Since Geoversity (née Earth Train) established its international base in Panama in 2001, we have designed and conducted numerous field trips and on-going programs for schools and universities within Panama and in North America and Europe, including activities associated with multi-year scientific field studies. Much of our work has been carried out in partnership with indigenous leaders and communities. Not only have Guna, Emberá and Wounaan youth and elders participated in the establishment of the 12,800-acre Mamoní Valley Preserve and permanent programs for the protection of indigenous rights and territories, they have also led in the development of all of Geoversity’s expeditionary, educational and public policy programs.
The many varied experiences we have had with schools have been both a source of joy and insight and, speaking candidly, cause for frustration. For all of the enthusiasm administrators and teachers may bring to our collaboration with their schools, these activities are still of an extra curricular nature. Ultimately, they are marginalized by the primacy of established curricula and the imperatives of accreditation. As one of our school teacher allies put it, “These life-changing biocultural learning experiences are considered side dishes when they should be the main meal!”

The establishment in 2019 of the Geoverity School for Biocultural Leadership under the academic leadership of Dr. Tamsin Woolley-Barker, marked the beginning of a bold move to bring nature-based learning and the notion of biocultural leadership into the mainstream. Our partners included The CityKids Foundation under the leadership of Laurie Meadoff, Stanford University’s The Millennium Alliance for Humanity and the Biosphere (MAHB) and MUSE Global Schools. Co-founded by Suzy Amis Cameron and her husband James Cameron, MUSE offers a model of passion-based education that is grounded in an expanded concept of wellness embracing the whole person and the whole planet.
This year, thanks to an institution development grant from The McElroy Foundation, we took a major step: We invited the young scientist-turned-educator Andrea Miller to come on board to establish Geoversity’s Biocultural Learning Program primarily focused on children and youth in their primary and secondary school years.

With the benefit of over ten years of scientific and teaching work in Panama, Andrea has the hard-earned and practical know-how needed to develop the program and make it accessible to school administrators, teachers and parents willing to consider new and urgently needed approaches to learning in today’s world. We’re sharing Andrea’s whitepaper on Geoversity’s Biocultural Learning Program with you in the hope you’ll take her up on her invitation to join us in nurturing a new world of learning opportunities.

- Nathan Gray, President
- Juan Carlos Monterrey, Executive Director
On your walk through the forest, sunlight is filtering down through the dense canopy, guiding you towards the cacophonous sounds of bird and child chatter. Soon, you come upon a dozen children and teachers in a clearing, a classroom without walls. They are intently engaged in an exciting design challenge: Learning from Mother Nature’s ingenuity and using natural materials at hand, build a boat capable of safely transporting small teams of students across a stream.

With this image, we invite you to join us on a voyage beyond walls and fixed metrics, into learning environments, rich in cultural and biological diversity, that demand curiosity, team effort, and persistence. Join us in exploring ways of educating for regenerative cultures, renewing our unity with nature, stimulating environmental responsibility, and fostering a holistic systems worldview essential to creating a world that we want for our children, and for their children.
Geoversity connects human advancement with ecological wealth. It combines geographic and cultural knowledge, nature-based design, and entrepreneurial thinking for the purpose of creating a world that is green, prosperous, fair, and inspirational. Emerging at the interface of knowledge and the creative arts, Geoversity represents a “map” of discovery for today’s explorers in search of biocultural diversity and sustainable economic opportunity in the 21st century.

- Lamont (Monty) Hempel, Ph.D (1950-2019) Hedco Professor and Director Center for Environmental Studies, University of Redlands; Founder and First President, Association for Environmental Studies and Sciences (AESS); and Founding Chair for Education, Geoversity.
THE CHALLENGE OF DISCONNECT

We have lost touch with our roots that ground us to place, to self, to one another, and to the natural world: For millennia, we have viewed ourselves as apart from nature. Our current systems are actively working against our nature and the environment we need to thrive as natural beings. This is hardest on our youngest minds, so poorly served by educational systems that have remained virtually unchanged for decades, in a world undergoing continuous change.

Life has thrived on change for billions of years by launching countless generations of self-organizing, replicating experiments. Evolution is messy, and its products are diverse. We know this. Yet, we’re still teaching tomorrow’s leaders to think in terms of mechanistic, monocropped, and disparate solutions. Our work at Geoversity is therefore urgent: to empower next-generation leaders who are literate in living systems, and willing to tolerate ambiguity and uncertainty while seeking potential over problems.

- Tamsin Woolley-Barker, Ph.D., Dean, GeoSchool
We start by reframing learning to be aligned with nature’s proven solutions and patterns. In meeting any obstacles or constraints, nature:

- tends to optimize rather than maximize;
- is resilient to disturbances;
- is driven by collaboration and mutualism;
- runs on information and feedback loops;
- is locally attuned and responsive;

With our Biocultural Learning approach, we are educating for regenerative cultures, dedicated to realizing the evolutionary potential of all life.
BIOCULTURAL LEARNING (BCL)

Our vision is a world where humans fully embrace our unity with nature and our mission is creating conservation communities and empowering biocultural leaders committed to our shared vision. BCL is bringing this vision into practice throughout our educational systems. BCL is aimed at:

1. **restoring reverence** for nature’s complexity, ingenuity, and resilience;
2. going beyond the confines of institutional walls, into **boundless environments** rich in possibilities for discovery and learning;
3. embracing a **whole child approach**—encompassing physical, emotional, spiritual, intellectual and artistic development;
4. engaging learning teams in the workings of diverse **communities and environments**, that include long-term projects;
5. applying **systems thinking** to complex design challenges;
6. ensuring that learning is always rich in meaningful action and are **justly shared** across cultures, generations, and socio-economic status;
7. fostering environmental responsibility and **biocultural stewardship**.
Increasing anxiety and depression

As teachers, parents and activists, we are deeply concerned about the epidemic of anxiety disorder and depression. In the US alone, over 19% of adults have anxiety disorders, while over 30% of adolescents are affected (ADAA). Yes, Richard Louv did popularize the metaphor of the nature deficit disorder - yet that’s just part of the story. Since Last Child in the Woods was published in 2008, the world has changed in a major way with the advent of the smartphone and 24/7 connectivity and the deluge of bad news regarding the state of the planet. The mental, physical and social consequences of our being disconnected from nature are compounded by a.) a general and debilitating sense of doom, that all is lost, and b.) loneliness: So many friends, so little real contact in real places doing real things... together.
BIOCULTURAL LEARNING PILLARS

Natural Heritage
Honoring cultural and biological diversity

Natural Seeing
Embracing whole natural systems in learning and action.

Natural Place
The campus—natural places and cultures—is the head teacher.

Living Design
Harnessing our innate need to connect and be a part of the natural world.

Nature-Based Learning:
Using nature as the living mechanism for learning.

Systems Thinking
Seeing the complexity of the world.

Biomimicry
Designing as nature.

Place-Based Learning:
Engaging in our communities through learning and involvement.

Holistic
Embracing the physical, emotional, spiritual, and intellectual dimensions of development.

Knowledge Transfer:
Reconnecting through shared learning and experiences.

Diversity:
Celebrating all life’s uniqueness.

Passion-Based Learning:
Encouraging and fostering passion, and curiosity.

NATURAL HERITAGE

NATURAL SEEING

NATURAL PLACE
A Journey in Time through the Panama Canal

In this unit, students take a journey through time and space to discover the stories unique to Panama, with global context, as they travel through the Panama Canal.

- **Literacy** - Silver People: Voices from the Panama Canal. Author Margarita Engle uses multiple voices in free verse to share untold historical events. Children use this book as a stimuli to develop their own poetry based on their own perspective of the Panama Canal.

- **Social Studies** - Children followed the history of the Panama Canal to share the stories of the different people and cultures along the way.

- **Math** - Students developed their numeracy skills using real life experiences of constructing models of the Panama Canal.

- **Science** - We studied the physics and engineering behind the construction of the Panama Canal, as well as the hydrology and biological influences and impacts.

- **Art & Music** - Through exploring the art and music of the different cultures and people in the journey of the Canal, children created their own dances and songs.

- **Trips** - Excursions supported unit learning. We went to the Canal Museum, locks, historical cemeteries, Panama Canal watershed, and transited the Panama Canal.
We connected with different stories and shared experiences with people whose heritages’ are a part of the Panama Canal.

Embraced the diversity of the different people and cultures that the canal brought to Panama.

Followed students “wow moments” along their learning journey, and fostered their inherent curiosity about the subject.

Fostering relationships of reciprocity and empowerment between one another, and breaking down linguistic, cultural, and economic divides.
We explored some of nature’s proven solutions and took inspiration from them when designing our models of the Panama Canal.

The majority of students learning took place outside in nature.

Natural Seeing

Systems Thinking
seeing the complexity of the world

Nature-Based Learning:
using nature as the living mechanism for learning

Biomimicry
designing as nature

Using nature in both its complexity and simplicity to instill systems thinking into problem solving and solution seeking. Learning from nature, and designing as nature.

Students viewed their journey along the Canal from the lens of systems thinkers by stepping back, seeing the whole picture, and examining the complex relationships.

We explored some of nature’s proven solutions and took inspiration from them when designing our models of the Panama Canal.
As we went on our learning journey through time and space, we continuously took time to explore and reflect introspectively throughout the process. When designing their models of the Panama Canal, students explored ways in which we could better work with the local environment, opposed to fighting against it. Enabling students to see the results of their work in their communities, while building inquiry and communication skills, learning to work together in any environment, and gain a better understanding of themselves, as well as their place in the world.
Climate change, biodiversity loss, and obscene levels of inequality are but symptoms of underlying causes. To address them effectively we have to go upstream. We have to take a closer look at not just ‘what we know’ but ‘how we know’. We have to reexamine the cultural narratives that inform our dominant worldview and through that our actions. Education for regenerative cultures is about the life-long process of enabling and building the capacity of everyone to express their unique potential to serve their community and the planet and in the process serve themselves.

- Daniel C. Wahl, Ph.D., Author of Green Planet Blues: Critical Perspectives on Global Environmental Politics
Our first Geoversity field trip - with MUSE Global Schools - at Borrego Institute for Living Design located in a desert ecotone on the edge of the Anza-Borrego State Park. BUILD is a TEEM Lab - Geoversity Campus - in development.
Biocultural Learning: reframing standard learning objectives to be aligned with nature’s wisdom, accounting for an ever-changing world, and fostering connectivity with nature.

Biocultural Leadership: the practice of encouraging and enabling social and organizational learning in ways that reflect our unity with nature and our commitment to regeneration in harmony with our natural selves and natural environment. The act of stimulating and facilitating collective and individual growth in a manner that acknowledges our unity with nature and our dedication to restoring balance with our natural selves and environment.

Nature: in the broadest sense, is the physical universe. "Nature" can refer to the phenomena of the physical world, and also to life in general. Although humans are part of nature, human activity is often understood as a separate category from other natural phenomena.

Mutualism and Symbiosis: relationships within and between species that are mutually beneficial.

Regenerative Cultures: a culture that is consciously building the capacity of everybody in a particular place to respond and change.

Knowledge transfer: facilitating fluid sharing of information between people in order to capture, organize, and distribute knowledge to reconnect, empower, and learn, as well as ensure its continuation for future generations.

Passion-based learning: engaging and inspiring curiosity in students, and cultivating our young learners’ natural passions and interests, by weaving them into their learning journey.
Diversity: acknowledging and recognizing the amazing differences among ourselves and all life, and understanding that it is not what divides us, but instead is what provides us with an incomparable wealth of knowledge, perspective, and beauty that should be shared and celebrated.

Systems thinking: developing our capacity to sense the complexity of the world by looking at it in terms of wholes and relationships rather than by splitting it down into its parts.

Biomimicry: encouraging students to think critically and propose solutions that are innovative and conscious, even if it is not the most popular option.

Nature-based learning: using nature as the living mechanism that learning is derived from, as the main source of guidance and teaching.

Living design: harnessing our innate need to connect and be a part of the natural world, and being conscious of how we consider that in all our design challenges.

Holistic: embracing the physical, emotional, spiritual, and intellectual dimensions of human development.

Place-based learning: engaging students and families in their communities, including the physical environment, cultural, and historical through outreach and projects.

Ecotone: a region of transition between two biological communities.

Regenerative: committed to realizing the evolutionary potential of life.
GEOVERSITY'S STARTER LIBRARY FOR BIOCULTURAL LEARNING

- A People's Ecology: Explorations in Sustainable Living by Gregory Cajete
- Braiding Sweetgrass by Robin Wall Kimmerer
- Thinking in Systems: A Primer by Donella H. Meadows
- Systems View of Life: A Unifying Vision by Fritjof Capra and Pier Luigi Luisi
- Teeming: How Superorganisms Work Together to Build Infinite Wealth on a Finite Planet (and your company can too) by Tamsin Woolley-Barker
- Sharing Nature with Children by Joseph Cornell
- Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder by Richard Louv
- Learning by Nature
- Biomimicry Institute
- Ask Nature
- TEEM LAB
- Geoversity's News & Publishings