

*Aitakuwahi: An Indigenous scientist's pathway for regeneration and decolonization**

"I like the way scientists learn things. But our medicine, which comes from the heart, is natural and has science in it, too" -Cacique Francisco "Panchito" Ramírez Rojas, La Caridad de los Indios, Cuba¹

Mabrika (greetings and welcome) as I share the understory of my journey learning our *aitakuwahi nhaone aba lokono* (ways of knowing of the first peoples) while navigating my pathway as a Caribbean Indigenous scientist and researcher. The central part of this story holds the experience of learning to see the often invisible legacy of our collective history within the sciences and actively working to support and regenerate the knowledge and values that we hold as *people of the land* within my scientific practice through what I now understand as decolonizing science.

After sharing a bit of my family and community history and giving context to personal roles held within the communities I work and live in, I'll share the untold stories from my graduate research experience. This included facilitating an intergenerational and decolonizing community-based model for science research within my own Native community. Through use of imagery, poetry, insights, wonderings and discussion, I'll share these anecdotes and the knowledge that I've grown through detangling and unraveling threads of colonial residue that symptomize as so many issues within our communities. By following these threads to their root sources in colonization and through understanding our collective story of survival, adaptation and resilience, I found both new and ancestral patterns with which to reweave these threads. I also experienced how the process of actively decolonizing the spaces in which we work can invite regenerative healing for ourselves and for our community. Through sharing this story I remain intent to my responsibilities of being a good ancestor to my children, to the many for whom I've earned the title of "aunty," and to this next generation of Native minds rising, who remain a constant present and sacred reminder of the intergenerational commitments we hold, and who are my primary motivation in this work.

Indigenous Outlier – Data Warrior

Our family heritage is steeped in diverse ways of knowing that all came together within myself and my five siblings. I identify as a multicultural Indigenous Caribbean-American

¹ Quote recorded from Barreiro, J., & Rojas, F. R. (2001). *Panchito cacique de montaña: testimonio guajiro-taíno de Francisco Ramírez Rojas*. Catedral.

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community member, the first generation removed from the islands. My mother identifies as Afro-Caribbean and Caribbean Indian (*Arawak Taíno*), also as *Jíbaro/a* and *Boricua* by local dialect in *Borikén* (Puerto Rico), and my paternal heritage is two generations removed from Eastern Europe, where our ancestors fled the Holocaust in the region of Ukraine and Hungary. I grew up in rural Montana, and many other places including reservation and Indigenous island communities, along with urban communities among all kinds of people. I also represent the first-generation ending and healing cycles of trauma and abuse in my family. My characteristics, including those physically translated through having mixed genetic ancestry and those spiritually, behaviorally and linguistically formed through cultural experiences, invariably influence how I am perceived in academia and in the communities I work with. For these reasons, I sometimes consider myself an Indigenous outlier—rooted in land, place and community yet not always fitting in with standard expectations or pathways. In this same context, I am also the first generation in my family with access to higher education, having earned my bachelor's degree in Earth Sciences at Montana State University and my PhD in Human Dimensions of Natural Resources at Colorado State University. The writings I share here focus on the understory, or some of the more personal experiences I underwent while navigating my PhD program, while holding multiple roles as an Indigenous scientist, mother, data warrior, and community member.

As an Indigenous scientist I entered into my graduate fieldwork carrying a cultural context and oral history record from my family that I had rarely seen represented in any literature and never seen represented in my formal scientific training. Given this context, I often critically screened academic and government documents, noting numerous instances where the historic record and data misaligned with and misinterpreted the lived experiences of people within my own family and our broader communities. Knowing the potential impact of research and data on the livelihoods of my relatives and community members and knowing the historic record of harm and bias against rural and Indigenous communities in the Caribbean, I held my work to a rigorous cultural standard unconscious to many of my peers. Often this meant finding multiple sources, including unpublished oral history accounts, to triangulate data for accuracy. Both while reading through the literature, and in my interactions with academic and federal agency researchers over the course of my research, I often found myself face-to-face with systematic racism, oppressive narratives, and ineffective academic standards that proved difficult to disrupt. This resulted in hours of research, discussion and community work far beyond what was represented in my dissertation writing. While I was able to address some of these concerns, it was an impossible and exhaustive task that I hope to see many more Indigenous scholars, community leaders and allies rise up to in the coming years. These concerns also continue to motivate me to mentor both Indigenous youth and early career scholars and to advocate for Indigenous rights in science, education and research in my current role as a postdoctoral researcher partnered with the Native Nations Institute and Colorado State University's Forest and Rangeland Stewardship Program. My hope is that through sharing my story I encourage other

Indigeners, data warriors, and outliers to continue feeling supported on their own paths of decolonization and regeneration.

People of the Land Have Always Been Scientists

Indigenous knowledge systems, encompassing dynamic, collective, intergenerational bodies of knowledge formed from centuries of observation of Earth and space systems, have long guided environmental stewardship practices, such as watershed management (Kagawa & Vitousek, 2012), soil conservation through sustainable agriculture (Altieri, 2004), and burning for forest stewardship (Kimmerer & Lake, 2001). These knowledge systems reflect longitudinal studies reaching across generations in which Indigenous communities around the world form, test, adapt, and refine their scientific understandings, often at the necessity of maintaining the survival and wellbeing of their families and communities, including non-human community members (Cajete, 2000; Kawagley, Norris-Tull, & Norris-Tull, 1998). Thousands of unique Indigenous cultures across the world currently maintain diverse ways of knowing and place-based understandings regarding complex natural processes while maintaining environmental stewardship of “over a quarter of the world’s land surface [which] intersects about 40% of all terrestrial protected areas and ecologically intact landscapes” (Garnett et al., 2018), yet the vast majority of environmental scientists in academia, with the exception of a growing number of Indigenous scientists and cross-cultural collaborations, remain working with incomplete datasets, neglecting to engage with Indigenous knowledge systems and peoples in their research (David-Chavez & Gavin, 2018, p.; Kimmerer, 2002).

Further, despite increasing calls for Indigenous community engagement (Maldonado et al., 2015), Indigenous scholars, knowledges, historical narratives, and values often remain underrepresented in the sciences. Relatedly, contributions from historically marginalized populations to what is currently considered “science” remain vastly unacknowledged across much of the larger scientific community (Conner, 2005). Few scholarly works (especially in terms of Indigenous authorship) research underlying impacts from colonization or contemporary issues regarding sovereignty and self-determination that influence erasure of diverse ways of knowing and communities in the sciences (Simpson, 2004).

Among studies that do engage Indigenous knowledge systems, most focus on the “supplemental value” of Indigenous knowledges, looking at how they can enhance and contribute to environmental science data, while overlooking their intrinsic “governance value” in which they are recognized “as irreplaceable sources of guidance for Indigenous resurgence and nation building” (Whyte, 2018, p. 63). As increasing numbers of scientists seek to document Indigenous knowledges, common practices include conserving data and findings outside of the contributing communities in the form of databases or academic publications, raising concerns regarding how to most effectively sustain Indigenous knowledge systems (Agrawal, 2002; McCarter, Gavin, Baereleo, & Love, 2014).

Alternately, a growing movement, primarily led by Indigenous scholars, researchers, and community leaders, focuses on restoring and honoring inherent rights to sovereignty and Indigenous governance in research practices. Indigenous data sovereignty, defined by “the inherent right of Native nations to govern their peoples, lands, and resources” (Māori Data Sovereignty Network, 2016; National Congress of American Indians, 2018), which includes “the right of Native nations to govern the collection, ownership, and application of [their] own data” (Rainie, Rodriguez-Lonebear, & Martinez, 2017a), reflects recent growth in this movement. Within this movement, Indigenous data governance represents the support mechanisms for upholding these rights (Garrison et al., 2019; Rainie, Rodriguez-Lonebear, & Martinez, 2017b). In my own efforts to go deeper than the often tokenizing diversity and inclusion rhetoric, I turn to the voices of Indigenous scholars who articulate that, “the answers to how and why our knowledge has become threatened lie embedded in the crux of the colonial infrastructure, and unless properly dismantled and accounted for, this infrastructure will only continue to undermine efforts to strengthen [Indigenous knowledge] systems and to harm the agenda of decolonization and self-determination” (Simpson, 2004, p. 375). This intentional agenda many of us are working collectively towards, includes continuing to develop and apply decolonizing research practices and methodologies, such as those developed in the 1990s in Aotearoa (New Zealand) through the Kaupapa Māori research principles (G. H. Smith, 1990; L. T. Smith, 2015), and through groundbreaking Indigenous and postcolonial research frameworks emerging in the years to follow that focus on restoring relational accountability, Indigenous governance in research, and honoring inherent rights to sovereignty (Chilisa, 2012; Kovach, 2010; Louis, 2007; Weber-Pillwax, 1999; Wilson, 2001).

In environmental sciences, we still require support for principles that uphold relational accountability towards Indigenous communities, lands, and futures in research practices. We need research initiatives that work to untangle the systems and infrastructures set into place by longstanding colonial research agendas in order to foster more balanced, respectful knowledge exchanges centuries overdue in many communities. Education systems engineered by colonial assimilation policies threaten and disrupt pathways for transmitting knowledge between generations, forming epistemological (philosophical) barriers where Indigenous knowledge systems are devalued and ignored (Harrison, 2018; Kirkness & Barnhardt, 2001; Tang & Gavin, 2016). Reconciling these legacies requires understanding how and where symptoms of power imbalance manifest and working to realign principles of cultural and scientific integrity within our research values and methods.

Throughout my dissertation research, I worked towards addressing these fundamental issues and knowledge gaps, furthering our understanding of complexities within the scientific research process in an Indigenous community context. My pathway for finding this understanding included a case study field-testing and grounding a working model for decolonizing environmental science research through an Indigenous community-based climate study led by youth and elders within two rural agricultural communities in the central mountain

region of *Borikén*. From my experiences there and in our sister island communities, I share the following anecdotes reflecting my journey towards unraveling and unburdening our histories.

Unravelings

Since the time of colonial impact, Caribbean Indigenous descendent communities have had little say in how scientific research is conducted with their lands and peoples, often forced out of governing processes, with some communities lacking formal recognition and accompanying political protections at the state or federal level (Borrero, 2017). Over five centuries of systematic silencing, exclusion, exploitation, and appropriation in the region form complex and unique challenges and barriers for those practitioners and community members who wish to sustain Indigenous knowledge systems for future generations (David-Chavez et al., forthcoming). Yet grassroots initiatives and research efforts for restoring rights for protection of Indigenous lands, histories, and lifeways endure (Smithsonian Institution, n.d.; Taboas Cruz, 2017).

During my fieldwork, I accepted invitation to join numerous community hikes guided by the machetes and memories of local land stewards engaged in these efforts. We travelled through the dense jungle, up rivers, and along long-worn Indigenous trail systems connecting mountain villages across the island. One such place was the birthplace of my Gramita, my mother's mother. This place, locally known as *Yeyesa*², remains one of the few protected biocultural sites on the island thanks to the champion work of one elder deeply connected to the land and history there who guided our community research team through 11 miles from dense mountain forest down into the coastal plains. Along our route, we observed vast stone terraces, the "*pedras del indio*" (stones of the Indian) gently holding water and soil in place to grow generations of *yuca*, *yautía*, and *batata* (Indigenous root crops). Throughout our walk, knowledge holders young and old alike exchanged stories, gesturing out to the "pharmacy" of medicines that stood before us, that had provided for healing four decades ago when the villages were still active with families, and that our grandmothers still remember for healing today. We harvested the delicious *mamey*, *aguacate* and *guayaba* offered to us from forest gardens long ago tended by our ancestors. Our eyes took in the abundance of shells carried up from the far away shoreline now mixed in with the rich soil of the *concheros* (shell mounds). We listened silently in the *batey* for the distant sounds of the songs and dances of *areito* held there on the well-worn grounds circled by large stones which each held a presence of their own. Just when the evening jungle chorus was beginning, and the golden hour of the sun passed its light through the trees we departed *Yeyesa*. At the end of the trail, where the forest opened up to the plains, the elder guiding us turned back towards the forest and paused. He explained to me how every time he leaves, he immediately wants to return. He said he thinks it's because his grandmother buried his umbilical cord there.

² Formally known as the Cerro Las Planadas Nature Reserve, protected since 2007 through the efforts of Pablo Martínez and the Committee of Citizens of Defense of Cerro Planadas

We also felt the presence, the draw to return home. There is so much of our history and our sciences, our *aitakuwahi nhaone aba lokono*, held only in the oral records of elders such as these, and in the land in places such as these. Along this hike, and throughout the numerous rivers, trails, and caves on the islands I spent time with, we drew our eyes to the ancient images, the many faces and data records maintained in the petroglyphs and pictographs formed from our ancestors. During these times I often wondered these thoughts about our “ancestor texts” ...



Figure 1: "Ancestor texts" remaining in a high mountain river in Borikén (photo credit D. M. David-Chavez)

Ancestor Texts

*All over the island they watch us, silently.
Watch our awkward cultural adolescence, our reawakening.
When we are out on the land, eyes open
a beam and shadow from the sun, or the rough stone drinking in the rain,
might reveal to us what was always there...
ancestor texts.
Sometimes I wonder if they knew what was coming.
That the only way a message could reach us was through stone and pigment
hidden in caves, in rivers, in forest jungles
in order to survive five centuries of exploitation and torment.
I hold these thoughts as I gaze illiterate,
allowing my mind to empty of everything they've written about us,
in order to understand our ancestor texts.*

In the generations of time since the terraces of *Yeyesa* were built, we've learned all sorts of new knowledge, created all sorts of innovations. Yet, when it comes to the records of our ancestors, understandings that took centuries and millennium to form, we are still seeking to revive and regenerate what's been stolen and suppressed, held captive in museum archives. We mostly maintain access through the distortions and reductions determined by the minds and the pens of so-called "experts" from outside of the community. Despite my education I often feel illiterate to our "ancestor texts," our ancient data forms. Yet, these are the messages and the symbols that they created to reflect their understandings of the world. I often think about the length of time, generations and generations of observation of Earth and space, that it took for our ancestors to form the understandings that they came to know. Once forgotten, once buried and dormant, how long will it take for us to relearn or reawaken these understandings? I don't know the answer, but it is a reminder of the precious time that we have with our elders who remember the stories of their elders. It's a reminder of the importance of our time listening with these elders and listening with the land which I see now as the most important methods for scientific re-searching.



Figure 2: Randal Alicea maintains the practices of harvesting and planting Indigenous tobacco seed on his family farm in Borikén (photo credit D. M. David-Chavez)

Columbusing Knowledge

Our sciences reflect in the lifeways of the people of the land.

*Passed down through stories, cosmologies, recipes, songs, dances, art,
they're bridged into the next generation.*

*These concepts and understandings are not branded
with the names of the first Natives to figure them out.*

*Yet we honor the sacrifices and values of our ancestors,
and the gifts of non-human teachers and relations.*

*When I return to school, I'm taught these same concepts and understandings
however now with different names, and different stories.*

They seem lonely, stripped of the values within which they were embedded.

The remaining narrative of these stories is almost always the same...

*"This is the place where [enter name of stale, pale, male figure] first discovered
these lands/this species/this agricultural concept/this medicinal property etc."*

Sometimes in the footnotes there may be mention of a local Native guide.

*Sometimes I catch a glimpse of these footnotes
frozen in anonymity in those old oil paintings and sculptures,
kneeling or crouching behind shiny conquistadors.*

*Somehow this "discovery" also became our erasure,
I want to know the story of the footnote I tell my teachers,
and I've already heard the mythologies of your people.*

One of the most ironic conditions entailed in the Indigenous experience in the sciences is observing this repeated narrative of “discovery,” or the “Columbusing” of plants, species, places, concepts, etc. This narrative is nearly always centered through the voice, perspective, and biases of the European/American male scientist. At first, I didn’t comprehend the full implications of this skewed narrative. However through my own experiences and in our findings learned from other Indigenous science practitioners and researchers (David-Chavez et al., forthcoming), the connections between the practice of Columbusing science knowledge and the larger dominant narrative of erasure, misrepresentation, and appropriation came to light. When I hear terms such as “sustainability,” “biomimicry,” “deep ecology,” and “one health,” I am reminded of the ancient concepts that guide our communities and Indigenous sources that scientific disciplines largely neglect to acknowledge. These include, for example accounting for multiple generations within our actions, such as a seven generations philosophy of ethics or the practice to “be a good ancestor,” observing the behaviors of our animal relatives for adapting to elements within our physical environment, understanding our relational interconnections with other beings on the Earth, and factoring in natural hydrological patterns and geological features to guide land management practices. In my academic training I was taught the importance of maintaining scientific integrity through citing and acknowledging theoretical contributions to one’s work, yet when it comes to knowledge and data sourced from Indigenous and marginalized communities, ethical misconduct involving knowledge appropriation persists as countless contributions go uncredited only to be formally “discovered” later. I observed this frustrating pattern both firsthand in my fieldwork and as trending in the broader scientific community, where scientists were awakening to the realization that many of the “novel” scientific findings recently formed mirrored conceptual understandings held by Indigenous communities. Long overlooked as “primitive,” “savage,” or additionally in the case of our Taíno community as “extinct” peoples, the complex understandings of Indigenous nations the world over leave scientists scratching their head in wonder and sometimes hypothesizing lost civilizations as the originators of knowledge and material cultural heritage versus acknowledging and holding accountability to the living communities that steward this knowledge.

In my time spent listening and collaborating with rural farmers and knowledge keepers on the islands of *Borikén*, *Kiskeya* (Dominican Republic) and Cuba, I learned the deep, place-based, intergenerational knowledge held and maintained in the stories and practices of our communities. From our Caribbean Indigenous agricultural knowledge for example, I learned the need to “rest” the soil (A. Ortiz, Personal Communication, March 11, 2017), how to plant the yuca (*Manihot esculenta*) near the river for the nutrients and soil texture provided there, (L. V. Amaro, Personal Communication, March 2, 2017), and the importance of observing biological, solar, lunar, hydrological and atmospheric cycles of movement and time. While accessing research data from federal agency agricultural and climate research centers I also observed how, relatively new terms such as “climate smart agriculture” and “keyline agriculture” described critical techniques for effective climate adaptation that nearly mirrored our Indigenous

agricultural techniques. Yet, I observed no mention of Indigenous agriculture, including the importance of rural smallholder farmers for food security. This longstanding practice of Columbusing—initially of land, souls, and human and natural resources, now of knowledge—leaves us with an imbalanced and largely bias dataset disproportionately empowering a small handful of worldviews from a relatively short memory span in governance and decision making while ignoring numerous ways of knowing representing vastly longer timescales. Recognizing how deeply rooted these practices are in my work I saw a clear need for disruption of the dominant narrative and for upholding values of integrity, both institutional and cultural, in the sciences.

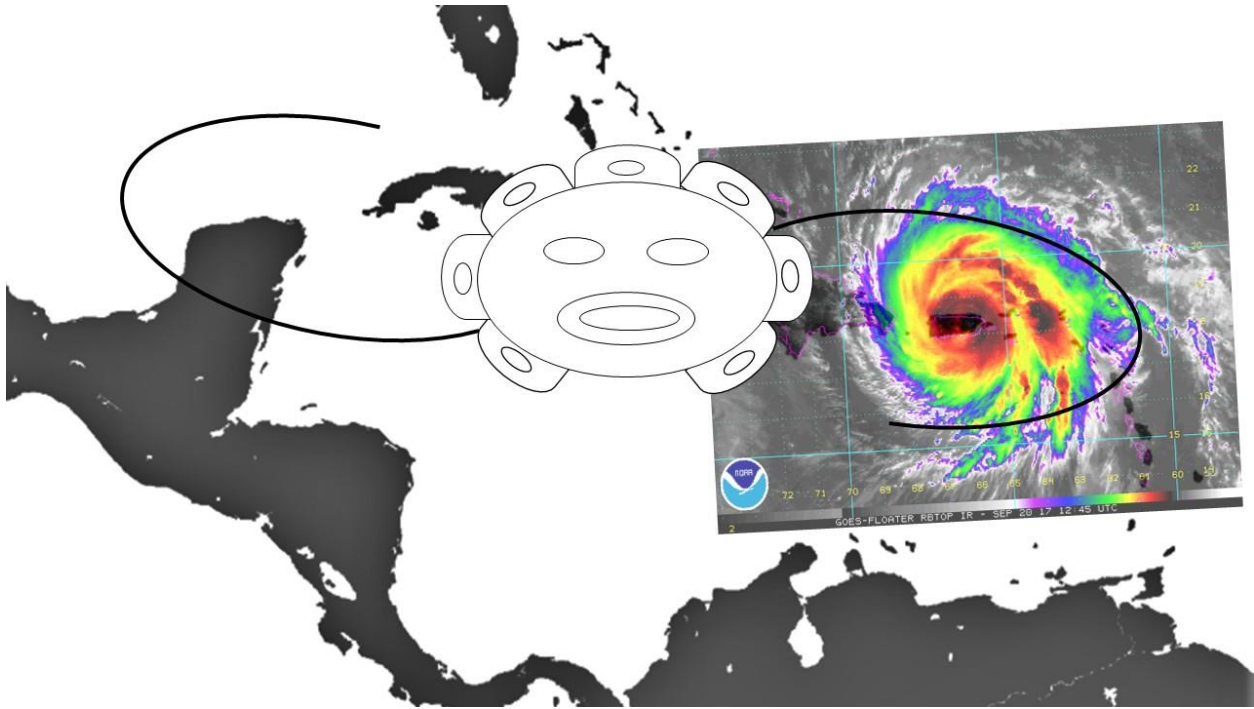


Figure 3: Guabancex and Hurricane Maria (doppler radar imagery obtained from NOAA)

Guabancex

*Long before we knew María, Irma, Harvey, Katrina, or Sandy
we knew their mother and matriarch, Guabancex.*

*From her home, in the center of the sky,
she urges the thunderous songs of Guataubá,
and brings forth the surging swell of Koatriske,
drawing energy from the ocean,
summoning the mixing of dual forces,
spiraling into a new cycle of destruction and renewal.*

Given the climate and geography of the Caribbean, Indigenous communities hold a deep familiarity with the impacts of extreme weather events. For instance, the term “hurricane” originated from the Indigenous name *Huracán*, depicted in ancient cosmology stories explaining the interaction of atmospheric and oceanic processes described in the story of Guabancex and her partner deities Guataubá and Koatriske (Pané, 1999). The recent growth in intensity and frequency of extreme climate events in the region and associated concerns with social and environmental impacts relating to drought, flooding, increase in hurricanes, fresh water availability, soil quality, and food security serve as constant reminders of the importance of maintaining all necessary resources for understanding, adapting to, and respecting climate forces in the region.

When considering future climate resilience, I think of our children and grandchildren who will ultimately hold the task of facing and adapting to severe climate impacts. Our greatest

resource for strengthening community climate resilience, the one most frequently overlooked in policy work, research, and education, is our Indigenous knowledge systems that have guided climate adaptation in the region for centuries. In our intergenerational community research project in *Borikén*, we witnessed record of an extensive oral history record reaching back several generations maintaining detailed descriptions of interruptions and shifts in seasonal cycles and increase in extreme weather events (heavy rain, drought, and hurricanes). We observed distinct parallels between traditional rain-fed rural agricultural practices passed down through countless generations and agricultural techniques identified by scientists for climate change adaptation and mitigation (David-Chavez & Ortiz, 2018; Gould et al., 2015). We observed climate resilience in the rural communities through exercising food sovereignty—"the right of peoples to healthy and culturally appropriate food" (Huambachano, 2018, p. 1022). Specifically, a strong extended community social network sharing a variety of nutritious, climate resilient Indigenous food crops whose surplus were frequently shared with families all across the barrio. Before finishing my fieldwork, in 2017 one of the most severe *huracán* ever remembered in the history of the islands passed directly through the center of the island. We were cut-off from any communication from my family and community research partners for days as the already vulnerable energy, communication, and transportation infrastructures fell to ruin from her forces. While these networks fell silent, the community networks that had been working in the background forged on and strengthened as informal community leaders, champions, matriarchs, farmers, and *curanderas* sparked into action sharing knowledge and resources across *guaitiao* (extended relations). Once communication was restored to the mainland, the stories emerged. Stories of survival, of resilience, of loss, and of community. Upon checking in with one of the family farms we worked with, I learned that once the winds calmed it was only our Indigenous root crops, the *yautía* (*Xanthosoma spp.*) who remained, standing alone on the naked soil. From a First Nations Indigenous news show, I learned that while the island of *Waitukubuli* (Dominica) experienced mass destruction and loss of homes, Kalinago community structures having been built with Indigenous architectural practices, honoring lunar and biological cycles in relation to wood harvesting, and recognizing the physics of the wind in relation to the structure, managed to withstand the forces of hurricane Irma (Trahan, 2018). Alternately, some of the stories I heard, served as a reminder of the decolonizing work that we still need to do in science and policy. For example one news story broadcast from National Public Radio, described the numerous families denied federal aid to restore their homes, families who were Indigenous descendants of the islands, whose homes were described as "squatter settlements" lacking land title beyond informal verbal agreements (Florida, 2018). As I search for the pathway forward, I often return to the cultural metaphor and cosmological story of Guabancex to visualize and conceptualize all the forces at work. Colonial history, much like *huracán*, has been a force of destruction for our Native homelands and peoples. However, in the wake of this destruction we also find cycles of regeneration and renewal. After completing my PhD candidacy requirements here in Colorado, I returned to *Borikén* to continue facilitating our project and upon arrival was struck by how the entire texture of the forests had changed. Huge elder trees stood broken and beautiful, severed

under the pressures of the winds, yet abundant with new shoots. I learned from our community research advisory group how the different plant and animal communities were settling into new patterns. Rogue wind scattered corn and beans appearing along roadsides (N. Ortiz, Personal Communication, July 17, 2018), and an abundance of butterflies signifying the loss of numerous wasps who would have otherwise fed on their young (L. V. Amaro, Personal Communication, July 17, 2018). Our people were reminded of our original cycles of time, of the importance of observing and respecting the forces of nature around us, and most of all, of the importance of community.

Reweavings



Figure 4: Makuto (basket) weaving traditions with guano and yarey palm fibers on island of Kiskeya/Haiti (photo credit Boynayel Mota)

More than anything else, it has been this sense of community and my role within community where I've found the most spiritual and intellectual growth, and the most healing. I've recognized the need, and built my own capacity, to disrupt, unravel and unsettle long dominant patterns in the sciences to create new pathways for Indigenous regeneration and innovation. Through my research and education experiences, I followed numerous threads connecting symptoms (e.g., underrepresented knowledge systems and communities, cultural biases, and extractive research practices) inhibiting growth and integrity in the sciences to their deeper origins rooted in histories of colonization and oppression. In a way I saw my research process untangling and reweaving these threads into new patterns informed through the guidance of my community research partners, practitioners, mentors, and from the ever-growing body of work generated from Indigenous scholars and cross-cultural collaborations around the world. Within these patterns I recognized how regeneration of Indigenous knowledge systems requires

interconnected goals for restoring relationships, sovereignty, cultural context, food systems, governance, and livelihoods. This process helped me to identify and map out a pathway forward for restoring relational accountability and disrupting colonial agendas and narratives in the sciences.

I hold a deep sense of gratitude to my mother for encouraging me to turn to our homelands for my graduate research, and for the support and guidance from community research partners and mentors. I'm grateful for the understanding I hold now, that I was never shown in school, of the valuable contributions of our original scientists, because in learning this, I also learned to value myself and my role as an Indigenous scientist. This includes recognizing my survival as a living testimony to the love, perseverance and resilience of my ancestors. With renewed capacity I carry my voice and the lessons we've learned for decolonizing science research and education to forums where I had never previously imagined myself and where voices like my own have rarely if ever been heard. In these spaces I call for action and integrity from the researchers, funding agencies, academic and policy institutions to acknowledge and hold accountability to their roles in reconciling and healing our histories, and their intergenerational roles in regard to the collective stewardship of the Earth and all our relations. We cannot unwrite the harmful stereotypes or erase the racially charged and inaccurately bias datasets, just as we cannot un-see the atrocities of genocide, oppression, and slavery that are valorized in so many aspects of our learning institutions (curriculum, data, symbolism, naming). What we can do is fill and balance these incomplete and radically skewed datasets with the unspoken narratives, the unasked questions, and the knowledge carried forward and transmitted against great odds by our ancestors and elders. The patterns we weave now, support the rightful inheritors of such knowledge—Indigenous youth and people of the land—to build their capacity as data stewards and leaders of their lands, languages, and lifeways. As increasing numbers of youth from historically silenced communities gain access to institutions of higher learning and to forums for policy, governance, and community action, they carry their diverse knowledges and perspectives with them enhancing the potential for problem-solving capacity and innovation. I call for each of us to make an intergenerational commitment to support these efforts, to ensure that future generations have access to all the resources that we can offer them to face the challenges ahead. In light of these efforts I envision a new generation of leaders in the sciences, deeply rooted and culturally grounded within their communities, seamlessly weaving tradition and innovation towards a more hopeful future. *Hahóm.*

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