URBAN GEOGRAPHY Volume 45.4 / 2024

Urban Geography

ISSN: (Print) (Online) Journal homepage: www.tandfonline.com/journals/rurb20

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To cite this article: Savannah Cox (10 May 2024): Climate transparency and the affective politics of adaptation in Miami, Urban Geography, DOI: 10.1080/02723638.2024.2348957

To link to this article: https://doi.org/10.1080/02723638.2024.2348957

URBAN GEOGRAPHY
https://doi.org/10.1080/02723638.2024.2348957

Routledge
Taylor & Francis Group

Climate transparency and the affective politics of adaptation in Miami

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ABSTRACT

How might feelings toward the future shape how urban climate adaptation happens? I explore this question through the exemplary case of Miami, Florida. Notably, "data-driven, transparent decision-making" on climate change features as a key norm and practice across the city's adaptation efforts — a stark contrast to its longstanding, highly opaque styles of governance. Drawing on theories of affect, anticipatory government, and technopolitics, I argue that the transparency-oriented techniques of Miami adaptation efforts are intended to: (1) generate positive orientations toward the city's climate-changed future, (2) secure attachments to the city, and (3) preempt unplanned adaptation: sudden, mass property devaluations that will crater the city's economy and Miami's ability to weather coming storms. But the positive, economy-securing affective responses that officials seek to engineer are provisional, and have prompted significant pushback and counter demonstrations of climate transparency among activists, residents, and expert publics. In tracing these developments, the paper advances knowledge on (1) the centrality of governing *feeling* when governing urban climate *futures* and (2) an emergent, affective sphere of urban climate politics whose features and fissures will become increasingly important in cities around the world.

ARTICLE HISTORY
Received 8 September 2023
Accepted 29 March 2024

KEYWORDS
climate adaptation; climate urbanism; urban resilience; transparency; affect

Introduction

On 23 January 2020, former Chief Resilience Officer of Miami Jane Gilbert addressed the City Commission regarding the Miami Forever Climate Ready Strategy. The recently published document, Gilbert said, is Miami's "first comprehensive plan" to address the significant problems that climate change poses to the city. Economic losses are chief among the problems that the plan is meant to address. "[Credit rating agency] Moody's has been asking us more questions," Gilbert told the Commission. "Luckily the city so far has not only maintained but improved its credit rating. This is mostly due to the great fiscal management of our administration but also because of how we're responding to climate threats through the Miami Forever Bond." Raising a copy

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of the plan for the Commissioners to view, she concluded that the city could remain creditworthy by implementing the 86 action items[1] within the strategy (field notes, 23 January 2020).

Many Miami officials, including Gilbert, have suggested that the Forever Strategy's focus on "data-driven, transparent decision-making" is one important reason why the city stands to maintain its strong bond ratings as the climate changes. Key data- and transparency-driven mechanisms include greenhouse gas inventories, flood monitoring systems, climate data repositories, and GIS platforms, as well as (virtual) public fora where officials regularly explain Miami's climate risks and action on them to residents and other relevant stakeholders. Taken together, Miami officials suggest that these mechanisms of transparency can help "reduce uncertainty for the community and the private market[2]" and thus "help Miami not just adapt but thrive amid the increasing risks of climate change" (field notes, 23 January 2020). Notably, such "open," data-driven approaches to urban governance stand in sharp contrast to the opaque decision-making practices and back door deals that scholars have attributed to Miami politics and that residents have long described as corruption (see, e.g. Grove et al., 2020). And yet, the approaches at work within Miami Forever have fallen under significant local criticism. In interviews, activists, expert publics, and elected officials alike have referred to the strategy's approach to climate disclosure as everything from "fluff" to "Orwellian" to "Machiavellian." If the city is to have any future at all, these individuals have said, local officials must use climate transparency to generate a sense of urgency toward the future, not false complacency through fuzzy accounting (personal interviews, 5 April 2021; 9 August 2021). As importantly, many of these individuals have begun to enlist the transparency-oriented elements of the Miami Forever Strategy in their efforts to render climate change an emergency that requires massive, near-term public intervention.

This paper explores why transparency has (1) emerged as a key objective and practice of climate adaptation in Miami and (2) become central in local battles over the city's future. I argue that officials are using climate transparency to preempt or defer *unplanned adaptation*: sudden, mass property devaluations that will crater the city's economy and thus Miami's ability to weather coming storms.[3] Given the significant climate vulnerabilities and risks that Miami faces,[4] this argument may seem counterintuitive. Wouldn't disclosure of the city's climate vulnerabilities and risks only expedite the arrival of the calamitous futures that officials seek to avoid? Not necessarily. Drawing from interdisciplinary literatures on affect theory, anticipatory government, and technopolitics, I read climate transparency as generative. By generative, I mean that climate transparency helps (re)organize particular *orientations* toward the climate-changed future (such as anxiety or positivity); *attachments* to climate-changing cities (such as a desire to remain in place or leave), as well as particular *actions* (such as abandonment of, or investment in, a given locality) in the present. Rather than simply "reduce uncertainty for the community and the private market," then, the vast climate monitoring systems, carbon inventories, bond finance, and public fora that help make up the Miami Forever Strategy are intended to generate confidence and trust in the city's future among residents and the private market. But the positive affective responses that governments seek to "engineer" among Miami residents and extra-local investors are by no means guaranteed (see Anderson & Holden, 2008; Anderson, 2010; Langley, 2013; Thrift, 2004, p. 58). As I show, the strategy meant to instill confidence in the city's future has conjured

skepticism and distrust among local stakeholders. Moreover, these engineering misfires have prompted many residents, expert publics, and activists to use official sites of climate transparency in their broader efforts to incite more urgent orientations to, and actions on, Miami's future: specifically rapid decarbonization and retreat. These ongoing developments in Miami thus push us to treat climate transparency as a lightning rod in wider political battles over, and representations of, climate-changed urban futures.

In advancing these claims, the paper makes four contributions to urban geography. First, where scholars of climate urbanism have read the datafication and "opening up" of climate-changing urban environments as an attempt to govern *existing* urban geographies (see, e.g. Long & Rice, 2019), I suggest that they also be read as attempts to govern climate-changing urban *futures*. But local attempts to govern futures through transparency are fraught. After all, demonstrations of climate transparency are ultimately arguments: formal and informal acts meant to persuade "community and private market" opinions on the truth of Miami's resilient future. These arguments may, in turn, spur counterarguments in the form of counter-demonstrations of climate transparency (Stark & Paravel, 2008). This insight leads to the second contribution of the paper. While urban geographic scholarship might read climate transparency and similar techniques of "smart" climate governance as exercises in controlling and disciplining the environment, I detail the ways that climate transparency can "slip out of [official] control" and threaten the realization of the resilient futures that present-day transparency efforts seek (Stark & Paravel, 2008, p. 49). Third, the paper responds to longstanding calls for researchers to explore "what affects and emotions do in cities" and treat them as central to the (re)constitution of (urban) political economies rather than as mere "background" (see, e.g. Anderson & Holden, 2008, p. 145; Anderson, 2014, p. 737; Buser, 2014; Marotta & Cummings, 2019; Thrift, 2004). Finally, and relatedly, the paper advances climate urbanism research by opening up an emergent, affective sphere of urban climate politics whose features and fissures will become increasingly important in cities around the world.

Methods and case selection

The arguments advanced here draw on 18 months of fieldwork in Miami. Importantly, many research activities took place online due to the Covid-19 pandemic. Such constraints raise questions about the scope of the field site and the data acquired, and thus require accounting for (Taylor *et al.*, 2013). All Miami Forever meetings and events for which I conducted participant observation were moved or made available online ($N = 60$ hours). While the shift to online venues enabled my research to continue, it did in theory (1) limit public meeting attendance to those with internet connections and (2) narrow the frame of observable phenomena. To address the former, I strategically "[brought] in the offline" by conducting socially-distanced interviews with individuals whom informants from virtual public meetings told me had valuable perspectives on Miami's adaptation strategy despite not attending the meetings (Taylor *et al.*, 2013, p. 61). Moreover, because the primary object of my analysis, climate transparency, is typically depicted visually in two-dimensional forms such as charts, figures, and tables, the pandemic-forced virtuality of fieldwork aided in my observations of public events: the virtual events were always recorded and later uploaded online by Miami officials,

which enabled me to return to the events as often as I wanted for analysis, rather than have to rely on my field notes recounting an ephemeral in-person event. The pandemic did not impact my analysis of popular media, policy reports, and news briefs on the Miami Forever strategy (N = 23), or my interviews (socially-distanced in-person or online) with residents, climate activists, and government officials involved with the strategy (N = 40).

I selected Miami because it is exemplary of the emergent, affective politics of climate urbanism detailed here (Yin, 2014). For one, the metropolitan region is one of the most physically vulnerable cities to climate change in the world, and faces incredibly daunting adaptation challenges. For example, experts estimate that by 2040 the extremely low-lying metropolitan region will see between 8 and 12 inches of sea rise, which will threaten the basic operations of its drainage system and put about 10 percent of the region's land area underwater (Conyers et al., 2019). The city must therefore speak publicly about adaptation in order to make massive public adaptation expenditures. But Miami's unique political economy makes adaptation talk risky: the city is a hub of luxury and speculative real estate investment, and draws on its ample property tax base to fund up to half of its operating budget. For that reason, the city's future is deeply yoked to both rising seas *and* the judgments, fears, and aspirations of (extra-local) investors and residents (Cox, 2022, 2023; Grove et al., 2020; Portes & Stepick, 1993; Taylor & Aalbers, 2022). Adaptation talk, then, must address (coming) physical *and* felt realities. Taken together, these elements make Miami an ideal site from which to critically examine (1) the centrality of governing *feeling* when one seeks to govern climate *futures* and (2) why climate transparency – where feelings, facts, and (representations of) futures come into uneasy relation – has become an object of power and politics.

The paper proceeds as follows. First, I situate these arguments within a broader set of literatures on climate transparency and climate urbanism. I then draw from interdisciplinary literatures on affect, anticipatory government, and technopolitics to examine climate transparency as both generative and political: insofar as demonstrations and practices of climate transparency may seek to produce specific orientations to the climate-changed future, they also create conditions for their own dispute. The third section presents the main empirical material of the paper through a focus on three key sites of climate transparency within the Miami Forever strategy: the Resilience Action Forum, the Citizens Oversight Board, and public meetings about the Stormwater Master Plan. There, I detail how city officials have attempted to create positive orientations toward the city's climate-changed future through strategic demonstrations and presentations of climate risk and actions taken to reduce it. I also discuss how residents, activists, and expert publics have used these demonstrations to cast doubt on the city's climate strategies and produce counter-demonstrations of climate transparency. In the concluding sections, I reflect on the significance of the case for existing scholarship on urban climate governance and the role of climate transparency within it.

The politics of climate transparency

Urban geographers have long pioneered research on how and by whom climate change can be governed in cities (Bulkeley & Betsill, 2005). They have investigated, for example, how forms of public, private, and hybrid authority can steer urban climate action,

whether through networks, soft regulation, public-private partnerships, or design competitions, among others (Andonova et al., 2009; Bulkeley, 2005; Goh, 2020). Moreover, urban geographers have attended to the ways in which dominant governmental rationalities and structural logics, such as neoliberalism and constant compulsions for urban growth amid mounting ecological constraints, frame the ends and means of urban climate action (Hodson & Marvin, 2009; While et al., 2004). Equally, they have interrogated how urban climate action can produce geographically uneven effects, and how specific climate governance mechanisms, such as carbon control, can (re)shape human-environment relations at multiple scales (Rice, 2010; While et al., 2010).

Over the past decade, transparency has emerged as a key norm and practice in many climate governance mechanisms. These mechanisms include frameworks within multilateral treaties, such as the United Nations Framework Convention on Climate Change, as well as investor-oriented programs such as the Carbon Disclosure Project and the Task Force on Climate-Related Financial Disclosures. The rationales for transparency vary, reflecting what Gupta and Mason (2016, p. 82) call the "heterogeneous and fragmented nature of climate governance." However, many transparency advocates stress that by making a given entity's relationship to climate change visible – be it through regular reporting of its carbon emissions, the systematic disclosure of actions taken to reduce emissions, and so on – transparency is uniquely disposed to enhance accountability; mutual trust; informed choice and participation, and generate "sound scientific" decision-making (Gupta & Mason, 2014, 2016; Konrad et al., 2022).

A considerable body of critical literature has shown that many transparency initiatives do not live up to their promises. But perhaps the numerous accounting, monitoring, and disclosure practices that make up transparency efforts are not solely about good governance and scientific decision-making in the first place. Instead, transparency might be better understood as a form of measurementality: "a neoliberal governance logic that emerges … from privileging scientific techniques for assessing and measuring the environment as a set of standardized units which are further expressed, reified, and sedimented in policy and discourse" and that "[provides] the basis for centralized control, coordination, and exchange" (Turnhout et al., 2014, p. 583). Urban geographers have stressed that this logic is pervasive in climate urbanism: the ways in which "urban areas are lived, governed, and imagined" amid climate change (Castán-Broto & Robin, 2021, p. 716). Measurementality is at work, for instance, in the creation of urban carbon inventories, heat indices, and resilience indices, all of which are made openly and easily available to residents (Leitner et al., 2018; Rice, 2010). Beyond reflecting numerical information on the climate-changing urban environment, transparent measurements "serve to justify local climate policies … that [extend] disciplinary action at the institutional, neighbourhood, or individual level" (Long & Rice, 2019, p. 997). By rendering the environment technical, techniques of measurementality are said to depoliticize climate change and its governance in cities[5] and reproduce the same market rationality that has played an outsized role in generating environmental and climate risks in cities to begin with (see also Christophers, 2017; Rice, 2014a, 2014b).

But where these authors zoom in on how climate transparency (re)shapes existing urban geographies and urban spatial practices, I am interested in the work that climate transparency does in explicit relation to urban futures – in no small part because it is the future on which many elements of climate adaptation and resilience

measures are ultimately meant to act. To explore that relation, I draw on theories of affect. In its most general sense, affect refers to the capacity "to affect and be affected," and is attuned to the embodied ways that we experience, respond to, and shape the world (Deleuze, 1988, p. 124; O'Grady & Shaw, 2023). Here, I take a more pragmatic-contextual approach to affect and focus on what engaging affect – and related concepts such as atmospheres and feelings – allow us to do and inquire about (Anderson, 2014, p. 12). Key for the purposes of this paper, scholars have demonstrated the ways that affects can mediate relationships to the future (Anderson, 2017) and the wider environment (Massumi, 2002), and make the future present in the here and now (O'Grady, 2016, 2019). As an object and target of multiple forms of power, affects can also (re)shape relations between communities, particular places, and the (local) state (Anderson, 2014; Boyer & Vardy, 2022). In explicitly urban contexts, scholars have used theories of affect to analyze how various events – such as terrorism, disasters, development projects, and gentrification – "alter the felt experience of a city," and to considerable material and political consequence (Fregonese & Laketa, 2022, p. 2; Guy-Lee, 2023; Marotta & Cummings, 2019). Drawing their attention to urban inequality, for example, scholars have shown how collective feelings of fear "stick to" racialized, classed others and often "[express] themselves through an urban architecture bound up with a logic of containment, prohibition, and control" (Ahmed, 2004; Anderson & Holden, 2008, p. 147; Guy-Lee, 2023). Focusing squarely on *post*-disaster urban contexts, scholars have argued that events such as hurricanes and earthquakes impact emotional and epistemic attachments to climate-changing neighborhoods and cities (Boyer & Vardy, 2022) and cultivate new political feelings and actions that stand to change community relationships with urban governments and space (Linz, 2021). Finally, disaster events can generate senses of betrayal and anger that shape how communities do – and do not – recover in the wake of disaster (see Adams, 2013).

But how, exactly, might (the anticipation of) *future* climate change-linked disasters shape felt experiences of, and attachments to, the city? This is a question of significant practical importance. In many climate-changing cities, the effects of climate change are slow. Extreme heat and sea level rise, for example, transpire incrementally and unevenly across the city and therefore can often elude immediate recognition as a problem requiring urgent attention (Anderson et al., 2020; Grove et al., 2022). One important implication here is that the affective presence of climate change – that is, and to return to Gilbert, how climate change will make "the community and the private market" *feel* about particular cities and their futures – is in some respects still emergent. A second, related implication is that these sentiments, so crucial in informing how climate change plays out in cities,[6] can be shaped today. Scholars broaching the question of how futures are governed in the present have explored a range of future events, from inflation and financial crisis to pandemics and nuclear war (Collier & Lakoff, 2015; Lakoff, 2008; Langley, 2013, 2014; McCormack, 2012, 2015). Key in their analyses are techniques that "disclose" the future, such as exercises (O'Grady, 2016), algorithms (Amoore, 2013), and scenarios (De Goede, 2008; De Goede & Randalls, 2009; Morris, 2016; Morris & Collins, 2023; Rickards et al., 2014), among others. Importantly, these techniques do more than make the future cognitively present; they are also generative. That is, they contribute performatively to the perception of, and feelings toward, a particular future and render that future an actionable problem. For many of

these authors, then, the futures that techniques of disclosure depict are affective and epistemic facts. Following Zaloom (2009, p. 247) and Lakoff (2008, p. 401), I take this to mean that the indicators, models, and presentations that individuals deploy to portray and produce future events "organize *feeling* as well as thought and action" toward a future event "in the absence of the event itself" (emphasis mine).

Stark and Paravel's (2008) investigation of the PowerPoint presentations that former Secretary of State Colin Powell deployed to justify U.S. intervention in Iraq is particularly illustrative in this respect. As we now know, there were ultimately no weapons of mass destruction (WMDs) in Iraq. However, the ensemble of video, audio recordings, and satellite imagery that Powell stitched together in the presentations convinced many government officials of the existence and future use of WMDs in Iraq *and* generated fears of the global instabilities and insecurities that the U.S. and its allies would face if those weapons were allowed to proliferate. The feelings and thoughts toward a possibly nuclear Iraq that Powell's presentations helped organize had considerable material effects: a devastating, nearly decade-long war that cost trillions of dollars and tens of thousands of lives.

As powerful as acts and techniques of disclosure are, they are also susceptible to critique and contestation. In the same paper, Stark and Paravel (2008) note that because Powell's PowerPoints were circulated immediately online, interested individuals were able to examine them as they wished, and cut and paste materials from the slides, along with their comments, on other websites. Was the satellite imagery depicting the transport of WMDs any good, for instance? Why was it, others asked, that the conversations Powell presented weren't played in their entirety? What was he hiding? Soon enough, the elements that made up Powell's argument had "slipped out of the control of the demonstrator … generating new elements of uncertainty and scepticism where the facts had once been black boxed" (Stark & Paravel, 2008, p. 49). Far from paving the road to an easy invasion abroad, demonstrations of nuclear futures became fodder for numerous counter-demonstrations that sought to undermine the epistemological and affective bases for the war.

These literatures offer essential insights for analyzing climate transparency within and beyond the Miami Forever Strategy. For one, they enable us to unpack how transparency can be made to shape attitudes toward climate-changed urban futures and thus how climate change plays out in cities. Rather than read disclosure as the neutral presentation of future climate risk and action, the literatures also help us gauge how disclosure techniques can attempt to retain (extra-)local attachments to the city; instill local and extra-local beliefs that the city will remain the "Wall Street of the South" well into the twenty-first century, and defer unplanned adaptation in the present and near – to medium-term future. Equally, these literatures illuminate why official efforts to steer (extra-)local feelings toward the future through strategic disclosure of climate risk and action become lightning rods: productive of skepticism, distrust, and (in)formal challenges to their own carefully curated argumentation.

The remaining sections investigate three key sites where the future of Miami is made transparent within the Miami Forever Climate Ready Strategy: the Resilience Action Forum; the Citizens Oversight Board of the Miami Forever Bond, and public meetings of the Stormwater Master Plan. In each of these sites, I pay attention to how officials frame future climate risks and present-day action on them, and to the orientations to Miami's future that officials attempt to produce through these framings. I also explore

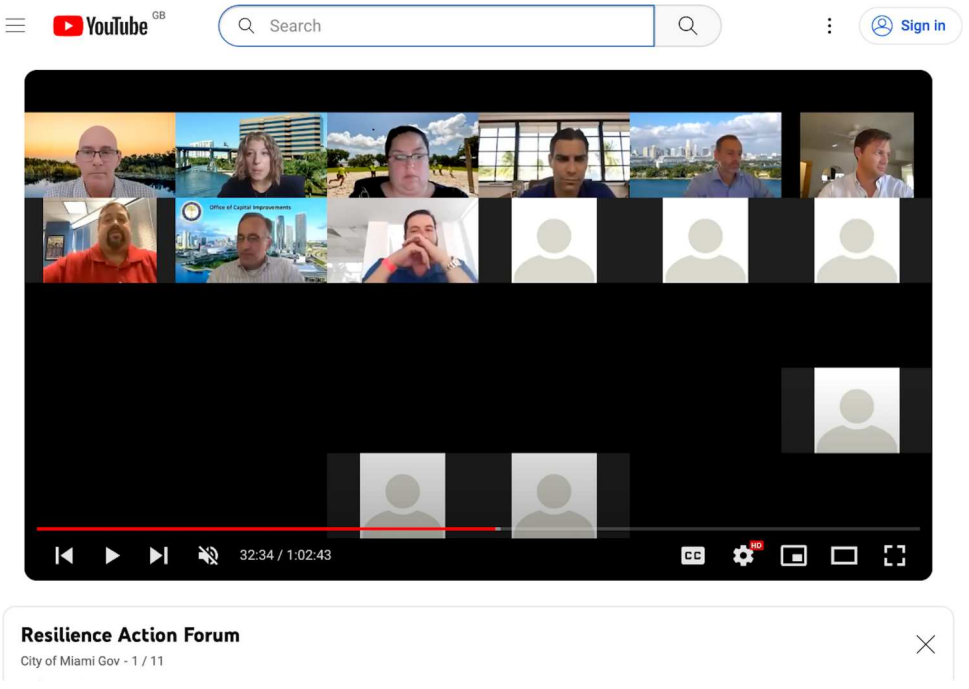

Figure 1. Screenshot of Resilience Action Forum YouTube playlist and October 2020 meeting (City of Miami, 2020a).

the skepticism and counter-demonstrations that these acts of disclosure and transparency have begun to elicit.[7]

Sites of disclosure, sites of distrust

Giving comfort: the Resilience Action Forum

Though a version of the Resilience Action Forum predated the publishing of the Miami Forever plan, the Forum's goals were motivated by a more recent event: local backlash over the city's proposed 2020–2021 budget, which would slash the Office of Resilience's budget and collapse the previously independent office under public works (field notes, 20 October 2020). Angered, activists waged a successful social media campaign that highlighted the city's hypocrisy on climate change and made headlines beyond Miami. In light of these events, and by Mayor Francis Suarez's own admission in one meeting, the purpose of the Resilience Action Forum is to generate a sense of trust and "comfort" among residents that city officials are taking "climate change and resilience seriously … and working to build a Miami that will truly last forever" (field notes, 23 November 2020).

So how, exactly, does the Suarez administration attempt to generate those feelings among its audience? For one, through procedural consistency. For years, the hour-long event took place on the last Tuesday of every month via Zoom – a venue initially selected due to COVID-19 safety precautions but that city officials made permanent in order to ensure wider accessibility. In each meeting, a familiar cast of administrative

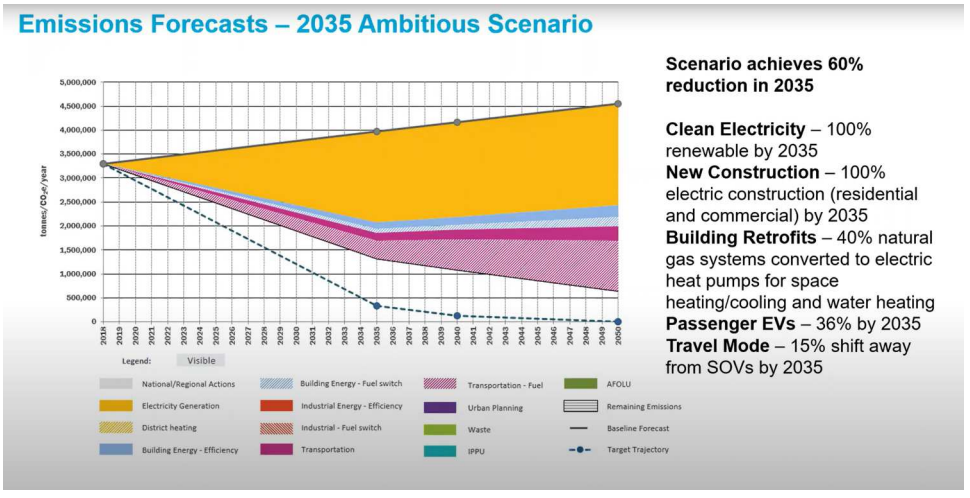

Figure 2. Screenshot from Resilience Action Forum meeting that depicts the city's carbon emissions reductions targets (City of Miami, 2021b).

characters – capital planners, budget officers, resilience administrators, and community development directors – greet participants, many of them from local activist circles and whose videos are by default turned off (Figure 1). During meetings, which are recorded and later uploaded online, city officials provide updates on the Miami Forever Strategy. Here, visuals are central to the administration's comfort- and trust-building efforts. In many updates, local officials present before and after images of a given resilience project (such as stormwater pipe installations) and data visualizations that demonstrate where the city "is" in relation to broader, long-term objectives, such as the completion of the Stormwater Master Plan and the creation of extreme weather indices. The before and after images and data visualizations can be read as attempts to both demystify the future

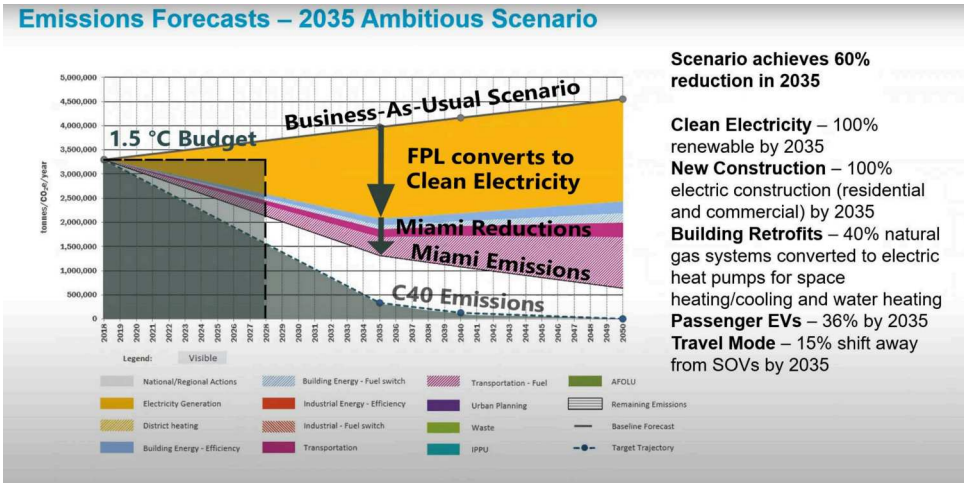

Figure 3. Parents for Future revisions of the city's emissions strategy (Parents for Future, 2021).

and generate a collective sense of hope toward it. By demonstrating what resilience looks like materially, Forum participants can see what Miami's resilient future practically consists of, rather than speculate about it. And because images of resilience are presented as a series of before and after images and metrics on "progress," so characteristic of urban modernity, resilience-building is made commensurable to other longstanding, quotidian objectives and practices of city government, such as road improvements and parks maintenance, and thus not something to fear. Indeed, in meetings participants have noted that the demonstrations have made them "feel better about what's going on [in the Forever Strategy]" and about the city's progress when it comes to addressing climate risk.

However, and as Stark and Paravel (2008) would anticipate, the city's demonstrations of commitment and consistency have on some occasions become fodder for counter-demonstrations of local government complacency and inconsistency. Take, for instance, the city's demonstrations of its commitment to carbon neutrality. Officials regularly pitch this component of the Miami Forever Strategy as evidence of Miami's global leadership in transformative climate action,[8] and promise that the science-driven action items in the carbon neutrality plan – such as the electrification of city vehicles and the solar-powering of all new buildings – will allow the city to meet Paris Agreement carbon benchmarks and "preserve Miami forever, for everyone." Officials often present emissions forecasts to substantiate their claims. By comparing the effects of the plan to the business-as-usual scenario in the form of a line graph, officials can promise "improvement" *and* calculate its value (as measured in emissions reductions) for decades into the future (Figure 2).

Activists have used these "comforting" graphs and online recordings to paint a darker picture. In one June 2021 meeting, for instance, representatives from the organization Parents for Future made use of the recordings to argue that the city had changed its tune on emissions reduction targets without formally notifying anyone. In February 2021, officials said that while the city wouldn't be able to comply with C40 recommendations (95% reduction in emissions by 2035), they could commit to a 60% reduction by 2035. In a May 2021 meeting on the same subject, however, city officials shifted the targets to 50% by 2035, without acknowledging that this amounted to a significant slippage in ambition. Why was it, Parents representatives asked, that city officials weren't forthcoming about the changes or what they meant? Were officials ever, for that matter, going to admit that all of their possible reduction plans blow past the 1.5 degrees Celsius carbon budget in the first place (as indicated in Figure 3)? What was so transparent about the emissions omissions?

Put on the spot, officials on the call said that they could only follow the best science *in relation to* a scale of what they called "political acceptability:" that is, whether the creation of science-driven carbon policy would be "very difficult" given "strong stakeholders who could find some action disagreeable" or "something that everyone is cool with" (field notes, 23 May 2021). Suggesting that this slippage in reduction targets smelled of familiar Miami corruption and not science, representatives used Forum meetings and social media to demand an audit of the city's decision-making practices regarding emissions reduction targets.

The sustained pressures within the Resilience Action Forum and social media circulation of activist climate annotations (Figure 3) have achieved considerable effects. For one, they have forced city officials to conduct an independent audit of the city's own emissions reduction targeting practices. But they have also forced the city to (quietly) declare a state of emergency on climate change. Inasmuch as Parents for Future members have used the

Resilience Action Forum to question the "improved" and neatly outlined future promised by the city's carbon emissions plan, they have also used the Forum to address the city's uneven approach to disclosing emergencies. Why, activists and residents have asked, would the city not list the climate emergency declaration on the front page of its official website (especially when, activists note, the COVID-19 emergency appeared there)? Here, too, we see evidence that cultivating atmospheres of comfort, trust, and confidence in the future are central to the administration's adaptation strategy. Because talk of emergency could spread market-rattling sentiments of "doom and gloom," Mayor Suarez said, he was not willing to post the climate emergency declaration in plain view (field notes, 25 May 2021). Despite this loss, Parents for Future representatives have suggested that the declaration, which they gained through strategically waged controversies over climate transparency, is politically useful: they can use it to counter official statements which downplay the significance of climate change for Miami's future (personal interview, 26 August 2021).

Demonstrations of accountability: the Citizens Oversight Board

In November of 2017, Miami voters passed the $400 million Miami Forever Bond, which finances the first round of resilient infrastructure projects in the city. Importantly, resilience officers have stated that the bond's chief value lies not only in the actual dollars it allocates to infrastructure projects, but in the assurances it offers to investors worried about Miami's fate under climate change. "The bond program is about showing that we have the ability to do something [about climate change] … it's a confidence tool," this official told me.[9] For this individual, the ability to spur sentiments of confidence among investors has important knock-on effects: it can cement (extra-)local attachments to place, which will help the city issue similar bonds in the future and thus enable further climate adaptation investments both now and in the medium-term. In this official's words:

Figure 4. Screenshot of February 2021 Citizens' Oversight Board meeting (City of Miami, 2021c).

Figure 5. Screenshot of Mayor Francis Suarez's promotion of the Citizens Oversight Board and Miami Forever Bond projects (Suarez, 2018).

> "If we convince investors that their money is safe here and we are protecting their investments [by putting bond dollars to resilient infrastructure projects] … we can keep [insurance] prices lower for our residents, protect their wellbeing, and *make them want to stay*" in Miami as the climate changes (personal interview 2 April 2021, emphasis mine).

If the Miami Forever Bond is a "confidence tool" meant to prop up investors' faith that the city holds a profitable future, then the Citizens Oversight Board (COB) is meant to shore up local confidence in government. Founded after the passage of the Miami Forever Bond, the eight-member volunteer board oversees how bond funds are used and provides recommendations on which projects to prioritize. While the creation of the Board in and of itself is a significant civic accomplishment in Miami,[10] here too local officials couch its value in terms of its affective capacities:

> "These [climate change risks] are billion-dollar problems. We are going to have to sell this thing [the Miami Forever Bond] 10 more times. So we have to show that it's actually working and *make people feel good* about taxing themselves over and over again for it [climate resilience]" (personal interview, 18 February 2021, emphasis mine).

For this official and others, the Citizens Oversight Board is a key arena in which these feelings should be cultivated – and for good reason. As I have detailed elsewhere (Cox,

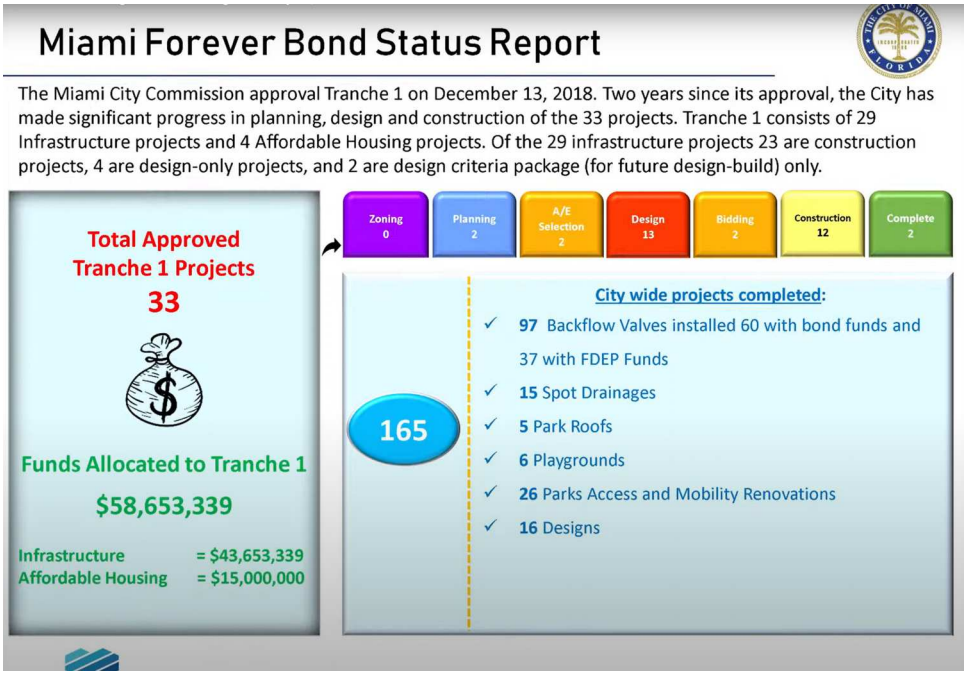

Figure 6. Screenshots of presentations at Oversight Board meetings (City of Miami, 2021c).

2023), climate activists are largely responsible for the passage of the bond and the creation of the Board, which they have "stacked" with their own members (personal interview, 17 July 2018). Fail to generate confidence among the Board, fail to sell future bonds.

A key way in which officials attempt to generate confidence relates to the ways in which meetings are physically conducted. In board meetings, which take place four to five times a year in City Hall, committee members sit in the elevated commissioner daïs. This positioning allows members to physically look down on invited speakers, such as city officials and contracted partners working on various Miami Forever Bond projects (Figure 4). Here, the modus operandi of public meetings is reversed and so too, seemingly, the power relations: where elected officials usually call on citizens at the end of a public meeting to speak, in COB meetings board members lead meetings, where they summon various officials to the stage and raise questions they have with respect to the Miami Forever Bond, and for indefinite periods of time. Government employes often use PowerPoints and data visualizations when speaking to board members. When compared to external presentations of the Miami Forever Bond projects, the bond presentations given at board meetings seem rather dull (see Figures 5 and 6 for comparison). Plain presentations, some bond officials have told me, are by design:

> "Francis [Suarez, the Mayor of Miami] can do his flashy branding exercises all he wants … But in these meetings, it's just about quantifying what we're doing, showing our progress and introducing our partners to get that community buy-in that we know we'll need going forward" (personal interview, 14 June 2019).

Figure 7. Screenshot of drone footage presented at a June Oversight Board meeting (WXChasing, 2022).

Whether conducted by government employes or private sector partners, presentations often depict improvement. As with the Resilience Action Forum, these depictions take the form of simple "before and after" photos of a given project; renderings of future parks for which bond funds will help pay; or numerical tables that feature dated clip art and show how many projects have been completed and how many matching funds have been secured (see Figure 6).

For some COB members interviewed, however, it was precisely these local government efforts to make climate change boring – and thus presumably something from which residents and COB members can become more easily detached (Anderson, 2023) – that conjured a sense of distrust. Remarking on the drab content presented by an official at one meeting, a COB member relayed her fear that government officials are trying to "give members and residents the runaround on resilience" with "tedious" and "fluff" presentations while siphoning important climate funds to non-climate pet projects behind closed doors. To change the mood of these meetings and thus, COB members hoped, prompt substantive discussions about how to meaningfully act on climate change, Board members have turned to another technology of transparency: drone footage. For example, a Board member began the June 2022 meeting with a video of standing water and submerged cars in Miami neighborhoods that don't usually flood – a far cry from the usual, humdrum imagery of progress and improvement, and the promise of long-enduring presents that are so characteristic of Miami's acts of climate transparency. The clip lasted for several minutes, and featured video of vans floating in the streets and residents standing by the side of the street, helpless (see Figure 7). "What we're seeing is Little Havana, not Brickell or Biscayne Boulevard[11]" the Board member said at the meeting. "It's easy to forget why we're here. But this is why … and this is why money on resilience has to be front and center." Rather than proceed with the meeting agenda as originally scheduled, this individual called for public comment, and the activists with whom she had previously encouraged to attend the meeting submitted proposals for strict resilience project selection criteria.

This individual said she plans to deploy drone footage in future climate advocacy work with city officials. As she told me:

> *We were sort of able to shock everyone* with this [footage] and get them talking about the real issues we're facing and how to handle it. *You look at that footage and it's just scary*. You have to admit that everywhere is getting water now and we can't pretend it's just here and there and so maybe we don't have to do as much … *there's a lot of attention and urgency we can draw* from [the footage] to spend the [Miami Forever Bond] money the way we want and pass the kind of legislation we want.

In a subsequent meeting with local climate activist organizations, this individual discussed where else in local government she might direct the drone footage and its affective capacities: specifically, to the City Commission as it deliberates how to spend the remaining $300 million of the Miami Forever Bond (personal interview, 10 June 2022; field notes, 6 June 2022).

Building "forever:" the Stormwater Master Plan

For many officials, disclosing the contents of the Stormwater Master Plan poses the most challenges to their goals of creating positive orientations for the city's future. Why? On the one hand, the plan is highly technical. As the most comprehensive flood risk assessment the city has conducted to-date, its 504 pages contain in-depth information about current stormwater infrastructure conditions and needs as the climate changes and the sea level rises. Discussing the engineering solutions developed within its pages requires an explanation of arcane performance metrics such as "level of service," as well as how the stormwater models were developed, among other complexities. On the other hand, what appears in the plan simply doesn't look good. Among the recommendations within the plan are a seven-fold increase in stormwater pump use; construction of 90 miles-worth of sea walls; the expansion of drainage pipe widths from three to eight feet; and the installation of thousands of injection walls that shoot excess water deep below the city (City of Miami, 2021a). Elsewhere, the plan describes longer-term infrastructure projects the city could consider, such as converting roads into canals; creating elevated road networks, and floating homes. To put it in Mayor Suarez's framing, recommendations like these encapsulate the kind of "doom and gloom" that could rattle

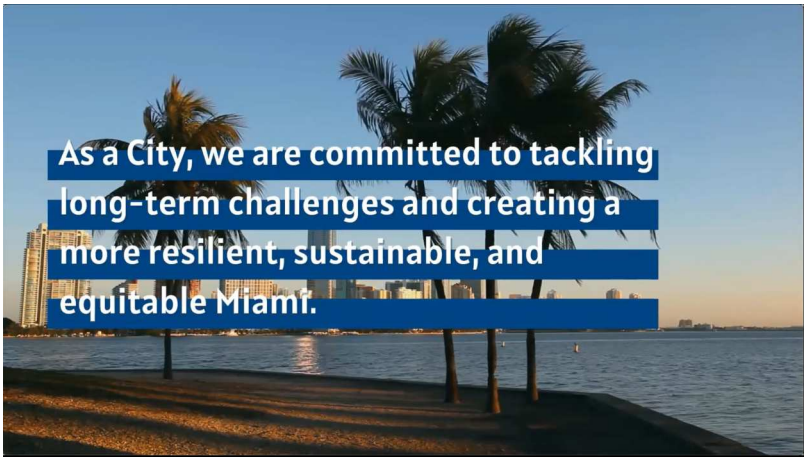

Figure 8. Screenshot from the public meeting of the Storm Water Master Plan (City of Miami, 2021d).

residents and investors and thus catalyze unplanned adaptation. For this reason, and as one resilience officer told me, "there's a very fine line [the city] needs to walk about facing and communicating the risks ahead of us, but communicating it with solutions in mind" (personal interview, 16 June 2019). Affect and rationality, then, "are not opposites but two sides of the same coin" that urban resilience officers can and do use in managing (extra-)local attitudes and attachments to climate-changing urban environments (Langley, 2013, p. 65).

So how do officials go about walking this line in public meetings and statements about the plan? For one, officials tend to cap discussions of "Miami Forever" at 40–50 years into the future. They do so for two reasons. First, and as one former resilience officer told me, because officials need to plan for the lifespan of the infrastructure that they're creating, which is often 40 years. Second, and more germane to their concerns about unplanned adaptation, because a 40-year time horizon captures all the time frames that officials believe investors and residents will care about. In the words of the resilience officer:

> "40 years is already beyond any mortgage cycle … we also found in our community outreach that most residents think at maximum around a 10-year time horizon … but it's really more in the five-year frame. So this plan is already way beyond that, too. *So [the 40-year horizon] gives residents a comfort level, it gives investors a comfort level*, you know, insurance and reinsurance actually only insure on an annual basis. So they're [(re)insurers] not even thinking that far out." And if officials disclosed what 2100 and beyond hold for the city, as discussed within the textbook-length plan? "We're just not gonna go there," the officer laughed (personal interview, 16 June 2019).

The "fine line" that officials feel they must walk with respect to disclosure of long-term climate risk helps explain the jarring range of demonstration techniques at work in public meetings about the plan. In all but one virtual public meeting following the plan's 2021 rollout, official presentations began with a video – highly uncommon in Miami Forever public meetings (see Figure 8 for a screenshot). Amid b-roll and stills of the city skyline at dusk; Miami's massive highway infrastructure; swaying palm trees; and upbeat music that includes pipe organs and a finger-snapping sound effect, the voice of Chief Resilience Officer Alan Dodd tells viewers that he and the city are "excited to launch the new Stormwater Master Plan, which will serve as our roadmap to resilience" (field notes, 29 April 2021). The video ends with an image of two city logos and the recently revamped Office of Capital Improvements slogan, which in all caps reads "Building Miami **Forever**" (emphasis theirs). Immediately after, those involved with the plan's drafting blast off into a 35-min scripted reading of the plan's making and value, which on average devotes approximately 12 seconds to the plan's minimum price tag of $3.8 billion (around three times the city's annual budget) and that does not include cost of maintenance. The intended effect here, both in terms of what is made affectively present and absent in the opening moments of these meetings, is obvious: to cultivate an atmosphere wherein the future portended in the pages of the plan is not all that different from the city's vibrant present and therefore not something to examine too closely.

But another, more economic expression of climate transparency – the dollar-cost of the plan – undermined officials' maneuvers in affective engineering and formed the basis of concern (Christophers, 2017). Despite amounting to less than one percent of the presentation's airtime, the plan's price tag took up a bulk of public questions.

How, as city commissioner Ken Russell asked – first learning the details of the plan at this public meeting, too – was the city planning on securing those funds? Did the city have a federal-level lobbying body ready? As another resident asked, over what period were those funds needed? None of the hosts of this meeting jumped to answer the questions. The individual that did answer them, a deputy resilience officer, said that they did not yet know how they would secure funding to implement the plan, but, following a nervous laugh, that the city would need around $100–150 million per year starting now, since initial projects are meant to take place over the next 20–30 years. This officer's supervisor, Alan Dodd, quickly intervened to note that he was sure there would be plenty of opportunities to acquire these resources, and then moved the discussion on (field notes, 12 May 2021).

As shocking as the plan's disclosed price tag was to many on the call, for one journalist the "real story" was about what the plan itself did not include: infrastructure improvements within some neighborhoods that are already experiencing significant flooding. "So when I was looking at the plan I saw that parts of Shorecrest [a Miami neighbourhood] are basically not going to be saved – there's parts of it where no infrastructure is going. I thought, 'OK, that's the story here.'" Speaking to the limits of counter-demonstrations of climate transparency in Miami – especially when demonstrators like local journalists are guaranteed an audience that includes many players in the "private market"[12] – the journalist recounted a story of quiet restriction. Their editor cautioned that prematurely publishing word that a Miami neighborhood is "dead" due to climate change could spread elsewhere and cause market scares. The silencing was familiar. "People at real estate conferences will say they won't invest in Miami," this individual told me. "Sometimes quotes [from these conferences] will get tweeted out, or covered in industry websites, but then are retracted or deleted." Why? Mainly, the reporter reasoned, because "no one wants to be caught stirring the pot that leads to mass property devaluations" (personal communication, 9 September 2021).

Climate transparency's (un)controllable futures

Given the possible political blowback, one might assume that strategic disclosure of climate risk and action is something that members of the Suarez administration would prefer to keep to themselves. But Suarez is open about it. As he said of the climate challenges that Miami faces in a *Forbes* interview, "A lot of it [the challenge] is perceptual" (Shimron, 2021). To make his case, Suarez asked the interviewer why most people don't know that New York has suffered more hurricane damage than Miami in the past decade. Moreover, why is it that most people don't know that, unlike many other American cities, residents of Miami have agreed to tax themselves to pay for a series of resilient infrastructure projects that will "create a Miami that's going to be here forever?" Why, in other words, can't changing attitudes toward the city's future be a key component of the city's climate adaptation strategy? If these changes in disposition result in Miami living to see another day (or "forever," as Suarez would have it), does it really matter that it comes through some strategic silence, mood-setting, and epistemic gymnastics in the present?

Interestingly, some Miami officials who have publicly called for adaptation measures involving managed retreat and degrowth have offered support for Suarez's reasoning. As

one marine scientist and former Climate Resilience Committee member told me, "there's a lot of fear circulating about Miami right now, *so it's really important for the city to make people feel like this city is going to be all right*, and that [Miami] is actually this very environmentally and engineeringly progressive place." This individual pointed to the Netherlands in justifying why collective mood setting and management should remain key dimensions of climate adaptation in Miami:

> People just *believe* in that place and the way they do things, man … So [the Netherlands] *can* do those [environmentally progressive] things. If Miami can establish that reputation through showing they're doing stuff, then maybe they [city leadership] can come out and say, "Hey, we think this [environmentally progressive thing] is important" and then implement it (personal interview, 16 June 2019).

Others are less optimistic about the prospect that collective mood management will yield more sustainable urbanism in practice. Per a different member of the Climate Resilience Committee:

> Political discourse is at one level, reality is at another level. Whatever bullshit stories he [the mayor] makes up along the way, all these platforms about making Miami great, it's all just about funding short-sighted adaptation things. Now he says he's going to be carbon-free by 2050. I don't pay attention anymore because it's absurd. I see them [city officials] saying things, and then they go in completely opposite directions[13] (personal interview, 23 February 2021).

At some level, what many officials, activists, and residents seek from the Miami government is the kind of techno-managerial consensus, disciplining, and sense of urgency that scholars of anticipatory government and climate urbanism suggest are characteristic of data-driven disclosure techniques (see Long & Rice, 2019; McCormack, 2012, 2015). But in Miami, at least for now, those prospects remain elusive. For better or worse, city officials recognize that the techniques drawn upon to "know," depict, and disclose the city's climate-changed future, as well as action on it in the present, are intimately intertwined with the (re)shaping of local (and, importantly in Miami, extra-local) attitudes and attachments toward it. Practically speaking, this means that in Miami, transparency "works" insofar as it generates positive orientations toward the future among local constituents and climate-jittery investors elsewhere. When demonstrations of transparency elicit negative responses or offer opportunities for residents and expert publics to probe officials on their climate accounting and action, transparency no longer "works" and may need to be taken off the table.

The affective instrumentality of climate transparency perhaps helps explain why key sites of climate sunlight discussed in the previous section are fading into darkness. Following activist success using Resilience Action Forum meetings and materials to push the city to declare a climate emergency and conduct an independent audit of its emissions reduction plan, for instance, city administrators announced that the Forum would move from monthly to quarterly meetings. Meanwhile, the Citizens Oversight Board has begun to meet irregularly. Describing his position as "handicapped from the start," one member told me he was considering abandoning the post and focusing his climate efforts elsewhere (personal interview, 15 May 2021).

And yet, counter-demonstrations of climate transparency and the decidedly less hopeful affects they both express and enact still find a way out. What climate change

foretells for Miami and its future can be suspended, not negated (Anderson, 2023). In 2017, for instance, Francis Suarez and Phil Stoddard, the former Mayor of South Miami, spoke together at a public conference on climate impacts in Miami. Stoddard, a biologist and professor, was outspoken about the need for managed retreat given the long-term risks that the metropolitan region faces. "And just like that," Stoddard told me, "Francis reaches over and grabs my microphone, and says, 'what Mr. Stoddard means is that Miami is going to be here forever.'" This wasn't the first time this happened to Stoddard. As he said:

> People here really want to shut me up because they think I'll ruin the party. But the thing is, [after Suarez took his microphone] I get in the elevator at the end to leave and these businessmen pile in with me and ask "Mayor Stoddard, is all the stuff you're talking about really true?" And I say "yeah, unfortunately it is." None of them want to say it out in the open, but they all want to know because their finances depend on it.

Stoddard also scale jumps to circulate his own argument about Miami's future. "Locals [local reporters] are stuck. But when Jeff's [Goodell, a writer at the *Rolling Stone* and for whom Stoddard was a key informant in a 2013 article on Miami's climate risks] first piece came out, the Chamber of Commerce had an emergency meeting. They were like 'what do we do about this bad press? We gotta suppress this.'" But at that point, Stoddard told me, the ink had already dried and the spotlight had shifted to Miami, whose identity and future the *Rolling Stone* article and others like it had started to call into question (personal interview, 19 May 2022).

Some investors interviewed backed Stoddard's story up. "When I read it [the *Rolling Stone* piece] I was like 'oh wow, I have to go to ground zero,'" one municipal bond market investment executive told me. "I usually think about places like Bangladesh, so hearing that Miami was like this too was totally fascinating and made me rethink what I thought was going on there" (personal interview, 14 May 2021). Notably, stories like those in the *Rolling Stone* piece – coupled with glaring absences of climate risk disclosure in other, more technical documents – have started making others within the municipal bond world skeptical of the transparency at work within Miami Forever. As one municipal bond research analyst told me of his read of the data-driven and transparency-oriented elements of the plan:

> They're like "look, I'm disclosing the data and the risks and everything I'm doing. *Look at how good and holier than thou I am*. Why wouldn't you give me money compared to the other person who is not disclosing and not as forward thinking as me?"

He then looked up a recent municipal bond securities report and countered:

> But I want you to ask them [the city] where their disclosure on climate risk is [in this report]. Tell them an investor wants to know. Because I just searched for the word climate change [in the report]. Zero. I searched for the word climate. Zero. I searched for the word sustainability. Zero. I need to figure it out, like "hurricane?" There's also no "risk." So there's no climate and there's no climate change and there's no risk. This is their annual report and they're not telling me what is going on! I mean, this is scary. I've read all the stories about Miami.

Reproducing the long-discredited but still powerful belief that transparency can eliminate ambiguity and therefore encourage "rational" behavior, the analyst concluded, "Why aren't they disclosing their actual risks?" (personal interview, 21 June 2021).

Conclusions

In this paper, I have developed one answer to this investor's question: because disclosure of climate risk could catalyze unplanned adaptation. To prevent or at least delay that mode of adaptation, Miami officials disclose – and seek to affectively engineer – bright futures. It is impossible to say how long these techniques of preemption and deferral can last, and whether the mounting counter-demonstrations developed by local officials, activists, and expert publics described here will manage to cast a permanent pall over Miami's resilient future in the eyes of residents and key players in investment markets. Nevertheless, empirical developments like these – stories of confidence, skepticism, forever, and emergency as they are produced and dissected through technical means – push urban geographers to revisit the work that techniques and mechanisms of climate transparency do within climate-changing cities. It is not just that they advance gloomy, surveillance-ridden urban environments at the cost of meaningful debate over the city's future, as some critical climate scholars would have it. Though they can do that. Nor is it simply that transparency mechanisms and techniques provide their viewers with clear-eyed information on climate risk for use in holding elected officials accountable. Though they can do that, too.

Here, I have drawn on interdisciplinary literatures on anticipatory government, technopolitics, and affect to introduce another vantage point from which we might critically engage climate transparency and climate urbanism more broadly. Specifically, I have shown how climate transparency can be made to generate positive orientations toward the climate-changed future, which can in turn be used to shape how climate adaptation plays out. By foregrounding these relationships and the affective dimensions of climate urbanism, the arguments developed here deepen scholarly understandings of the power and politics of measurement within the climate-changing city. The article's empirical focus on sites of generative disclosure (see McCormack, 2012) also casts the performative dimensions of emergency and climate governance in a new light. Where scholars have shown how the use of technical devices helps generate senses of urgency that justify significant intervention in the present, in Miami I have shown how officials have used similar devices to project confidence, which are intended to push significant intervention – such as mass decarbonization, managed retreat, and strategies of degrowth within the city – into a future that many officials hope will never arrive.

But the paper has relevance far beyond Miami. In exploring the details of Miami, I have directed attention to (1) the centrality (and limits) of governing feeling when governing urban climate futures and (2) an emergent, affective sphere of urban climate politics whose features and fissures will become increasingly important in cities around the world. This is a politics that is both forged and waged in (re)creating particular representations of climate-changed urban futures and (re)organizing particular feelings toward, attachments to, and actions on, those futures. Techniques, practices, and mechanisms of climate transparency are essential in the making of this novel political sphere, the battles waged within it, and the futures made, preempted, expedited, foreclosed, or deferred through it. But they need not be the only ones. More research is needed on specific climate governance techniques and their affective capacities, as transparency offers just one way to orient "communities and [markets]" toward climate-changed urban futures. Certainly, other forms and practices of affective orientation can organize feeling that falls somewhere between despair and complacency, and that justifies

interventions that take place, and endure, somewhere between the immediate present and indefinite future. We should figure out what those forms and practices are, and how and why they take hold in some cities over others. After all, we may not have forever.

Notes

1. In Miami, a majority of the city's five commissioners must approve of planning recommendations like these before they can break ground.
2. Here, Gilbert is referring to bond rating agencies, bond investors, (re)insurance companies, and real estate investors.
3. Climate adaptation is often treated as something for which governments, communities, and individuals plan *before* a disaster event or the arrival of climate impacts (see, e.g., the Covenant of Mayors for Climate and Energy's Urban Adaptation Support Tool). My thinking on unplanned adaptation follows Olshansky (2018), who argues that adaptation often happens in the wake of disasters rather than before them.
4. Miami is a very low-lying city that sits atop a bed of porous limestone, meaning that rising sea levels will seep *in* and *up* through the city. Experts have estimated that approximately $400 billion in assets are at risk in Miami, making it one of the most economically vulnerable cities to climate change in the world (Raimi et al., 2020).
5. Depoliticization can be understood as the reduction of climate change to an issue of "techno-managerial consensus … so that nothing really has to change" (Swyngedouw, 2009, p. 264).
6. Here I am referring to the ways in which market attitudes toward climate risk – and thus particular patterns of (dis)investment in cities as the climate changes – can impact how and whether cities adapt to climate change.
7. The encounters and demonstrations I describe in these sections are exemplary, not exhaustive: they represent key, and common, motifs and dynamics that emerged throughout my observations. Many of these descriptions are based on virtual observation, given that much of this research took place during the COVID-19 pandemic and nearly all public meetings were shifted online.
8. City officials regularly pride themselves on developing the carbon neutrality plan in consultation with international climate organization C40 Cities.
9. See also Langley (2013) for the affective charge imbued in various financial techniques and instruments.
10. Unlike other US cities, such as San Francisco and New York, Miami does not have a long history with formal community participation in government.
11. These high-income areas routinely flood.
12. As I discuss elsewhere, rating agencies and investors alike turn to local newspapers in their efforts to assess Miami's investment risk and value.
13. For many interviewed, those "opposite directions" include Suarez' most recent effort to make Miami a global capital of cryptocurrency, a digital currency whose energy-intensive production generates a significant amount of carbon emissions (see Wakefield et al., 2023).

Acknowledgements

The author would like to thank Kenny Cupers, Laura Forlano, Marion Fourcade, Gökçe Günel, Orit Halpern, John Hogan Morris, Nat O'Grady and Aidan While, as well as two anonymous reviewers, for their constructive comments on earlier drafts.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This work was supported by the National Science Foundation under [grant number 2025990] and the Katherine S. and James K. Lau Graduate Fellowship in Climate Equity, University of California, Berkeley.

Data availability statement

The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

Research ethics and consent

Consent to publish interview information was given verbally and recorded in interview transcripts. Almost all interviewees were anonymized. The individual who is not anonymized and thus identifiable has given me verbal permission, recorded in interview transcripts, to use their name and publish the information shared with me. All figures with the exception of Figure 7 are publicly available from public meetings and do not contain any identifying information about individuals. The owner of Figure 7 has given written permission to publish the screenshot.

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References

Adams, V. (2013). *Markets of sorrow, labors of faith: New Orleans in the wake of Katrina*. Duke University Press.

Ahmed, S. (2004). Affective economies. *Social Text*, *22*(2), 117–139. https://doi.org/10.1215/01642472-22-2_79-117

Amoore, L. (2013). *The politics of possibility: Risk and security beyond probability*. Duke University Press.

Anderson, B. (2010). Security and the future: Anticipating the event of terror. *Geoforum; Journal of Physical, Human, and Regional Geosciences*, *41*(2), 227–235. https://doi.org/10.1016/j.geoforum.2009.11.002

Anderson, B. (2014). *Encountering affect: Capacities, apparatuses, conditions*. Ashgate Publishing, Ltd.

Anderson, B. (2017). Emergency futures: Exception, urgency, interval, hope. *The Sociological Review*, *65*(3), 463–477. https://doi.org/10.1111/1467-954X.12447

Anderson, B. (2023). Boredom and the politics of climate change. *Scottish Geographical Journal*, *139*(1-2), 133–141. https://doi.org/10.1080/14702541.2023.2197869

Anderson, B., Grove, K., Rickards, L., & Kearnes, M. (2020). Slow emergencies: Temporality and the racialized biopolitics of emergency governance. *Progress in Human Geography*, *44*(4), 621–639. https://doi.org/10.1177/0309132519849263

Anderson, B., & Holden, A. (2008). Affective urbanism and the event of hope. *Space and Culture*, *11*(2), 142–159. https://doi.org/10.1177/1206331208315934

Andonova, L. B., Betsill, M. M., and Bulkeley, H. (2009) Transnational climate governance. *Global Environmental Politics*, 9(2), 52–73. https://doi.org/10.1162/glep.2009.9.2.52

Boyer, D., & Vardy, M. (2022). Flooded city: Affects of (slow) catastrophe in post-Harvey Houston. *Current Anthropology*, *63*(6), 615–636. https://doi.org/10.1086/722270

Bulkeley, H. (2005). Reconfiguring environmental governance: Towards a politics of scales and networks. *Political Geography*, *24*(8), 875–902. https://doi.org/10.1016/j.polgeo.2005.07.002
Bulkeley, H., & Betsill, M. (2005). Rethinking sustainable cities: Multilevel governance and the 'Urban' politics of climate change. *Environmental Politics*, *14*(1), 42–63. https://doi.org/10.1080/0964401042000310178
Buser, M. (2014). Thinking through non-representational and affective atmospheres in planning theory and practice. *Planning Theory*, *13*(3), 227–243. https://doi.org/10.1177/1473095213491744
Castán-Broto, V., & Robin, E. (2021). Climate urbanism as critical urban theory. *Urban Geography*, *42*(6), 715–720. https://doi.org/10.1080/02723638.2020.1850617
Christophers, B. (2017). Climate change and financial instability: Risk disclosure and the problematics of neoliberal governance. *Annals of the American Association of Geographers*, *107*(5), 1108–1127. http://doi.org/10.1080/24694452.2017.1293502
City of Miami. (2020a). Mayor's Resilience Action Forum – November 24, 2020. Retrieved August 23, 2023, from, https://youtu.be/mhUCCLg35qk
City of Miami. (2021a). Storm water master plan. Retrieved August 23, 2023, from, https://www.miamigov.com/files/assets/public/document-resources/pdf-docs/capital-improvements/miami-stormwater-mp_es.pdf
City of Miami. (2021b). Mayor's Resilience Action Forum – June 22, 2021. Retrieved August 23, 2023, from, https://youtu.be/ELe6NBd379w
City of Miami. (2021c). Miami forever bond program citizens oversight board meeting – February 16, 2021. Retrieved August 23, 2023, from, https://youtu.be/RFTdLPq2aPM
City of Miami. (2021d). Storm water master plan meeting. Retrieved April 13, 2024, from, https://www.miami.gov/My-Government/Departments/Office-of-Capital-Improvements/Stormwater-Master-Plan
Collier, S. J. and Lakoff, A. (2015) Vital systems security: Reflexive biopolitics and the government of emergency. *Theory, Culture & Society*, *32*(2), 19–51. https://doi.org/10.1177/0263276413510050
Conyers, Z. A., Grant, R., & Roy, S. S. (2019). Sea level rise in Miami Beach: Vulnerability and real estate exposure. *The Professional Geographer*, *71*(2), 278–291. https://doi.org/10.1080/00330124.2018.1531037
Cox, S. (2022). Inscriptions of resilience: Bond ratings and the government of climate risk in Greater Miami, Florida. *Environment and Planning A: Economy and Space*, *54*(2), 295–310. https://doi.org/10.1177/0308518X211054162
Cox, S. (2023). Bonding out the future: Tracing the politics of urban climate finance in Miami, Florida. *Journal of Urban Affairs*, 1–17. https://doi.org/10.1080/07352166.2023.2192941
De Goede, M. (2008). Beyond risk: Premediation and the post-9/11 security imagination. *Security Dialogue*, *39*(2-3), 155–176. https://doi.org/10.1177/0967010608088773
De Goede, M. and Randalls, S. (2009) Precaution, preemption: Arts and technologies of the actionable future. *Environment and Planning D: Society and Space*, *27*(5), 859–878. https://doi.org/10.1068/d2608
Deleuze, G. (1988). *Spinoza: Practical philosophy*. City Lights Books.
Fregonese, S., & Laketa, S. (2022). Urban atmospheres of terror. *Political Geography*, *96*, 102569. https://doi.org/10.1016/j.polgeo.2021.102569
Goh, K. (2020). Flows in formation: The global-urban networks of climate change adaptation. *Urban Studies*, *57*(11), 2222–2240. https://doi.org/10.1177/0042098018807306
Grove, K., Cox, S., & Barnett, A. (2020). Racializing resilience: Assemblage, critique, and contested futures in greater Miami resilience planning. *Annals of the American Association of Geographers*, *110*(5), 1613–1630. https://doi.org/10.1080/24694452.2020.1715778
Grove, K., Rickards, L., Anderson, B., Kearnes, M. (2022). The uneven distribution of futurity: Slow emergencies and the event of COVID-19. *Geographical Research*, *60*(1), 6–17. https://doi.org/10.1111/1745-5871.12501
Gupta, A., & Mason, M. (2014). A transparency turn in global environmental governance. In A. Gupta & M. Mason (Eds.), *Transparency in global environmental governance: Critical perspectives* (pp. 3–38). MIT Press. https://doi.org/10.7551/mitpress/9780262027410.001.0001

Gupta, A., & Mason, M. (2016). Disclosing or obscuring? The politics of transparency in global climate governance. *Current Opinion in Environmental Sustainability*, *18*, 82–90. https://doi.org/10.1016/j.cosust.2015.11.004

Guy-Lee, A. C. (2023). Allure in the uninhabitable: On affect, space, and Blackness in gentrifying Philadelphia. *Cultural Geographies*, *30*(2), 205–218. https://doi.org/10.1177/14744740221119154

Hodson, M., & Marvin, S. (2009). 'Urban ecological security': A new urban paradigm? *International Journal of Urban and Regional Research*, *33*(1), 193–215. https://doi.org/10.1111/j.1468-2427.2009.00832.x

Konrad, S., van Deursen, M., & Gupta, A. (2022). Capacity building for climate transparency: Neutral 'means of implementation' or generating political effects? *Climate Policy*, *22*(5), 557–575. https://doi.org/10.1080/14693062.2021.1986364

Lakoff, A. (2008). The generic biothreat, or, how we became unprepared. *Cultural Anthropology*, *23*(3), 399–428. https://doi.org/10.1111/j.1548-1360.2008.00013.x

Langley, P. (2013). Anticipating uncertainty, reviving risk? On the stress testing of finance in crisis. *Economy and Society*, *42*(1), 51–73. https://doi.org/10.1080/03085147.2012.686719

Langley, P. (2014). *Liquidity lost: The governance of the global financial crisis*. Oxford University Press.

Leitner, H., Sheppard, E., Webber, S., & Colven, E. (2018). Globalizing urban resilience. *Urban Geography*, *39*(8), 1276–1284. https://doi.org/10.1080/02723638.2018.1446870

Linz, J. (2021). Where crises converge: The affective register of displacement in Mexico City's post-earthquake gentrification. *Cultural Geographies*, *28*(2), 285–300. https://doi.org/10.1177/1474474021993418

Long, J., & Rice, J. L. (2019). From sustainable urbanism to climate urbanism. *Urban Studies*, *56*(5), 992–1008. https://doi.org/10.1177/0042098018770846

Marotta, S., & Cummings, A. (2019). Planning affectively: Power, affect, and images of the future. *Planning Theory*, *18*(2), 191–213. https://doi.org/10.1177/1473095218802317

Massumi, B. (2002). *A shock to thought: Expression after Deleuze and Guattari*. Routledge.

McCormack, D. (2015). 'Governing inflation: Price and atmospheres of emergency. *Theory, Culture & Society*, *32*(2), 131–154. https://doi.org/10.1177/0263276414565716

McCormack, D. P. (2012). 'Governing economic futures through the War on inflation. *Environment and Planning A: Economy and Space*, *44*(7), 1536–1553. https://doi.org/10.1068/a44281

Morris, J. H. (2016). The performativity, performance and lively practices in financial stability press conferences. *Journal of Cultural Economy*, *9*(3), 245–260. https://doi.org/10.1080/17530350.2015.1136831

Morris, J. H., & Collins, H. (2023). *(Mis)managing macro-prudential expectations: How central banks govern financial and climate tail risks*. Edward Elgar.

O'Grady, N. (2016). Protocol and the post-human performativity of security techniques. *Cultural Geographies*, *23*(3), 495–510. https://doi.org/10.1177/1474474015609160

O'Grady, N. (2019). Designing affect into security: Shared situational awareness protocols and the habit of emergency response. *Cultural Geographies*, *26*(4), 455–470. https://doi.org/10.1177/1474474019838303

O'Grady, N., & Shaw, D. (2023). Disaster reparations? Rethinking disaster recovery through the politics of affect. *The Geographical Journal*, *189*(3), 514–525. https://doi.org/10.1111/geoj.12526

Olshansky, R. B. (2018). Recovery after disasters: How adaptation to climate change will occur. In *Climate change and its impacts: Risks and inequalities* (pp. 195–207). https://doi.org/10.1007/978-3-319-77544-9_12

Parents for Future. (2021). Open letter to the City of Miami. Retrieved August 23, 2023, from, https://docs.google.com/document/d/1JSUWi0c0eR8i_FCplfsS_dArHgaY8OcPH7CQANdHZTQ/edit

Portes, A., & Stepick, A. (1993). *City on the edge: The transformation of Miami*. University of California Press.

Raimi, D., Keyes, A. & Kingdon, C. (2020). Florida Climate Outlook: Assessing Physical and Economic Impacts through 2040. Resources for the Future. Retrieved August 23, 2023, from, https://www.rff.org/publications/reports/florida-climate-outlook/

Rice, J. L. (2010). Climate, carbon, and territory: Greenhouse gas mitigation in Seattle, Washington. *Annals of the Association of American Geographers*, *100*(4), 929–937. https://doi.org/10.1080/00045608.2010.502434

Rice, J. L. (2014a). An urban political ecology of climate change governance. *Geography Compass*, *8*(6), 381–394. https://doi.org/10.1111/gec3.12134

Rice, J. L. (2014b). Public targets, private choices: Urban climate governance in the Pacific Northwest. *The Professional Geographer*, *66*(2), 333–344. https://doi.org/10.1080/00330124.2013.787011

Rickards, L., Wiseman, John, Edwards, Taegen, & Biggs, Che. (2014). The problem of fit: Scenario planning and climate change adaptation in the public sector. *Environment and Planning C: Government and Policy*, *32*(4), 641–662. https://doi.org/10.1068/c12106

Shimron, L. (2021). Miami Mayor Francis Suarez talks Bitcoin & building a tech innovation hub. Forbes. Retrieved April 13, 2024, from, https://www.forbes.com/sites/leeorshimron/2021/02/07/miami-mayor-francis-suarez-talks-bitcoin–building-a-tech-innovation-hhub/?sh=54680df41a53

Stark, D., & Paravel, V. (2008). PowerPoint in public: Digital technologies and the new morphology of demonstration. *Theory, Culture & Society*, *25*(5), 30–55. https://doi.org/10.1177/0263276408095215

Suarez, F. (2018). [Twitter] 22 March. Retrieved August 23, 2023, from, https://twitter.com/MiamiMayor/status/976909928005763072

Swyngedouw, E. (2009). The antinomies of the post-political city: In search of a democratic politics of environmental production. *International Journal of Urban and Regional Research*, *33*(3), 601–620. https://doi.org/10.1111/j.1468-2427.2009.00859.x

Taylor, T. L., et al. (2013). *Ethnography and virtual worlds: A handbook of method*. Princeton University Press.

Taylor, Z. J., & Aalbers, M. B. (2022). Climate gentrification: Risk, rent, and restructuring in Greater Miami. *Annals of the American Association of Geographers*, *112*(6), 1685–1701. https://doi.org/10.1080/24694452.2021.2000358

Thrift, N. (2004). Intensities of feeling: Towards a spatial politics of affect. *Geografiska Annaler: Series B, Human Geography*, *86*(1), 57–78. https://doi.org/10.1111/j.0435-3684.2004.00154.x

Turnhout, E., Neves, K., & De Lijster, E. (2014). 'Measurementality' in biodiversity governance: Knowledge, transparency, and the intergovernmental science-policy platform on biodiversity and ecosystem services (IPBES). *Environment and Planning A: Economy and Space*, *46*(3), 581–597. https://doi.org/10.1068/a4629

Wakefield, S., Molinari, S., & Grove, K. (2023). Crypto-urban statecraft: Post-pandemic urban governance experiments in Miami. *Urban Geography*, *44*(8), 1816–1824. https://doi.org/10.1080/02723638.2022.2125664

While, A., Jonas, A. E., & Gibbs, D. (2004). The environment and the entrepreneurial city: Searching for the urban 'sustainability fix' in Manchester and Leeds. *International Journal of Urban and Regional Research*, *28*(3), 549–569. https://doi.org/10.1111/j.0309-1317.2004.00535.x

While, A., Jonas, A. E., & Gibbs, D. (2010). From sustainable development to carbon control: Eco-state restructuring and the politics of urban and regional development. *Transactions of the Institute of British Geographers*, *35*(1), 76–93. https://doi.org/10.1111/j.1475-5661.2009.00362.x

WXChasing. (2022). Drone shots of entire Miami, Fl neighborhood flooded, businesses flooded. YouTube. Retrieved April 13, 2024, from, https://www.youtube.com/watch?v=l6oPaNe_w_o

Yin, R. K. (2014). *Case study research: Design and methods (applied social research methods)*. Sage Publications.

Zaloom, C. (2009). How to read the future: The yield curve, affect, and financial prediction. *Public Culture*, *21*(2), 245–268. https://doi.org/10.1215/08992363-2008-028