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## ARTICLE

# Where next for managed retreat: Bringing in history, community and under-researched places

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## Abstract

Managed retreat—the purposive and coordinated movement of people away from climate risks—has risen in importance, discussion and urgency in recent years. As climate threats increase in size and scope, both scholarly and policy responses are likely to take increasing interest in this deeply geographic phenomenon. This is an important juncture to take stock, and reflect on what Geography can offer both academic and policy responses to managed retreat. While managed retreat has developed a critical and useful set of tools and ideas for dealing with profound climate adaptation measures, there remain omissions. Here we point to the historical perspective, participative community-based approaches, and diversifying from over-researched examples that can dominate this (sub)field as aspects that can all be strengthened going forward. To end, we offer three recommendations for further thought on managed retreat.

## KEYWORDS

climate adaptation, community, history, managed retreat

## 1 | INTRODUCTION

Over a short space of time, managed retreat—the purposeful and coordinated movement of people away from risks—has become an object of mainstream scholarly and policy interest. Since the 2010 Cancun Agreement, ‘planned relocation’ has been a global policy adaptation strategy. The intervening years have seen the Intergovernmental Panel on Climate Change (IPCC) note managed retreat as increasingly possible and necessary as a form of ‘transformational adaptation’ (AR6). As sea level rises are projected to arrive earlier and higher, and forms of maladaptation increase, national and regional policies have also begun to include managed retreat as a strategy of climate adaptation, from the Global North to South. The Special Report on the Ocean and Cryosphere in a Changing Climate (SROCC) noted managed retreat as an ‘often very controversial, [which] can incur significant political risk even when it is in principle voluntary’ response to foreseen sea-level rise of between 0.29 cm and 1.1 m by 2100 (SROCC, 2019, p. 606). For institutions working at the science–policy interface, managed retreat can be politically contentious to address head-on (Hino et al., 2017), but more direct engagement from governments and international organisations on managed retreat is now starting to emerge.

Amongst interdisciplinary environmental policy and governance scholars, managed retreat has been the subject of agenda-setting articles in *Science* and *Global Environmental Change* (Ajibade, 2021; Mach & Siders, 2021; Siders

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et al., 2019); had since 2019 a dedicated biannual conference run by Columbia University; and been the focus of a 2021 special issue in the *Journal of Environmental Studies and Sciences*. Managed retreat scholarship is both necessary and more plentiful, and reviews such as Siders et al. (2019), Ajibade and Siders (2022), and Ajibade et al. (2022) provide an excellent snapshot of the state of the art.

However, amongst this uptick in enthusiasm towards linking science, policy and practice for managed retreat, it is important to remember that retreat, abandonment and resettlement, even climate induced, are not in themselves new phenomena. Although the historical context of retreat is acknowledged in the managed retreat literature (Carey, 2020), what is less explicit in the field is systematic and in-depth engagement with the contours of historical retreat and relocation events and their implications for communities (for some notable exceptions, see Ajibade & Siders, 2022; Huang & Su, 2009; Marino, 2012; McAdam, 2014, 2015; Pinter, 2021; Thaler et al., 2020). At the heart of the current state of the art is on the one hand an awareness like Ajibade et al. (2020), who explicitly distinguish between managed retreat and other forms of migration; and on the other, scholarship tracing the connections between previous state-led relocation (Arnall, 2019), previous relocations already lived through (Kingston & Marino, 2010), inter alia. Jackson et al. (2018), writing in the context of adaptation scholarship more broadly, argue that the past offers us a series of ‘completed experiments’ which may yield insight into how communities adapt to environmental shocks, stresses and pressures. Jackson et al. (2018, p. 63) continue, however, that ‘to offer this critical perspective [historical and anthropological] research must be more visible to key audiences: global change researchers, policy-makers and the public’. In the absence of an extensive, global body of empirical examples of managed retreat in the present (if this were even possible), we therefore believe the burgeoning field of research into managed retreat would benefit from fuller and more systematic engagement with historical examples of relocation and resettlement in response to external environmental pressures.

Moreover, Felipe Pérez and Tomaselli (2021) note that academic literature on climate-induced relocation has ‘under explored the adverse impacts of managed retreat on Indigenous Peoples’, including a relative ignoring of Latin America. Not only are certain voices missing in the literature on managed retreat; these missing voices often relate to managed retreat in a different way. Marino (2018) calls this omission ‘ethnocentrism’ (see also Palinkas, 2020; Whyte, 2017). From the perspective of those under-represented in managed retreat literature, managed retreat can be seen more as a *threat* to already disadvantaged groups, rather than a *tool* to help navigate the climate crisis. Given the urgency of the climate crisis, recent movements in the managed retreat literature tending towards scholarship which situates present-day managed retreat within local historical and cultural contexts (Simms et al., 2021) and also within different global contexts (Maldonado et al., 2021) are therefore welcomed. Implicit in most of the discussions of managed retreat too is that it implies the movement of communities (Huang, 2021; Lauer et al., 2021). Skirting this hidden community dimension also leaves much of the implications on what community does productively under-appreciated. It is in examples of communities undergoing retreat that lessons can be learned here.

Our aim in this short paper is hence to advocate for more explicit recognition within managed retreat scholarship that interest in climate-related relocation is the latest iteration in a much longer narrative of *abandonment of land and relocation of communities*. In doing so, we do not seek to downplay the severity and newness of the climate crisis or to normalise discourses of retreat. On the contrary, we argue that bringing insights from the past into contemporary discussions on managed retreat at the science–policy interface can help us to be better prepared for some of the difficult decisions that lie ahead. We take two historical examples of communities having undergone retreat to show that there exists a range of retreat examples beyond the more commonly mentioned Western and present day examples mentioned in retreat scholarship. Through doing so, we outline the new directions managed retreat scholarship can go in, if it is to fulfil its promise and remain useful for informing both the global and local managed retreat policies that are emerging. These are to (i) move beyond the usual suspects (in both space and time) in terms of case studies and analogues; (ii) move beyond the usual approaches, to particularly include humanities-based approaches; and (iii) to engage more fully with the community dimension of managed retreat processes.

## 1.1 | Managed retreat: History, community and ‘usual suspects’

Managed retreat is not new. Coastal geomorphologists and other physical scientists chart the shifting, migratory character of many coastlines and rivers, and the accompanying environmental threats they pose. Retreats then form a recurring pattern as fenlands, saltmarshes and other wetlands alternate between land and sea. Sea levels, isostatic rebounds and erosion patterns shift. More varied are the uneven and evolving character of human settlement and infrastructure

patterns, that reveal this vulnerability in variegated ways (Nicholson-Cole & O'Riordan, 2009; O'Riordan & Nicholson-Cole, 2010). Just as the physical character of retreat has a long history, so do the social causes and implications.

The purposive movement of people away from environmental risks then, such as sea-level rise and increased erosion, often exists against a backdrop of histories. These histories of retreat can be longstanding—going back centuries—or more recently (generational) in the folk memories and oral histories of any given community (Greiving et al., 2018). Ajibade et al. (2020) distinguished between managed retreat and other forms of migration, concluding that managed retreat is a specific and new phenomenon, requiring distinct policy and research approaches. We agree that managed retreat is not the same as, or merely a new instantiation of, climate migration. Yet, that makes it all the more important that managed retreat scholarship looks to examples of retreat that often fly under the radar, whether from places that are not the *cause celebre* of say Miami, Fiji, Louisiana or Alaska; or places where the retreat was a historical process, rather than currently unfolding.

There are two general omissions here: (i) the historical dimension is often missing regarding managed retreat; as are (ii) community initiatives, and the role these play in initiating and responding to retreat. Notable exceptions include McMichael and Katonivualiku (2020), Charan et al. (2017), Grace-McCaskey et al. (2021), and Evans (2021). As far as the historical dimension goes, for managed retreat, the general tendency is to emphasise the newness of climate threats, such as rising sea levels emerging from a relatively stable Holocene. While the rate and extent of coastal and riverine threats are indeed increasing (IPCC, *inter alia*), there are many harbingers, from the prehistoric, from the inundation of Doggerland, in the North Sea, or sinking islands in the more recent past. In terms of the community aspects, while managed retreat is a relatively new term, many historical processes have not been known under this name. Planned relocation debates from the 1970s to the 2000s foreshadow current managed retreat policies. Further back, in Scotland there is a long and contested history of forced retreat ('Highland Clearances') that is central to the national character. Alternatively, some places themselves proposed a retreat: for example, the abandonment of parts of Scotland like Swona, North Rona or St Kilda for Morvern (MacDonald, 2001), see below. Connections between previously abandoned places, say the Highland Clearances in Scotland, or settler colonialism and modern-day examples outside of Europe and North America, and the economic, social and environmental drivers of retreat processes, thus intermingle with the communities tied up with these places. Place abandonment has its own history and baggage, not always associated with survival or community wellbeing.

In fact, the conversation on managed retreat has often focused on left behind sites and places (e.g., Dannenberg et al., 2019), feeding the assumption that communities are singular, spatially bounded entities. But even community as a spatially (de)limited place serves as a site where indigenous knowledges of adaptation are cultivated and shared (Armitage et al., 2017). Thus the capaciousness of community is both a driver of retreat processes (survival dependent on leaving a community's place), and something that can fundamentally challenge popular impressions of what that community is: if the place is key to the identity and practice of community, how can community survive without that place? (Maclean, 2021) Accessing such awareness comes through humanities and social scientific qualitative approaches, hence our recommendation below to strengthen the presence of these approaches at the science–policy interface.

There are likewise many other examples of 'retreat' being imposed on indigenous communities, rather than planned in partnership with a citizenry (e.g., Arnall, 2019). Rather than viewing the climate crisis as an apocalypse still to come, some indigenous perspectives point to their community surviving after a catastrophe: settler colonialism. Such a historical perspective has important consequences for how present and near future landward retreat will be received by these communities. Any proposal, however benign, could be received as imposed, perhaps as a new wave of colonialism (Mitchell & Chaudhury, 2020). Therefore, proposed retreats through groups such as the Gesturing Towards Decolonial Futures (GTDF) collective—a collective of scholar educators proposing indigenous perspectives on climate futures—form an important part of this historical perspective (Stein et al., 2020).

The reasons for the importance of the historical dimension are hence that: (i) where a living memory exists, these historical narratives can shape how any given community receives the news that they should, or are to, retreat; (ii) policy can learn from these examples of what has worked well or not so well in the past; (iii) a fuller awareness of how and why retreat has happened in the past can help us to tease apart what is different today, and what is genuinely new about the current climate-induced necessity of retreat. Finally, (iv) history plays a crucial role in how any given community functions, and is necessary to understand how any given group sees itself, feels capable to act, and to predict how they can respond to challenges such as retreat.

Similarly, closer attention to scholarship into the idea of community shows that community is not only a coherent whole or totality, but also a collective subjectivity—a mindset, set of actions, activities and beliefs. This involves not only material actions, but also mindsets, ways of seeing, and the worldviews within which future climate vulnerabilities are made sense of. In part, this sense-making is done through how the imperative to retreat is integrated with previous experiences and folk memories of what retreat implies and which agenda it serves. These informal, tacit rules and social

norms mix with new awareness (such as the necessity of abandonment). With regards to managed retreat, this includes psychological difficulties involved in breaking collectively held place attachments (Agyeman et al., 2009). What is often missing here is an internal, indigenous perspective on community (Berkes, 2018). Neither of these—practices of community, or the narrated ways those involved see themselves and their horizon of possibility—arrive neutrally in any context. Therefore, paying attention to the *longue durée* of both the community initiatives themselves, but also into the idea and associations of managed retreat itself, is vital.

Research on and literature about community initiatives, innovations and experiments in the context of managed retreat also tends towards presentism—that is, assuming that current examples are the frame through which we should read any and all cases. In community theories, books such as Ghandi's *Affective communities* (Ghandi, 2006) stand out because they not only decentre accounts of countercultural/counterhegemonic community from the West, but also from the present day, taking lead from historical examples of how a sense of forged collective subjectivity can drive forward alternative pathways and stories. As argued in a recent special edition on Transformative Community (Schmid et al., 2021), paying attention to the *longue durée*, historical context and trajectory is always important, but particularly when it comes to in situ communities, where the 'memory' of the place plays a particular role. This fills a key gap in the literature on managed retreat, by placing managed retreat within historical context, and gives insights into the effectiveness, reception and how just future managed retreat can be (sitting alongside contemporary focused reviews such as Siders et al., 2021).

## 2 | TWO VIGNETTES

In grappling with this literature and identifying gaps we here 'put flesh on the bones', and briefly discuss two examples—amongst a whole potential multitude. These two are chosen because they tick all three aspects we see missing in manager retreat literature—they have a key historical component, are tied up with community-led processes and are under researched; at least insofar as neither has, as far as we know, been mentioned with regards to managed retreat or community-led adaptation. St Kilda is a completed story, in that the narrative is no longer playing out or unfolding, although it has proved quiet impactful in imaginaries. Shezidao, while still unfolding, cannot be understood in the present without attention to the layered historical processes over multiple decades that has brought the locality and its community to its current conjuncture.

### 2.1 | St kilda

St Kilda is a group of Atlantic islands, lying around 150 km from the Scottish West Coast, and as such one of the most remote places in the British Isles. Inhabited for thousands of years, St Kilda was evacuated in 1930, the islanders moved at their own request to Morvern (Lochaline), on the Scottish mainland. There are many reasons why the population declined, although ultimately the island could not survive increased contact with outsiders, which transformed a highly bespoke relationship between the community of St Kildeans and their natural environment.

The nineteenth century saw the viability of St Kilda undermined through some outmigration to Australia, New Zealand and Canada. Yet it was increased attention of the island brought by outside tourists, steamships, that counterproductively killed the island's subsistence lifestyle (Maclean, 2019). In perhaps the most authoritative account, Maclean notes the role that money and charity played by newly arrived missionaries and tourists. The complex social structures and community on the island ultimately could not survive contact with a market economy.

With survival as the community's main concern, St Kilda had developed a social system, which was a direct response to the exploitation of a specific environment by specific techniques. As a bird culture the community was a success and its stability bore witness to the accomplishment of its adaptive processes. But the more specialised a culture's form of adaptation, the more deeply committed it is to its particular environment and social system and, therefore, the more vulnerable to change. In evolutionary terms, St Kilda was out on a limb.

(Maclean, 2019 [1972], p. 164)

St Kilda is a good example of how an environment can become unviable, if not uninhabitable, through a combination of social and economic factors, and how these interact with the environmental. Retreat was necessary from St Kilda not because



the island became inundated, or a new environmental threat emerged, as is often the case with current examples. The climate on the island has always been extreme, with regular storms cutting off a precarious point where boats can land even today.

Other similar remote island locations across Scotland—North Rona, Swona, and so forth—show the relative commonness of retreats that have occurred throughout history. These examples can offer historical lessons in how retreats can come about and how to effectively manage them. While the number and proportion of retreats are expected to increase, many harbingers exist, and can be not only interesting in their own right, but used as a resource for the present.

## 2.2 | Shezidao

Shezidao is a low-lying peninsula in Taipei, Taiwan, located where two rivers meet. Following a typhoon in 1953, Taipei City Government designated the tip of Shezidao as a flood-prone area and banned development (Pan, 2018). In practice, what this has meant is that no new development is officially permitted, however some 11,000 largely socio-economically disadvantaged residents continue to live in the area in homes that have been constructed or repaired despite new construction or repair being officially forbidden by local planning laws (Huang, 2021; Liao et al., 2019).

Despite being in an area in which development is legally prohibited, Shezidao is offered some flood protection in the form of a 6 m high levee system, albeit one that offers protection to a lower standard than the rest of Taipei area (Liao et al., 2019). With more frequent and severe weather extremes under a changing climate, the risk to the residents of Shezidao—many of whom have limited financial capacity to adapt their living environments to increased extremes and are unwilling or unable to move—is likely to continue to increase (Huang, 2021). Despite this increasing risk and the continued presence of informal settlements, it has proven very difficult to forge consensus between the city government, residents and other stakeholders on how Shezidao ought to be protected or developed in future.

A key point of contestation is the growing interest of Taipei City Government in once again allowing development on Shezidao, what will happen to residents in current settlements if flood protection measures are put in place to allow development, and which lands—if any—flood waters may need to be displaced to in order to protect new developments (Liao et al., 2019). A local referendum held in 2016 presented residents with three options for the future development of Shezidao, plus a fourth option of ‘no development’. The ‘Eco-Shezi Island’ option, which is purported as an ecological model but which also allows development of private housing in conjunction with significantly enhanced flood defences, was favoured by the highest proportion of voters (Hsiao, 2021). However, turning the plans and vote into tangible action continues to prove challenging. The controversy even led to violent clashes between a section of Shezidao residents and police (and residents fighting with each other) in 2021 over proposed development plans and the concern that these would lead to long-time residents being evicted or displaced (Hioe, 2021); and further protests in 2023 when the administration of Taipei City Mayor Chiang Wan-An visited Shezidao, on the grounds that the visit assumed residents had consented to the development plans (Su, 2023).

Shezidao raises interesting questions for managed retreat scholarship in that it challenges the presentism or finality of managed retreat decisions, and also shows the potential of residents to resist formal relocation designations that they do not perceive as being in their interest. Shezidao stands as an example of a location where a top-down decision aimed at retreat or abandonment in the past was resisted by local residents, and where successive local governments chose to ignore or overlook residents’ own on-the-ground adaptations in the face of continued flood risk. Indeed, landscape architecture academic Jeffrey Hou, in an interview with Su (2023), notes that Shezidao’s current situation of low density and an abundance of farmland could already be considered an adaptive strategy. Liao et al. (2019) observe proposals for relocation in Shezidao have always been framed in terms of redressing Shezidao’s ‘backwardness’ (i.e., in keeping with rhetoric of ‘development’) and not in terms of reducing residents’ flood risk. Nonetheless, with flood risks increasing under climate change and existing levees being ever less viable, Shezidao also illustrates that, in practice, doing nothing may ultimately not be an option no matter how opposed officials’ and residents’ views are.

## 3 | NEW AVENUES FOR MANAGED RETREAT?

Managed retreat is a topic that requires serious and thorough consideration. We welcome recent moves within the literature to incorporate community and historical—even archaeological—perspectives. However, we believe more should still be done to embed humanities and community-sensitive perspectives into the science–policy interface for managed retreat.

Our first recommendation builds on Jackson et al. (2018) and the importance of getting historical perspectives into scientific fora where they may be read and cited by interdisciplinary scholars working more closely at the science–policy interface for managed retreat and, indeed, climate change adaptation more broadly. Historical examples such as St Kilda have much to offer studies of managed retreat. These examples can be instructive beyond tracing the deeper roots of present-day ongoing retreats such as Shezidao. Corbera et al. (2016) noted a distinct lack of authors with humanities training in IPCC assessment reports. We find a similar pattern for the Working Group most closely associated with managed retreat—WGII Impacts, Adaptation and Vulnerability—for the Sixth Assessment Cycle. Based on available information, we found no coordinating lead authors with an explicit humanities background, and a small number (<10%) in disciplines on the social sciences–humanities border such as Human Geography, Sociology and Political Science. As we outline above, the past offers insight into how communities respond to movement and resettlement as a result of shocks and stresses—yet this scholarship may not make explicit reference to climate change or be found in the most commonly cited climate change journals, and hence may not be readily apparent to those unfamiliar with the field (see Tadgell et al. [2017] for an overview, though tellingly, this comprehensive overview has gained little traction). A greater presence for humanities scholars in fora such as the IPCC will thus allow relevant research on the past to be identified and appropriately assessed. We therefore recommend that the IPCC (and similar platforms such as IPBES) pay greater cognisance to authorship patterns, and to engaging humanities scholars with historical perspectives in authorship roles.

Second and related, while community features relatively often in both managed retreat studies and policy reports, this is often done in a top-down manner. A participative approach to planning, for example, is often missing across policy domains, not only concerning retreat. Involving affected actors can not only produce better policy, but can avoid the feeling that retreat is being ‘done to’ certain people and places. Forced relocation studies—whether colonial or otherwise—can be usefully counterpoised with examples of community-led retreat, such as St Kilda, or community-resisted, or circumvented retreat such as Shezidao. More can be done to pay attention to community as a more phenomenological, lived and felt experience; that is, the collective subjectivity which is often tied up with many humanities type knowledge beyond histories: cultures and spiritualities, and their relation to concepts of both place and retreat. Community in retreat can be bottom-up in both practice, and also in how we study it. Although only briefly touched upon, the St Kildeans stayed together after being moved, indicating there was an aspect to their culture which escaped and endured beyond a territorially delimited place. To be clear, research has already moved in this direction, but as yet it is not reflected in the science–policy reports and initiatives mentioned above, or in funding in this area. Therefore, our second recommendation is towards a more capacious and nuanced vision of community involved in retreat.

Our third recommendation concerns meaningful funding for humanities research within interdisciplinary research projects into managed retreat. Platforms for climate change at the science–policy interface are of enormous symbolic, fiscal and policy importance. Yet, when scholars and subject experts are granted a voice at the table, these tend towards a dominance of techno-managerialist approaches. In one recent study of US\$1.3 trillion of research funding into climate mitigation, only 0.12% went to social science and humanities studies (Overland & Sovacool, 2020). Even then, interest tends to be tipped towards understanding behaviours, awareness and acceptability in relation to different mitigation and adaptation options (Jorgenson et al., 2019). Yet recent research has shown that when given a voice, humanities scholarship can give powerful insights into how historical forces which have shaped communities’ sense of being inform their views towards managed retreat in the present (e.g., Simms et al., 2021). Our third recommendation is thus for research funders to back up rhetoric on ‘interdisciplinary’ scholarship with substantive levels of funding to embed the humanities—the historical and community-centred approaches fitting into this context—in managed retreat and adaptation research in ways that go beyond attitudes, awareness or ‘visualisation’ of the underpinning science. This plurality of types of study is a necessary compliment to diversifying the range of cases—avoiding over-researched places (Button & Taylor Aiken, 2022).

These recommendations are of course applicable to climate change adaptation actions extending far beyond managed retreat. However, the complexities involved in relocating communities, coupled with the rises in sea levels and extreme events that we are already locked into, make managed retreat an area in which discussions need to start happening now. A stronger voice for research into the past will help scholars and policy-makers to be more informed as they approach these discussions.

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