement with the statement

“Environmental science feels relevant to me and things I care about (Relevance)”

43.1%

increase in agreement with the statement

“I could work with environmental science in the future if I wanted to (Possible selves)”

Oxford University Museum of Natural History

By Sarah Lloyd, Head of Education and Learning
and Devika, Youth Programme Leader



Project goals

The museum's experienced youth team develop and deliver opportunities that encourage young people to feel part of the natural environment, hopeful about the future and able to share this hope and agency with their peers and museum visitors. The youth team identified a group of 16-19 year olds from the existing programmes that are keen to work more collaboratively with the museum. These Next Gen Earth Advocates will be supported by the youth team to devise a series of action-focused sessions for 14 to 16-year olds. This series will draw on the museum's special relationship with Oxford University departments. Academic expertise will form the basis of each session.

The programme intentionally positioned young people not only as learners, but as knowledge producers and facilitators themselves. We provided a welcoming space for young people to meet people with similar interests and share thoughts about environmental issues. We also facilitated opportunities for young people to explore their own interest in environmental

science, we recognised and respected the ability of young people to develop future programming, and we helped a wider group of young people feel more connected to and part of the natural world.





Max cohort size:

24 (16 investigators 8 advocates)

Age range:

13-16, 16-19yrs

Interaction hours:

589

Summary of delivery

Next Gen Earth empowered young people to move from environmental interest to environmental leadership. The programme trained eight Youth Advocates (aged 16–19) through direct engagement with researchers working in biodiversity, food security, and climate science before supporting them to design and deliver four public sessions for sixteen Investigators (aged 13–16).

Across January 2026, the Investigators explored habitat fragmentation, predator reintroduction, sustainable food systems, and urban environmental change through role-play, ecosystem modelling and structured debate. Sessions sparked extended discussion, strong emotional engagement, and high retention across all four weeks.

“I’m so grateful for the opportunity to take part in the Investigators programme. It was such a fun experience, and I really enjoyed working with everyone and learning something new each week. It’s also helped me explore careers in environmental science more. I’d love to join the museum’s Youth Forum as well.”

- Participant (13–16)

By positioning young people as science communicators within a research institution, the programme strengthened leadership confidence, deepened systems thinking, and expanded awareness of environmental research careers. The model demonstrated that peer-led, research-informed engagement can both raise scientific understanding and build the next generation of environmental leaders.

For Youth Advocates (16–19), agency was a key outcome by giving them genuine responsibility for session design and delivery. Evidence of this agency included their ability to adapt activities independently in response to participant engagement and confidently lead complex discussions on topics such as climate justice and extinction ethics. The programme also supported skills development, particularly in leadership, facilitation, and critical thinking, and allowed advocates to explore possible selves as confident contributors to scientific and environmental discussions.

For the Investigators, the programme also fostered agency by engaging participants in role-play simulating policymakers and industry leaders, urban design and mitigation challenges, and structured debates on ecosystem intervention. Participants were



positioned as active problem-solvers rather than passive recipients of information, helping to develop analytical skills, collaborative working, and confidence in voicing ideas.

Investigators were selected with priority given to students from state schools, young people with a demonstrated interest in natural history and environmental science, and those who had previously engaged with museum youth activities.

“...I witnessed a remarkable shift in the Youth Advocates. Their growth in confidence, authority, and ownership was striking. While there were areas for development in some sessions, others demonstrated exceptional depth, creativity, and facilitation skill...The programme did not simply engage young people in environmental science; it revealed what they are capable of leading”

- Community lead

What worked well

The programme benefited greatly from a peer-led delivery model, with near-peer facilitation increasing engagement and relatability among participants. Engagement with early-career researchers added scientific credibility. Experiential learning approaches, including role-play, modelling, and structured debate, helped participants

deepen their understanding of complex systems. High retention and continuity among Youth Advocates, with 100% retention, demonstrated strong ownership and commitment. Additionally, demand exceeded capacity, highlighting both the strong interest in the programme and its potential for future scalability

Challenges

Some areas of the programme revealed opportunities for improvement. Compliance with rehearsal requirements was inconsistent, suggesting mandatory run-throughs need to be more clearly enforced to maintain scientific rigour. The scientific depth of sessions was uneven, indicating a need for researcher-led quality checks and more detailed, scaffolded data packs. The programme's four-week duration limited consolidation of learning, with a longer 5–6 week model likely to be more effective. Capacity constraints also presented challenges, emphasising the importance of contingency planning for oversubscription and participant drop-outs. These lessons will inform future iterations, particularly around quality assurance and programme length

- Perceived academic exclusivity: Some young people expressed uncertainty about whether environmental science was “for them,” particularly if they did not already see themselves as high-achieving in STEM subjects.

Barriers to environmental science

Several barriers emerged through discussion and observation:

- Limited visibility of career pathways: Many participants were unaware of the breadth of environmental careers beyond well-known roles (e.g., “marine biologist” or “climate scientist”).



- Confidence barriers: Advocates initially underestimated their capability to communicate complex scientific ideas, suggesting internalised perceptions about expertise and authority.

Evaluator insights

This project stood out for the depth and layering of relationships it brought together and it was built on long-term, trust-based work. Within the relational context, the project offered genuine youth-led design and delivery. Youth advocates chose which NERC-related research themes to explore and “came up with

ideas about how they wanted to develop them, and then we supported them with public engagement expertise”.

The museum explicitly recognised young people’s time and leadership through bursaries, something the project lead, valued as “enabling us to recognise young people’s time as a valuable commodity”. This combination of real budgets, paid roles and staff deliberately “hanging back” even when things were challenging meant that the advocates “definitely did develop that strong sense of ownership with this project”.



50%

increase in agreement
with the statement

“I feel/felt my ideas are heard
during environmental science activities
(Belonging)

20.8%

increase in agreement
with the statement

“Environmental science matters in
my everyday life
(Relevance)



Royal Botanical Gardens, Kew

By Claire Howard, Youth Programme Manager



Project goals

At Kew we aimed to host a series of events for young people interested in a future in the environmental sector. Young people between 13 and 25 participated in two events: a Model COP, simulating the events in Brazil at COP30, and supporting young people to use role play to navigate the complexities of system change and explore how change happens at an intergovernmental level, and a youth led careers event entitled Our Futures, offering young people the opportunity to learn from early career researchers and practitioners in fields of interest to them.

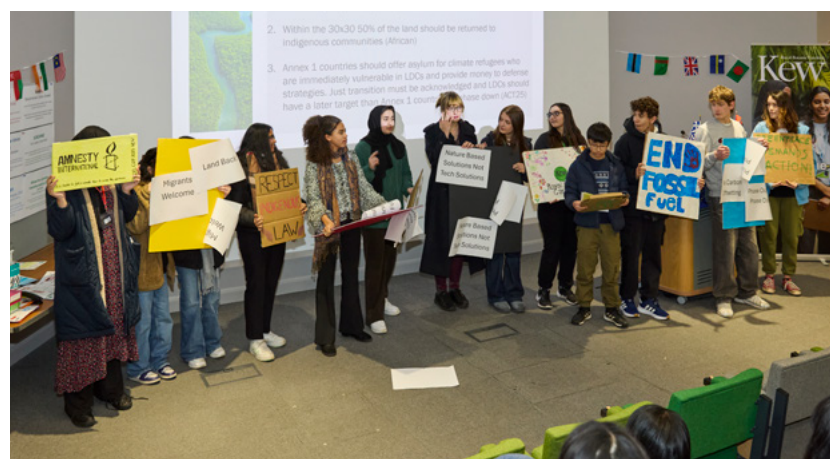
The Kew Youth Programme connects to our organisational outreach strategy and Kew's Manifesto for Change goals. This project contributed towards:

1. A more diverse environmental sector

Extending our reach into communities of young people that have been harder to reach, experience marginalisation, and that are under-represented in our current programmes, and the fields of biodiversity and conservation.

2. Young people have a greater voice and improved agency to take action for nature

Empowering the next generation to find a sense of agency and take action amidst the twin crises of biodiversity loss and climate change. Building from the understanding that 'problems that span generations requires leadership that does too', this will involve the development of our already existing Model COP and Youth Council, raising the value of intergenerational collaboration both internally through Youth Council consultation and externally through the Model COP national partnership programme.





Max cohort size:

32

Age range:

14-25yrs

Attendees at Model COP:

107

Attendees at Our Futures:

107

Total interaction hours :

1,752

Summary of delivery

Running a co-design process for both events was important in order to ensure that the young people felt a sense of agency and ownership over the event and that it was something that was been planned, implemented and evaluated with the young people's involvement.

Engagement from these groups was high- for the Youth Forum, many had attended 2 or 3 Model COPs already and seeing the changes they had implemented was important and rewarding for them. For the Youth Council, designing an event provided a tangible piece of delivery during their pilot year that they could point to as an example of their effectiveness and impact. Evaluation also revealed the event to be a highlight of the young people's year and an important moment of built connection for group bonding.

Model COP:

Kew's Youth Forum co-designed a day of climate talks aligned with COP30 in Brazil, bringing together more than 100 young people aged 14–17 onsite at Kew Gardens. Participants took on the roles of different countries to debate and discuss adaptation and mitigation strategies aimed at keeping global warming as close as possible to the Paris Agreement target of 2°C.

Our Futures: Kew Youth Fest:

A careers event with a twist, designed by young people, for young people. Kew Youth Council delivered their inaugural event at Kew, bringing a new audience into the Gardens. The day saw a range of early career facilitators deliver workshops, tours and talks on their area of expertise, with the nearly 90 attendees able to choose their own

timetable from over 10 different timetabled activities across the day.

The majority of our audience is from our current youth programme network, aged between 14-19 years old. We work with local state schools with higher-than-average FSM (free school meals) to find young people who would benefit most from these programmes, and we build relationships with these young people over time. These events are an opportunity for us to offer young people an opportunity to continue to engage with us, return and see friends, and connect with new elements of environmental science. These events help the youth programme at Kew build a sense of community and belonging, supporting us to create long term meaningful relationships with young people which supports real behaviour change.



What worked well

The Our Futures event was particularly successful in delivering a meaningful and tangible impact for the Youth Council in their first year, providing a strong sense of achievement and purpose. It also brought new audiences into the Gardens, with 50% of attendees having only visited once before and 18% attending for the first time. The diverse range of activities on offer was well received, giving participants a sense of

choice and ownership over their experience, which enhanced overall engagement and enjoyment. Feedback was positive, with 100% of those surveyed stating they had an enjoyable day, and 94% stating that they learnt more about plants and fungi as a result of attending.

“ I loved the very inspirational talk at the end of the day where the special guests answered enquiries, as it helped me understand more about future careers paths involving nature ”

- Our Futures Attendee

Challenges

On the other hand, the Our Futures event faced some challenges, primarily due to limited lead-in time, which restricted opportunities for fuller participation. As the first event of its kind co-designed with young people, it encountered logistical obstacles and “teething problems,” including gaps in infrastructure to fully support the new Youth Council. There was also a need for greater focus on developing participants’ understanding of environmental science and managing the group’s expectations alongside practical and logistical realities.

We will co-design another Model COP each year and are hoping to expand and build a National Model COP Partnership Programme, training other organisations to deliver their own Model COP events in their organisations.

Finally, as a programme that young people attended independently, and situated as it was at Kew, this activity did not actively support the accessing of more disengaged young people, and relied upon a demographic of young people already heavily motivated and engaged in the field.



Barriers to environmental science

Some barriers identified by young people on our programmes are:

- Accessibility - knowing how and where they can participate in environmental science activities.
- Not knowing other young people who are interested/ it not being a cool or shared area of interest
- Sense of belonging - if young people don't feel welcome in green or environmental spaces, or by those delivering sessions, or by their peers, then they are less likely to engage. The environmental sector is one of the least diverse
- Status of the work - for the young people who attend our programmes, many want to practice medicine as it is seen as having a higher status than a career in the environmental sector



- Money - in terms of future careers, environmental careers are not very well paid, and there are also cost barriers to accessing and engaging with environmental science- places like Kew have a cost barrier to enter. Travelling to green spaces also often costs money especially if you live in a city

“ The speakers were from similar immigrant backgrounds. It shows me that anyone can work with the environment ”

- Participant

Evaluator insights

The whole day was devised by, led by, facilitated by and attended by young people, something that created a really different atmosphere from an event that is designed by museum staff or an older generation [Our Futures event].

Across both [events], young people reported valuing leadership opportunities, space for real debate, and relatable early-career role models, while Kew gained a scalable, justice-focused model for youth engagement that is now informing a proposed national partnership and “green zone” style expansion of the Model COP.



19.9%

increase in agreement with the statement

“ Environmental science matters in my everyday life (Relevance) ”

7.5%

increase in agreement with the statement

“ I feel/felt able to join in with environmental science activities ”



Techniquet

By Andrea Meyrick, Head of Education & Engagement

TECHNIQUEST

Project goals

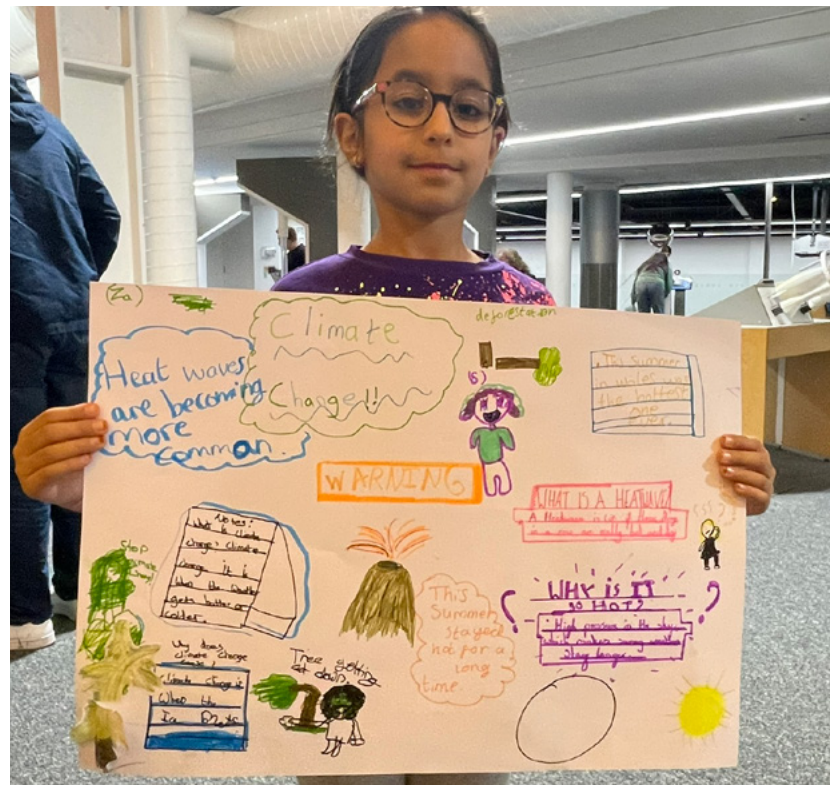
The programme was designed to align with NERC's public engagement and widening participation objectives by supporting young people to develop agency, build skills, and gain insight into environmental science and related careers.

This programme offered an excellent opportunity to put the ASDC Theory of Change into action by engaging young people in hands-on, participative workshops and an event focused on environmental issues. The aim was to inspire and empower young people from communities experiencing multiple deprivation, showing them that STEM is accessible, relevant, and for everyone.

Through this programme we aimed to increase STEM capital of participants, working with communities in areas of multiple deprivation. The programme challenged stereotypes about who STEM is for, supported young people to develop critical skills in enquiry, teamwork, and communication, supported participants to shape discussions for the COP30 After

Hours event, and amplified youth voices in climate conversations.

We also had the ambition to complement the existing focus of the Wales Youth Parliament group on environmental issues, through deepening their research and communication skills.





Max cohort size:

13

Age range:

7-17yrs

Event attendees:

171

Interaction hours:

493.5

Summary of delivery

The programme delivered a series of engaging, youth-centred activities that supported young people across Wales to explore environmental science in ways that were relevant, accessible, and aligned with the Natural Environment Research Council (NERC) remit. Working in partnership with the Welsh Youth Parliament, ACE Cardiff, and Home Education Wales, the project engaged participants aged 7–18 through a combination of online and in-person sessions. Techniquet prioritised co-creation framing the workshops around putting “climate change on trial” and inviting each group to decide what that meant for them. Young people explored key environmental topics including climate change, flooding,

heatwaves, biodiversity, and human impacts on the natural environment, using interactive approaches such as role play, data collection, poster creation, and presentations.

The programme concluded with a COP30-themed celebration event at Techniquet, where young people presented their work alongside universities, environmental organisations, and research projects. A total of nine organisations took part, including the Seagrass Project, Green GEN Energy, Welsh Water, Size of Wales, Bute Energy, Wild Science Project, the University of South Wales, and Cardiff University. Interactive stalls included VR experiences of seagrass meadows, awareness-raising activities on

deforestation linked to everyday products, and demonstrations on water efficiency. The event provided a platform for young people to share their learning with the public while connecting environmental science to real-world action and research.

Participants helped shape the project by selecting topics, contributing to questionnaire design, analysing data, and deciding how findings would be shared, reinforcing the value of their perspectives in environmental discussion.

Participants also developed skills in data collection and analysis, critical thinking, teamwork, and science communication, demonstrated through the quality of posters, presentations, and research packs produced. Repeated practice, particularly in presentation sessions, contributed to increased confidence and competence, alongside a greater willingness to discuss environmental issues publicly. Exposure to real-world environmental challenges and hands-on activities enabled participants to envision themselves as contributors to environmental research and action, increasing interest in environmental topics and future involvement.

Insight into environmental careers was supported through direct engagement with researchers funded by the Natural Environment Research Council and



environmental organisations. These interactions broadened understanding of pathways into environmental science and the societal impact of this work, while also highlighting the diversity of roles across research, data, communication, policy, and practical environmental management. Barriers such as low confidence, limited prior knowledge, and perceptions of inaccessibility were addressed through inclusive, age-appropriate activities, relatable examples, and a supportive learning environment, helping to reduce these barriers and support sustained engagement.

“Families from ACE Cardiff, many visiting for the first time despite living within walking distance, arrived in large numbers; “children were running around like they owned the place, showing their mums things, showing their friends things”

- Project lead

What worked well

The programme's use of interactive and participatory methods, particularly role-play activities like Climate Court, was highly effective in engaging young people with complex environmental science and climate change topics. These approaches made learning accessible, sparked curiosity, and sustained interest, especially for younger participants. Incorporating real-world examples and encouraging participants

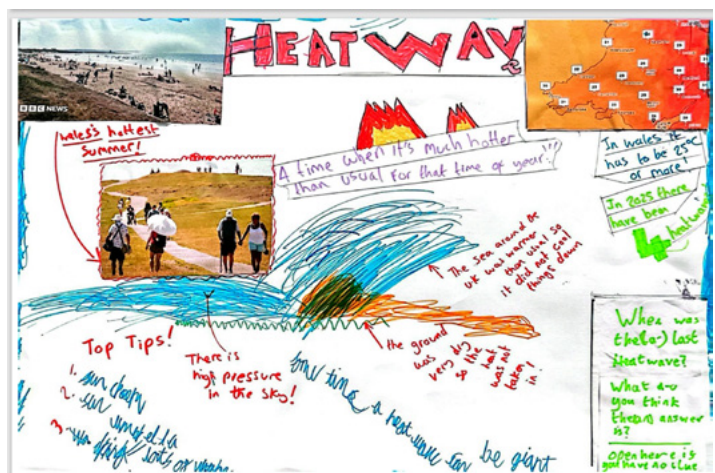
to explore the impact of small actions, such as recycling, helped increase their understanding, ownership, and confidence in addressing environmental challenges. This hands-on, inquiry-led approach provided a strong foundation for deeper exploration of NERC-related topics and is something that Techniquest plans to continue and further develop in future engagement activities.

Challenges

Some knowledge gaps were identified, particularly around the understanding of why everyday environmental actions matter. Participants noted that while they had been told to recycle, they were not always given context for its impact. Addressing these gaps will require more explicit explanation and exploration of cause-and-effect relationships in future sessions. Additionally, growing eco-anxiety among young people highlights the need for engagement activities to balance awareness of environmental issues with positive stories and actionable steps. Techniquest plans to respond by creating more visitor-led experiences, exploring diverse environmental career paths, and providing resources that target knowledge gaps and reinforce how individual actions contribute to wider change.

Barriers to environmental science

- Limited awareness and understanding of environmental science careers – Younger participants were interested in environmental topics but had not
- yet developed an understanding of environmental science as a potential career pathway.
- Age and developmental stage – Career-related engagement varied significantly depending on participants' age and readiness to think about future careers, affecting how relevant environmental science pathways felt to them.
- Competing career commitments and interests – Some older participants already had established career aspirations in other areas, making



environmental science less likely to be considered as a primary career option.

- Need for age-appropriate engagement approaches – A single approach does not work for all young people; younger participants engaged through curiosity and enjoyment, while older participants engaged through career relevance. Without tailored opportunities, engagement may be less effective.

Evaluator insights

The final celebration event brought together different “layers” of environmental action into a single, shared space. Young people spoke about hyper-local impacts like repeated flooding

on specific streets, while considering personal, national and international actions in response.

The usual demographic pattern at Techniquest was, in the project lead’s words, “totally reversed.” Families from ACE Cardiff, many visiting for the first time despite living within walking distance, arrived in large numbers; children “were running around like they owned the place, showing their mums things, showing their friends things.” It was also observed that “the children were almost the teachers on the day,” signalling a powerful shift in who felt they owned and could lead within the space.



80%

increase in agreement with the statement

“I feel/felt my ideas are heard during environmental science activities (Belonging)”

20%

increase in agreement with the statement

“I feel comfortable when doing environmental science activities (Belonging)”

The Eden Project

By Sam Kendall, Head of Education



Project goals

The programme aimed to increase young people's understanding of environmental science, including biodiversity and climate change, while building confidence to discuss these topics in more depth. It also sought to strengthen their connection to Eden Project through immersive experiences that reflected the diversity of its work and the wide range of associated careers, from horticulture and education to marketing, HR, and creative storytelling.

A long-term aim of Eden Project Cornwall is to create an equitable youth board to incorporate meaningful youth consultation and participation into our work and help steer future development. The Next Gen Earth programme offered the ideal opportunity to carry out an initial phase of co-creation and R&D for a youth engagement strategy. In parallel, it allowed us to work with a group of marginalised, local young people, develop skills, confidence and connections to existing projects at Eden, careers in STEM/the environment sector and see themselves as advocates for change.

The goals were shaped by the young people themselves, however the nature of our project aimed to; connect young people with nature in our gardens, proven to boost physical and mental wellbeing and social interaction; to meet and work with peers, and make new friends; to engage with NERC science through community





Max cohort size:

5

Age range:

13-16yrs

Interaction hours:

61.5

and connection; to meet peer mentors that are onsite studying and working within the sector – to see possibilities for themselves; to have a voice and share ideas for future improvement of our programmes, content and engagement methods onsite – how

to meet their needs and interests; to develop soft skills and transferable skills, e.g. storytelling, film making and editing, photography or other; to build confidence, develop resilience and problem-solving skills through collaborative groupwork.

Summary of delivery

This project was a great opportunity to develop our relationship with Young People Cornwall. One of their youth centres, The House, is nearby in St Austell, the nearest large town to Eden. Previously we were aware of their work and had welcomed their groups to Eden but hadn't had the opportunity to collaborate meaningfully with them.

The programme was delivered across four sessions at The House St Austell and Eden Project, focusing on environmental science, biodiversity, and climate through creative, hands-on learning. Eden provided a dynamic learning environment where young people connected with nature and explored careers available to them in the environmental sector in Cornwall.

Highlights of delivery included the group leading their own creative journey while exploring different areas of Eden, picking bananas straight from the tree, tasting strawberry guava, pulling turmeric roots in the Rainforest, spraying water on taro leaves to learn about protective canopies, storytelling workshops in the Mediterranean Biome, and learning about the Seed sculpture in the Core building and the importance of sharing environmental knowledge with future generations. Throughout the programme, young people explored the site together, built strong relationships, and ultimately shaped and delivered their own creative project, demonstrating growing confidence and curiosity.

Across four sessions at The House in St Austell and Eden Project, activities were co-created with young people to provide practical and playful environmental learning. Experiences across the biomes, including storytelling in the Mediterranean Biome and hands-on exploration in the Rainforest Biome, supported foundational understanding of Eden's purpose while reinforcing participant voice, choice, and ownership.



Reflection was embedded throughout and used to shape the direction of the programme, ensuring activities remained relevant to participants' interests and learning needs. In the final sessions, young people took increasing responsibility for creative direction, storytelling, narration, and digital editing, demonstrating growing

“Next Gen Earth at Eden Project gave [the young participants] the confidence to try new things and take ownership of their learning, and through hands-on experiences they explored topics that felt relevant to them. The real success of the project was watching the young people show up, collaborate with each other, and begin to develop their own voices”

- Project lead, Eden Project

confidence, collaboration, leadership, and teamwork.

Career learning was embedded organically throughout rather than delivered through formal input. Young people met Eden staff working across horticulture, education, marketing, HR, and communications, and learned about day-to-day roles while engaging in the biomes. These interactions helped them understand how environmental science connects to communication, community engagement, and climate action, as well as how environmental stories are shared through digital platforms such as TikTok, Instagram, and YouTube Shorts. Eden staff acted as relatable role models, helping participants recognise that environmental careers are diverse, interdisciplinary, and accessible.

The programme supported the development of transferable skills including environmental understanding, storytelling, digital media

creation, collaboration, reflective discussion, and critical thinking around biodiversity and climate change. Overall, it enabled young people to develop skills, confidence, and agency through practical, creative engagement with environmental themes and the Eden Project setting.



What worked well

Engaging with a group of young people across different elements of Eden Project, with involvement from staff across multiple teams, supported a varied and positive experience for local participants. This helped strengthen understanding of environmental science and build connection to nature in a fun, relaxed and playful setting.

A strong emphasis on youth-led participation enabled young people to shape and navigate their own experiences at Eden. Practical support, including pre-paid food, also helped remove barriers to participation and supported engagement throughout the programme.

Challenges

Small participant numbers made it more challenging to build group momentum and sustained shared focus. As a result, sessions were at times stop-start, with

limited continuity in developing collective understanding over the course of the programme.

Balancing youth-led delivery with appropriate scaffolding was also challenging. While participants benefited from having ownership, the wide range of possible directions for the final project made decision-making difficult and required more structured support to help the group focus and agree on a shared outcome.

Barriers to environmental science

- Transport and physical access to opportunities especially in rural communities
- Limited prior exposure to environmental science and low confidence in engaging with environmental topics
- Participants did not see the subjects as relevant or accessible to them
- Traditional classroom approaches to science

- Assumptions about who could be an environmental scientist / who environmental careers are for

Evaluator insights

The project also developed a distinctive “youth-led within scaffolding” model, driven by the needs and preferences of this particular group. The group were “happiest in a guided activity, low cognitive demand, experiential,” something staff countered through repeatedly revisiting core concepts (biodiversity, climate, environmental science) and the project narrative at the start of each session. Over time, ownership emerged through roles rather than formal leadership: one became the narrator of the final story, while two more “almost took on...project directors, managers” roles, guiding their contribution and the overall storyline.



50%

increase in agreement with the statement

“Environmental science matters in my everyday life (Relevance)

50%

increase in agreement with the statement

“Environmental science feels relevant to me and things I care about (Relevance)

Xplore! Discovery Centre

By Clair Griffiths, Community Fundraising and Outreach Coordinator



Canolfan Darganfod Gwyddoniaeth
Science Discovery Centre

Project goals

Through this programme we aimed to promote agency, skill development, and expand perceptions of possible futures through sustained, youth-led engagement. We encouraged agency by positioning participants as decision-makers throughout the process: they shaped discussion topics, selected environmental themes, designed creative outputs, and determined the format and content of their podcast.

This approach moved beyond consultation and enabled genuine ownership, evidenced by participants independently contributing ideas, volunteering additional creative input outside sessions, and demonstrating pride in final outputs.

We aimed to deliver a six-session, youth-led, environmental science-focused programme in Colwyn Bay, North Wales, an area ranked within the 10% most deprived in Wales. The programme was co-created with a youth group formed by Jodie James, the Children's and Families Worker for the Methodist Church Circuit. By placing young people at the heart like opportunity through

hands-on science engagement, community connection, and skills development.

Next Gen Earth empowered young people to connect their lived experiences, identities, and beliefs — including faith-informed views of care and stewardship — with urgent environmental topics like climate justice, biodiversity, and access to local green spaces. Through co-creation, they explored questions that matter to them and shaped outputs that reflected their priorities and voices.





Max cohort capacity:

7

Age range:

10-14yrs

Interaction hours:

84

Summary of delivery

Through this programme we worked in partnership with a coastal faith youth group to engage young people in hands-on exploration of environmental science and climate change. Sessions combined practical investigation with creative response, encouraging participants to connect scientific concepts to their local environment and lived experience.

Topics aligned with NERC research themes, and engagement with researchers helped bring real-world science into the sessions, giving participants insight into current environmental challenges and potential career pathways. Activities were designed to build confidence, curiosity, and agency, enabling young people to see themselves

as capable contributors to environmental conversations.

Highlights of the programme included strong relationship building through repeated engagement, enthusiastic participation in creative and investigative activities, and the development of a commissioned artwork reflecting the group's learning and perspectives. Delivering sessions in their usual meet place strengthened relevance and engagement.

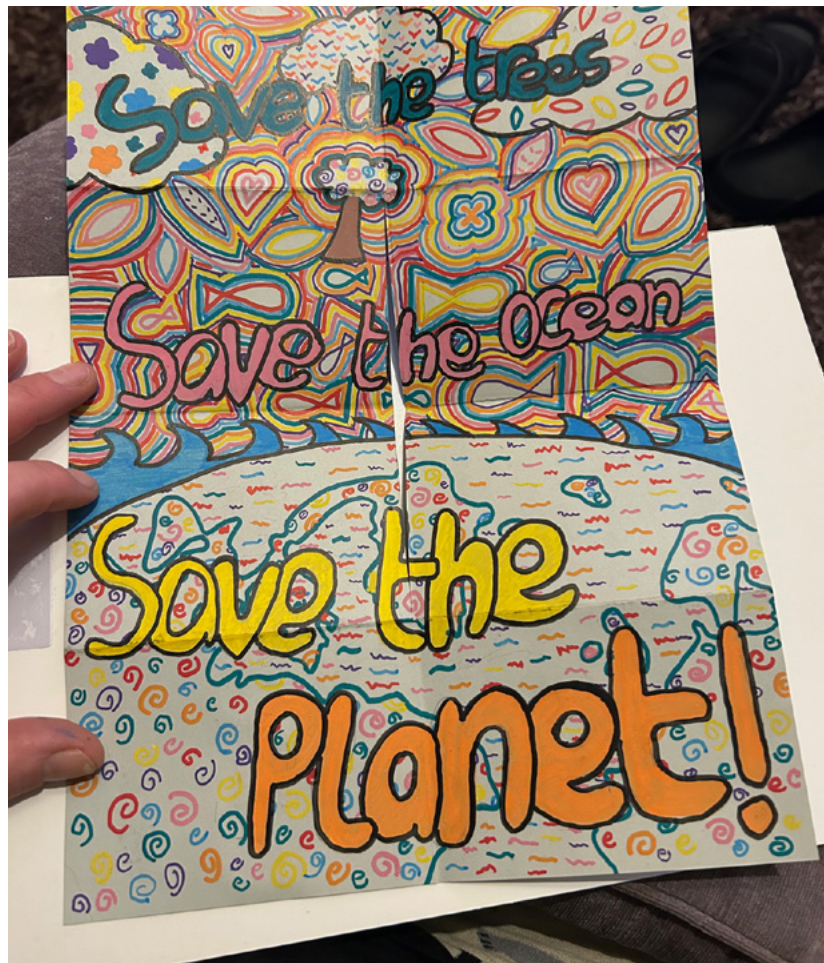
Across the programme, we observed increased confidence in communication, collaboration, and leadership, alongside development of transferable skills including critical thinking, scientific interpretation,

creative expression, and public speaking. Participants who initially expressed limited interest or confidence in science became more willing to engage with environmental topics and contribute actively, suggesting that the intended outcomes were achieved.

The programme also aimed to broaden participants' understanding of environmental pathways and careers by connecting scientific concepts to real-world practice. Insight was supported through direct engagement with Dr Iestyn Woolway (Bangor University), who introduced NERC research, explained career routes, and contextualised environmental science as a multidisciplinary field requiring diverse skill sets. This was reinforced through practical investigation, discussions linking local experiences to global environmental challenges, and opportunities to interact with creative professionals translating scientific ideas into public outputs. By demonstrating that environmental work encompasses communication, design, data analysis, and fieldwork, the programme encouraged participants to recognise their existing strengths as relevant to future pathways.

What worked well

Working with a coastal group was particularly effective, as the location created a strong connection to the environmental themes being explored. The session format, using hands-on interactive activities delivered over multiple engagements, supported relationship building, sustained interest, and deeper learning. This approach is something we would carry forward into



Participants increasingly referenced environmental roles and responsibilities during discussions and planning activities, indicating greater awareness and openness to potential futures connected to environmental science and engagement.

future delivery. We also plan to continue our relationship with Jodie and the group beyond the project period, including inviting participants to our centre in Wrexham for an unveiling session once the commissioned

“ I want to save the crabs ”

- Young participant

artwork is complete, and exploring further opportunities for collaboration.

Challenges

One challenge was the longer gap in engagement over the Christmas period. The first session back in January saw lower focus and higher levels of distraction, which made it harder to regain momentum. In future, we would either avoid scheduling sessions around extended breaks where possible or design the first session back as a lighter, relationship-building activity rather than one requiring structured outputs.

“ I didn’t realise there was so much from that [climate change] that affects us so locally ”

- Young participant

Barriers to environmental science

Limited prior exposure to environmental science and a lack of awareness of range of careers available in the sector

- Gaps in confidence and self-perception, participants didn’t see pathways as accessible or relevant to them
- Limited access to green spaces, equipment and extra-curricular opportunities

Evaluator insights

The young people took ownership through creative means, making posters, canvas painting, rock painting, zines and at the end



of the project they produced two podcasts, one on pollution and the other on sharks.

Once they became aware of the issues they then wanted to understand the ways in which they were able to take action, something they talked about as “Artivism”.

The final phase of the project is being co-ordinated by an artist who has partnered with the project to take all of the different artworks completed by the young people to combine them into three pieces. These pieces of art will remain in the youth group’s own space as a legacy of the project. The young people were keen to have an impact. These artworks will allow the young people to have a material representation of what they have done that they can share and use as a focal point for discussions about climate change and their local area.

“ This makes me feel scared but I’m not scared for me, I’m scared for my children’s, children’s, children” – in response to a chat about eco anxiety ”

- Young participant



42.8%

increase in agreement
with the statement

“ I feel/felt my ideas are heard
during environmental science activities
(Belonging)

28.6%

increase in agreement
with the statement

“ I would like to know more about careers
involving environmental science
(Possible selves)





Association for
**Science and
Discovery Centres**

The full external evaluation
report can be found [here](#)



Natural
Environment
Research Council