

BEFORE THE NEXT FLOODS: RECKONING WITH CLIMATE DISASTER AND LOSS THROUGH HERITAGE IN PORTO ALEGRE, BRAZIL



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Declaration of originality

I hereby declare that this thesis is an original piece of work, written by me alone. Any information and ideas from other sources are acknowledged fully in the text and notes.

Amsterdam, 18 June 2025

Preface

I first heard about the major flooding that occurred in Rio Grande do Sul in the spring of 2024 from my friend Bibiana Branco, who shared mutual aid resources and information on social media. As an European-American, I did not see much media coverage. I looked into it further and was appalled by the scale of the catastrophe. On social media, I saw videos of people waiting to be rescued by the Civil Defense, only to be saved by a neighbor. Despite an inadequate government emergency response, I was impressed with the wide-ranging community reactions.¹ Medical students jumped into action, ordinary citizens risked their lives to save their neighbors in daring rescues, and donations poured in from across the country. I remember thinking at the time: this should be recorded and studied beyond a news story or an infrastructure report.

Knowing I would start my MA in heritage at Vrije Universiteit Amsterdam (VU) in the fall of 2024, I decided early on that the 2024 floods would become the focus of my thesis. Therefore, the classes that I chose to take at the VU offered a multidisciplinary perspective on the connections between climate change and heritage. In particular, these courses provided a stimulating learning environment to further appreciate the various themes I explore in this thesis, which included: Climate Challenges in the Living Environment with Dr. Marilena Mela, Historical Landscapes Under Transformation with

¹ Langlois, Jill. “Brazil’s Deadly Floods Expose Shortfalls in Disaster Preparedness | Think Global Health.” 2024. Think Global Health. July 26, 2024. <https://www.thinkglobalhealth.org/article/brazils-deadly-floods-expose-shortfalls-disaster-preparedness>.

Dr. Gert-Jan Burgers, and Planning Heritage in the Participatory Society with Dr. Gabriel Schwake.

Beyond the classroom, I traveled to Porto Alegre, Brazil from December 29, 2024 to January 25, 2025 by invitation from Bibiana during an extended class break to conduct fieldwork for my thesis. As explained further in chapter three, during this time, I organized interviews and tours with museum professionals, archaeologists, and community leaders in partnership with my collaborators. The time they contributed to the thesis is invaluable and further proves it is people that create the threads in the vibrant tapestry that is research.

Agradecimentos aos Colaboradores / Collaborator

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Este trabalho não existiria sem a colaboração de muitos amigos e parceiros. Em primeiro lugar, gostaria de agradecer a Bibiana Branco por ter despertado meu interesse por este estudo de caso e passado noites em claro traduzindo. E, claro, obrigado a toda a família Branco, Patricia, Roberto Lohmann e Andressa Quines por me hospedarem e me servirem deliciosos churrascos durante minha estadia.

Obrigado a Tiago Pacheco Almeida por passar vários dias vagueando pelos bairros, conversando com membros da comunidade em meu nome, compartilhando suas histórias e traduzindo entrevistas complexas.

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Gostaria também de reconhecer e apoiar a greve em curso dos trabalhadores do IPHAN, que exigem melhores condições de trabalho e valorização dos profissionais responsáveis pela preservação do patrimônio histórico e artístico do Brasil.²

² I would also like to acknowledge and support the ongoing strike by IPHAN workers, who are demanding better working conditions and greater recognition for the professionals responsible for preserving Brazil's

Obrigada aos meus colaboradores de trabalho que se sentaram para responder às minhas perguntas e compartilhar suas experiências:³ Marcos Haile Emmanuel, Francisco Dalcol, Aline Chaves, Márcio, Rafael Mautone Ferreira, Aretha Abená Ramos Coelho, Rafael dos Passos, Grasiela Tebaldi Toledo, Sara Teixeira Munaretto, e Hugo Gusmão.

Thank you to my advisor, Marilena Mela; you have shaped this research for the better. I always looked forward to our lively conversations throughout this process.

historical and artistic heritage. Sintsep/MS. May 28, 2025 “Servidores Do Iphan/MS Realizam Ato Cultural Dentro Do Movimento De Greve | Sintsep/MS.” https://www-sintsepms-org-br.translate.goog/noticias/servidores-do-iphans-realizam-ato-cultural-dentro-do-movimento-de-greve/?_x_tr_sl=pt&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc.

³ This work would truly not exist without the collaboration of many friends and partners. First, I would like to thank Bibiana Branco for planting the seeds of interest in this case study and spending late nights translating. And, of course, thank you to the entire Branco family, Patricia and Roberto Lohmann and Andressa Quinones for hosting and feeding me delicious churrasco during my stay. Thank you Tiago Pacheco Almeida for spending multiple days wandering around neighborhoods, speaking to community members on my behalf, sharing your stories, and translating complex interviews. Thank you Amanda Medeiros for connecting me to your wonderful sister-in-law and acting as a translator for the day.

Thank you Alexandra Couto Frazão and Luan Patrick de Jesus Araujo Silva for being ace translators and close long-time friends.

Thank you to my co-laborers who sat down to answer my questions and share their experiences.

Chapter 1. Introduction

1.1 Topic, aim, relevance, research question

Topic

Over ten days in spring 2024, the entire state of Rio Grande do Sul—Brazil's southernmost state—recorded nearly half of its predicted annual rainfall. This was largely due to the year's El Niño climate phenomenon, which has intensified in recent years as a result of climate change.⁴ Excess rainwater overwhelmed the region's smaller rivers, forcing the overflow to flood the Guaíba River, the body of water that surrounds the capital city of Porto Alegre. The city's 65 kilometers of dikes, 14 floodgates, and 22 stormwater pumping stations buckled under the pressure of the unprecedented rain, flooding 300,000 homes in the city of 1.4 million.⁵

⁴ Kim, Shi En. "Six Months After Its Worst Floods, Rio Grande Do Sul Works to Bounce Back." Mongabay Environmental News. October 28, 2024. <https://news.mongabay.com/2024/10/six-months-after-its-worst-floods-rio-grande-do-sul-works-to-bounce-back/>.

⁵ Droppa, Alisson and Lara Nasi. "Floods in Rio Grande Do Sul, Brazil: Chronicle of a Tragedy | UCL Risk and Disaster Reduction Blog." June 14, 2024. <https://blogs.ucl.ac.uk/irdr/2024/06/14/floods-in-rio-grande-do-sul-brazil-chronicle-of-a-tragedy/>.



Figure 1. Aerial photo of downtown Porto Alegre flooded in 2024; MARGS is pictured on the left

The rain began on April 27, 2024. They lasted six weeks, leaving entire neighborhoods submerged in floodwater for at least three.⁶ According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the floods affected nearly 2.4 million people in the region, with 183 reported deaths and 27 missing persons. The destruction affected 95% of the state's municipalities, causing an estimated R\$97 billion in damages.⁷ Institutional neglect of Porto Alegre's infrastructure

⁶ Kim. "Six Months After Its Worst Floods."

⁷ OCHA, "Brazil: Floods in Rio Grande do Sul - United Nations Situation Report. September 20, 2024. <https://www.unocha.org/publications/report/brazil/brazil-floods-rio-grande-do-sul-united-nations-situation-report-20-september-2024> and Fox, Michael. "The Future Is Dark": Inside the Brazilian Businesses Shattered by Floods." *Al Jazeera*, June 11, 2024. <https://www.aljazeera.com/economy/longform/2024/6/11/the-future-is-dark-inside-the-brazilian-businesses-shattered-by-floods>.

led to widespread failures during the floods, exposing weaknesses in both its systems and disaster preparedness, with severe consequences for marginalized communities and cultural heritage.⁸

At the center of this thesis is my evaluation of the role of cultural heritage in the era of climate disasters. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) defines intangible cultural heritage, or living heritage, as the oral traditions, performing arts, social practices, rituals and festive events, knowledge, and practices that are continuously reimagined as they pass through the generations and evolve in response to our environment.⁹ Instrumentally, living heritage offers communities and individuals a sense of shared identity and place and helps communities build resilient and inclusive societies.¹⁰ Heritage, as viewed by institutional bodies like governments, museums, and academia, are the objects, buildings, and monuments that are deemed valuable enough to preserve and safeguard from modern development and spatial changes.¹¹ The discipline traditionally has relied on technical experts and state agencies to make policy decisions for individual monuments and historic buildings in order to educate the public and safeguard material culture for future generations.

⁸ Piccoli Faganello, Cláucia. "Climate Crisis in the South of Brazil: A Foretold Catastrophe Amidst State Dismantling." ReVista. <https://revista.drclas.harvard.edu/climate-crisis-in-the-south-of-brazil-a-foretold-catastrophe-amidst-state-dismantling/> and Carrasco, Jorge Guardian Staff. "Can Southern Brazil's Deadly Floods Spur the Shift to Green Energy?" *The Guardian*, November 18, 2024. <https://www.theguardian.com/global-development/2024/nov/14/brazil-rio-grande-do-sul-deadly-floods-extreme-weather-climate-change-shift-green-energy-renewables>.

⁹ UNESCO, "THE CONVENTION FOR THE SAFEGUARDING OF THE INTANGIBLE CULTURAL HERITAGE Living Heritage and Education. <https://ich.unesco.org/doc/src/46212-EN.pdf>.

¹⁰ UNESCO. "THE CONVENTION FOR THE SAFEGUARDING OF THE INTANGIBLE CULTURAL HERITAGE."

¹¹ Janssen, J., E. Luiten, H. Renes & J. Rouwendal 2014: *Character Sketches. National Heritage and Spatial Development Research Agenda*

The different views of heritage are central to the research question I explore in this thesis. Using Porto Alegre as a case study, I evaluate the various institutional and grassroots responses in arts and culture spaces, demonstrating the importance of cultural heritage's role in community resilience and climate disaster response. By using cultural institutions and grassroots organizations as a frame, it offers an opportunity to examine how heritage can play an active role amidst climate-driven catastrophes as governments and communities reckon with disaster relief and planning, resilience-building, and communal healing.

Research Question

The aim of my research is to understand the various roles heritage has played in Porto Alegre during and in the aftermath of the climate change-driven flooding that occurred from April to June 2024. I explore community-centered as well as institution-led frameworks in the broader context of a future that will certainly be characterized by frequent climate disasters. My research examines how heritage approaches contribute to climate disaster strategies and promote interdisciplinary collaborations,¹² the role of community participation in defining cultural heritage in these emergencies,¹³ and how a community's creation of meaning with their landscape is made in these contexts.¹⁴ The central question of my research is: how can heritage support and drive community

¹² Harvey, David., Perry, Jim, Heritage and Climate Change. In Harvey, D.C., Perry, J., *The Future is not the Past, in The Future of Heritage as Climates Change. Loss, Adaptation and Creativity*, London: Routledge, 2015.

¹³ Bonazza, Alessandra, and Alessandro Sardella. "Climate Change and Cultural Heritage: Methods and Approaches for Damage and Risk Assessment Addressed to a Practical Application." *Heritage* 6, no. 4, 2023. 3578–89. doi:10.3390/heritage6040190.

¹⁴ Tweed, Christopher, and Margaret Sutherland. "Built Cultural Heritage and Sustainable Urban Development." *Landscape and Urban Planning* 83 (1): 62–69, 2017. <https://doi.org/10.1016/j.landurbplan.2007.05.008>.

engagement, resilience, and healing in the face of natural disasters driven by climate change, as illustrated by the 2024 floods in Porto Alegre, Brazil?



Figure 2. Research collaborator Marcos Emmanuel Haile showing the marks of the floodwaters in Vila Farrapos

Relevance

Heritage is an important process to consider amidst a significant global shift by high-income countries (HICs) cutting international aid to low/middle-income countries (LMICs). This trend is exemplified by the lackluster results coming out of the 2024 UN Climate Change Conference or COP29.¹⁵ With ‘once-in-a-generation’ floods now occurring with more frequency —as seen in eastern Spain (October 2024), southern Germany (June 2024), and Afghanistan (May 2024)— the various heritage-based

¹⁵ Stallard, Georgina Rannard and Esme. “Huge COP29 Climate Deal Too Little Too Late, Poorer Nations Say.” November 24, 2024. <https://www.bbc.com/news/articles/cd0gx4przejo>.

approaches, led by Porto Alegre's cultural institutions and communities provide insight into understanding how to promote wider collaborations and build resilience around shared identity and healing.

In the heritage field, the intersection between climate change and cultural heritage is the subject of recent works, including Harvey and Perry (2015),¹⁶ Bonazza and Sardella (2023),¹⁷ Ballard et al. (2022),¹⁸ Blavier et al. (2023),¹⁹ among others. This work is often done in collaboration with other disciplines, including those operating in disaster management as well as climate scientists and urban planners. But it is vital to center my work in the heritage field because it is a discipline that critically grapples with the questions of value, loss, and power. To critically analyze how heritage can foster community engagement, resilience, and healing in the age of climate change-driven disasters, my research provides new insight for the field within the context of a recent climate disaster that occurred in the culturally rich and complex city of Porto Alegre, Brazil.

1.2 Porto Alegre's history and foregrounding the 2024 floods

Rio Grande do Sul's demographics are unusual compared to the rest of Brazil. In the 19th century, racially charged government policies aimed at Europeanizing the region's

¹⁶ Harvey and Perry. "Heritage and Climate Change."

¹⁷ Bonazza and Sardella. "Climate Change and Cultural Heritage."

¹⁸ Ballard, Christopher, Nacima Baron, Ann Bourgès, Bénédicte Bucher, May Cassar, Marie-Yvane Daire, Cathy Daly, et al. *Cultural Heritage and Climate Change: New Challenges and Perspectives for Research: White Paper from JPI Cultural Heritage & JPI Climate*, 2022.

¹⁹ Blavier, Camille Luna Stella, Harold Enrique Huerto-Cardenas, Niccolò Aste, Claudio Del Pero, Fabrizio Leonforte, and Stefano Della Torre. "Adaptive Measures for Preserving Heritage Buildings in the Face of Climate Change: A Review." *Building and Environment* 245: 110832, 2023.
doi:10.1016/j.buildenv.2023.110832.

population resulted in waves of Italian and German migration, making the state's current white population nearly double the national average.²⁰ However, Porto Alegre's Afro-Brazilian citizens have a significant cultural history that is often underrecognized in Brazilian popular culture. The city has the highest number of urban quilombos—historic cultural communities made up of the descendants of escaped slaves—in Brazil.²¹ Quilombos are protected in Brazil's 1988 Constitution; however, the process for the communities to be formally recognized is slow, resulting in many of these communities facing existential threats from real estate speculation.²² In recent years, Porto Alegre's downtown urban renewal projects have accelerated gentrification and displaced Afro-Brazilians to flood-prone areas with inadequate infrastructure.²³ Post-flooding research has concretely demonstrated that racial and socioeconomic factors determined the impact of the flooding on communities.²⁴ In fact, the areas where the waters peaked the highest and remained the longest were those that had the highest proportion of Afro-Brazilians. Additionally, neighborhoods that were the most impacted, like Humaitá and Vila Farrapos, have communities that earn the lowest wages in the city.²⁵

The 2024 floods were the worst in recent memory for Porto Alegre, but it is not the first time the city was affected by catastrophic flooding. In 1941, the Guaíba River's

²⁰ Rogero, Tiago. "Brazil's devastating floods hit 'Black population on the periphery' hardest." *The Guardian*. June 13, 2024. <https://www.theguardian.com/world/article/2024/jun/13/brazil-floods-black-population-affected>

²¹ Fox, Michael. "'Existing and Resisting': Black Quilombo Communities Fight for Land, Rights in Brazil - the World From PRX." 2023. The World From PRX. November 20, 2023. <https://theworld.org/stories/2023/11/20/black-quilombo-communities-resist-threats-land-rights-brazil>.

²² Fox. "'Existing and resisting.'

²³ Rogero. "Brazil's devastating floods hit 'Black population on the periphery' hardest."

²⁴ Rogero. "Brazil's devastating floods hit 'Black population on the periphery' hardest."

²⁵ Rogero. "Brazil's devastating floods hit 'Black population on the periphery' hardest." and Jahic, Naida. 2024. "Floods in Brazil: Avoiding Another Disaster." The Borgen Project. December 30, 2024. <https://borgenproject.org/floods-in-brazil/>.

banks overflowed by nearly five meters, resulting in one-quarter of the population losing their homes.²⁶ The government responded to this tragedy by building dikes, flood walls, and pump systems, which were completed in the early 1970s.²⁷ But over the years, the city transferred flood protection maintenance from a dedicated, city-funded department to a public entity managing sewage, drainage, and water systems, which has led to decades of improper upkeep.²⁸ Further exacerbating this negligence is the fact that municipal and state governments drastically cut their flood prevention budget in recent years, worsening Porto Alegre and the entire state's preparedness for a disaster of this scale.²⁹

On April 27, 2024, intense rain began to fall in Rio Grande do Sul and did not relent until mid-May. Collaborators I spoke to who lived in Porto Alegre during the floods likened it to biblical flooding and recollect how even to this day, the sound of rainwater can still trigger post-traumatic stress responses. The rainwater flowed into the tributaries and directly into the Guaíba River, causing the river to rise about 5.33 meters above its normal level.³⁰ Over the course of three weeks, the low-lying, flood-prone neighborhoods where historically marginalized communities lived were flooded. The

²⁶ Zelmanovitz, Leonidas. "Learning From Preventable Tragedy." *Law & Liberty*. June 3, 2024. <https://lawliberty.org/learning-from-preventable-tragedy/>.

²⁷ "Dutch Disaster Risk Reduction & Surge Support (DRRS) Programme: Final Report Porto Alegre, Brazil." Dutch Disaster Risk Reduction & Surge Support, 2024. https://english.rvo.nl/files/file/2024-08/DRRS%20Porto%20Alegre%20-%20final%20report%202025%20August%202024%20EN_0.pdf.

²⁸ Zelmanovitz. "Learning From Preventable Tragedy."

²⁹ Fox, Michael. "'They're Making It up as They Go': Inside the Response to Brazil's." *NACLA*, May 8, 2024. <https://nacla.org/brazil-floods-rio-grande-sul>.

³⁰ "2024 Rio Grande Do Sul Brazil Floods - Center for Disaster Philanthropy." 2024. Center for Disaster Philanthropy. December 5, 2024. <https://disasterphilanthropy.org/disasters/2024-rio-grande-do-sul-brazil-floods/>.

most affected neighborhoods included 240 favelas and vilas,³¹ 40 quilombo communities, and five Indigenous villages.³²

In addition to vulnerable communities that are protected under Brazilian law, the floods impacted many heritage sites, cultural centers, and museums around the city and region. For the most part, these institutions were not well-equipped for a major flood. Museu de Arte do Rio Grande do Sul (MARGS) is located in Porto Alegre's flood-prone downtown neighborhood and experienced widespread water damage to its collection. The majority of the museum's holdings were stored in the ground floor of the museum, which was completely flooded. I further explore MARGS and other institutional responses in chapter four.

1.3 Chapters outline

In the first chapter, I have outlined the aim of my research, the relevance of the work positioned within the broader field of heritage studies, and provided key historical and contemporary background on Porto Alegre.

In the second chapter, I introduce the conceptual framework that guides the analysis of the thesis, including key heritage theory and processes. Further, in chapter three, I explore the varied methodological framework of the thesis. I provide context for my positionality in relation to the thesis' informants and co-collaborators.

³¹ Favelas and vilas are low-income and often overcrowded neighborhoods on the outskirts of major Brazilian cities

³² "2024 Rio Grande Do Sul Brazil Floods - Center for Disaster Philanthropy."

I begin the analysis of my case study of Porto Alegre in chapter four outlining the institutional responses and evaluating the framework of cultural institutions' perceptions of value and preservation. In chapter five, I explore the varied understandings of heritage within the community with the analysis of hip hop to connect with populations affected by the floods and institutional neglect. Chapter six sees the exploration of a severely impacted neighborhood and understanding community collaborations through the lens of landscape analysis.

I place my research within the broader discussions in the heritage field and compare the case studies in chapter seven. In chapter eight, I discuss key findings and summarize my research.

Chapter 2. Conceptual framework

Chapter two presents the conceptual framework for this thesis, drawing from heritage and landscape theory to situate the analysis within academic discourse and establish the connections I make from my original research to existing scholarship.

2.1 Introduction

Each of the concepts discussed in this chapter provides insight for the reader to understand how I ground my research in relevant scholarship. It is a vital chapter for the rest of the thesis, as I will cite from it throughout the essay. This chapter begins with the analysis of critical heritage theory, then introduces the role of living heritage through the form of Brazilian hip-hop, followed by outlining landscape biography research.

Throughout the chapter, I will address questions in the field surrounding the transformation of heritage in the face of climate change. It is therefore crucial that readers engage with the distinctions I outline in this chapter, as they shape the overall logic of the thesis and correspond with each case study chapter. I should also caution that this chapter does not engage with every piece of scholarship published on the various academic themes addressed in this thesis but represents an intentional selection I made of the texts and theory I deemed most relevant to my case study.

In recent decades, the field of heritage studies has undergone a critical transformation, moving away from traditional preservationist practices that promote the safeguarding of monumental sites toward more inclusive, fluid understandings of

heritage as a living, socially influenced process. Influenced by scholars such as David Lowenthal and Laurajane Smith, contemporary heritage discourse increasingly challenges the dominance of the authorized heritage discourse (AHD), which prioritizes institutional authority over communities' ties to places and cultural practices. This shift has coincided with growing interest in the role that heritage plays in responding to widespread societal issues caused by climate challenges. As interdisciplinary scholars like David Harvey, Jim Perry, and Caitlin DeSilvey argue, climate challenges force us to rethink what we value in a world defined by expected loss and transformation. Through concepts like "transformative continuity" and "creative conservation" the field is expanding to embrace loss, evolving landscapes, and community-led approaches as acceptable and even necessary responses to environmental and social shifts.³³ This reorientation also extends into landscape and intangible "living" heritage, where localized knowledge, memory, and identity are central to heritage practices and frameworks.³⁴

I examine heritage scholarship's focus on climate change's impact on heritage resources and the field's practical adaptation strategies. I opted to base my conceptual theories in this thesis on heritage studies' leading academics, including Laurajane Smith, David Harvey, Jim Perry, Kynan Gentry, Rodney Harrison, Nélia Dias, Kristian Kristiansen, Gert-Jan Burgers, and Joks Janssen. These scholars provide a strong theoretical grounding that maps the evolution of heritage studies from an authorized

³³ DeSilvey, Caitlin, and Rodney Harrison. "Anticipating Loss: Rethinking Endangerment in Heritage Futures." *International Journal of Heritage Studies : IJHS* 26, no. 1, 2020. 1–7. doi:10.1080/13527258.2019.1644530.

³⁴ Ashmore, Wendy, and A. Bernard Knapp. "Archaeologies of Landscape: Contemporary Perspectives." *Archaeological Journal* 157 (1): 503–4, 2000. <https://doi.org/10.1080/00665983.2000.11079002>.

perspective to understanding the value of a ground-up community approach. I analyze additional scholarship from landscape archaeologists and scholars, including Wendy Ashmore, Nora Mitchell, and Susan Buggey, to understand the ways in which communities can conceptualize their surroundings as heritage.

2.2 Heritage through sector, factor, and vector approaches & AHD

In Lowenthal's *The Past is a Foreign Country*, he notes that heritage professionals work tirelessly to list monuments as protected sites and often regard the past as fragile work that should be protected from a rapidly changing world. He calls this approach 'indiscriminate preservation,' which reached a fever pitch after World War II. Because of the sheer number of buildings listed under protection, the reality is that often only a fraction of the sites are adequately cared for, let alone accessible to the public.³⁵

Janssen et al.'s *Character Sketches* outline the three approaches to heritage that have evolved linearly but are often used collaboratively today. The first of these is the sector approach, which directly relates to Lowenthal's concept of indiscriminate preservation. This approach initially developed in the early 20th century as urban elites were preoccupied with the conditions of historical buildings.³⁶ The sector approach separates heritage sites from the rest of society— either placing the site or artifacts behind secure glass in a museum's exhibition or fencing it to prevent human intervention. The prevailing view is that heritage is best protected from the passages of time, spatial planning, and human influence— which is a prominent difference from the

³⁵ Lowenthal, David. "Saving the past: preservation and replication."

³⁶ Janssen et al. "Character Sketches."

other two approaches. Sanctioned and supported by the government through formal channels of funding, the sector approach is a mutualistic relationship between international organizations like UNESCO, national governments, and academics in the fields of heritage studies, history, and archaeology. The framework that heritage is viewed by the sector approach seeks to differentiate and separate the past from the present, creating an isolate from spatial planning.³⁷

As cities around the world saw a boom of urban development in the late 20th century, the factor approach considered heritage to be part of spatial planning of the landscape. The factor approach sees heritage as contributing to economic and cultural value. And while the sector approach focuses on isolating single monuments or buildings, the factor approach appreciates the full scope of the landscape.³⁸

Janssen et al. introduced the vector approach as the third strategy for heritage and spatial planning that has emerged in the past two decades. The vector approach is directly involved with the public to document the intangible aspects of heritage sites. Narratives relayed by the people who inhabit the spaces are centered in this approach, instead of relying on institutions like universities, government bodies, or private companies that are involved in the sector and factor approaches. As landscapes transform from extreme climate events, transformation projects, and government austerity, this fluid approach invites the public to become active participants in defining and contextualizing their heritage.³⁹

³⁷ Janssen et al. "Character Sketches."

³⁸ Janssen et al. "Character Sketches."

³⁹ Janssen et al. "Character Sketches."

	SECTOR	FACTOR	VECTOR
Philosophy	Modernism	Post-modernism	Fluid modernism
Management concept	Hierarchy	Network	Connection
Her. management focus	Object-oriented	Regeneration	Development-oriented
Research focus	Single discipline	Multidisciplinary	Transdisciplinary
Heritage in planning	Isolated	Embedded	Inspiration
Regime	Musealisation	Reuse	Further development
Heritage:planning	Contrast	Contact	Connection

Figure 3. A chart outlining the differences between the sector, factor, and vector approaches to heritage

Returning to an analysis of the sector approach, when institutions, governments, and academics solely revere the sector approach to the material preservation of heritage, it can reinforce the perceived value of the artifacts that normalizes separating them from the public. Museums place valuable works behind glass-plated cases, municipal governments erect fences around ancient ruins, and academics require historic manuscripts from collections to be handled with white gloves. Critical heritage scholars argue that these actions create a misleading narrative that only professionals can extend the longevity of the physical integrity of the heritage object or site through their interventions. This does not take into account climate challenges, theft, and other factors that can impact the site or item's integrity. Furthermore, an inadvertent consequence of the sector approach that critical scholars point out is that people become detached from the culture that institutions seek to preserve as people deem it as unapproachable and removed from their everyday lives.

Furthermore, influential critical heritage scholars like Laurajane Smith have pushed for a shift in understanding heritage towards a critical lens. Smith is known for her critiques of the Authorized Heritage Discourse (AHD) that elevates the role of heritage academic experts. AHD is still the leading framework for heritage managers, but there is simultaneously a strong desire in the field for increased community participation. Smith herself writes that the past is not abstract; it has material reality as heritage, which in turn has material consequences for community identity and belonging. The past cannot simply be reduced to archaeological data or historical texts – it is someone's heritage; thus she argues that the community should have a more active role.⁴⁰

Smith is influenced by Michel Foucault's theory about how power is created through accepted avenues of knowledge, scientific methods. Thus she argues that AHD links itself to power structures that determine what and how heritage sites are managed.⁴¹ Smith contends with how exclusionary and siloed the heritage field can be and how ordinary people who are information carriers in their own right are excluded from decisions regarding its management. Therefore, Smith and her contemporaries ask what the social and political implications of AHD are in a society where the government and academics determine how heritage is defined.

It is important to note the increased efforts between cultural institutions and academics to engage more directly with activist collectives of subaltern communities. These partnerships encourage the public to become involved in the stewardship of the

⁴⁰ Smith, Laurajane. 2006. *Uses of Heritage*. Routledge eBooks. <https://doi.org/10.4324/9780203602263>.

⁴¹ Smith. "Uses of Heritage."

institution's collections and aspects of curation that emphasize the value of alternative forms of knowledge and expertise.⁴² More people are realizing the power struggles in traditional heritage practices and authorities, which has led to museums and archives becoming more open and inclusive, seen in the growth of social history museums and community-led archives and public spaces.⁴³

2.3 Music as living heritage

In the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM)'s 2009 *Handbook of Living Heritage Conservation Methods*, the organization defines living heritage as "sites, traditions, and practices created and still in use by historically diverse authors or heritage places in which a core community lives in or near."⁴⁴ The core communities refer to those heritage creators and the people who are most connected to the heritage.

Further discussions by heritage experts and academics on the merits of recontextualizing the definition of living heritage took place during UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage. The outcome saw

⁴² van der Hoeven, Arno, and Amanda Brandellero. "Places of Popular Music Heritage: The Local Framing of a Global Cultural Form in Dutch Museums and Archives." *Poetics (Amsterdam)* 51: 37–53, 2015. doi:10.1016/j.poetic.2015.05.001. and

Waterton, Emma, Smith, Laurajane. The recognition and misrecognition of community heritage. *Int. J. Herit. Stud.* 16 (1–2), 4–15. 2010.

Stevens, Mary, Flinn, Andrew, Shepherd, Elizabeth. New frameworks for community engagement in the archive sector: from handing over to handing on. *Int. J. Herit. Stud.* 16 (1–2), 59–76. 2010.

⁴³ van der Hoeven and Brandellero. "Places of Popular Music Heritage." and Smith, Laurajane. Ethics or social justice? Heritage and the politics of recognition. *Aust. Aborig. Stud.* 2, 60–68. 2010.

Weil, Simone, 1997. The museum and the public. *Museum Manag. Curator.* 16 (3), 257–271.

⁴⁴ Sun, S. and Nakajima, N. "COMMUNITY CO-CREATION IN LIVING HERITAGE CONSERVATION – FROM OBJECT-CENTERED TO PEOPLE-CENTERED PLANNING FOR THE ANCIENT CITY OF PINGYAO." *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences X-M-1–2023*, 2023. 253–62. doi:10.5194/isprs-annals-x-m-1-2023-253-2023.

an international consensus on recognizing living intangible heritage as an ongoing process that operates through performance, space, and collective memory.⁴⁵ This seismic shift in understanding cultural heritage beyond the constrictions of single monuments, buildings, or artifacts shows the importance of contemporary traditions that are practiced by communities where these living traditions are part of everyday social life.

In engaging with the significance of the 2003 UNESCO Convention, UNESCO chairholder on transcultural music studies and musicology scholar Tiago de Oliveira Pinto contends that cultural producers should be the ones that document, define, and bring awareness to their own manifestations of culture.⁴⁶ Pinto advocates for a “bottom-up” movement for recognizing cultural heritage so that the carriers of cultures themselves can determine value. Especially in regard to musical heritage, responsibility for identification and documentation ought to be prioritized to include the core communities, which Pinto argues are the musical performers as well as those who are “interested in, touched by, or actively engaged in music.”⁴⁷ The broadened definition of the core community regarding living heritage is key to understanding the significance of hip hop in Rio Grande do Sul and its role as living heritage during the 2024 floods, which is the focus of chapter five.

Music is intrinsically linked to living heritage, as it hinges on contextual embedding, movement patterns, and the audience-performer dynamic. Pinto argues

⁴⁵ Majsova, Natalija, and Jasmina Šepetavc. “Popular Music as Living Heritage: Theoretical and Practical Challenges Explored through the Case of Slovenian Folk Pop.” *International Journal of Heritage Studies* : IJHS 29, no. 12, 2023. 1283–98. doi:10.1080/13527258.2023.2250759.

⁴⁶ Oliveira Pinto, Tiago de. “Music as Living Heritage. An Essay on Intangible Culture.” *Music as Living Heritage: An Essay on Intangible Culture*, 2018.

⁴⁷ Oliveira Pinto. “Music as Living Heritage.”

that there is a central paradox to music in particular: while music can be considered intangible, its meanings and values are realized within specific contexts, allowing a form of materiality to emerge through the intangible.⁴⁸ Pinto believes that more than any other genre, music defies the binary between tangible and intangible culture, so we cannot limit the definition of music to just mean the sound itself.⁴⁹ Thus, building on Janssen et al.'s outlined approaches to heritage, music as living heritage can be considered a vector approach as it becomes a part of daily life.

Music scholars also note that when institutionalized, music gives places meaning through interrelated processes. Arts and cultural studies scholars Arno van der Hoeven and Amanda Brandellero present the framework for these processes in their 2015 research essay on how Dutch museums and community archives situate popular music within a local-global nexus. The authors find that cultural institutions seek to increase the cultural legitimacy of popular music through the recent field-wide practice of incorporating the participation of music fans and local communities in heritage practices. Therefore, they seek to understand how these cultural institutions use popular music in the presentation of local sociocultural histories, how popular music creates a sense of belonging and cultural pride, and the attachment of place-based identities to artistic legacies.⁵⁰

2.4 Landscape biography and mapping neighborhoods

The discipline of archaeology has long been occupied with space and the perception of nature in an archaeological context. Landscape experts evolved their thinking in the

⁴⁸ Oliveira Pinto. "Music as Living Heritage."

⁴⁹ Oliveira Pinto. "Music as Living Heritage."

⁵⁰ van der Hoeven and Brandellero. "Places of Popular Music Heritage."

1970s and 80s, stressing that the examined remains were the result of people's adaptation to their landscapes and environment.⁵¹ The multidisciplinary evolution of landscape theory emerged from concurrent feminist, Marxist, and other critical theories that dominated academia in the late 20th century.⁵² Important scholars that influenced this expansive and poststructuralist reframe of the field include Richard Walker and Don Mitchell's seminal works exploring how landscapes are shaped by class struggles.⁵³

Therefore, an evolution in both theory and practice has resulted in an expansive view of landscape phenomena. A. Bernard Knapp and Wendy Ashmore contend in *Archaeologies of Landscape: Contemporary Perspectives* that archaeologists generally viewed landscape amidst the context of demography, social strata, and the use of land for economic purposes—this thinking is referred to as processualism.⁵⁴ Knapp and Ashmore counter the traditional processual thinking with post-processual frameworks that center the participatory role of people in perceiving, transforming, identifying with, and memorializing their landscapes. The authors conclude that the landscape cannot be categorized as simply a natural phenomenon or singularly cultural but an environment where people have an active role in experiencing the space, constructing co-existent identity, and then reinventing their relationship to it.⁵⁵

⁵¹ Ashmore and Knapp. ““Archaeologies of Landscape.”

⁵² Ashmore and Knapp. ““Archaeologies of Landscape.”

⁵³ Walker, Richard, and Don Mitchell. “The Lie of the Land: Migrant Workers and the California Landscape.” *Geographical Review* 87 (3): 408, 1997. <https://doi.org/10.2307/216039>. and Tilley, Christopher Y. *A Phenomenology of Landscape: Places, Paths and Monuments*, 1994. <http://ci.nii.ac.jp/ncid/BA25427552>.

⁵⁴ Ashmore and Knapp. ““Archaeologies of Landscape.”

⁵⁵ Ashmore and Knapp. ““Archaeologies of Landscape.”

Further, in Ashmore's *Social Archaeologies of Landscape*, she defines the social archaeology of lived spaces as being continuously recontextualized by the communities that inhabit and practice rituals in the landscape.⁵⁶ In other words, archaeologists were previously concerned with how humans used or were affected by the land rather than investigating how the people who lived among the landscapes thought or perceived it. I am especially concerned with how post-processual thinking has permeated heritage discourse, and in chapter six I will use this framework to evaluate the residents of Vila Farrapos' relationship to their landscape.

Landscape historians Susan Buggey and Nora J. Mitchell advocate for a more integrated approach to landscape conservation, where natural and cultural elements are not viewed separately but rather as interconnected. They support a shift in interdisciplinary research to involve local communities directly in conservation efforts and emphasize the need for multidisciplinary collaboration to effectively manage these landscapes.⁵⁷

Looking at an ongoing case study of landscape permeating official heritage planning practices, I look towards the founding of Ecomuseo della Via Appia (EVA). EVA is a citizen-led, grassroots organization created in partnership with scholars that engages the communities of Mesagne and Latiano in Southern Italy. The group encourages citizens to actively participate in creative planning and design projects

⁵⁶ Ashmore, Wendy. "Social Archaeologies of Landscape." In *A Companion to Social Archaeology*, edited by Lynn Meskell and Robert Preucel, 255–271. Oxford: Blackwell, 2004.

⁵⁷ Buggey, Susan, and Nora Mitchell. "Protected Landscapes and Cultural Landscapes: Taking Advantage of Diverse Approaches." *The George Wright Forum*, January 2000. <https://webpages.uidaho.edu/css501/images/readings/protected%20landscapes.pdf>.

regarding heritage landscapes in the region and also organizes heritage-related events. Burgers et al. argue the cultural heritage field should include community participation that has been traditionally excluded by academics and government agencies due to their lack of traditional academic training, an important shift in the heritage field.⁵⁸

Central to my research is the concept that Knapp and Ashmore identify landscapes as a focal point through which people engage with the world and contextualize how landscapes can be used to shape and express their social identities.⁵⁹ It is widely accepted in scholarly movements and across institutions that landscapes are neither purely natural nor entirely cultural. By dwelling within an environment, people transform it into a landscape— which is a complex network of places that holds their meaning, memory, and identity. The idea that landscapes are determined and actively used by people was cemented in international policy during the 2000 European Landscape Convention.⁶⁰ As the European Landscape Convention marked a shift from expert-led preservation to participatory heritage practices, it bridged the gap between natural and cultural heritage and legitimized landscape as something to be recognized in official heritage frameworks. These themes of cultural determination by communities were also broadly established during the Council of Europe's 2005 Convention on the Value of Cultural Heritage for Society, in which objects and places

⁵⁸ Burgers, G.J., Napolitano, C., Ricci, I. From paradigm shift to practice: experimenting innovation in participatory heritage making. In: J. Rodenberg, P. Wagenaar, G.-J Burgers (eds), *Calling on the Community. Understanding Participation in the Heritage Sector: A Public Administration Perspective*, Oxford: Berghahn Books, pp. 311-323, 2022.

⁵⁹ Ashmore and Knapp. ““Archaeologies of Landscape.”

⁶⁰ Olwig, Kenneth R. “The Practice of Landscape ‘Conventions’ and the Just Landscape: The Case of the European Landscape Convention.” In *Routledge eBooks*, 197–212, 2019. <https://doi.org/10.4324/9781315878270-13>.

should be widely appreciated and considered important because of the meanings and active uses that people determine.⁶¹

Building on the values promoted by international bodies, the Historic Landscape Characterization (HLC) approach is a framework promoted by landscape scholars that is characterized by emphasizing the ubiquity of people's connection to heritage and creating policy decisions regarding landscape.⁶² Pertinent to the HLC approach is understanding heritage through a spatial and landscape lens and ensuring that truly representative site analysis integrates people's connection to places and areas that can be regarded as official heritage.⁶³ As heritage scholars, we can use this approach to place artifacts, sites, and buildings in a localized context through first-hand interviews.

2.5 Climate disasters and the acceptance of loss

Recognizing that we live in the Anthropocene— an era shaped by climate change caused by humans— academia has called for more imaginative and transformative engagement with this concept.⁶⁴ This outlook transcends denial or outright acceptance of inevitable losses, instead embracing change as both necessary and potentially generative. Academic writing from Karen O'Brien, Pelling et al., and Folke et al. articulates that meaningful solutions to climate challenges will come not from maintaining the status quo, but through structural and cultural transformations in how

⁶¹ "Convention on the Value of Cultural Heritage for Society (Faro Convention, 2005)." Council of Europe. October 2005. <https://www.coe.int/en/web/culture-and-heritage/faro-convention>.

⁶² Fairclough, Graham, Niels Dabaut, and Sam Turner. October 9, 2024. "Historic Landscape Characterization (HLC)." Lecture. Gothenburg, Sweden.

⁶³ Fairclough, Dabaut, and Turner. "Historic Landscape Characterization (HLC)."

⁶⁴ Edgeworth, Matt, Bronislaw Szerszynski, John C. Arran, Chris N. Waters, Jan Zalasiewicz, Mark Williams, Anthony D. Barnosky, et al. "Re-conceptualizing the Anthropocene: A Call for Collaboration." *Global Environmental Change* 39. May 2016. 318–327. <https://doi.org/10.1016/j.gloenvcha.2016.03.012>.

societies make decisions and determine the value of tangible and intangible heritage.⁶⁵ A critical heritage approach demands reflection on the institutions and practices that frame our understanding of value and vulnerability and on how these narratives have been shaped by societal anxieties about loss and change. Caitlin De Silvey and Rodney Harrison even suggest in their 2020 essay on rethinking endangerment in heritage futures that a key aspect in the production of heritage value is the perception of risk and endangerment.⁶⁶

Critical heritage scholar David Harvey and climate academic Jim Perry's seminal book, *The Future of Heritage as Climates Change: Loss, Adaptation and Creativity*, is a deeply influential text for this thesis. Harvey and Perry define "heritage futures" as mapping the evolution of the sector approach to heritage, from the idea that we must preserve a site's original form against climate change at all costs to the understanding that climate change is an ongoing process that has and will continue to permanently alter our environment.⁶⁷ Therefore, heritage experts must collaborate with communities to develop short- and long- term creative strategies. In that regard, much of the field is focused on how extreme climate events impact heritage, but the authors argue that

⁶⁵ O'Brien, Karen. "Global environmental change II: from adaptation to deliberate transformation", *Progress in Human Geography*, 36(5): 667–76, 2012. and Pelling, Mark, High, Chris, Dearing, John and Smith, Denis. "Shadow spaces for social learning: a relational understanding of adaptive capacity to climate change within organisations", *Environment and Planning A*, 40: 867–84, 2008.

Folke, Carl, Carpenter, Stephen R., Walker, Brian, Scheffer, Marten, Chapin, Terry and Rockström, Johan "Resilience thinking: integrating resilience, adaptability and transformability", *Ecology and Society*, 15(4): 20, 2010.

Harvey and Perry. "The Future is not the Past."

⁶⁶ DeSilvey, Caitlin, and Rodney Harrison. "Anticipating Loss: Rethinking Endangerment in Heritage Futures." *International Journal of Heritage Studies : IJHS* 26, no. 1, 2020. 1–7. doi:10.1080/13527258.2019.1644530.

⁶⁷ Harvey and Perry. "The Future of Heritage as Climates Change."

heritage particularly impacts our thinking of climate change in terms of the frameworks around climate change.⁶⁸

Interdisciplinary critical heritage scholars reason that a framework that centers the present while also maintaining a future-minded perspective of heritage is important to consider if we are to navigate loss in ways that are equitable and realistic. This includes acknowledging physical and functional decay, accepting cycles of creation and destruction, and challenging the traditional idea of heritage as something to be preserved for future generations in perpetuity.⁶⁹ Researchers like Jem Bendell, Rodney Harrison, and Caitlin DeSilvey advocate for a shift toward "creative conservation" and "relinquishment," where letting go becomes a deliberate, generative, and meaningful act, facilitating the emergence of new values.⁷⁰

Harvey and Perry classify this shift when thinking through the case study of the English village of Dunwich. Once a thriving coastal town, most of the land has disappeared due to erosion. Rather than clinging to rebuilding, the community has embraced absence as a core part of its identity. This approach subverts dominant heritage narratives that prioritize permanence and conservation, instead viewing uncertainty not as something to fear but as an opportunity to reimagine ties to place, memory, and the future.⁷¹ These critical environmental scholars argue that we must

⁶⁸ Harvey and Perry. "The Future of Heritage as Climates Change."

⁶⁹ Harvey and Perry. "The Future of Heritage as Climates Change."

⁷⁰ Bendell, Jem. 2018. "Deep Adaptation: A Map for Navigating Climate Tragedy," IFLAS Occasional Paper 2. <http://insight.cumbria.ac.uk/id/eprint/4166/>.

Harrison, Rodney. *Heritage: Critical Approaches*, London: Routledge, 2012

DeSilvey, Caitlin. "Making Sense of Transience: An Anticipatory History." *Cultural Geographies* 19 (1): 31–54, 2012. doi:[10.1177/1474474010397599](https://doi.org/10.1177/1474474010397599).

DeSilvey and Harrison. "Anticipating Loss."

⁷¹ Harvey and Perry. "The Future is not the Past."

reject the traditional view that heritage conservation carries a valued past into the future and ensure that future generations are empowered to make decisions about values.⁷²

Another relevant case study for my research is found in cultural heritage scholar Trinidad Rico's *Constructing Destruction: Heritage Narratives in the Tsunami City*. Rico's research centers on how post-disaster heritage practices often reflect globalized and authorized responses that can clash with localized values. In the aftermath of the 2004 tsunami in Banda Aceh, Indonesia, she outlines how international heritage experts used a "heritage-at-risk" framework, which classified the disaster within a traditional sector approach to heritage's narrative of loss and preservation.⁷³ In contrast, communities in Banda Aceh engaged with heritage after the climate disaster in ways that were rooted in their specific cultural and religious practices. An example Rico cited is an electric generator ship that washed ashore, which was then reinterpreted by the community as a symbol of memory and resilience. Rico saw this act as emphasizing survival rather than solely loss.⁷⁴ In the end, I model my theoretical framework based on Rico's call for action to integrate a more inclusive approach to heritage that recognizes and integrates local narratives and practices.

2.6 Conclusion

This chapter has laid out the conceptual framework necessary for understanding the various theoretical approaches this thesis takes to heritage. By examining critical

⁷² Harvey and Perry. "The Future is not the Past."

⁷³ Rico, Trinidad. *Constructing Destruction: Heritage Narratives in the Tsunami City*, 2016. <https://www.amazon.com/Constructing-Destruction-Narratives-Institute-Archaology/dp/1629584371>.

⁷⁴ Rico. "Constructing Destruction."

evolutions in heritage studies— moving from the traditional sector-based preservation approach toward living, community-centered, and post-processual understandings of heritage— this chapter provides the theoretical grounding for the interpretation of the case studies that will follow. Drawing from scholars such as Laurajane Smith, David Lowenthal, David Harvey, and Tiago de Oliveira Pinto, we have seen how heritage is no longer viewed solely as static artifacts or sites to be preserved but increasingly as dynamic and fluid sites for interpretation.

This integrative and interdisciplinary understanding is crucial for the next chapters of this thesis. The selected literature and my conceptual framework show the different approaches to heritage. All of which are vital to informing the reader why I selected the case studies through the lens of preservation, participation and community building, adaptation, and meaning-making. The concepts introduced in this chapter provide the foundation for understanding how the decisions taken by communities and institutions in Porto Alegre during the 2024 floods collectively shape heritage in practice.

Chapter 3. Methodology

Chapter three provides insight into the various ways I conducted research for this thesis. From traveling on-site to Porto Alegre for interviews to scholarly research to textual analysis of modern news sources, my interdisciplinary background led me to carry out diverse methods of research.

3.1 Methodology overview

I arrived at my research question after traveling to Porto Alegre in January 2025, where I extensively collaborated with my co-laborers⁷⁵ to interview figures in the arts and culture sectors. This approach might seem unorthodox, but due to scheduling time constraints, it ended up working well for my research. Because I knew I wanted to explore different heritage approaches used by Porto Alegre's cultural sector, I cast a wide net for interviews— from traditional art museums to heritage governing bodies to community organizations. Even if I did not end up writing extensively about a person or representative from an institution that gave me their time, their insight informed my understanding of various heritage approaches. I chose to ground my research through in-person interviews because this form of qualitative data provides dynamic, first-hand perspectives on how their communities and institutions view and negotiate conventional sectored heritage, living heritage, and understanding heritage through landscapes—the three heritage approaches this thesis is interested in surveying.

⁷⁵ I use the terms collaborators and co-laborers interchangeably throughout the thesis to describe the people I interview and the people who contributed their labor for translating, coordinating interviews, and hosting me.

Over the summer of 2024, I discussed with Bibiana Branco, a Rio Grande do Sul-based designer and friend, the possibilities of conducting more extensive research on the floods through the lens of heritage. She immediately offered her assistance in the following ways: by connecting me to people in the arts and culture field, hosting me in her home for as long as I needed, in addition to acting as a translator during interviews and finding friends who would also be willing to translate.

During my site visit, I gathered primary source materials alongside my collaborators. This included in-person sit-down interviews, walking tours, and email interviews with ten co-laborers. Before I traveled to Brazil, I reached out to various arts institutions, academics, and cultural managers, but found that because my visit overlapped with the holidays, it was better to confirm interviews when I arrived or simply just show up to the site and request an impromptu interview. Some collaborations occurred by happenstance this way. For instance, while documenting the flood lines that marked the houses of the Porto Alegre neighborhood of Humaitá and Vila Farrapos, my collaborator Tiago Pacheco Almeida and I heard about Marcos Haile Emmanuel, a Rastafarian community leader and organizer of a local cultural center. We asked locals to put us in touch with Marcos, who immediately agreed to give us a sit-down interview and tour of Vila Farrapos, the neighborhood that is the subject of chapter six.

Other interviews were the direct result of my collaborators' personal network. Grasiela Tebaldi Toledo, the sister-in-law of one of Bibiana's friends, gave us a tour of the IPHAN offices and invited archaeologist Sara Teixeira Munaretto to join her sit-down

interview. We all shared a cup of the same chimarrão,⁷⁶ which to me, demonstrated the level of trust and intimacy I developed with my collaborators. Following their joint interview, Grasiela offered to connect me with IPHAN superintendent Rafael dos Passos for a sit-down interview. These interviews resulted in fruitful discussions that are the heart of chapter four.



Figure 4. Grasiela Toledo and Sara Teixeira Munaretto share chimarrão during a tour of the IPHAN office

But not everything was planned through collaborators and impromptu visits. As part of my research process before departing for Porto Alegre, I looked into academics and institutions that would have insight into the cultural sector's response to the floods. While I only pre-scheduled an interview with one or two people, this research process provided a basis for understanding the extent of the damage the floods caused to Porto Alegre's cultural institutions.

⁷⁶ A popular Brazilian green tea that is usually shared with friends, family, and intimate coworkers.

Over the course of multiple days, I explored various cultural landmarks and centers in downtown Porto Alegre that were most affected by the floodwaters based on prior research and conversations with my collaborators. Images of the submerged Mercado Público de Porto Alegre and Casa de Cultura Mario Quintana circulated the world, so it was important that I visited these landmarks during my January 2025 trip (as seen below), even if I was unable to forge connections with representatives from these institutions. While I could only focus on a few cultural institutions, community voices, and neighborhoods because of time, communication, and scope limitations, surveying the city's entire historic downtown center helped shape my understanding of the rich cultural landscape and resiliency of the communities that I was working within.



Figure 5. The inside of the Mercado Público de Porto Alegre

While I did not arrive in Brazil with an established research question, when I reached out to or was connected to various cultural institutions and academics, I understood that they would provide insight into different aspects of heritage responses to climate disasters. Once representatives partook in interviews, I began to see the themes emerge: authorized bodies prioritizing tangible heritage and the integrity of sites and objects, existing community-driven networks connected by shared living heritage, and localized movements advocating for the preservation of their neighborhood. After additional careful examination of the interviews and diving into the theory that would frame my research, I selected what I thought were the clearest and most compelling representations of these themes and case studies.

Chapter four focuses on IPHAN and MARGS' response to the 2024 floods and guiding philosophies that highlighted their preservation priorities. In chapter five, I explore the importance of hip-hop as living heritage and the role that the Museu Do Cultura Hip Hop RS works as an authorized institution to uplift marginalized voices and cultures amidst a climate disaster. Finally, the neighborhood of Vila Farrapos serves as an insightful look into a subaltern community that shapes and renegotiates its climate-affected landscape in chapter six.

3.2 Interviews & translations

The new scholarship and insight this thesis introduces would not exist without the work of the many collaborators who dedicated their time and knowledge to organizing or partaking in interviews. I detail the names of the collaborators who provided their insight for my research in the table below, link to the transcripts of the interviews in the final

section, and acknowledge the work of all the collaborators in the preface. The interviews ranged in length, lasting from 30 minutes to one hour. In the case of my interview with Marcos, the formal sit-down interview extended into a two- hour tour of the neighborhood. Most interviews consisted of eight questions I prepared ahead of time that asked about the severity of the floods, institutional readiness, and recovery efforts—but I would usually ask follow-up questions based on the answers given. For example, my interview with Rafael Mautone Ferreira was not prearranged, so I asked about his professional background and how he views IPHAN’s role in preserving intangible living heritage. Some interviews like these ended up being fruitful when I tapped into my journalistic disciplinary background and allowed the conversation to flow in a less strict structure and rooted in genuine curiosity.

Name	Role and Institution	Notes on Interview
Marcos Haile Emmanuel	Creator of <i>Núcleo de Estudos Afrocentrados</i> and Vila Farrapos Community Leader	Walking tour of Vila Farrapos and sit-down interview
Francisco Dalcol	Director-Curator, <i>Museu de Arte do Rio Grande do Sul (MARGS)</i>	Email interview
Aline Chaves	Former Education Center Trainee, <i>Museu de Arte do Rio Grande do Sul (MARGS)</i>	Walking tour of MARGS

Márcio	MARGS Conservator, <i>Museu de Arte do Rio Grande do Sul (MARGS)</i>	Sit-down interview
Rafael Mautone Ferreira	Coordinator of Workshops and Pedagogical Development, <i>Museu Do Cultura Hip Hop RS</i>	Sit-down interview with Aretha
Aretha Abená Ramos Coelho	Administrative-Financial Coordinator, <i>Museu Do Cultura Hip Hop RS</i>	Sit-down interview with Rafael
Natália Oliveira Quadros	Communications team, <i>Museu Do Cultura Hip Hop RS</i>	Walking tour of Museu Do Cultura Hip Hop RS
Lawrin Ritter	Communications team, <i>Museu Do Cultura Hip Hop RS</i>	Walking tour of Museu Do Cultura Hip Hop RS
Rafael dos Passos	Superintendent, <i>Instituto Patrimônio Histórico e Artístico Nacional (Iphan) no Rio Grande do Sul</i>	Sit-down interview
Grasiela Tebaldi Toledo	Archaeologist, <i>Instituto Patrimônio Histórico e Artístico Nacional (Iphan) no Rio Grande do Sul</i>	Sit-down interview with Sara and walking tour of the Iphan offices

Sara Teixeira Munaretto	Archaeologist, <i>Instituto Patrimônio Histórico e Artístico Nacional (Iphan) no Rio Grande do Sul</i>	Sit-down interview with Grasiela
Hugo Gusmão	Administrator and Curator, <i>Museu do Trabalho</i>	Sit-down interview

I transcribed all of these interviews using Adobe Premiere into the original Portuguese and then exported the files, used DeepL to provide a rough initial translation, and then sent them to a network of collaborators to review and finalize the translations into English. Clear themes among the interviews became apparent. I coded the interviews according to theme and chapter so that I could analyze the case studies through the conceptual framework I already outlined in chapter two and in the previous section of this chapter.

3.3 How I approached co-laboring

Although my research in Porto Alegre did not follow traditional ethnographic methods in terms of staying onsite in one community for a long period, I drew on anthropological perspectives on collaboration. I selected a framework used in anthropology to shape my relationship with my Brazilian friends, professionals, and community members who gave me their time for knowledge transference and translating.

As my disciplinary background is also in anthropology, I researched multidisciplinary methodological approaches that could be applied to my research

question. Anthropologists Tim Ingold and Paul Rabinow advocate for collaborative research that redistributes the roles of the researcher and subject, moving away from individualistic thinking.⁷⁷ Rabinow even challenges the use of ‘ethnography’ as a term, emphasizing the importance of mutual knowledge production. Rabinow described the collaborative ethos he pursued as “resolutely refuse the (liberal and symbolic capital-laden) individualism of the reigning social sciences and humanities.”⁷⁸ Building on this, cultural anthropologists Douglas Holmes and George Marcus propose a model of fieldwork where researchers operate within collaborative social networks to pursue their own research agendas.⁷⁹

Marisol de la Cadena’s *Earth Beings: Ecologies of Practice across Andean Worlds* offered a guiding framework to me. I found her reflections on the limits of translation and the value of partial understanding especially relevant to my work. In de la Cadena’s own words, she believed that co-laboring counters “the usual feeling that regrets what is lost in translation; my sense is that in co-laboring with Mariano and Nazario [de la Cadena’s co-laborers] I gained an awareness of the limits of our mutual understanding and, as important, of that which exceeded translation and even stopped it.”⁸⁰ I relate to this struggle, as my own research is grounded in translation. I was constantly worried about communicating with the interviewees and misunderstanding their intentions. Therefore, I recognize the insights I gained from my co-laborers who

⁷⁷ Fisher, Roy A. “Towards a Collaborative Ethos.” *HAU Journal of Ethnographic Theory* 11, no. 2, 2021. 757–61. doi:10.1086/716916. and Rabinow, Paul. *The accompaniment: Assembling the contemporary*, 118. Chicago: University of Chicago Press, 2001.

⁷⁸ Fisher, Roy A. “Towards a Collaborative Ethos.”

⁷⁹ Sánchez Criado, Tomás, and Adolfo Estalella. “Introduction: Experimental Collaborations.” In *Experimental Collaborations*, 1st ed., 1-. Berghahn Books, 2018. doi:10.2307/j.ctvw04cwb.6. and Holmes, D.R., and G.E. Marcus. ‘Collaboration Today and the Re-Imagination of the Classic Scene of Fieldwork Encounter’, 131 *Collaborative Anthropologies* 1(1), 2008.

⁸⁰ de la Cadena, Marisol. “*Earth Beings*,” 3.

translated on my behalf while acknowledging the misunderstandings that likely emerged, resulting in a feeling of information being ‘lost in translation.’ Yet, I found that co-laboring allows for diverse perspectives and holds researchers accountable to understand the existing inequalities that uphold structures of power in the transmission of information.⁸¹



⁸¹ Luning, Sabine and Robert Pijpers. “How Can Co-labouring Improve Transdisciplinary Research?” *Integration and Implementation Insights*. August 2, 2023. <https://i2insights.org/2020/08/04/co-labouring-in-transdisciplinarity/>.

Figure 6. Co-laborers Marcos and Tiago speak during a tour of Vila Farrapos

The insights shared by my co-laborers — both interviewees and translators — were crucial in shaping the research's focus and final outcomes. Their contributions ensured that my analysis remained grounded in the experiences and perspectives of Porto Alegre's various communities. Thus, I regard my collaborators' work as instrumental to shaping the final areas that are researched in this paper, and I imbue the co-laboring ethos in every aspect of my research and as a guiding principle in my approach.

3.4 Media analysis

For what the context on the floods that interviews could not provide, Brazilian and international media reporting provided valuable insight. Real-time articles recorded the number of people impacted by the floods, the inequality that was clearly deepened as a result of the stormwater overwhelming flood-prone Afro-Brazilian and Indigenous neighborhoods, and the protests community members organized in order to advocate for aid. Additionally, because this disaster happened so recently, I could only glean specific information about the floods from news sources rather than scholarly texts. Therefore, another methodology I employed in this research is analyzing the text from journalists on the ground during the floods. Most of the English language articles provided a broad overview of the situation, but local Brazilian news sources like *Correio do Povo* and *Gaúcha Zero Hora* allowed me to understand localized issues that arose during the floods. As far as I could understand, these news sources do not have a politicized angle.

Additionally, as seen in chapter five, media reporting is an important source for my discussion of the historic role hip-hop played in Rio Grande do Sul, as it provided contemporary context on the movement. As the hip-hop movement celebrated its 50th anniversary in 2023, I selected a few articles from culture-focused outlets, including the *Grammys*, *No Nada*, and *Pesquisa Fapesp Magazine*, that outline hip-hop's timeline and historic significance both internationally and in Brazil.

3.5 Positionality of author

An important piece of context for this research is my position as a European-American with limited Portuguese-speaking abilities. I approached my thesis in Porto Alegre through the support and connections initially created by Bibiana. Without her, her friends, and the friends I made in Porto Alegre, I would not feel comfortable enough to navigate institutional and community spaces. That is to say, the rich first-hand material of my thesis would simply not exist to this extent. My Portuguese is not proficient enough to carry on a seamless and intelligent conversation, and translation apps like Google Translate and DeepL are not sufficient enough to properly communicate in real time.

Despite my language limitations, I reached out to institutions such as Museu do Trabalho and Museu Do Cultura Hip Hop RS via email. Many responded generously with their time and resources. Additionally, an unplanned visit to MARGS led to a fortuitous encounter with Aline Chaves, an education center trainee who gave me a tour, provided translation for an interview with the museum's conservator, and connected me with Director-Curator Francisco Dalcol. Without a proper previous

introduction, why did professionals give me the time of day? I attribute their willingness to engage with me to their personal interest in my research and the kindness I encountered among Brazilians generally, but also to the potential for raising international awareness of the floods' impacts. I recognize that this generosity was perhaps partly influenced by my 'gringa privilege,'⁸² and the desire for institutions and people in North America and Europe to understand the issues that the floods exacerbated and introduced to the region.

3.6 Conclusion

To address my research question through an analysis of both institutional and grassroots responses to the climate disaster that followed the April-June floods in Porto Alegre, my thesis is grounded in interviews that show the various approaches rooted in different heritage philosophies adopted by communities, cultural institutions, and leaders. It is vital to acknowledge the work of the many Brazilian co-laborers who took an interest in this research because of the personal impacts the 2024 floods had on their lives and the perceived lack of media and scholarly coverage. While I could not interview and analyze every aspect of the floods, I think my selection of the case studies highlights the depth and quality of my research methodologies.

⁸² This is a term introduced to me by Brazilian friends, meaning, the privileges that a non-Brazilian, especially from North America and Europe, enjoys while visiting or living in Brazil.

Chapter 4. Authorized cultural institutional responses: IPHAN & MARGS

I begin my case study deep dive with chapter four. I start with an analysis of the sector approach taken by Museu de Arte do Rio Grande do Sul Ado Malagoli (MARGS) and Instituto do Patrimônio Histórico e Artístico Nacional (IPHAN) in order to explore the ways in which institutions prioritize and plan for climate disasters.

4.1 Tracing heritage in Brazil

Brazil's historic approaches to cultural heritage, like many nation-states in the 20th century, were state-led and rooted in modernist and nationalist ideologies. Brazil's leading national agency for cultural heritage, IPHAN was founded in 1937 with the establishment of the Estado Novo.⁸³ Influenced by 20th-century European models of heritage preservation that emphasized conserving monumental and classical heritage, IPHAN and state preservation policies focused on safeguarding colonial baroque churches, neoclassical architecture, and other symbols of Brazil's imperial past and the strength of the Catholic Church.⁸⁴ To this day, IPHAN focuses on preserving historical architectural buildings and archaeological sites.

Throughout Brazilian history, elite culture historically has implied proximity to colonial power. This is best embodied through the protection of the Pelourinho neighborhood in Salvador, Bahia. The neighborhood's colorful Portuguese colonial architecture is protected on three different governmental levels and is on the UNESCO

⁸³ Meaning: "New State", a dictatorial period between 1937–45

⁸⁴ Chuva, Márcia. *Os Arquitetos da Memória: Intelectuais, Estado e Preservação do Patrimônio Cultural*. Rio de Janeiro: Zahar, 2009. and Sansone, Livio. *Blackness Without Ethnicity: Constructing Race in Brazil*. New York: Palgrave Macmillan, 2003.

World Heritage Site list. Yet, the Afro-Brazilian residents that are essential to the character of the neighborhood are under constant threat of displacement with rising costs linked to overtourism.



Figure 7. UNESCO World Heritage Site Pelourinho neighborhood in Salvador, Brazil

As Brazil underwent democratization in the late 20th century, critiques from anthropologists, sociologists, and cultural activists rose to the forefront of the movement. Their concerns for cultural and minority groups' rights to be protected were enshrined in the 1988 Constitution. Their efforts resulted in the Constitution acknowledging the value of intangible culture and broadening the idea of heritage to cover the traditions, identities, and knowledge of Indigenous, Afro-Brazilian, and other

marginalized communities.⁸⁵ In recent years, IPHAN also embraced celebrating and preserving living heritage like samba, Candomblé religious practices, and the oral traditions of quilombo communities as national treasures.⁸⁶

Brazil has over 3,800 museums with 38.5 million annual visitors.⁸⁷ They range from small to large spaces dedicated to the arts, archaeology, history, science, sports, language, cultural groups, and Brazilian heritage. MARGS is Rio Grande do Sul's leading art museum, focusing on Brazilian artists along with some European artists. It boasts an impressive collection of works on paper, sculpture, paintings, ceramics, photography, digital art, installation, and textiles.

4.2 Institutional Introductions: Museu de Arte do Rio Grande do Sul Ado Malagoli (MARGS) and Instituto do Patrimônio Histórico e Artístico Nacional (IPHAN)

MARGS and IPHAN are the two traditional cultural institutions I selected to analyze due to their formalized authority and the quality of the interviews I conducted with representatives. MARGS was founded in 1954 and serves as Rio Grande do Sul's largest public art museum. Its collection has over 5,700 works of Brazilian and international art, representing a range of mediums, including works on paper, sculpture,

⁸⁵ Rolnik, Raquel. "Democracy on the Edge: Limits and Possibilities in the Implementation of an Urban Reform Agenda in Brazil." *International Journal of Urban and Regional Research* 30 (4): 1030–1042, 2006. <https://doi.org/10.1111/j.1468-2427.2006.00604.x>.

⁸⁶ Ferreira, Mônica Santos. *Patrimônio Imaterial: Políticas e Práticas no Brasil*. Salvador: Editora da Universidade Federal da Bahia (EDUFBA), 2020.

⁸⁷ ICOM Brasil, Carta 2022. 2022. "ICOM Brazil | 2022 Letter." September 23, 2022. <https://icom.org.br/carta2022/en/#:~:text=Today%2C%20Brazil%20has%20more%20than%203%2C800%20museums%20across%2027%20states>.

paintings, ceramics, photography, digital art, installation, and textiles.⁸⁸ The museum is located in Porto Alegre's historic downtown neighborhood, close to other cultural institutions like the privately owned Farol Santander Collection, Museu de Arte de Porto Alegre, Espaço Força e Luz, Museum of Communication Hipólito José da Costa, and Memorial do Rio Grande do Sul.

MARGS's 1913 building was listed by the National Historical and Artistic Heritage Institute in 1981. In the late 1990s, MARGS led an extensive renovation project to address the building's structural issues in order to meet the standards to display works loaned by prominent European institutions like Musée d'Orsay, the Uffizi Gallery, and Petit Palais.⁸⁹ From a critical heritage lens, this perhaps shows how the museum's historic priorities cater to Western authorized bodies' demands for how an art museum should be physically constructed in order to receive Western art. It is interesting to note that for Western museums to loan their works, Latin American and other institutions located in tropical climates must physically alter their buildings in order to adapt to match the climates of Western museums.

⁸⁸ "O Museu de Arte do Rio Grande do Sul e sua história." [margs.rs.gov.br](http://margs.rs.gov.br/o-margs-e-sua-historia/) n.d. <https://www.margs.rs.gov.br/o-margs-e-sua-historia/>.

⁸⁹ "Museu De Arte Do Rio Grande Do Sul." Hotel Erechim Porto Alegre. n.d. <https://hotelerechim.com.br/project/museu-de-arte-do-rio-grande-do-sul-2/>.



Figure 8. A work on display in MARGS with clear water damage as a result of the 2024 floods

IPHAN is a federal department under the Ministry of Culture of Brazil that oversees the protection of cultural heritage. As previously stated, IPHAN's founding under the dictatorship ushered in a modernist shift in Brazilian society that influenced IPHAN's mandate, which initially focused on preserving monuments of historic value as perceived by the government.⁹⁰ IPHAN's origins and initial focus are strikingly similar to the traditional sector heritage approaches that prioritize high cultural preservation efforts undertaken in other nationalistic contexts throughout history.

⁹⁰ "National Institute of Historic and Artistic Heritage." n.d. DutchCulture. <https://dutchculture.nl/en/location/institute-national-historical-and-artistic-heritage>.



Figure 9. Graciela Toledo working in IPHAN's headquarters in Porto Alegre

Because the superintendents that lead the regional departments of IPHAN are political appointments, the priorities of the organization have shifted over the years. IPHAN Rio Grande do Sul's current superintendent, Rafael Passos— a trained architect with a strong background in cultural activism— was appointed by left-leaning President Luiz Inácio Lula da Silva. He is especially interested in moving IPHAN's focus to protecting intangible heritage in the region, including Afro-Brazilian religious practices as well as Indigenous and quilombo communities.⁹¹

4.3 During the floods and institutional reactions

IPHAN's response to the 2024 floods in Porto Alegre and the entire state was impacted by the overwhelming scale of the disaster and the lack of emergency preparedness due

⁹¹ Rafael Passos, interview by author, Porto Alegre, January 21, 2025.

to the fact that the region does not frequently face intense flooding. Many IPHAN employees were themselves victims of the floods, so the first 20 days of the disaster were focused on getting by rather than heritage conservation. During this phase, there was little institutional capacity to intervene at cultural sites, even as reports emerged of flooded archaeological sites, museum collections as well as historic houses listed as protected heritage sites were swept away.⁹²

Once the immediate crisis passed, IPHAN led a two-pronged strategy. First, they began field assessments to understand the extent and nature of the damage, focusing on archaeological collections, museum holdings, and architectural heritage. Second, they launched a support network, organizing online meetings with museum professionals, archaeologists, and site custodians. Building this network was fundamental because IPHAN understood that they could not work alone to assess proper solutions. A tailored approach through collaboration proved to be absolutely essential. Prior to the floods, there were not clearly established national guidelines. For the state, the flooding was a novel experience in regard to archaeological sites and museum holdings.

IPHAN was also concerned with the impacted intangible heritage, especially in Afro-Brazilian, Indigenous, and quilombo communities. As IPHAN Superintendent Passos observed:

Ultimately, we are talking about people—because intangible heritage is fundamentally tied to the communities that sustain it... While IPHAN did not intervene directly, all ministries in Brazil worked together to respond to the crisis,

⁹² Rafael Passos, Grasiela Toledo, and Sara Teixeira Munaretto interview by author, Porto Alegre, January 21, 2025.

ensuring that these communities' basic needs were met. It's crucial to recognize these needs because for the land and cultural heritage of these communities to survive, the people must survive. That was the primary focus.⁹³

IPHAN accompanied these efforts and began reflecting on how to better imagine intangible heritage survival into its emergency framework. Yet, in practice, the legacy of the tangible heritage preservationist model persists. But even if the politically appointed superintendent wields his temporary power to shift institutional priorities, IPHAN continues to privilege architectural monuments and object-based collections.

It is also interesting to note that in July 2024, IPHAN participated in a UNESCO-led mission that saw the arrival of international specialists in cultural rescue and post-disaster documentation to the region. Although the trip offered international visibility and cursory analysis, IPHAN co-laborers acknowledged that UNESCO did not provide set protocol for immediate action.

MARGS' historic building was partially submerged for three weeks during the peak of the flooding. During this period, MARGS staffers traveled to the museum by boat to try to preserve its collections, which were primarily stored in the ground floor. Although these floods were not anticipated, MARGS Director-Curator Francisco Dalcol confirms that the museum has a strategic plan aligned with Brazil's Department of Memory and Heritage and the state's Museum System and Civil Defense, although he did not provide the exact details to me.

⁹³ Rafael Passos, interview by author, Porto Alegre, January 21, 2025.



Figure 10. The front desk at MARGS with a poster of the exterior of the building during the floods

4.4 Lessons learned and reforms for the future

The 2024 floods in Rio Grande do Sul revealed critical structural vulnerabilities in Brazil's planning for disaster readiness related to cultural heritage, which will only increase in frequency and ferocity due to climate change. Working from the qualitative interviews I conducted with IPHAN and MARGS cultural workers and leaders, I gleaned three main insights: the lack of preparedness and protocols, the urgent need for institutional reform, and the value of community-driven coordination.

The fact that pre-established emergency protocols were not clearly established significantly impacted IPHAN's ability to respond to requests for intervention. This resulted in delays and questions around prioritizing and protecting cultural assets during the disaster's most critical early stages. While risk management plans are mandated

under Brazilian law, I found that they are rarely organized in practice. This disconnect suggests a resiliency issue that extends beyond what authorities would deem a governance oversight. Institutional resilience will require risk frameworks that tap into professional and community networks despite the reality of strained budgets.

Second, all institutions should implement triaged emergency plans and perhaps even grapple with the real possibility that they must accept loss prior to a climate disaster. Questions like, “What is the evacuation plan?” and “What should be rescued first?” were raised repeatedly in various interviews. Institutions must make difficult decisions to assess the value and fragility of their collections before climate disasters, enabling them to act nimbly, even in stressful and unanticipated situations. IPHAN said they would like to see the involvement of heritage and professional experts to assist in determining the hierarchical value of what should be saved in the event of a disaster, but I would also propose community involvement where possible.

A key example of the loss of tangible heritage was the watercolors and other works on paper at MARGS. Stored on the ground floor along with the majority of the institution’s collections, they were not prioritized for removal during early flood warnings. Superintendent Passos called it the “second death of the artist.”⁹⁴ But MARGS was not entirely caught by the floods without preparation. In an interview with MARGS’s educational staffer Aline Chaves, she recognized the work of Naida Maria Vieira Corrêa, a curator who went above her job description a few years ago to carefully store works on paper in waterproof protective shields. This foresight saved countless works.

⁹⁴ Rafael Passos, interview by author, Porto Alegre, January 21, 2025.

Unfortunately, MARGS did not have the capacity to seal all of the works in its massive collection and did not move its stored works from the risky ground floor to a higher level— which it is doing now. In terms of practical implementations, IPHAN is emphasizing in guidance to its partner organizations that the storage of collections should shift away from vulnerable ground-floor spaces to elevated, climate-resilient structures. In some cases, this may require constructing new satellite storage while keeping existing buildings for exhibitions only.

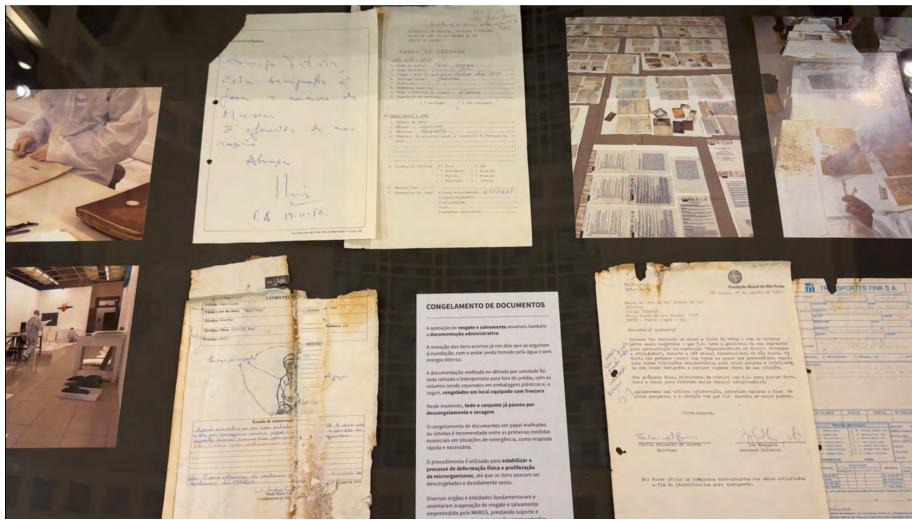


Figure 11. The *Post scriptum* exhibition documents the museum's restoration process

Third, there is a pressing need for special heritage protection training programs for museum professionals and front-line responders such as the Civil Defense personnel. As Superintendent Passos stated, “Of course, their [Civil Defense] primary focus will always be saving lives, but cultural heritage cannot be treated as an afterthought.”⁹⁵ Training should include both technical skills in handling delicate

⁹⁵ Rafael Passos, interview by author, Porto Alegre, January 21, 2025.

collections and preparedness for high-stress decision-making. In line with this thinking, it is the recommendation that heritage institutions should build capacity to receive, coordinate, and integrate volunteer assistance, which MARGS activated during the floods. However, I gathered that this was mostly unstructured and focused solely on protecting the tangible cultural heritage within the museum's walls.

For cultural institutions and heritage bodies in the region, with the increased frequency and intensity of climate-driven disasters, they see the need for top-down strategic planning. As one IPHAN archaeologist stated, "Unfortunately, we are facing extreme climate changes... and you need to have that in mind, plan for that, and incorporate it into your management documents."⁹⁶ Authorized institutions and governing bodies are encouraging a shift from reactive emergency response towards prepared, climate-aware institutional planning, built on localized knowledge of the landscape and capacities, coordination with other institutions, and specialized training.⁹⁷

Moreover, when MARGS reopened in December 2024, its presenting exhibition called, *Post scriptum – Um museu como memória*⁹⁸ included impacted work and commissioned new art in response to the flood. A section in the exhibition titled, *O Inconsciente do Museu*,⁹⁹ explores the flood's psychological and spatial disruptions. Central to this section is a short documentary video of staffers wading through the waters and is in direct conversation with the afterlives of disaster. In this context, *Post scriptum* functions as a testament to its resiliency and an act of public witnessing. It

⁹⁶ Grasiela Toledo and Sara Teixeira Munaretto, interview by author, Porto Alegre, January 21, 2025.

⁹⁷ Grasiela Toledo and Sara Teixeira Munaretto, interview by author, Porto Alegre, January 21, 2025.

⁹⁸ *Post scriptum – A museum as memory*

⁹⁹ *The Museum's Unconscious*

reframes the museum as a living subject—which experiences trauma and can retain memory like those affected by the floods.



Figure 12. *Post-scriptum* includes ongoing restoration work of impacted art for the public to see

4.5 Discussions

One IPHAN archaeologist reflected that most museums—especially in Porto Alegre and throughout Rio Grande do Sul—are under-resourced, but if museums had enough specialized staff and a prepared plan, “the losses could have been much smaller.”¹⁰⁰ There is an underlying perception from authorized cultural bodies that expert opinions

¹⁰⁰ Grasiela Toledo and Sara Teixeira Munaretto, interview by author, Porto Alegre, January 21, 2025.

should be the key voices in planning disaster mitigation strategies and trainings to limit loss of tangible culture. Yet, even when UNESCO, which in most professional and scholarly circles is considered to be the most senior authority on cultural heritage, arrived in the region, they did not provide tangible solutions and an implementable framework.

This research contextualizes the priorities of authorized institutions during this particular climate disaster. The lessons learned section outlined practical steps on how to better integrate a heritage lens into disaster responses, which are crucial as heritage managers prepare strategic plans in an era of increased climate disasters. The flooding importantly revealed that the conversation of heritage in the context of loss that institutions should be having should center around realistic hierarchies of preservation. Yet, they should also consider how the communities they serve renegotiate meaning, responsibility, and memory in real time. This case underscores that heritage is activated through crisis. It highlights the necessity of adaptive, human approaches that center community and living dimensions of heritage. *Post scriptum* is an example of a museum transforming itself into a site that renegotiates loss as a generative act of witness and resilience, something that would be considered a vector approach.

Similarly, IPHAN's evolving engagement with intangible heritage shows that safeguarding culture cannot be untethered from protecting the communities that carry it forward. In this way, the climate-driven floods reshape heritage into encompassing systems of care that sustain it through crisis. I foreground this vital piece of analysis as I focus on the institutions and communities that embodied this ethos during the climate

disaster in the following two chapters. For these institutions, climate-driven loss clarifies what matters, for which communities, and how they can potentially evolve in response.

Thus, I can assert that the 2024 floods exposed the limits of the heritage bodies' authority but also offered a framework for reform and thinking about system changes to the center community. I also collected achievable recommendations that can foster a more resilient and inclusive cultural policy framework for future climate disaster responses—one capable of preserving tangible heritage and the communities that keep them alive.

Chapter 5. Engaging national cultural communities and activating institutional spaces for emergency response: Museu do Hip Hop RS

I continue my research with the evaluation of the ways in which living heritage is embodied through hip-hop culture in Brazil and is used as a bridge for unifying diverse communities amidst climate disasters.

5.1 Significance of hip hop in Brazil and Rio Grande do Sul

Hip-hop's roots in Brazil can be traced to the 1980s with the introduction of breakdancing or break from movies that came out in the U.S. during that time like *Wild Style* (1982) and *Beat Street* (1984).¹⁰¹ The main elements of hip-hop include disc jockeys (DJs), graffiti artists, and masters of ceremonies (MCs). Participants in Brazil are known as b-boys and b-girls as well as hip-hoppers¹⁰² who often create local crews to make music, art, and organize for the benefit of their neighborhoods. The emergence of hip-hop occurred as the residents of favelas and vilas experienced extreme economic inequality, racially divisive policies, and the drug epidemic— pertinent themes covered in hip-hop's diverse expressions of music, dance, and visual art.¹⁰³

Hip-hop in Rio Grande do Sul has its own unique political agency, as hip-hop crews often created formal organizations to coordinate business projects, work as advisors to politicians, and act as representatives to their communities.¹⁰⁴ In 2009, Rio

¹⁰¹ Ahearn, Charlie, director. *Wild Style*. Wild Style Productions, 1982. Lathan, Stan, director. *Beat Street*. Orion Pictures, 1984.

¹⁰² Marshall, Jessica. "Hip-hop in Brazil." *People's World*. July 11, 2003. <https://peoplesworld.org/article/hip-hop-in-brazil/>.

¹⁰³ Marshall. "Hip-hop in Brazil."

¹⁰⁴ Camara, Guilherme Dornelas, Sueli Goulart, and Rafaela Mendes Reinher. "Appropriation and Rationality in Hip Hop Groups Organization Practices in Porto Alegre: An Analysis on the Perspective of

Grande do Sul's hip-hop community celebrated the first annual Encontro Estadual do Hip Hop.¹⁰⁵ The year prior, Municipal Act 10.378/08 created the Semana Municipal do Hip Hop¹⁰⁶ as part of Porto Alegre's official events calendar.¹⁰⁷ Additionally, hip-hop's cultural pertinence in Rio Grande do Sul is best exemplified by initiatives such as the Rap In Cena Festival, the largest hip-hop festival in Brazil, and the establishment of the first dedicated hip-hop museum in Latin America. These institutions not only preserve the movement's historical legacy but also provide a platform for the art form's goals to advance education, activism, and artistic innovation. As shown by the significance of the festival and museum, as well as the celebratory week and conference, hip-hop in Rio Grande do Sul is evolving and institutionalizing its influence in a local and national context.

Guerreiro Ramos." *Cadernos EBAPE BR* 8 (2): 209–25, June 2010. <https://doi.org/10.1590/s1679-39512010000200003>.

¹⁰⁵ State Hip Hop Meeting

¹⁰⁶ City Hip Hop Week

¹⁰⁷ Camara, Dornelas, and Reinher. "Appropriation and Rationality in Hip Hop Groups Organization."



Figure 13. The 2024 Rap in Cena benefit concert, which raised money for the victims of the floods

Hip-hop was famously created in the Bronx during the 1970s, but it was shaped and adapted to the sounds, language, and culture of Brazil. The Grammy Awards—a high profile music awards ceremony based in the United States—introduced the category of best Portuguese-language urban performance in 2023. In an article published on their website written by Brazilian journalist, ethnomusicologist, and DJ Felipe Maia, Porto Alegre's impact on hip-hop was erased.¹⁰⁸ This very well could have been an editorial choice by the Grammys to focus on the internationally known Brazilian cities of Rio de Janeiro and São Paulo. Yet, I argue that this exclusion illustrates how hip-hoppers in Rio Grande do Sul have to struggle to be recognized on a national and

¹⁰⁸ Maia, Felipe. GRAMMY.com. "A Timeline of Brazilian Hip-Hop: From the Ruas to the Red Carpet," November 15, 2023. <https://www.grammy.com/news/brazilian-hip-hop-timeline-road-to-2023-latin-grammys>.

international platform. Further, co-laborers emphasized in interviews with me the importance of the first dedicated museum to hip-hop in the country to open in Rio Grande do Sul. They hope the hip-hop leaders, organizers, and scholars' that partner with the museum serve as a model for other Brazilian states to create their own hip-hop museums and community spaces.

During the initial emergence of hip-hop and its development over the decades, it was often criticized in the media by sanctioned cultural experts and conservative commentators as an illegitimate and dangerous cultural movement.¹⁰⁹ The tides of acceptance have only come in recent years. In July 2023, Brazil passed a law that acknowledged hip-hop as intangible heritage and shortly thereafter launched a R\$6-million call for proposals designed to recognize and show the value of hip-hop culture.¹¹⁰ It is not immediately clear to me what the government has funded through this open call. I choose to highlight the multiple examples of the institutional recognitions in this section in order to reinforce the Brazilian state's legitimization of hip-hop as a form of intangible cultural heritage, which is rooted in lived experiences, resistance, and expression against authority and social inequities.¹¹¹

¹⁰⁹ Rose, Tricia, *Black Noise: Rap Music and Black Culture in Contemporary America*, Wesleyan University Press, 1994. <https://hiphopandscreens.files.wordpress.com/2012/09/rose-black-noise-21-63.pdf>

¹¹⁰ Queiroz, Christina. "From the Margins to Academia." Revista Pesquisa FAPESP, May 2024. <https://revistapesquisa.fapesp.br/en/from-the-margins-to-academia/>.

¹¹¹ Alves, Pietra Moreira. "A Dinâmica Da Cultura Hip-hop No Rio Grande Do Sul: Pertencimento E Identidade Cultural Em Contextos Sociais Diversos a Partir Do Festival Rap in Cena." *TCC Publicidade E Propaganda*, 2024. <https://hdl.handle.net/10923/26705>.

5.2 Institutional introduction

The Museu do Cultura Hip Hop RS was formally established in December 2023, the same year when the world celebrated the 50th anniversary of hip-hop's creation in New York City. Organizers began to plant the seeds of founding the museum in 2020 when the COVID-19 pandemic prevented community members from coordinating events at Casa da Cultura Hip Hop de Esteio, a hip-hop space north of Porto Alegre.¹¹² Once they decided to move ahead, the organizers of the Museu do Cultura Hip Hop RS looked for a physical space while extensively researching the history of hip hop in Rio Grande do Sul.

While the history of hip-hop in large metropolises like Rio de Janeiro and São Paulo is well-documented, as noted in the above section, researchers soon realized there was a dearth of information on hip-hop's history in the state. So researchers conducted online meetings with hip-hop representatives from the nine regions of the state in order to better understand its history. This culminated in a far-reaching historical and anthropological project called *On the Road*, where researchers traveled to more than 50 cities to collect hip-hop artifacts and stories about the movement for the museum's collection. In total, the museum's collection includes almost 10,000 hip-hop items.¹¹³ Museum leader and rapper Rafael Rafaugi said in an interview with a Brazilian media outlet that they presented their collection to IPHAN to be recognized as heritage.¹¹⁴

¹¹² Rafael Mautone Ferreira, interview by author, Porto Alegre, January 21, 2025.

¹¹³ Rafael Mautone Ferreira and Aretha Ramos, interview by author, Porto Alegre, January 21, 2025.

¹¹⁴ Queiroz. "From the Margins to Academia."



Figure 14. Museu do Cultura Hip Hop RS' outdoor amphitheater

In an interview with me, museum education coordinator Rafael Mautone Ferreira described the creation of the museum as a “fully collective process.”¹¹⁵ During the research process, hip-hoppers shared their ideas of how they imagined the museum should “look and feel in practice.”¹¹⁶ This is further illustrated when the founder of the Legião Jacuí Bee Boys crew first entered the museum and a local media outlet documented his emotional reaction to seeing his collection on display.¹¹⁷ Museu do Cultura Hip Hop RS’ approach to research and collecting is aligned with the heritage’s field turn to the participatory involvement of community members. This effort can be

¹¹⁵ Rafael Mautone Ferreira, interview by author, Porto Alegre, January 21, 2025.

¹¹⁶ Rafael Mautone Ferreira, interview by author, Porto Alegre, January 21, 2025.

¹¹⁷ Ortega, Anna. “Primeiro Museu Do Hip Hop Do Brasil É Inaugurado Com Foco Educacional E Artístico.” Nonada Jornalismo. March 12, 2024. <https://www.nonada.com.br/2023/12/primeiro-museu-do-hip-hop-do-brasil-e-inaugurado-com-foco-educacional-e-artistico/>.

considered aligned with the vector approach, in which heritage is viewed as a vital decision-making force that shapes the direction of projects.¹¹⁸

Moreover, it is important to note the significance of the museum's location. Far from the tourist sites of Porto Alegre's historic downtown, the museum is situated amongst the working-class neighborhoods known as 'vilas' like Bom Jesus, Vila Jardim, and Vila Ipiranga. Thus the museum creates a direct bridge with its community. It was emphasized to me that its location was an intentional decision in order to cater to the communities that most consume and are influenced by hip-hop.¹¹⁹

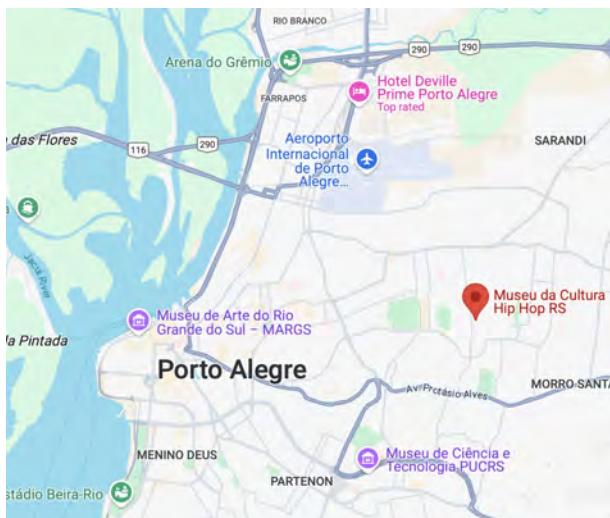


Figure 15. Map showing Museu do Hip Hop's location away from the city center and situated amongst the vilas of Porto Alegre

The 4,000-square-meter museum complex is free to enter and hosts four buildings, including graffiti-lined exhibition spaces, a working recording studio, a library, a shop, a café, workshop rooms, an area for graffiti-making, breakdancing, DJing, and concert spaces. It also has outdoor space for an organic vegetable garden,

¹¹⁸ Janssen et al. "Character Sketches."

¹¹⁹ Ortega. "Primeiro Museu Do Hip Hop Do Brasil É Inaugurado."

amphitheater, and a multi-sports court.¹²⁰ The layout makes the museum an attractive hub for the community to gather and create.

5.3 Grassroots flood response and community engagement

During the critical first few weeks of the devastating floods in Rio Grande do Sul, the Museu do Cultura Hip Hop RS quickly transitioned into a community relief center and ground zero for distributing donations. When basic services such as electricity, water, and access to food were disrupted throughout the region, the museum prioritized meeting the essential needs of the community. For the floods, the museum reinstated Hip Hop Alimentação, a food program that began during the pandemic to distribute groceries to the community. Therefore, the museum already had the network to mobilize staffers, artists, and volunteers to distribute water, food, and hygiene products in the early days of the floods, as pictured below.

¹²⁰ “Nossa História.” Museu Do Cultura. n.d. <https://museuhipoprs.com.br/nossa-historia/>.



Figure 16. Museu do Hip Hop RS volunteers working together to distribute donations during the 2024 floods

This response was conducted entirely independently from the government, which was struggling to maintain regular services in many neighborhoods. Staffers and volunteers worked tirelessly, often staying overnight and away from their families. Because the immediate neighborhood of the museum was spared from the intense flooding, the museum became the ideal command center to coordinate and receive donations, break them down into smaller units, and distribute them across the region. This nimble, people-led response reflected the museum's deep-rooted commitment to community-first values and cultural solidarity.

Once the worst of the flooding subsided, the museum launched the *Reconstruction Program* funded through donations, including a benefit concert organized by the popular Brazilian rapper, BK'. This program addressed a broad array of complex community needs that emerged from the climate emergency. The museum

prioritized giving local hip-hop organizations financial support to rebuild their spaces so they can best serve their own local communities. Additionally, the museum's *Cultural Voucher* program appealed to independent hip-hop artists by partnering with local businesses to provide these artists with free creative tools and services as well as providing direct financial assistance. Other programs like *Solidarity Pix and Food Vouchers* gave financial and food support to hundreds of affected families. Notably, these programs were open to everyone, ensuring that no one met a barrier to assistance, demonstrating the museum's inclusive and decentralized model of engaging with the community.¹²¹

5.4 Discussions

From my analysis, I found that Museu do Cultura Hip Hop RS epitomizes the influence a culturally embedded institution can wield during times of climate crisis. Beyond serving as a cultural space, the museum provided urgent mental health services, mutual aid packages, and direct financial support during and following the 2024 floods. By already possessing the infrastructure network and existing knowledge, the museum quickly converted its space into a logistics hub and launched emergency programs for its immediate and surrounding communities. I also argue that it is hip-hop's heritage of community, solidarity, and mutual aid that motivated the museum to successfully act during the climate disaster. I and the organizers see the museum's work during the floods as a core tenet of hip-hop as a heritage practice.

¹²¹ Rafael Mautone Ferreira and Aretha Abená Ramos Coelho, interview by author, Porto Alegre, January 21, 2025.

Cultural organizations like the Museu do Cultura Hip Hop RS are clearly uniquely positioned to respond effectively on the ground because of community ties. Yet, in Brazil, funds are usually only entrusted to large institutions. Government mechanisms like the Rouanet Law allow companies to redirect a portion of their taxes to support cultural projects and are often successful in supporting authorized cultural initiatives like the museum but remain largely inaccessible to many individual artists and informal organizations.¹²² The museum is one of the few hip-hop organizations in the region with the capacity to navigate the bureaucracy for funding. In order to apply the museum's model to other cultural institutions that are more informally organized, my co-laborers emphasized the importance of public entities decentralizing cultural funding and dismantling institutional barriers to subaltern communities.¹²³

The museum's effectiveness in responding to the floods stems from its built connection to the local community and its leadership within grassroots cultural networks. As an institution rooted in hip-hop culture, it has firsthand insight into the community it serves. As Pinto argues, those who create the music should have the right to define, document, and create space for it. And I found that Museu do Cultura Hip Hop RS clearly prioritized and centered hip-hoppers in its creation and how it interacts with its community. This proximity to the community also allowed the museum to act adeptly, directing resources to individuals and community cultural organizations that most needed funds. Organizers of the museum's flood response commented on the pinnacle

¹²² Rafael Mautone Ferreira and Aretha Abená Ramos Coelho, interview by author, Porto Alegre, January 21, 2025.

¹²³ Rafael Mautone Ferreira and Aretha Abená Ramos Coelho, interview by author, Porto Alegre, January 21, 2025.

of the crisis as a traumatic yet unifying period: “That first moment was all about solidarity. We saw so much love and unity. People were tireless — those working in logistics and those wading through the floodwaters, rescuing animals and people from rooftops. It was a time of great suffering, but also of great love, care, and solidarity.”¹²⁴

Looking beyond the actions of institutions that are authorized as arbiters of knowledge, hip-hop as a form of intangible heritage possesses its own agency in community building and creating educational platforms. Through practices like MCing, breakdancing, and storytelling, hip-hop offers communities of color affected by the traumas of institutional inequality a heritage practice to heal and reimagine futures.

¹²⁴ Information for section provided by: Rafael Mautone Ferreira and Aretha Abená Ramos Coelho, interview by author, Porto Alegre, January 21, 2025.

Chapter 6: Community heritage: activating the landscape amidst devastation in Villa Farrapos

Chapter six explores a neighborhood greatly affected by planning decisions that have exacerbated economic inequality and the impact of the 2024 floods. This chapter focuses on how the residents view their relationship to the landscape and to understanding loss while preserving community.

6.1 Neighborhood introduction

Farrapos, a neighborhood located in the northern part of Porto Alegre, was formally recognized by the city in 1988 and redefined in 2016. The landscape, originally used as a rice plantation, is closely linked to the city's mid-20th century urban development boom with the construction of Avenida Farrapos in the 1940s. The route connected the city center to the northern industrial area, greatly shaping the neighborhood's identity as a commercial zone and forging its working-class roots.¹²⁵



¹²⁵ Andando POA. *Farrapos - Histórico*. (n.d.).
<https://andandopoa.webnode.com.br/historicos/bairros/farrapos-historico/>

Figure 17. Archival image of Avenida Farrapos dated around 1960

In the later part of the 1900s, rapid migration from rural areas to the city led to a growth in Farrapos' population. Porto Alegre built public housing projects, including Loteamento Castelo Branco and Vila Esperança, to address housing needs, but they were often inadequate to keep up with the increasing demands.¹²⁶ These factors created the conditions for the neighborhood's transformation from a farming area into a densely populated, low-income district. The neighborhood's spatial characteristics are also shaped by its location adjacent to major infrastructure sites such as Salgado Filho International Airport, Avenida Farrapos, and Arena do Grêmio.

Walking around the landscape, I observed signs of unregulated growth, including narrow streets with unpaved walkways, debris piling alongside the road, and housing loosely constructed from scrap plywood that lacks the structure of formally planned neighborhoods. I saw that public space often blends with private areas as the spaces in front of houses were repurposed as sites for commerce, socialization, and discussing issues. These spatial conditions illustrate how residents shape and adapt their surroundings to meet their needs in the absence of state interventions. Indeed, it is important to note that the neighborhood has one of the lowest average incomes in Porto Alegre—approximately R\$542.17 per household—nearly a third of the national minimum wage.¹²⁷

¹²⁶ História dos Bairros de Porto Alegre. 2011.

https://rgp1poa.files.wordpress.com/2011/10/historia_dos_bairros_de_porto_alegre.pdf

¹²⁷ Boletim dos Bairros Oficiais de Porto Alegre. (2022). *Farrapos*. Porto Alegre: Prefeitura Municipal.

The neighborhood's most notable infrastructure project in the last 25 years was the construction of the Arena do Grêmio, which was completed in 2012 at an estimated cost of €205 million.¹²⁸ The city promised that the residents would see material benefits with the construction of the arena, but more than a decade later, residents have seen uneven results. Luxury apartment buildings and the continued stalling of a promised community center have left residents disappointed and questioning if real estate speculation will eventually displace them from the neighborhood.¹²⁹

As seen in the map below, the neighborhood's low elevation and proximity to the Delta do Jacuí— a convergence of multiple rivers, canals, archipelagos, and swamps that flows into Lake Guaíba— make it particularly vulnerable to flooding.¹³⁰ Although disruptive flooding has not been a persistent issue in Porto Alegre, Farrapos is one of the first neighborhoods to be heavily affected when flooding has historically occurred in the city. There have been a couple of projects to tackle the problem—including stormwater drainage infrastructure introduced in the early 2000s. One 2022 journal article evaluated the neighborhood's progress through historic photography and even asserted that the new floodgate system represented a major “improvement in quality of life” in the neighborhood by “eliminating” flood-related risks.¹³¹ But in recent interviews, residents say that flooding has been a persistent issue and that the situation has

¹²⁸ “Arena Do Grêmio – StadiumDB.com.” n.d.

https://stadiumdb.com/stadiums/bra/arena_do_gremio?utm_source=chatgpt.com#google_vignette.

¹²⁹ Andando POA. January 2025 “Farrapos - Histórico” and interviews conducted by author, Porto Alegre.

¹³⁰ Tiecher, Tales, Ramon, Rafael de Andrade, Leonardo, Camargo, Flávio A.O., Evrard, O. et al. February 23, 2022. Tributary contributions to sediment deposited in the Jacuí Delta, Southern Brazil. *Journal of Great Lakes Research*, 48 (3), pp.669-685.

¹³¹ De Bitencourt Monteiro, Deyvid Aléx, and Luciana Inês Gomes Miron. “A Fotografia Como Fonte Histórica De Pesquisa: Um Estudo Sobre as Transformações Da Paisagem Urbana Do Bairro Farrapos Em Porto Alegre/RS.” *Encontro Nacional De Tecnologia Do Ambiente Construído* November 19, 2022. 1–12. <https://doi.org/10.46421/entac.v19i1.1972>.

worsened since the construction of Arena Grêmio and the large-scale developments tied to the project.¹³²



Figure 18. An elevation map of the Farrapos and Humaitá neighborhood

Farrapos, as a landscape, embodies the meanings shaped by its residents through distinct geographical and political processes rooted in collective memory. Heritage in this context plays a broader role, reflecting the lived experiences, narratives, and cultural practices of the community.

6.2 Landscape analysis

Farrapos is a landscape shaped by collective memory, defined by communal social movements and mnemonic geographies. While often overlooked as a formal protected heritage site, Farrapos embodies what landscape archaeologists like Ashmore describe as a social archaeology of lived spaces—landscapes that are lived in and continuously

¹³² Santiago, Matheus. "Farrapos: A Vila e Sua Luta Contra a Água." Vozes Farrapos, May 2024. <https://medium.com/vozes-farrapos/farrapos-a-vila-e-sua-luta-contra-a-%C3%A1gua-999b4ccdc062>

reinterpreted through continuous renegotiation, ritual use, and repair.¹³³ Porto Alegre's rapid urban sprawl and housing shortages led to the development of informal housing. Vila Farrapos, the focus of my analysis, is located within the larger Farrapos neighborhood. It is particularly characterized by these informal housing settlements, which prominently define Vila Farrapos' landscape both physically and in the imaginations of outsiders. My collaborator Tiago, who is from a different vila in the city, said that his parents would warn him against visiting the neighborhood. He admitted that unless we had someone from the neighborhood to accompany us, he would be reluctant to enter on his own. Thus I assert that although Vila Farrapos is located within the bounds of one of the city's most highly trafficked areas, the freeway and Arena do Grêmio, it is a neighborhood and landscape that is intentionally shaped and planned for use by the people who reside within its boundaries.

Undoubtedly, outside forces still maintain their autonomy over the landscape. The government's ongoing delays in properly disposing of debris, maintaining regular municipal services, and providing promised compensation to residents strongly influence who is able to maintain residency after the 2024 floods. As I walked through the streets of Farrapos that had formal housing, I was struck by how many empty buildings stood. Speaking with residents, it seems many of their neighbors are not able to return— the burden of repair is too great, and the fear that another flood will wash everything away again is too high. It was expressed to me that residents believe there is a connection between the purposeful neglect of the landscape and withholding aid in order for real estate interests to buy land cheaply and develop additional properties near

¹³³ Ashmore. "Social Archaeologies of Landscape."

the popular Arena do Grêmio. This would assuredly drastically affect Farrapos's landscape and the population that lives within it.

The landscape itself is characterized by being low-lying and prone to flooding. The residents cannot afford to live in geographically "safe" areas, and in many cases, they are unable to rebuild after climate disasters strike. The most socioeconomically vulnerable communities—particularly those of informal housing settlements—suffered disproportionately during the 2024 floods. The built environment that often defines the communities, although left out of official heritage registers, remains a vital gathering place to reinforce shared identity and ensure living intangible practices are passed to future generations. Reappropriated sidewalks and alleys dotted with white plastic chairs and painted benches became classrooms for cultural education rooted in Ubuntu and Rastafarian teachings that are characteristic of Afro-Brazilian culture.

This biographical reading of Vila Farrapos and Farrapos resists linear urban histories of decay through purposeful neglect following climate-driven disasters, which inevitably ends in gentrification-driven development. Instead, it positions the neighborhood and vila as agents in its own history. As much as mapping the geographical distinctions of the landscape is important, this research focuses on the community's coordination of shared meals, successful protests, and impromptu book clubs within the landscape of Vila Farrapos. These practices inscribe affective value into place, reinforcing the memories and meaning that characterize the landscape.

6.3 How the 2024 floods nearly destroyed Vila Farrapos

From April to June 2024, catastrophic infrastructure failures and government negligence nearly decimated one of Porto Alegre's most socioeconomically challenged neighborhoods. Vila Farrapos was left submerged for over three weeks. In my interviews with residents, they said the Civil Defense did not allow aid to enter the neighborhood, as many stranded residents were left to fend for themselves. The peak of the rains occurred in the beginning of May. During this time, the neighborhood's rainwater pumping station—designed to redirect floodwaters into Lake Guaíba—was operating at half capacity. Meanwhile, the nearby floodgate on Avenida Voluntários da Pátria experienced systemic failure, allowing water to continue flowing into residential streets.¹³⁴

For 25 days, residents could only travel to Vila Farrapos by boat, homemade flotation devices, or military vehicles. Oftentimes, residents themselves became first responders, as floodwaters would quickly rise. People took shelter on their roofs, waiting for help from the Civil Defense, which did not arrive in time. I spoke to residents who swam through dangerous waters and navigated boats to rescue their stranded neighbors. The city even dedicated a statue in downtown Porto Alegre to the volunteers and regular citizens throughout the city who risked their lives to help their neighbors.

¹³⁴ GZH. "Há 25 Dias com Ruas Inundadas, Moradores do Humaitá, Vila Farrapos e Anchieta Bloqueiam a Freeway e a BR-116." May 27, 2024. <https://gauchazh.clicrbs.com.br/porto-alegre/noticia/2024/05/ha-25-dias-com-ruas-inundadas-moradores-do-humaita-vila-farrapos-e-anchieta-bloqueiam-a-freeway-e-a-br-116-clwp148pl00280137pdmlibly.html>



Figure 19. The statue the government commissioned to honor the ordinary citizens who helped save their neighbors during the 2024 floods

While the Municipal Water and Sewage Department (DMAE) was able to assist in draining other neighborhoods in a timely manner, Vila Farrapos was one of the few zones that was left completely inundated with floodwater 25 days after the heaviest rains hit. On May 27, 2024, Vila Farrapos and the neighboring Humaitá residents blocked the main freeway in protest, demanding the installation of a mobile pump to allow them to return to their homes. The same day that residents blocked the highway, DMAE posted on social media that they were in “direct contact” with the local community and reassured the public that they were “not left without assistance.”¹³⁵ The

¹³⁵ Brasil de Fato. “Moradores da Vila Farrapos e do Bairro Humaitá Fazem Ato para Cobrar Instalação de Bomba.” May 27, 2024. <https://www.brasildefato.com.br/2024/05/27/moradores-da-vila-farrapos-e-do-bairro-humaita-fazem-ato-para-cobrar-instalacao-de-bomba/>

act of civil disobedience led by the community successfully raised awareness of the neighborhood's issues, and DMAE shortly thereafter installed a pump.

As initial floodwaters receded, the devastation lying beneath the waters was revealed. Piles of debris—splintered furniture, rotting wood, and household waste—lined the streets, obstructing streets and sidewalks. Throughout the ordeal, the community continued to lobby for municipal services to remove bulk waste before the next rains would return.¹³⁶ Those who stayed behind during the disaster risked their lives, but people wanted to protect their homes, were afraid they would not be allowed to return and, according to people I interviewed, shelters were crowded and at times dangerous.

6.4 After the floods, a lesson in community resilience

More than 17,500 of the neighborhood's 18,986 residents were affected in some manner by the floods, making it one of the hardest-hit areas in Porto Alegre.¹³⁷ According to IPHAN superintendent Rafael Passos, the destruction of the floods also had a profound effect on the intangible living heritage of Brazil's important cultural communities. He emphasized that "intangible heritage is fundamentally tied to the communities that sustain it."¹³⁸ In areas like Vila Farrapos, cultural spaces such as terreiros—traditional Afro-Brazilian religious community centers—were either flooded or cut off from aid. Unlike authorized heritage sites maintained by the government or

¹³⁶ Maia, Paula. "Moradores da Vila Farrapos Contam com Solidariedade para Recomeçar Após Enchente." Correio do Povo. May 2024. <https://www.correiodopovo.com.br/not%C3%ADcias/cidades/moradores-da-vila-farrapos-contam-com-solidariedade-para-recome%C3%A7ar-ap%C3%B3s-enchente-em-porto-alegre-1.1500665>

¹³⁷ Maia. "Moradores da Vila Farrapos."

¹³⁸ Rafael Passos, interview by author, Porto Alegre, January 21, 2025.

institutions, which benefited from sector conservation approaches, living heritage sites like terreiros were left largely to the survival of their people.

Rio Grande do Sul hosts the third-largest number of Afro-Brazilian terreiros in Brazil, most of them small, community-run spaces embedded in the urban landscape like Vila Farrapos.¹³⁹ Community organizer, composer, and founder of the Núcleo de Estudos Afrocentrados (Projeto N.E.A.),¹⁴⁰ Marcos Haile Emmanuel generously gave my collaborator Tiago Pancheco and me a sit-down interview and tour of an area in Vila Farrapos most affected by the floods. It was immediately clear that Marcos is a respected community leader, as many residents would greet him and then engage in spirited discussions during our interview and tour. Marcos would often open the book *Introdução ao Pensamento Filosófico Africano*¹⁴¹ and read quotes for residents to stress resiliency and liberation from structural racism and inequality through knowledge sharing and collective action.

Vila Farrapos suffered immensely from long-term structural inequality, resulting in the construction of informal housing settlements from scrap plywood. Residents invited us into their yards and homes to understand the conditions they were forced to live in seven months after the waters were drained. Muddied debris was rampant on the streets and in the houses. Marcos told us about the community's expectations and priorities in the months after the floods:

This reconstruction, after the waters receded, was very hard on the people. Not just physically, but also psychologically. And the government, in reality, I think it

¹³⁹ Rafael Passos, interview by author, Porto Alegre, January 21, 2025.

¹⁴⁰ Center for Afrocentric Studies

¹⁴¹ Introduction to African Philosophical Thought (2020) by Ivan Luiz Monteiro

needs to work more on what we, here in Brazil, call public policies: education, basic sanitation, and infrastructure.¹⁴²

Emergency aid was delayed and formal infrastructure systems failed, but from interviews, it was emphasized to me that the community remained steadfast in their commitment to each other and the neighborhood.

In the absence of a government-run community center, the community itself reappropriated public and private spaces for communal healing and education. Led by Marcos, the community built a cultural hub in Vila Farrapos that was grounded in Afro-Brazilian Ubuntu and Rastafarian philosophy. These philosophies translate to cultural practices that encourage the community to embody and teach the next generation about Afro-Brazilian cultural memory, identity, and resistance. Especially emphasized in this living heritage practice is the idea of community well-being over individualism— a key component in Vila Farrapos' collective survival after the devastating floods.

Seven months after the flood, the streets throughout Vila Farrapos still bore the scars. Many houses remain uninhabitable, and basic infrastructure has yet to be restored. Yet the community's persistence—anchored in collective care, which has roots in shared living heritage practices—has become a model for how neighborhoods lead their own recovery in the face of institutional neglect. A resident succinctly described the attitudes of the community in an interview with local newspaper *Correio do Povo*: "This street here is all family. I love it here. I won't abandon it."¹⁴³

¹⁴² Marcos Haile Emmanuel, interview by author, Porto Alegre, January 21, 2025.

¹⁴³ Maia, Paula. "Vila Farrapos na Zona Norte de Porto Alegre Luta Contra os Resíduos Acumulados Após Enchente." *Correio do Povo*, May 2024.

<https://www.correiodopovo.com.br/not%C3%ADcias/cidades/vila-farrapos-na-zona-norte-de-porto-alegre-luta-contra-os-res%C3%ADduos-acumulados-ap%C3%B3s-enchente-1.1503457>

6.5 Discussions

What this research illustrates is that community-based heritage practices—rooted in lived experiences, localized epistemologies, and labor connected to the landscape—offer a powerful model of creative resilience in the face of climate challenges. I observed how residents of Vila Farrapos actively transformed the landscape into sites of healing, education, and resistance. As Ashmore argues, landscapes are not only physical markers but also active sites for continuous practice and contesting memory. The terreiros, community centers, front yards, and streets of Vila Farrapos are central to a more participatory vision of heritage that is encouraged in critical heritage studies.

For landscape historians, the progression in aligning landscape scholarship to understanding that the natural environment is rooted in how people view and value landscapes. Therefore, they see opportunities to work alongside local communities in stewardship rather than from a top-down approach.¹⁴⁴ This is especially relevant as the Vila Farrapos community seeks to maintain autonomy and rebuild their neighborhood for residents instead of catering to municipal and real estate interests.

Living in the Anthropocene means climate-driven disasters occur with increased frequency and intensify socioeconomic divides; thus I argue that Vila Farrapos offers a model of what Harvey and Perry call “heritage futures.” These are not backward-looking nostalgia but a forward-thinking ethics grounded in care, adaptability, and situated knowledge. Ultimately, the recovery of Vila Farrapos teaches us that heritage can move

¹⁴⁴ Mitchell and Buggey. “Protected Landscapes and Cultural Landscapes.”

beyond preservation of tangible heritage, but ensuring that the presence and active negotiation with the landscape of intangible living heritage is respected.

Chapter 7. Discussions

7.1 Revisiting the concepts

This thesis draws on and expands critical heritage and landscape scholarship that characterizes heritage as a living, dynamic process. Important scholars in these multidisciplinary fields like Smith, Ashmore, and Knapp, have emphasized the need to center participatory heritage practices and fluid understandings of landscape and memory. Additionally, heritage theorists that focus on the climate, like Harvey, Perry, DeSilvey, and Harrison, have argued that climate disasters expose the shortcomings of authorized institutions whose ethos focuses on permanence and top-down control of sites, thus pushing for a transformative heritage approach that embodies loss, adaptation, and creative conservation.

My research in Porto Alegre extends these scholarly discourses by demonstrating how these theories and different heritage approaches actually unfolded on the ground during a recent climate disaster. The case studies of the Museu do Cultura Hip Hop RS and Vila Farrapos revealed the ways in which communities themselves are already enacting the "heritage futures," which sees heritage as a tool for meaning-making and healing amongst communities amid crisis.

Thus, this thesis contributes a fresh perspective by highlighting how intangible, living heritage can function within a climate resiliency framework. This insight, rooted in fieldwork, collaborative methodologies, and critical heritage literature review, pushes

existing discourses forward by showing how heritage can shift from a separated, sector approach to being centered in daily life. Rather than only advocating for creative conservation or participatory approaches in theory, my findings demonstrate that these appear in Porto Alegre in different forms—often driven by communities and decentralized community-driven institutions.

7.2 Comparisons

The case studies I chose to analyze in this thesis offer insights into my central question of how heritage frameworks operate during climate disasters: IPHAN and MARGS as authorized heritage institutions, the Museu do Cultura Hip Hop RS as a community-rooted cultural institution, and the residents of Vila Farrapos as a landscape-connected community. In this section, I lay out a comparative analysis of these outcomes to reveal broader tensions between preservation, community-centered living heritage, and adaptive resilience.

Authorized institutions like IPHAN and MARGS primarily operated within sector and factor approaches, focusing on analyzing the ways to improve the preservation of tangible heritage, technical safeguarding, and formal disaster protocols. Although the IPHAN superintendent advocated for the protection of vulnerable communities, the mission of the institution remained focused on post-flood recovery planning centered on preserving archaeological objects, sites, and historic buildings. I argue that these institutions demonstrated a strong commitment and dedication to the tangible heritage under their protection and have interesting ideas of how to better incorporate heritage into disaster management in the future, but I am critical that their strategies were largely

reactive and constrained by structural limitations and a reliance on top-down expertise. The value they placed on tangible heritage often left intangible cultural practices and practitioners— who were often most affected by the floods— on the margins.

In contrast, the Museu do Cultura Hip Hop RS— a relatively new cultural institution dedicated to the living heritage practice of hip-hop— imbued grassroots heritage practices into its founding. Its rapid transformation into an aid distribution hub demonstrated the influence of an institution that taps into intangible cultural heritage as an operational asset in disaster response. The museum’s actions emphasized mutual aid, community relationality, and cultural resilience. I also argue that hip-hop itself as a cultural movement encourages participants and heritage managers to embody communal action during times of hardship—as its founding was rooted in creative expression of a shared struggle. This aligns with the vector approach and critical heritage theories that living heritage is vital to societal resiliency. The museum’s ability to mobilize the hip-hop community across the country and organize mutual aid networks emphasizes how heritage can function as a bridge for healing and resiliency.

I concluded my analysis by exploring the ways in which Vila Farrapos residents accepted loss from the floods with resistance and adaptation. The community transformed their damaged landscape into a site of protest and, ultimately, healing. They engaged in symbolic acts that reasserted their rights to remain in the neighborhood by occupying public roads in an act of civil disobedience in addition to using informal spaces for sites of collective care. Through my observations, guided tours, interviews, and research of news articles, I found that their response demonstrated how communities can actively engage with their landscapes through

everyday practices and resist erasure by knowledge transference of shared cultural and social histories.

I clearly see a bridge between the community-led approach that the residents of Vila Farrapos used to assert their agency in the face of systemic neglect and the institutionally led but community-connected approach undertaken by Museu do Cultura Hip Hop RS. It is in contrast to the priorities of the authorized bodies— but it is not such a binary contrast. Authorized institutions are themselves pushing forward agendas to include communities, but their mission and priorities still valorize tangible objects and sites.

Comparing these case studies illustrates how authorized and grassroots heritage managers, practitioners, and community members conceptualized value and vulnerability during the climate disaster. While authorized institutions aimed to protect heritage as a material legacy for future generations, grassroots actors used heritage practices as immediate strategies for survival and recovery. These divergent outcomes suggest that climate disaster resilience in the heritage field requires a nuanced approach that ultimately diverges from traditional approaches that prioritize the preservation of tangible heritage. Therefore, I centered Porto Alegre to illustrate the need for adaptive, inclusive heritage frameworks capable of addressing existential issues in the age of the Anthropocene.

7.3 Learning from loss

Through the lens of the catastrophic floods in Porto Alegre, my research shows the urgent need to explore how communities and institutions navigate learning about the

inevitability of loss in the face of climate-driven destruction. This thesis situates these responses within ongoing calls in critical heritage studies to confront our ideas of what is valuable, most vulnerable, and hierarchies of preservation in an age of inevitable transformation.

The responses from authorized cultural institutions like IPHAN and MARGS largely reflected a resistance to loss. These efforts to preserve tangible heritage and seek technical solutions resonate with the sector heritage approach and the traditional view to safeguard all material heritage against change. Yet, as my fieldwork showed, there were clear limitations of strategies that aim for permanence when we are dealing with unpredictable extreme weather events. In contrast, community-led responses, like those in Vila Farrapos and at the Museu do Cultura Hip Hop RS, in their own ways show that we can learn and grow from loss. These community members, leaders, and heritage managers used heritage as a living practice—transforming landscapes impacted by flooding as spaces of collective care and using cultural practices to process trauma and rebuild. In these cases, heritage futures, as envisioned by climate-focused heritage scholars like Harvey, Perry, and DeSilvey, were lived realities. These communities modeled what cultural heritage scholar Rico describes as integrating destruction into heritage meaning-making and what DeSilvey termed anticipatory histories—where the very act of letting go enables new values to emerge.

My research pushes forward the idea that loss does not result in a binary response. As seen in Porto Alegre, the loss from the floods resulted in a wide range of actions: institutional efforts to preserve and restore, but also capture those efforts in an arts exhibition, as well as community strategies that embraced change as a condition for

survival and resilience. This nuanced reality supports a critical heritage position where sector-based preservation, creative conservation, and community-led meaning-making function in tandem while informed by local contexts and values.

Ultimately, this thesis advances the concepts and theory in the field by showing that learning from loss moves beyond hierarchies of preservation. It is also about recognizing and supporting the cultural processes through which communities reinterpret loss, create new meanings, and negotiate their futures.

Chapter 8. Conclusion

In the wake of the catastrophic 2024 climate-driven floods, my research highlights the ways that authorized heritage institutions, community leaders, and grassroots heritage organizations responded to a climate emergency. As critical heritage and interdisciplinary climate scholars have argued, climate disasters test the foundational logic of preservation systems and the items, landscapes, and communities that are valued by those systems.¹⁴⁵ In a Brazilian context, I argued that the authorized systems and institutions have historically valued monumental, tangible heritage linked to nationalist narratives. However, my research revealed the limitations of these systems that are designed to address the fragility of tangible heritage. Even UNESCO—considered to be the top authorized heritage body—was unable to deliver implementable solutions. Therefore, I found the urgent need to recenter heritage management and frameworks around the communities who create and practice it.

Tracing hip-hop in Rio Grande do Sul exemplifies this shift in the heritage narrative and is a useful reference for heritage managers, academics, and civil leaders. As a cultural movement and a form of intangible living heritage, hip-hop has historically and presently functioned as a means for self-determination and care in the face of systemic prejudices exacerbated by the climate crisis. I focused my research on Museu do Cultura Hip Hop RS's rapid transformation into a community hub—distributing aid, providing mental health services, and facilitating collective healing through art when the

¹⁴⁵ Bonazza and Sardella. "Climate Change and Cultural Heritage."

government struggled to deliver basic services. If the museum's model is to be replicated, I suggest that resource allocations must be radically reimagined to be decentralized, inclusive, and attentive to the institutional barriers that heritage practitioners like hip-hop artists and community organizers experience to gain access. Without these structural reforms, the transformative potential of utilizing heritage as lived practice risks being limited by institutional gatekeeping. Such an approach is antithetical to hip-hop's historic practice of solidarity, mutual aid, and education. The case study challenges dominant power structures that rely solely on expert-driven preservation techniques. I also emphasize how cultural practices like hip-hop can function as grassroots infrastructure, which has enormous capacities for healing as these climate disasters increase in voracity and frequency.

Furthermore, my research shows how residents of the Vila Farrapos recontextualized their relationship with their landscape. I observed how sidewalks, streets, and grassroots community centers became sites of care and knowledge transference. These practices align with critical heritage and landscape scholars' views of landscapes as moving beyond static scenery, but I also interpreted the landscape as dynamic sites of memory-making and contestation.¹⁴⁶ Yet, Vila Farrapos is also a landscape shaped by historical neglect and socio-environmental vulnerability. However, it is within these structural challenges that the neighborhood's strongest assets were revealed—place-based solidarity and engaging cultural knowledge systems that define its community life.

¹⁴⁶ Ashmore. "Social Archaeologies of Landscape."

My research shows how urban planning decisions in Brazil have increasingly become shaped by international financial interests, and Vila Farrapos stands at the edge of rapid change. Residents cannot afford to return home after the floods; thus I assert that this housing and economic justice issue in the post-flood era can also be defined as a cultural and living heritage preservation issue. I conclude that my field and textual research of Vila Farrapos can provide a prospective case for “heritage futures” that is rooted in meaning-making from the landscape, adaptation, and community action.

At the heart of this research lies a central conclusion I draw from critical heritage studies and climate loss experts: heritage can be regarded as moving beyond a fixed collection of objects or architecture and embodies a cultural and social process embedded in lived experience. Communities affected by the floods in Porto Alegre could not rely on institutions to provide guidance as the waters rose and threatened their lives— they banded together, transformed their daily landscapes, and leaned on shared cultural practices to act nimbly. Institutions around the world should follow this lead by activating networks of care, preparedness, and public engagement in the face of climate disasters. Likewise, climate disaster response and infrastructure policies should recognize cultural heritage for strategic planning purposes. This is particularly relevant for subaltern communities who often act as heritage producers and face disproportionate risk during climate disasters.

I set out to answer the question: how can heritage support and drive community engagement, resilience, and healing in the face of natural disasters driven by climate change, as illustrated by the case of the 2024 floods in Porto Alegre, Brazil? This thesis

has demonstrated that systems and communities that prioritize intangible and living heritage in Brazil are deeply concerned about sustaining their way of life. As the case studies of the dynamic community interactions with Vila Farrapos's landscape and the mobilization of the hip-hop community demonstrated, active models of heritage practice are already being enacted on the ground. And, significantly, I found that the 2024 floods revealed the ways in which Brazil's conventional heritage institutions were constrained by narrow understandings of what constitutes heritage.

Writing this thesis a year after the floods, many homes in vulnerable neighborhoods remain uninhabitable and recovery aid has not reached people wishing to return home. Yet, my network of collaborators have emphasized that a collective reassertion of place and identity remains apparent. Ultimately, I call for a shift in how we define and engage with heritage in the Anthropocene. By analyzing the practices of authorized heritage managers, residents, cultural organizers, and heritage producers in Porto Alegre during a period of catastrophic climate-driven flooding, I argue for a movement in understanding heritage as active and community-centered, especially when it is under threat by climate emergencies.

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Figure 13. Rap in Cena/Instagram, UOL, Porto Alegre

<https://www.uol.com.br/splash/noticias/2024/05/17/rap-in-cena-e-artistas-arrecadam-mais-de-150-toneladas-de-doacoes-ao-rs.htm>

Figure 14. Jenny Agrusa Levine, January 21, 2025, Museu do Hip Hop in Porto Alegre, Brazil

Figure 15. Google Maps screenshot, June 13, 2025

Figure 16. Beija-Flor Prod, Terra, May 16, 2024, Museu do Hip Hop in Porto Alegre, Brazil <https://www.terra.com.br/visao-do-corre/pega-a-visao/museu-do-hip-hop-faz-coleta-e-distribuicao-de-doacoes-no-rs.ad831775fa1458b61bf5cb4711f4055aq7ot1hla.html>

Figure 17. Porto Alegre (Fotos Antigas), October 24, 2013, Avenida Farrapos, Porto Alegre, Brazil

https://www.facebook.com/photo.php?fbid=561778023889274&id=223651877701892&set=a.386105191456559&utm_source=chatgpt.com

Figure 18. Flood Map, May 27, 2025 https://www.floodmap.net/#google_vignette

Figure 19. Jenny Agrusa Levine, January 21, 2025, downtown Porto Alegre, Brazil.

[Link to interviews](#)