Equity and justice in urban coastal adaptation planning: new evaluation framework

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ABSTRACT

Globally, cities and urban regions have initiated coastal adaptation planning to address increasing risk from sea level rise. However, there is growing awareness that sea level rise and other coastal flood risks will exacerbate existing social inequities if left unchecked. Planning scholars and practitioners have identified the importance of integrating an equity lens into their coastal adaptation planning, yet standards for defining and evaluating equity and justice in coastal adaptation planning have not been well outlined or applied. In response, more research is needed on tools for assessing processes and outcomes of equitable coastal adaptation planning. This paper asks: How are equity and justice being evaluated in urban coastal adaptation planning (UCAP)? The objectives are to: a) expand usages of equity and justice in UCAP and b) present a new framework for evaluating equity and justice within UCAP. The aim of the JustAdapt framework is to support UCAP scholars and practitioners in their pursuit of transformative urban adaptation, moving away from 'checking the box' on equity and toward just solutions. JustAdapt asks scholars and practitioners to disrupt dominant norms within the field and instead embrace reflexivity, accountability, and fluidity as they plan in relationship with the shifting tideline.

PRACTICE RELEVANCE

Planning for sea level rise along urban shorelines presents an ever-changing challenge for urban coastal adaptation planning (UCAP) practitioners. Addressing equity and justice in UCAP adds another layer of complexity, as impacts from sea level rise will exacerbate historic and present inequities in coastal cities. This paper offers two main contributions: a) new understandings of equity and justice across five forms of justice – procedural, distributive, recognitional, intergenerational, and epistemic, and b) a new framework that can be used evaluate the degree to which equity and justice are integrated into a UCAP process. The JustAdapt framework supports practitioners to take actionable steps toward integrating equity and justice into their UCAP work, asking them to participate in the transition toward just urban adaptation.

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1. INTRODUCTION

Globally, cities and urban regions have initiated coastal adaptation planning. Urban coastal adaptation planning (UCAP) includes but is not limited to planning for sea level rise, coastal erosion, storm surge, combined flooding from sea level rise and extreme precipitation, groundwater intrusion, increased risk due to seismic activity, and other coastal hazards. Climate-driven sea level rise is causing disproportionate impacts on populations who have historically been and are presently being denied access to land, resources, or opportunities (Shonkoff *et al.* 2011). Questions of climate justice, coastal adaptation justice, and climate migration are being raised, as these populations pay the cost through loss of lives, livelihoods, knowledge systems, and rights to sovereignty and self-determination, alongside land, health, and cultural impacts (Rozance *et al.* 2019; ICLEI Canada 2020). Planning scholars and practitioners are recognizing the need to integrate an equity lens into their coastal adaptation planning work, but standards for defining and evaluating equity and justice in UCAP have not been well outlined or applied (Shi *et al.* 2016).

Emerging frameworks from climate adaptation practitioners and environmental justice organizations offer some guidance on centering equity in evaluating coastal adaptation (Mohnot *et al.* 2019; Perrin-Martinez 2022). These frameworks have roots in scholarship on environmental justice (Agyeman *et al.* 2016), social vulnerability (Cutter *et al.* 2003), and social cohesion (Klinenberg 2002). Calls for just urban adaptation and intersectional climate justice in our cities have arisen from both scholars and practitioners (Amorim-Maia *et al.* 2022; USDN 2017). Yet clarity is still needed on what tools can support a transition away from business-as-usual adaptation toward just adaptation. Given that this field is in the nascent stages of developing standards and metrics for equitable UCAP as a practice, more research is needed on tools for assessing the processes and outcomes of equitable UCAP (Chu & Cannon 2021).

This paper aims to expand usages of equity and justice in UCAP and present an evaluative framework for assessing equity and justice within UCAP. The paper begins with a literature review on equitable UCAP, followed by a section introducing the framework development and review of relevant evaluative frameworks and five forms of equity and justice: procedural, distributive, recognitional, intergenerational, and epistemic. Then the evaluative framework – JustAdapt – is presented. The paper ends with intended uses and applications for JustAdapt, as well as opportunities for future research.

1.1. FRAMING ON POSITIONALITY AND LANGUAGE

This research was conducted within a Western, settler colonial academic institution on the unceded traditional territories of the xʷməθkwəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səlilwətaɬ (Tsleil-Waututh) Nations, also known as Vancouver, British Columbia (BC). The researchers acknowledge the limitations of conducting research on equity, justice, and decolonization within colonial institutions (Whyte 2018). This research was conducted by two settler scholars with similar but varied privileges and positionalities. Inspired by the positionality statements shared in Doyon *et al.* (2021), each scholar shares a brief positionality statement:

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> Andréanne Doyon is a white, able-bodied cis-woman of French-Canadian descent living on Coast Salish lands. A strong motivator for her research is the desire to improve planning – the discipline and the profession – and research.

By sharing positionality statements, the authors hope to inspire other scholars to reflect upon their research practice and identify how their world views shape their work.

This paper uses language with intention and recognition of complexity. The terms listed below have many definitions that are highly contextual and sometimes contested. For the purposes of

this paper, equity is defined as the redistribution of resources and opportunities to ensure that people who have been and are presently marginalized by systems of oppression have outcomes comparable to those who are privileged by these systems (UBC Equity & Inclusion Office 2022), whereas justice is defined as the dismantling of barriers and systems of oppression and active action toward accountability, reparations, and healing (brown 2017; Coulthard 2014). These terms are often used interchangeably or conflated; this paper attempts to use these terms with separate specificity. Equity supports the fair distribution of adaptation actions and supports, whereas justice is future-oriented, looking to the dismantling of extractive systems to lessen climate impacts (Maynard & Simpson 2022; Zapata & Bates 2021).

'Equity-denied populations' describes the systematic denial of resources and opportunities for people who are not white, wealthy, male, or able-bodied, or who have other privileged characteristics (Jang & Doyon 2023). Equity-denied populations represent many intersecting identities and include, but are not limited to, Indigenous, Black, and People of Color (IBPOC), women, queer, trans, and gender-nonconforming people, youth, seniors, people with visible and invisible disabilities, immigrants and newcomers, people experiencing homelessness, and people with substance and mental health challenges. Within the context of coastal adaptation, people from island nations and colonized coastlines and territories are also on the frontlines of adapting to sea level rise. The researchers recognize each population's histories, needs, rights, and liberation as valid, important, and specific. Integrating equity into UCAP does not mean that scholars and practitioners should equate each population's lived experiences but rather that they should embrace nuance, story, and authentic listening when engaging with specific and sometimes intersecting needs.

This research sees equity and justice as related to, but separate from, reconciliation and decolonization. Reconciliation refers to developing respectful relationships between Indigenous and non-Indigenous peoples while acknowledging past and ongoing harm. Decolonization is seen as the process of revealing and unlearning colonial dynamics and beliefs and working to dismantle and shift these norms (Erfan & Hemphill 2013). The researchers acknowledge the relationships and tensions between justice and decolonization and the politicized role of disavowing recognition by the very colonial, white supremacy institutions that perpetuate oppression (Gilio-Whitaker 2019; Coulthard 2014; Lorde 1984; Kaba 2021).

2. LITERATURE REVIEW

Coastal cities face unique challenges, often grappling with multiple climate hazards at different frequencies and scales (*e.g.*, sea level rise, flooding due to atmospheric rivers). With specific focus on coastal flood risk, the PARA – Protect, Accommodate, Retreat, Avoid – framework has guided mainstream UCAP (BC Ministry of the Environment 2013; Doberstein *et al.* 2018). While rooted in resilience scholarship, PARA perpetuates a militarized, colonial, capitalist, and heteropatriarchal method of defending humans from water and can perpetuate flood risk and maladaptation in the floodplain (Siders & Keenan 2020; Leonard 2021; Oulahen & Ventura 2022). Planning processes, such as the 'Adapting to Rising Tides' project in the San Francisco Bay Area, California, have offered regional collaborative approaches to assessing risk. These approaches include social vulnerability considerations but still remain within the bounds the PARA framework (BCDC 2020). Emerging UCAP practices, including Indigenous-led approaches to sea level rise adaptation (Tsleil-Waututh Nation 2021), such as the WAMPUM framework (Leonard 2021), and capacity-building efforts from community-based organizations (BayCAN 2020; WOEIP 2022), highlight new lenses toward transformative UCAP (Kuhl *et al.* 2021).

Equitable urban climate adaptation must first be understood through specific calls for transformative climate adaptation from scholars, practitioners, and social justice movement thought leaders (brown 2017; Newell *et al.* 2021; Shi *et al.* 2016; Shi & Moser 2021; Juhola *et al.* 2022). From calls for radical flood insurance practices to prioritizing just managed retreat solutions, scholars and practitioners acknowledge that business-as-usual climate adaptation cannot be implemented incrementally to foster justice in the future (brown 2017; Kuhl *et al.* 2021;

Siders 2022). Incremental actions affirm extractive systems instead of supporting transformation toward regenerative, resilient systems (Movement Generation 2017). Transformative climate adaptation and adaptation justice must be at the forefront of urban climate adaptation planning to cease the perpetuation of existing inequities (Kuhl *et al.* 2021).

Scholars and practitioners also acknowledge that equitable urban climate adaptation must be rooted in community and place to transform existing knowledge hierarchies and power dynamics between government, community, and the environment (Shi *et al.* 2016). Community-based organizations have developed tools and frameworks to share their vision for just climate adaptation and build grassroots power (NACRP 2017). Resilience hubs, such as in Northern California; Baltimore, Maryland; and Montreal, Quebec, offer another model for local capacity-building, providing refuge during climate events, and community organizing (City of Baltimore 2021; NorCal Resilience Network 2023; Ville de Montréal 2020). Community-based urban climate adaptation is happening across North America, and place-based strategies for community care exemplify that existing funding models and resources can be used to create new paradigms and shift power in urban climate adaptation.

While many cities have initiated UCAP, clear standards for defining, monitoring, and evaluating equity and justice in climate adaptation, let alone coastal adaptation, have not been well outlined or applied (Anguelovski *et al.* 2016; Chu & Cannon 2021; Woodruff & Stults 2016). 'Equity,' 'people,' and 'community' tend to be used as identifiers in adaptation plans, signaling aspirational goals, focus areas, and actions, with few climate plans including tangible equity-specific implementation, monitoring, and evaluation (Fitzgerald 2022). While some organizations have identified process and outcome indicators for equitable climate adaptation (NAACP 2015), the climate adaptation planning field does not have standardized metrics for these indicators, especially ones that track progress toward improving outcomes for those most impacted by climate change.

There is a lack of rigorous evaluative research on equitable climate adaptation planning, implementation, and outcomes. Chu and Cannon (2021) find that equity and inclusion are emphasized more than justice in climate plans and that implementation lacked actions toward equity, inclusion, and justice. Their work responds to calls to action by Shi *et al.* (2016) and Anguelovski *et al.* (2016) for scholars and practitioners to scale up adaptation justice, asking 'What are the scales and metrics by which to evaluate justice and equity outcomes within dynamic multilevel and multi-scalar adaptation governance systems?' (Shi *et al.* 2016: 134).

There is also little research specifically on evaluating equitable UCAP. Siders and Keenan (2020) evaluated types of coastal adaptation actions (*e.g.*, shoreline armoring, property acquisitions, beach nourishment) in North Carolina and the frequency of the actions being applied in equity-denied populations, finding that property acquisitions were more typically implemented in rural coastal communities of color rather than government investments in shoreline protection to keep communities in place (p. 6). Hardy *et al.* (2017) call for race-aware coastal adaptation planning, arguing that disinvestment in Black coastal communities in the USA combined with barriers to participate in planning perpetuate business-as-usual coastal adaptation (p. 71). Wade (2022) uses coastal flood risk vulnerability data in CA to examine health impacts from sea level rise, including specific health impacts to coastal Indigenous communities. This research adds to discourse on evaluating equitable UCAP.

3. FRAMEWORK

3.1. FRAMEWORK DEVELOPMENT

To respond to calls for greater evaluative practices in equitable UCAP, the researchers developed an evaluative framework using literature reviews, relevant frameworks, subject matter experts, and reflections on past professional experience. Literature related to environmental justice, climate justice, urban coastal adaptation planning, equitable coastal adaptation, evaluation in climate adaptation, equitable evaluation practices, and equity assessments was reviewed. However, the primary focus of the literature review was equitable coastal adaptation. Using Google Scholar

and Simon Fraser University's databases, key terms, such as 'Indigenous coastal adaptation,' 'race coastal adaptation planning,' 'equity coastal adaptation,' 'justice coastal adaptation,' 'just adaptation cities,' and 'decolonization coastal adaptation' were included in the search. The tripartite justice framework was referenced across multiple bodies of literature, and so this became the basis for the development of the evaluative framework.

From there, literature specifically on 'procedural justice,' 'distributive justice,' and 'recognitional justice' was reviewed within climate adaptation and then refined word searches were used on each form of justice and coastal adaptation (*e.g.*, 'procedural justice coastal adaptation'). Gaps became evident in these forms of justice in terms of their inability to fully convey meaning across time and knowledge systems related to coastal adaptation. In response, two new forms of justice were added to the literature: 'intergenerational justice' and 'epistemic justice.'

Relevant frameworks were reviewed to both understand best practices on evaluating equity and integrating equity into evaluation practices. Some emerging evaluative frameworks prioritize equity in the evaluation's design, process, and outcomes (Equitable Evaluation Initiative n.d.; Stern *et al.* 2019). They emphasize reflexive evaluative practices that examine both downstream impacts and upstream root causes that policies aim to fix (BYP Group 2020). Equity impact assessments provide important background on understanding baseline conditions, assessing equity over time, and operationalizing equity across municipal city departments (Race Forward 2009). Local government-led efforts in Vancouver, CA, and Washington State, US, offer examples of introducing reflexivity on decolonization, equity, diversity, and inclusion within government programming, asset management, and organizational culture (City of Vancouver 2022; JustLead Washington 2020). While not standard practice, some climate action and adaptation plans incorporate equitable implementation and evaluation (City of Oakland 2020; Stroble *et al.* 2020).

Following review of relevant frameworks, a draft framework was developed, including definitions and key questions for each form of justice. The draft framework was then reviewed and discussed in 11 interviews with subject matter experts who had experience working on UCAP projects and/or integrating decolonization and equity into municipal-level planning. One additional workshop with five participants with relevant academic expertise was held to refine the language used in the draft framework. The researchers also incorporated reflections from past work experience as UCAP practitioners and researchers into the refinement of the framework. The final framework is thus a reflection of an iterative process.

3.2. FORMS OF EQUITY AND JUSTICE

Best practices for enacting equitable urban climate adaptation are emergent, with many scholars and practitioners proposing conceptual frameworks and piloting tools and resources. Many have built upon environmental and climate justice scholarship and applied the tripartite justice framework – procedural, distributive, and recognitional – to urban climate adaptation, urban resilience, and nature-based solutions (Meerow *et al.* 2019; Mohtat & Khirfan 2021; USDN 2017; Grabowski *et al.* 2022). Others have expanded upon these forms of justice to elevate reparative justice as important for urban climate adaptation (Climate Equity Working Group 2022; Marx & Morales-Burnett 2022) or emphasize the interconnections and cascading impacts between each form of justice (Wijsman & Berbés-Blázquez 2022).

There is a lack of clear direction in the literature on the difference between each form of justice and form of equity. For the purposes of this paper, the researchers made the distinction that each form of justice articulates future visioning where inequities are reduced and collective healing within human and more-than-human communities has occurred. Each form of justice corresponds with a form of equity that demonstrates a path to achieving the envisioned future (*e.g.*, strategies articulated in procedural equity offer a pathway to achieving the definition of procedural justice).

The first three forms – procedural, distributional, and recognitional – make up the tripartite justice framework as previously described. This paper expands understandings of equity and justice critical to coastal adaptation by adding two additional forms – intergenerational and epistemic. Procedural, distributive, and recognitional forms of justice focus on process, outcomes, and

accountability, while intergenerational and epistemic forms offer much-needed temporal and world-view-based lenses to coastal adaptation.

3.2.1. PROCEDURAL JUSTICE

Procedural equity and justice refer to processes rooted in engagement practices and decision-making structures (Bullard 2005; Schlosberg 2007). Scholars ask: 'Who is involved in the process of decision making? Are such processes representative and transparent?' (Marx & Morales-Burnett 2022: 5). Planning for procedural justice is deeply connected to unraveling the impacts of settler colonialism, racial capitalism, and white supremacy (Kaba 2021; Porter *et al.* 2021). Recently, scholars have emphasized 'fair' and 'inclusive' when discussing procedural justice (Mohtat & Khirfan 2021). To foster procedural equity through participation, practitioners might incorporate strong public engagement to inform plan development, develop cogovernance structures, or target their outreach to equity-denied populations (Meerow *et al.* 2019). When applying procedural justice to climate adaptation, scholars recommend balancing climate burdens by centering equity-denied populations in climate adaptation planning processes (Mohtat & Khirfan 2021). Procedural justice in adaptation can help redefine the adaptation process, shifting and making space for voices at the margins and codeveloping adaptation planning.

To foster procedural justice in UCAP, scholars and practitioners can utilize tools like the 'Spectrum of Community Engagement to Ownership,' developed by Rosa González of Facilitating Power with the Movement Strategy Center. The Spectrum clarifies the impact of different engagement methods on marginalized community voices (González *et al.* 2018) and identifies community power as a necessary strategy for actioning procedural justice. While new, this tool has been applied to developing the 'Sustainable and Resilient Frontline Communities' section of King County's 2020 'Strategic Climate Action Plan' in Washington (Stroble *et al.* 2020).

3.2.2. DISTRIBUTIVE JUSTICE

With roots in environmental justice scholarship (Schlosberg 2007), distributive equity and justice refer to the distribution of climate-exacerbated inequities and just outcomes. Distributive justice is typically defined as the fair distribution or reallocation of environmental goods, services, costs, benefits, and amenities, improving the lives of equity-denied populations spatially, temporally, and environmentally (Hughes & Hoffmann 2020; Meerow *et al.* 2019). Scholars and practitioners might ask: 'Who is benefitting? How disparate are the benefits and harms?' (Marx & Morales-Burnett 2022: 5). Within climate adaptation, distributive justice both locates adaptation burden and ensures outcomes prioritize spatial and temporal equity (Bulkeley *et al.* 2014; Chu & Michael 2019). Specific focus is on the equitable distribution of climate adaptation interventions regardless of 'socio-economic conditions, adaptive capacity, and political voice' (Mohtat & Khirfan 2021: 2). Although the literature provides clear definitions of just distributive adaptation, the consequences of inaction and maladaptation remain an area for further research. Unlike procedural justice, multiple terms are used to refer to similar concepts, with distributional justice as the most common alternative to distributive justice.

To prioritize distributive justice in UCAP, scholars and practitioners can apply mapping tools, such as 'CalEnviroScreen' or 'ART Bay Area Shoreline Flood Explorer,' to examine existing inequities and anticipate cascading impacts due to sea level rise and other climate hazards (OEHHA 2022; BCDC 2021). These tools spatialize datasets that include demographic data (*e.g.*, race, class, age, education, marital status) and environmental or contamination burdens indicators (*e.g.*, air quality, distance from freeways, location of known contaminated sites, distance from refineries and industries). Other municipalities and regions have incorporated distributive justice into their climate action planning, calling for strategies to distribute the burden to adapt to, and mitigate, climate change equitably (Stroble *et al.* 2020).

3.2.3. RECOGNITIONAL JUSTICE

Recognitional equity and justice refer to acknowledgment. Scholars ask: 'Are historical inequities being addressed and the views of marginalized populations being respected?' (Marx & Morales-

Burnett 2022: 4). This form of justice was first defined as the recognition that status and societal structures create and perpetuate inequities (Fraser 2000) and that inequities can be codified into social norms and practices (Schlosberg 2007). Concepts of *misrecognition* and *nonrecognition* identify recognitional injustices involving erasure, suppression, and gaslighting (Chu & Michael 2019), and *justice in recognition* focuses on recognizing and revealing the historical and present roots of inequities rather than solely addressing symptoms (Hughes & Hoffmann 2020). Within American and Canadian contexts, recognitional injustices levied against Indigenous and Black people are particularly nuanced with intergenerational impacts (Barry & Agyeman 2020; Maynard & Simpson 2022).

Within climate adaptation, recognitional justice emphasizes systemic constraints or undervalued histories of a particular place or community and their needs (Meerow *et al.* 2019). Mohtat and Khirfan (2021) argue that recognitional justice in urban climate adaptation reveals 'which patterns of inequality, operation, segregation, vulnerability, and privilege have been and continue to be produced within cities' (p. 2). Engaging with this form of justice requires sensitivity, as the denial of government abuse and neglect erases lived experiences and increases distrust of planning among equity-denied populations (Marx & Morales-Burnett 2022).

To support recognitional justice in UCAP, scholars and practitioners can incorporate a trauma-informed approach into their work. Listening sessions, sharing circles, and open houses create opportunities to witness and honor lived experiences with social inequities and climate change (Abbott & Chapman 2018; SHIFT Collaborative & Ursus Resilient Strategies 2022). Past harms can also be acknowledged within a plan or policy (California Coastal Commission 2019; City of Vancouver 2022). Through centering care, recognitional justice in climate adaptation can assist with procedural and distributive justice, allowing for safer inclusion in decision-making processes and the distribution of equitable land use decisions.

3.2.4. INTERGENERATIONAL JUSTICE

Intergenerational equity and justice refer to planning guided by generational thinking. Existing outside of the tripartite framework, this concept considers how the decisions of past and present generations will impact future generations and what may be owed to them or mended based on these decisions (Meyer & Pölzler 2022). Environmentally, this form of justice focuses on a sense of moral repair and generational obligation (Almassi 2017). At the intersection of intergenerational justice and climate change, the literature articulates two focuses: legal rights of youth and future generations (Sanson & Burke 2020) and Indigenous ways of knowing, being, and decision-making (Sogbanmu *et al.* 2023; Whyte 2017). Intergenerational justice makes attempts toward fairness, equity, and morality for future generations while acknowledging that past and present decision-making exists in a colonial, resource-extractive present.

To cultivate intergenerational justice in UCAP, scholars and practitioners can apply participatory research methods, such as photovoice and action research. Photography and video have been used with multigenerational participants to cocreate knowledge and document stories for coastal First Nations in BC (Spiegel *et al.* 2020). Participatory action research, such as the 'Youth-Plan, Learn, Act Now!' (Y-PLAN) initiative developed by the UC Berkeley Center for Cities and Schools, can foster intergenerational communities of practice. Y-PLAN values the lived experiences and expertise of low-income youth of color and bridges divides between schools, cities, and universities to tackle real issues in local communities (McKoy *et al.* 2022). These examples highlight the importance of intergenerational knowledge-sharing and collective learning in planning, including UCAP.

3.2.5. EPISTEMIC JUSTICE

Epistemic equity and justice refer to justice in knowledge (Mabon *et al.* 2022) and engage with the marginalization of knowledges due to an oppressive dominant knowledge system (Temper 2019). This term emerged from critiques of the tripartite justice framework, with scholars asserting that the traditional forms of justice do not adequately reflect on the epistemology of justice (Fricker 2007; Temper 2019) and that 'knowledge itself is not neutral or objective but connected to power'

(Temper 2019: 9). This form of justice both reveals historic and ongoing erasure of knowledges and lived experiences and offers pathways toward healing and redress (Byskov & Hyams 2022; Mabon *et al.* 2022; Temper 2019). Epistemic justice also reconfigures existing notions of environmental justice to reflect Indigenous worldviews and knowledge systems (Hernandez 2019; Grabowski *et al.* 2022). Within coastal adaptation, Indigenous peoples, small island nations, and other coastal frontline communities will, or already are, experiencing epistemic injustice with the impacts of sea level rise on culture, tangible and intangible heritage, and intergenerational knowledge-sharing (ICLEI Canada 2020). Epistemic justice in UCAP engages in critical dialogue on whose knowledge is given resources to persist and whose knowledge is swept out with the tide.

To foster epistemic justice in UCAP, scholars and practitioners can incorporate lived experiences and honor diverse worldviews while developing coastal adaptation plans. Case studies highlight emerging best practices on community capacity and honoring lived experiences in climate adaptation, whether through sea level rise in California (WOEIP 2022) or extreme heat in BC (SHIFT Collaborative & Ursus Resilient Strategies 2022). Case studies on more-than-human centric governance, such as the Yarra River-Birrarung comanagement strategy (Bush & Doyon 2023), also offer 'counterstories' that center human and more-than-human beings typically at the margins and cases balance which knowledge is prioritized (Dutta *et al.* 2021). Epistemic justice invites practitioners to reflect on how Indigenous and local knowledge is being excluded or exploited in adaptation and to codevelop new ways of valuing multiple worldviews and knowledges in UCAP (PICS 2023).

4. THE JUSTADAPT FRAMEWORK

JustAdapt is a planning tool for the pursuit of transformative UCAP. It weaves together scholarship on the forms of justice and their interconnections with the purpose of helping coastal adaptation scholars and practitioners evaluate equity and justice surrounding UCAP processes. JustAdapt aids coastal adaptation scholars and practitioners to engage in and lead robust, place-based, and project-specific dialogue on equitable UCAP. While similar phrasing of the name has been used in other climate adaptation spaces, the name of the 'JustAdapt' framework was developed by the researchers and the name references inspiring urgency toward just coastal adaptation practices.

The order of the forms of justice presented in Table 1 does not indicate linearity; multiple forms of justice can be applied at once and understood in relation to each other as interconnections. For each form of justice, key words and a definition were developed specific to urban coastal adaptation. Key considerations for each form of justice articulate specific ways in which the form of justice is enacted or diminished. For example, key considerations for procedural justice are participation, power, and reflection, indicating that the degree to which equitable and/or just participation, power distribution, and reflexivity are present in a UCAP process correlates with the degree to which procedural equity or justice is present.

To support visioning, each form of justice has also been translated into an opportunity for justice. Each opportunity serves as a starting point for integrating equity and justice early on in designing the UCAP planning process. Finally, questions are listed under each form of justice to help coastal adaptation scholars and practitioners dig deeper into how each form of justice is, or is not, being applied during planning processes, in plans, and while accessing outcomes.

JustAdapt focuses on forms of justice, not equity. This is meant to highlight the restrictive nature of only aiming for equity and to offer aspirational visions for how each form of justice can contribute to just urban coastal adaptation. Equitable UCAP focuses on redistributing resources and opportunities to those who are bearing a disproportionate burden of adapting to sea level rise and other coastal hazards, whereas just UCAP acknowledges the impact of historic and present inequities and attempts to repair and take accountability through adaptation actions. See Section 4.1 for further clarity.

FORM OF JUSTICE	KEY WORDS	DEFINITION	CONSIDERATIONS	OPPORTUNITY	QUESTIONS
Procedural	Equitable **process** and participation	An adaptation process that centers equity. Equity-denied populations are included, their needs for participation are respected, and they have decision-making power in the planning process. The process includes iteration based on integrated feedback.	Participation Power Reflection	Center the process	Who is involved in the adaptation process? Who has been left out or systematically excluded, or lacks capacity to participate? Who has power to make decisions and who does not? How have moments of reflection and iteration been built into the planning process? Who has led the reflection?
Distributive	Equitable **spatial** distribution of adaptation burdens & outcomes	Adaptation decision-making that ensures the burden of adapting to climate change is distributed equitably across coastal communities and action is taken to address inequities. Outcomes for equity-denied populations are improved over time.	Space Time Access	Balance the burden	Where are the adaptation actions located? Who is impacted by these adaptation actions over time and how? Who benefits? Who is harmed? How do the adaptation actions address equitable outcomes?
Recognitional	**Acknowledgment** of past, present, and future harm	Acknowledgment of the past, present, and future harms that are exacerbated by climate change, especially harms impacting equity-denied populations. Justice could include attempts to mend or repair through changed actions and accountability.	Historic, present, and future harm Misrecognition Accountability/repair	Recognize harm	How have historic and present harm been recognized and addressed in the planning process and adaptation actions? How has the potential for future harm been addressed in the planning process and adaptation actions? What mechanisms of accountability have been included in the planning process to foster transparency and repair and reduce inequities? How have people or institutions who hold power acknowledged their positionality and the harm they've caused, contributed to, or represent?
Intergenerational	Planning guided by **generational** thinking	Adaptation decision-making and actions that consider past, present, and future beings (human and more-than-human). Decisions are made intergenerationally so that future generations can thrive and build upon the knowledge and experiences of past generations.	Right to future Temporal care Intergenerational trauma	Think across generations	How have elders/seniors and youth been involved in the planning process and the design and development of proposed adaptation actions? How do the adaptation actions and outcomes address impacts to future generations and their quality of life? How have existing power dynamics and stereotypes about elders/seniors and youth been remedied or accounted for in the planning process?
Epistemic	**Knowledge** respected and valued	Knowledges and lived experiences of Indigenous peoples and other equity-denied populations that are valued, respected, and centered within an adaptation process. Multiple ways of knowing and being are woven into planning and scholars and practitioners respect boundaries around knowledge-sharing.	Knowledge Language and culture Spiritual and cultural harm	Honor different ways of knowing and being	How have multiple ways of knowing and being shaping the adaptation process? Whose knowledges have been prioritized and whose have been devalued? How have lived experiences, language, and culture been valued and incorporated into the adaptation process? Do adaptation actions focus on local relationships to land, waters, and more-than-human beings? Do they account for spiritual and cultural impacts and loss?

Table 1: The JustAdapt framework for UCAP scholars and practitioners

4.1 INTENDED USAGES AND APPLICATIONS

While useful on its own, JustAdapt is best utilized when applied within a larger UCAP process. JustAdapt is intended to help scholars and practitioners reflect upon and shift equity and justice within their own place-based UCAP contexts. The application of JustAdapt can occur across a variety of scales and types of projects. While developed with municipal sea level rise planning in mind, it can also be adapted for different climate and environmental hazards and scales of urban governance. JustAdapt is meant to supplement and deepen equitable adaptation practices, not replace formal processes around reconciliation; Indigenous rights to land, title, and sovereignty (Gilio-Whitaker 2019); or Nation-to-Nation governance within the context of climate change adaptation.

Broadly, JustAdapt is meant to be used in tandem with other resources designed to center equity in UCAP rather than as a Band-Aid to integrate equity in the middle of a process. JustAdapt works most effectively after pre-work on equity, decolonization, and equitable UCAP; visioning; and design for an equitable UCAP process. The opportunities for justice offer some of the preliminary visioning and support needed to identify clear goals and guiding principles for implementing an equitable UCAP process. Table 2 details a six-step proposed process for implementing and supporting the full intended use of JustAdapt. The researchers acknowledge that, owing to project or place-based constraints, progressing linearly through each of the six steps may not be feasible or appropriate. Commitment to working each step, even if nonlinearly, is important to advancing equity through a UCAP process and outcomes.

STEP	KEY ACTIONS
a) Pre-work	Organize and attend trainings on equity, justice, decolonization, and other related concepts important for individual team members to understand.
b) Visioning	Apply opportunities for justice (see Table 1 – Opportunity column) to develop a collective vision, guiding principles, and goals for the planning process for a team and project.
c) Make a plan	Commit to centering equity and working towards justice in the process. Identify evaluation practices to use throughout the process. This could include the JustAdapt framework (see Table 1). Design for flexibility in timeline, scope, and partnerships. Incorporate equity and justice into any contracts or application processes (*e.g.*, request for proposals (RFP), terms of reference, community partnership agreements) to ensure that equity and justice principles and expectations are being practiced throughout all levels and groups engaged in the planning process. Identify moments for participants from different stakeholder groups to meet each other, collaborate, and learn together.
d) Process in motion	Implement the planning process with equity in mind. Utilize skills developed in steps 1 and 2 when engaging with project partners, First Nations, equity-denied communities, etc. Listen and stay flexible as a team and adapting to changing needs, questions, and calls for accountability.
e) Monitoring and iteration	Apply equitable evaluation practices, such as JustAdapt (see Table 1). Engage in rigorous, honest dialogue on challenges and opportunities for improving the process and desired outcomes. Make changes based on learnings from JustAdapt.
f) Reflection and evaluation	Apply JustAdapt (see Table 1) to evaluate how equity and justice were incorporated into the UCAP process. Invite participants from different stakeholder groups to share their reflections and lessons learned, with particular focus on equity and justice. Seek to understand the impact of the planning process, regardless of the intended outcomes. Embrace discomfort and ask the difficult questions to make sense of any harm caused. Reflect on the opportunities for justice and the project's visions, goals, and guiding principles and identify areas of success and improvement. Make a plan for accountability, repair, and healing and then follow through.

Table 2: A six-step process of incorporating equitable evaluation practices into a UCAP process

5. DISCUSSION

This paper offers three key contributions to scholars and practitioners: a) JustAdapt contributes an evaluative framework in response to a gap in evaluative research on equitable UCAP; b) JustAdapt expands upon the tripartite justice framework to include five forms of justice significant to UCAP; and c) JustAdapt operationalizes equity and justice within UCAP through the opportunities for justice and six-step implementation process. JustAdapt was developed by scholars who hold positionalities similar to the intended audience of this paper: UCAP scholars and practitioners working in North America, particularly those who hold privilege. JustAdapt supports systems change from within current dominant UCAP practices, ensuring that scholars and practitioners alike are equipped with tools to better understand and shift equity and justice dynamics in adaptation planning (Porter *et al.* 2020). JustAdapt is not a tool to replace climate justice advocacy and resistance led by equity-denied populations; rather, it is a tool for scholars and practitioners to reflect on the impact of perpetuating dominant UCAP practices, to consider the spectrum of experiences and needs of different equity-denied populations, and to shift their work in acts of solidarity toward just transformative adaptation (Porter *et al.* 2021; Rees & Doyon 2023).

Specifically, this research responds to calls to action for just urban climate adaptation from scholars, practitioners, and community organizers (Amorim-Maia *et al.* 2022; Anguelovski *et al.* 2016; Movement Generation 2017; NACRP 2017; Shi *et al.* 2016). This research contributes an evaluative framework and approach for assessing equity and justice in UCAP and builds upon related applications of the tripartite justice framework, like in urban resilience planning (Meerow *et al.* 2019). Previous research has analyzed equity, inclusion, and justice in climate plans by focusing on planning outputs (Chu & Cannon 2021), whereas the JustAdapt framework offers applicability to both UCAP processes and their resulting plans or deliverables.

Practitioner guidance for equitable climate preparedness and adaptation planning has included variations of the tripartite justice framework (California Adaptation Forum 2023; USDN 2017), yet the tripartite justice framework has not been widely adopted across practitioner spaces. Some guidance on sea level rise adaptation planning has articulated best practices to center equity in UCAP processes and plans (Perrin-Martinez 2022); however, the forms of justice are typically not included. JustAdapt responds to these gaps for scholars and practitioners, offering a tool to reflect and improve UCAP processes toward transformative UCAP.

As stated in the six-step implementation process, JustAdapt should not be implemented as a standalone tool. Instead, it offers a lens with which to view a particular place-based UCAP process. Informed by scholarship on structural racism, settler colonialism, and environmental justice, JustAdapt teases out cultural context and nuance, power and privilege, and capacity to learn while remaining applicable across a variety of projects, geographies, and scales. JustAdapt calls on scholars and practitioners to reflect on who and where they are (Porter *et al.* 2021; Rees & Doyon 2023), actively unlearn dominant ways of knowing and being present on the lands and waters where they are located, and shift power to foster just urban coastal adaptation.

6. CONCLUSIONS

This research recognizes an awareness of equitable UCAP and emerging best practices in North America, yet a lack of baseline understanding and precedence for equitable climate adaptation planning hinders progress toward justice (Shi *et al.* 2016). UCAP scholars and practitioners can bring greater specificity, transparency, and accountability to equitable UCAP to work toward just adaptation. Through literature reviews, this research identifies five forms of justice that are important to the practice of just UCAP: procedural, distributive, recognitional, intergenerational, and epistemic. The JustAdapt framework is presented as a starting place for more robust, place-based, and project-specific dialogue on equitable urban coastal adaptation.

Future directions to build upon JustAdapt include developing evaluative indicators to quantify impacts on process and outcomes, which builds off emerging work, such as the adaptation justice index proposed by Juhola *et al.* (2022), and codeveloping tools for evaluation with community

members living and working within the plan's area of impact. JustAdapt was developed in a West Coast North American context and is intended to be modified for use across North America. Future research could include place-based applications of the framework, a reinterpretation of the framework at the neighborhood or community level, or an application of JustAdapt across multiple UCAP projects in different geographies.

With climate change already disproportionately impacting equity-denied populations, scholars and activists are calling for climate justice to be prioritized in climate adaptation planning, arguing that business-as-usual climate adaptation will only exacerbate existing inequities (Shi *et al.* 2016; Shonkoff *et al.* 2011). UCAP planners have identified equity and justice as important guiding principles in their strategies and plans, yet best practices on implementation and evaluation are lacking (Woodruff & Stults 2016). JustAdapt disrupts status-quo UCAP processes by inspiring reflexive planning and transformation from within, calling for scholars and practitioners to actively participate in the transition to a climate-just future.

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