



Future ordinaries: Assembling place-based knowledges and literacies in real and imagined harmscapes

Anna Wilson^{a,*}, George Robertson^a, Jen Dickie^b

^a School of Education, University of Glasgow, Glasgow G3 6NH, UK

^b Faculty of Natural Sciences, University of Stirling, Stirling FK9 4LN, UK

ARTICLE INFO

Keywords:

Place-based learning
Landscape literacies
Climate change
Speculative fiction
Everyday
Ordinaries

ABSTRACT

This paper explores the role of the everyday in real and imagined responses to climate-changed landscapes emerging from South African and UK-based activities in a project exploring local knowledges and resilience. We analyse photographs and captions created by co-researcher residents in three climate-stressed settlements in South Africa. We then use participant-generated stories created in the UK to explore imagined future landscapes. We demonstrate important commonalities between the real and the imagined, and between Global South and Global North, including three key dynamics to involved in responses to harmscapes of the present that also animate imagined futures: intra-community relations, the development of place and landscape literacies and adaptations. Our process reveals the centrality of the ordinary to both present realities and future imaginaries.

1. Introduction

There is no doubt that the current climate crisis is sharpening awareness of the need to think about and plan for futures that may be different to historical norms. At the time of writing, in early October 2023, we have just experienced a sequence of broken global records, with July, August and September all exceeding previous records for temperatures for these months and July becoming the hottest month ever recorded. For months, the news has included reports of flood and fire events around the world, including deadly floods in North America, North Africa and India, and devastating fires in Hawaii, southern Europe and Canada (the latter still burning three months after igniting in July). We know that whatever we do now, additional change in the near-term is unavoidable.

The Climate Crisis is a global phenomenon. Its effects are both ubiquitous and locally-conditioned, and both actual and emergent. Now, more than ever, we need to understand the present and imagine the futures that might follow, to enable to prepare for or change them. In this paper, we explicitly connect exploration of present realities in climate-stressed places in South Africa with imagined futures in places in the UK that are not yet so clearly impacted.

Futures-oriented research is well-established in relation to climate change. Futures work in the field takes a wide variety of forms, from quantitative modelling to predict climate trajectories (e.g., Forster et al., 2020) and impacts on physical and ecological systems such as sea levels (e.g., Jevrejeva et al., 2012), ice melt (e.g., Lohmann & Ditlevsen, 2021), permafrost (e.g., Miner et al., 2022) and vegetation/forest cover (e.g., Albrich et al., 2020) to the use of qualitative speculative methods such as speculative fiction (e.g., Doyle, 2020; Iossifidis & Garforth, 2022) and scenario work (e.g., Rounsevell & Metzger, 2010; Tyszczyk, 2021) to explore human and social

* Corresponding author.

E-mail address: anna.wilson.2@glasgow.ac.uk (A. Wilson).

consequences. Others, such as Verlie (2022), advocate ‘storying’ as a strategy for developing responses to and mechanisms for coping with climate change.

Imaginative futures-oriented research dealing with climate change and other Anthropocene challenges is frequently couched in terms of crisis and disaster: dramatic shocks to systems that test their resilience, and large-scale, high-impact crises. As Yusoff and Gabrys note, ‘climate futures have probably had their most imaginative expression in the catastrophic renderings of abrupt climate change’ (2011, p.517). Qualitative scenario work, in particular, has been shaped by its origins in nuclear threat scenario-thinking of the 1950 s and 1960 s (Tysczuk, 2021); ‘climate catastrophism’ (Yusoff & Gabrys, 2011, p. 517) frequently draws on themes such as the exhaustion of fossil fuels, environmental collapse and spectacular technoscientific failures.

The recent decolonial turn in social research has led to a growing recognition of the value of local knowledges (Briggs & Sharp, 2004). This may be particularly important for climate futures research, as those experiencing the “future-now” – and particularly those with well-developed place-knowledges and -literacies – encounter the emerging challenges of the Anthropocene. However it is also important to recognise the additional vulnerability that may accompany deep-rooted place-connectedness, as for some this may mean that ‘our collapsing worlds disrupt our sense of self’ (Verlie, 2022, p. 115). As Aguiar et al. (2020) note, there is a need for futures research that explores climate change from a broad range of perspectives. The work presented attempts to address this need. It also takes climate futures research in new directions by deliberately linking present and future; realities and imaginaries; and Global South and Global North.

Our overall approach is rooted in an understanding of sociomaterial ecological assemblages influenced by the philosophical work of Deleuze and Guattari, in particular ideas relating to learning (Deleuze, 1994) and the political concept of assemblage (Deleuze & Guattari, 1987), and the radical ecological sociology of Smith and co-authors (Smith & Jenks, 2006; Smith & Wilson, 2024). We first provide an account of this conceptual framework, with particular emphasis on its implications for understanding place-pedagogies (Gruenewald, 2003, 2014) and place-literacies (Somerville, 2007, 2013) and their role in opening up and closing down possible futures. Following this, we describe approaches used to generate data on climate-change presents in South Africa and climate-change futures in the UK.

We describe some of the key dynamics that circulate within and shape these actualised presents and imagined futures, including some of the ways they converge and diverge. We draw attention to the power of the ordinary (Pink, 2012), as much as crisis conditions, to both reveal and shape knowledges and practices. Finally, we consider how recognition of place-based ordinaries, both present and future, might be important for the development of resilience and adaptation strategies in the face of a changing climate.

2. Conceptual framework: assembling place-based literacies and place-based imaginaries

Our approach is grounded in sociomaterial and socio-ecological assemblage perspectives (Anderson & McFarlane, 2011; Deleuze & Guattari, 1987; Smith & Wilson, 2024; Wilson et al., 2023). We draw on Deleuze and Guattari’s (1987) political conceptualisation of assemblage to think of *place* as a complex and evolving local present, arrived at along contingent but irreversible historical pathways. Viewed from this perspective, place-futures emerge from place-pasts through the nexus of place-presents. Such a perspective also means that the decentring of humans is both a necessity and a means of recognising that human capacities and choices are both enabled and constrained by the complex ecological assemblages of their local place-presents.

2.1. Place-based learning in Anthropocene harmscapes

Our basic perspective is that local knowledges are acquired as (often tacit) landscape and place literacies, through repeated exploration and or prolonged inhabitation. Our research in South Africa explores how place-based learning and the development of place literacies unfold in landscapes suffused with a complex set of risks resulting from inter-operating and intersecting sociohistorical, political and environmental factors (Wilson et al., 2023): landscapes that can perhaps best be described as *harmscapes* (Berg & Shearing, 2018; Simpson et al., 2019; Wilson et al., 2023). Residents are embedded in an ongoing process of embodied place-connectedness that has extensive pedagogical impact.

2.2. Participatory speculative fiction: assembling futures

Our assemblage perspective applies not only to our conceptualisation of place(-presents and -futures), but also to our use of participatory speculative fiction (Water and Fire, 2022; Wilson, 2024).

Our approach focuses on interconnectedness and emergence, conceptualizing stories (and encounters between people and stories) as research assemblages (Feely, 2020; Wilson, 2021; Wilson et al., 2022). Participatory speculative fiction is a way of enrolling many different people – and non-human actors – into the creation of story assemblages by bringing together people and triggers for story-generation. The triggers may be questions, images or objects, chosen to provide some focus and direction. In participatory speculative fiction, encounters between people and prompts are understood as the temporary and contingent creation of assemblages, as are encounters between people and stories in the act of reading or listening. These assemblages and the dynamics within them may be shaped by lines of articulation (Deleuze & Guattari, 1987), that have been created by well-established patterns and habits and that further entrench those patterns and habits: the default connection between toys and childhood, or the hero’s journey narrative arc; and they may sometimes include lines of flight (Deleuze & Guattari, 1987), as a smooth, unknown space is entered and no pre-existing patterns of thought determine the outcome.

3. Assembling stories: creating images of the present and imaginaries of the future

As noted above, the impacts of the Climate Crisis are both global and locally-conditioned. There are regions where it is already changing landscapes and lives in undeniable ways. We start to explore and document place-presents in one such region, the Cape Flats of South Africa, using data generated in a project involving researchers based in South Africa and the UK, funded through the UK government's Global Challenges Research Fund (Water and Fire, 2022). The UK, in contrast to South Africa, is a region where the effects are, for now, more subtle, and where buildings and infrastructure cushion inhabitants from direct consequences. As the findings from South Africa began to emerge, we sought ways to feed back to the UK context and thus to create the possibility for place-based climate learning that actively connects different places and times. We do this through exploration and articulation of possible futures with people living in currently moderate, temperate regions in the UK.

3.1. Photovoice explorations of climate change related hazards in the Cape Flats

The assemblages of images and texts from South Africa presented below were created as part of a larger project, *Water and Fire*, exploring experiences of three environmental hazards exacerbated by climate change (flood, water scarcity and fire) in three marginalized settlements in the peri-urban Cape Flats area. This is a region characterised by a complex mix of socio-economic and environmental challenges including: the legacies of colonial and racist apartheid regimes; significant cultural and ethnic diversity; low incomes and employment; high crime rates; poor housing; limited infrastructure; water shortages; flood-prone areas; poor agricultural land and more. These combine to produce complex harmscapes (Berg & Shearing, 2018; Simpson et al., 2019; Wilson et al., 2023), where residents experience ubiquitous risk.

The research involved community co-researchers based in Sweet Home Farm (flood events), Delft (water scarcity) and Overcome Heights (fire outbreaks). This multi-phase, multi-method project engaged local residents in a series of co-research activities including household-level surveys (Ncube et al., 2023), the production of digital stories (Mpofu-Mketwa, Abrams, & Black, 2023), and variants of photovoice (Wilson et al., 2023) and walking interviews/community mapping (Water and Fire, 2022).

This paper draws on data generated through the photovoice activities, as these were structured to include thinking about future as well as past and present experiences. In each site, 7–8 community-based co-researchers took photographs that they felt related to the following prompts:

- What causes or increases the risk of the site-specific hazard?
- What do residents currently do to prepare for or minimize the hazard?
- What would improve the situation and limit the risk or impact in future?

Our co-researchers took photos over 7 days. They then convened with project-based researchers in site-specific groups to select and write captions for up to 30 photographs per co-researcher to include in individual co-researchers' albums. It is these albums that form the data we draw on below.

3.2. Participatory speculative flash fiction in the UK

Stories of an Earth to Come was originally conceived of as a process for engaging UK residents with *Water and Fire* and its key outputs and findings. Our intention was to use images and texts produced by our South Africa-based co-researchers as prompts for UK-based participants to imagine climate-changed futures in their own neighbourhoods. However, it rapidly became clear that participants tended to focus on South Africa when asked to engage with images and texts such as those shown below. The stories produced in two initial workshops, where participants encountered rich visual and textual data from South Africa, were almost all about the people and places that featured in the workshop prompts.

As we wanted to actively connect the present in South Africa to possible futures in the UK, we developed our workshop process shift participants' focus to their own context. We acknowledged the project's origins in the South African experience but then moved on to present visual prompts in the form of photographs drawn from media stories about local and global experiences of flood, water scarcity and wildfire. Participants were then led into their own fiction-generation via a real (but sci-fi like) story of a proposal to use moon dust to reduce global warming (Milman, 2023), and the reading aloud of two example stories (initially generated by the authors but subsequently stories created by previous workshop participants). Participants were then asked to imagine futures in places they knew well. The workshops were intended to help participants create stories that were anchored in place-presents, but which opened up the possibility of alternative place-futures.

The future imaginaries presented here are drawn from a series of five workshops carried out in the English Midlands and Scottish Central Belt regions of the UK. The workshops were conducted in October 2022 and January, March, June and August 2023. Two were open and advertised to the public (October 2022 in the Scottish Central Belt and January 2023 in the English Midlands). The other three were conducted with what might be thought of as "experts" or at least "stakeholders": undergraduate students enrolled in a course on the topic of Energy and Society (March 2023) and staff at two different offices of a part public-funded geoscience organisation (June and August 2023).

A total of 45 people participated in these five workshops. We were given permission to use and publish 28 of the stories that were created. Some participants asked for their stories to be used anonymously. Some chose to use pseudonyms. Some asked to be identified by their initials or their names. No distinction is made between names and pseudonyms below.

3.3. Assemblage analysis

The data presented below are themselves assemblages of images and texts. Consistent with our underlying theoretical perspective, we adopt assemblage analysis approaches, particularly as developed and operationalised by Feely (2020) and Wilson and co-authors (2021, 2023, forthcoming).

Underpinning such approaches is a recognition that assemblages (co)operate at several levels in the research process. On one level, multimodal texts such as the albums created by each South African co-researcher are themselves assemblages of images and written texts that connect different places, times and experiences and through which currents of knowledge and affect flow. Similarly, the stories and fictions created in the UK are assemblages of recent and past experiences, cultural resources and the prompts provided by the research team. On another level, the albums and stories from South Africa connect with each other as they were shared and created within site-specific workshops, and the stories and fictions created in the UK connect across workshops both through the practice of reading stories as prompts and the availability of stories on a project website. On another level again, when brought together by the authors for analysis, these individual assemblages network into something that is more than (or different to) a collection of the different parts, as new connections form across collections and new series of repetition and difference emerge.

4. Present ordinaries: images from the Cape Flats

The aggregated images and captions generated by participants through the photovoice processes in *Water and Fire* provide unique, personal perspectives on the material everyday in each of the three research sites. As described elsewhere (Water and, 2022; Wilson et al., 2023), the photos reveal repetitions and variations of physical hazards: pooled, dirty water and mounds of refuse in Sweet Home Farm; broken and leaking infrastructure in Delft; naked flames, jerry-rigged electrical connections and narrow alleys in Overcome Heights. They also reveal some of the dynamics that characterise the sociomaterial assemblages evolving within these Anthropocene harmscapes. While there are variations that depend on the nature of the dominant risks, we see three key dynamics that occur across all three sites: the shaping of intra-community relations, the development of landscape literacies, and adaptations that develop in response. In the following, we show how these dynamics are tightly tied to the mundane, repetitive everyday in both lived presents and imagined futures.

4.1. The shaping of intra-community relations

Photographs and captions created by participants across the three sites show the ways in which repeated (and in some cases permanent) exposure to hazard can shape relations between people. Some images show positive dynamics, such as when people work together to rebuild burnt-out shacks. However, a more common dynamic emerges in photographs that focus on the causes of the challenges that residents in these and similar places face. For example, a repeated visual theme in Sweet Home Farm is images of people throwing things out of buckets and/or down drains, as in Fig. 1.



Fig. 1. Drains blocked by fat from food waste, by Nomtha.

Nomtha's caption reads:

On this street corner a lady sells Intyorontyoro [sheep or cow intestines]. She uses water to clean this food and then she throws the water out. The fats in the discarded water will block the drain which increases the risk of flooding. The cleanliness of the surrounding area is not her priority.

In Delft, a similar dynamic of blame is evident in photographs that show people “wasting” water in everyday, ordinary activities. For example, some photographs are used to criticise others for having paddling pools or using inefficient washing machines. Fig. 2 and its caption show how the ordinary activity of washing cars can become divisive:

Logan's caption for Fig. 2 is:

Here you can see how water is being wasted by a person owning a car. She is washing her car from the other side of the road. Huge amounts of water is being wasted here. They think they live in Constantia where they can do whatever they want and that they own the world. When they earn money like that, they think they can waste water like this.

In Overcome Heights, our co-researchers attribute most outbreaks of runaway fire to the negligence of others, both in the photovoice process and in a previous household survey (Ncube et al., 2023). Sometimes this is through drunkenness, sometimes through forgetfulness and sometimes because a fire is left unattended for some other reason. Aqeelah's image of the everyday act of cooking (Fig. 3) illustrates this:

Aqeelah's caption reads:

This picture shows how the frying pan is left unattended on the gas stove. Pensioners easily forget stuff. If the oil in the frying pan becomes too hot it can cause a fire.

Thus in each place-assemblage, everyday activities contribute to deepening lines of articulation along which blame and responsabilization flow.

4.2. The development of place and landscape literacies

A second dynamic within all three place-assemblages is the ways in which residents develop landscape literacies. The pedagogical power of these places has been explored in more detail elsewhere (Wilson et al., 2023; Wilson et al., 2024). Here, we provide examples from each place.

In Sweet Home Farm, everyday, repeated experience teaches residents to view water as a threat to both home and health. But landscape and place also contribute to opposing lines of articulation and flight relating to land ownership and use: for example, who gets to occupy the higher, less flood-prone land, or the potential taking away and repurposing of communal land. John's photovoice album illustrates this last issue (Fig. 4):

John's caption illustrates how his understanding of the land is linked to both the externally-imposed, crisis-driven demand for more



Fig. 2. Car wash, by Logan.



Fig. 3. *Frying pan on the gas stove*, by Aqeelah.



Fig. 4. *Playing field*, by John.

stormwater ponds, and the everyday needs of young people:

You may see a dam, but this place, this place holds high importance to us the youth of Sweet Home Farm. This is our playing ground, our soccer field. With this year's winter and the blockage of drains, it has really affected us badly. Kids cannot play there, they have to be on the streets doing things that they are not allowed to do; smoke, ask for money come weekends they are drinking alcohol ...

In the more formal environment of Delft, the co-researchers' photovoice images reveal a more distanced relationship with landscape, but nevertheless the power of place to teach residents to act (and be) in certain ways is evident in their everyday experiences. Fences and boundaries recur through the images, marking out ownership but also dividing spaces between the tended and the neglected, as illustrated in Luthfiya's image, *Drought* (Fig. 5).

Luthfiya's caption reads:

This picture is taken at The Hague Primary, Delft. This is literally on the other side of the fence where the Jojo Tank is installed. This shows the difference of what water saving can do. The one side is a fully fledged flourishing water garden and on the opposite side we have a dry and brown dead grass. If we had enough Jojo Tanks both sides would be exactly the same.

In Overcome Heights, two contrasting spatial themes recur: the narrow alleys (literal lines of articulation) that separate shacks, and the open spaces that are simultaneously places of sanctuary and threat when fires break out. Chevron's picture of a much-used open space (Fig. 6) illustrates this theme.

Chevon's caption reads:

The vacant space that people use to place their belongings is both helpful and also a challenge. Due to high crime rate people are not safe as gangsters and druggies will rob and steal people's belongings.

This permanent fixture of Chevron's everyday landscape establishes itself as a powerful but amoral actor in a harmscape of frequent fires and embedded criminal gangs.



Fig. 5. *Drought*, by Luthfiya.



Fig. 6. *The challenges of fighting fire, by Chevon.*

4.3. Adaptations

The development of place and landscape literacies underpins many of the present and hoped for future adaptations that are also evident across all three settlements. In Sweet Home Farm, participants' images showed physical adaptations including raising houses on steps or rubble, and the creation of makeshift bridges and stepping stones. They also revealed social adaptations as the combination of water and waste resulted in new market opportunities. Fig. 7 is one of several images that showed people picking through dumped waste to gather the blue plastic refuse sacks that can be used to waterproof ceilings.

Nobuntu's caption reads:

After the rain people are going up and down collecting plastics on this dirtiness ...

In Delft, adaptations are in part driven by the emergence of pockets of deeply informal settlement between the more formal areas which have access to domestic water and sewerage. It is through this infrastructure that water is controlled and restricted, while informal settlements are provided with unmetered communal taps. As Fig. 8 shows, this leads in some cases to boundary-crossings, with those living in formal areas visiting more deprived, informal neighbourhoods to acquire extra water, taking advantage of the opportunities for imperceptibility offered in the relatively smooth space of the informal and not available on the tightly controlled, striated space of the formal.

Zintle's caption reads:

This place is called a secret place. Most of the people that lives in [a part of the settlement called] Covid gathers water from the secret place since they had problems with water shortage.

Finally, the images created by co-researchers in Overcome Heights include adaptations at the level of households and individuals. A striking example provided by Aqeelah is shown in Fig. 9.

Aqeelah explained this image as follows:

This picture shows a fish tank, during the last fire the fish died. We keep the fish tank filled with water because we do not know, when next there will be a fire.

This last image reinforces the impression that is given by the collective of images as a whole of the importance of the everyday – that is, the dominance of the ordinary over the extraordinary that accompanies the normalisation of danger. The images chosen to respond to the prompt question about future events show more of the same: more rubbish and jerry-rigging in Sweet Home Farm, more Jojo tanks in Delft, and more containers for storing water (including Aqeelah's fish tank) in Overcome Heights. It is repetition that striates these place-assemblages with risk and so renders them harmscapes.

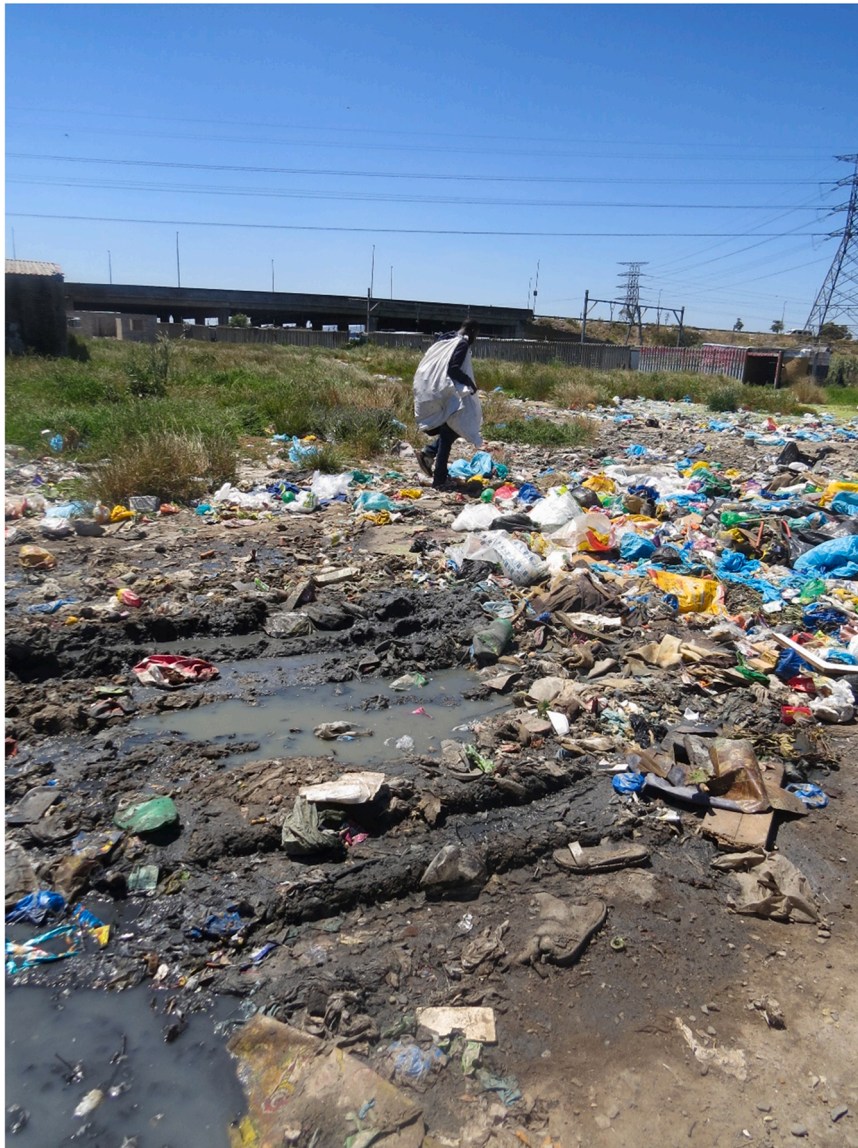


Fig. 7. *The situation is redirecting us to dirtiness*, by Nobuntu.

5. Future ordinaries: imaginaries from the UK

We now turn from visual images of the present in South Africa to written imagined futures in the UK. Where climate precarity is already immediate in South Africa, the UK seems relatively secure. These stories were generated in workshops that acknowledged the origins of the process as a mechanism for knowledge exchange between South Africa and the UK, but that did not present the three dynamics described above. It is thus striking that despite the differences in time and space, our UK-based participants' stories spontaneously display parallels, echoes and resonances with the realities experienced by our South Africa-based co-researchers. The stories are rich with descriptions of the ordinary – gardens, journeys to the shops, coming home on the school bus. The three dynamics that emerged from the photovoice images above were also key elements of our participants' stories.

5.1. Imagined intra-community relations

Just as with the photovoice images and captions from Sweet Home Farm, Delft and Overcome Heights, many of the stories written in the English Midlands and the Scottish Central Belt describe intra-community relations, sometimes being strengthened as people helped each other in times of difficulty, or being strained through tensions and frictions arising from competition for resources. In each case, the ordinary looms large. For example, the story *When Will They Listen?* describes water being delivered by lorry to drought-



Fig. 8. *The secret place*, by Zintle.

ridden future Scotland:

But today the lorries arrive and people queue – hot, bothered, with greasy hair and only partially clean clothes. Neighbours brought together, checking on one another, and kids playing on the street like the days of my childhood. (Kirsty, Edinburgh, August 2023)

It is the mundanity of the greasy hair and partially soiled clothes that makes the situation easy to relate to. Other stories describe tensions arising within families or between neighbours as resources become limited or restrictions are imposed. *A Normal Saturday* starts:

I watch two small heads bobbing in the back garden - arguing over who is going to pick the only strawberry that grew on the bush this year. (Keely, English Midlands, June 2023).

Again, there is no real sense of drama here – the focus is on small-scale irritants rather than global crises. Another story written in the same session also starts with an argument:

I can hear the neighbours shouting at each other again. It's supposed to be No. 8's allotted hours of water use but someone else has used their washing machine so there's not enough water pressure. There are constant arguments these days. (Anonymous, English Midlands, June 2023).

In these imagined futures, tensions arise out of constraints and restrictions, lines of articulation that limit people's freedom of action. It is worth noting that June 2023 in the UK was unusually warm and sunny, perhaps explaining the focus on heat-induced irritability in some of the stories produced in that session. However, July and August were unusually wet, so the persistence of thoughts of drought in the later session in Scotland demonstrates a growing awareness of and sensitivity to the hotter, drier periods that Scotland has experienced over recent years. This leads us into the second dynamic, relating to landscape literacies.

5.2. *The presence/influence of place knowledges and place literacies in imagined future harmscapes*

Many of the stories are deeply embedded in particular places and reveal important aspects of both present and future place and landscape literacies. In particular, the movement of water and subsequent re-shaping of the landscape was central to many of the



Fig. 9. Fish tank, by Aqeelah.



Fig. 10. Imagined future of Grangemouth.

stories. Some of the stories reveal an understanding of the water-related risks facing certain places: for example, *Waterfront View* imagines that in 2010, the narrator made the conscious decision to buy a house that was close, but not too close, to water. In the future of the story, they now sit 'on our front step with our morning cuppa, watching the ducks splash in the water at the end of our ever-reducing garden' (EF, Scottish Central Belt, October 2022). Spaces previously striated by streets and buildings are rendered smoother (and so riskier) by the rising waters.

In a similar vein, *A Thought from 2056* combines a visual sketch and a brief text that demonstrates awareness of the risks facing Grangemouth, a major centre for the petrochemical industry on the Firth of Forth – and also the creation of new, immediate personal risks of being stranded:

There's just time to take the shortcut to Bo'ness through the causeway at Grangemouth.

Strange to think that this was once dry land and not covered every day when the tide comes in.

If you look carefully you can see where the industry used to be, and the shells of the houses and the docks. (Anonymous, Scottish Central Belt, October 2022)

Another story, *The Bridge*, describes a reconfiguration of landscape along the River Severn in southwest England. The story describes a journey by boat, made familiar through repetition, to rescue a grandmother stranded by floodwaters following yet another storm:

... she had made this journey multiple times before, guiding the small dingy through the narrow channels on the edges of the Severn, avoiding the sand bars and staring out over the miles of flooded fields. This time the waters had reached as far as the old motorway (Anonymous, English Midlands, June 2023)

While rising waters feature in several of the stories, others imagine landscapes transformed by drought and heat. For example, *When Will They Listen* includes a precise and rather beautiful description of a diminishing reservoir:

We sit and watch, day after day, week after week, as the water falls lower and lower. Pebbly beaches expand to sand then mud as the reservoir shrinks and shrivels away, as the grass turns yellow then brown, and the trees slowly sigh and wilt. Hillsides once lush and green now bone dry – ready to alight at the slightest spark. (Kirsty, Edinburgh, August 2023).

Another story, *River Trent Walk*, recounts the changes the author anticipates observing on a walk she regularly takes. Her description is suffused with both present place-knowledge and anticipated loss: a landscape where no birds sing, no animals are present, and 'the once-colourful Memorial Gardens' are now the same drab brown as everywhere else.

Taken as a whole, the stories shift between visions of flood and visions of drought – and as foreshadowed in the stories of future tensions described above, some of them also envisage changes to vegetation, whether in cultivated gardens and fields or in less tended spaces. Another story of a familiar walk, *Spring in Autumn*, demonstrates the author's recognition that the seasons are already changing: Contributed anonymously following the workshop in the Scottish Central Belt in October 2022, the story takes the form of a map of a circuit walked daily by the author. This habit-worn line of articulation is broken by photos of spring flowers and summer fruit ripening in mid-October (Fig. 11) that indicate the risk of 'the entire assemblage ... [being] swept up by these vectors or tensions of



Fig. 11. Wild strawberry in October 2022, anonymous, Scottish Central Belt.

flight ... and falling into a black hole' (Deleuze & Guattari, 1987, p. 110).

Another contribution from the Scottish Central Belt, *Food All Year Round*, imagines how these already-present changes might develop in the medium-term:

It was while we were sitting out in that mild October evening air that it dawned on us – there was really no reason for the growing season to be so limited. The wild raspberries had been producing two crops per year for the last couple of years; the apple trees and brambles in Cambuskenneth were flowering again; and we'd seen our first snow drops just before Hogmanay the previous year. If we just shifted the times for sowing and harvesting, we could probably fit in two or even three crops per year ... We trialled it in [the community garden] ... We didn't quite get it right the first time, but as our climate continued to change it got easier and easier. Now, ten years on, we've extended our territory into most of the green space along the Forth, from the playground down to the Old Bridge. (Wilbertson, Scottish Central Belt, October 2022)

These stories show how place-knowledges are crucial to moves towards imagining ways of living in changed place-futures. They enrol the mundane, through knowledge gained by repetition rather than shock.

5.3. Imagined adaptations

The stories created in the UK workshops imagine adaptations – changes to life resulting from changes to the environment and informed by the place knowledges and place literacies described above. Some of these were similar to the adaptations described in the place-presents in South Africa; others were more wide-ranging social reconfigurations reflecting the transformations of familiar landscapes into imagined future harmscapes.

5.3.1. Making do: tweaks and regressions

The imagined changes to local landscapes were sometimes accompanied by changes to social/human activities that might enable coping, or continuation of life approximately as we know it; that is, maintaining familiar lines of articulation. For example, one imaginary enrolls the author's experiences of living in Southern Europe before moving to the UK to ask the question, what should he grow in his garden, given the changing climate?

... should [I] grow some nice 'local' (i.e. GB) berry plants or should I try to grow a vineyard, an olive tree, a cork tree or some other plants more typical from further sunny south?))

Well, I don't know ... will be seen as 'local' / 'typical' for a given place in the near future;))) ...

Well, should I go back to south after all?

or should I wait for south to travel north? (Antonio, English Midlands, June 2022)

Adaptations to horticulture and agriculture featured in other stories. Some of these changes were framed as returns to the old ways, regressions or losses/abandonments of technologies. *The Soil is Dead*, written by Emily at a workshop in the Scottish Central Belt in October 2022, describes farmers and communities acting to save the dying soil through practices such as swales, natural composts, poly-culture and no-plough farming. Another, untitled, piece imagined less positive adaptation. The author imagines that, following resistance to the widespread deployment of technologies such as wind turbines, 'the power ran out, the farmland reduced; wiped out by drought and flood'. As a consequence:

We are now growing our own veggies, just like our grandparents. We have a simpler life; the lack of electricity means we go to bed when it's dark, we keep things and reuse things. Our lives have become smaller. It feels we have gone back in time... (Hazel, English Midlands, June 2023)

Reduced supplies of power figure in other stories, such as one created by Grace M in the Scottish Central Belt in March 2023, which imagines a reliance on mechanical power to provide illumination in the long, dark, winter evenings in her home in Canada. Other stories imagine changes to transport systems in futures where oil has either run out or been abandoned – again, some of these are characterised by a return to currently disused systems such as canals, or improved public spaces as cars disappear from streets – lines of flight that point backwards to a past perceived as less harm-filled than the present.

5.3.2. Reconfigurations

In addition to the relatively small-scale, focused adaptations described above, some participants imagined much more dramatic reconfigurations of place, with social reconfigurations resulting from, or emerging within, landscapes transforming or transformed into harmscapes.

The Leisure Centre, created at the workshop held in the Scottish Central Belt in August 2023, draws on the anonymous author's place-knowledge of an English market town, where a municipal leisure centre and swimming pool had been built next to the river in the 2000 s and refurbished in the 2020 s. The story describes a future one or two decades away in which increasingly frequent floods, exacerbated by the construction of bunds and other measures to protect housing built on the river's flood plain, lead to a decision to build a new centre on higher ground. However, all the higher ground is already built upon. The solution is to demolish the last remaining council houses in the town, which are built up the hill on what used to be the town's outskirts, to create the required site. The residents are relocated in different places, so the benefit to the whole town comes at the cost of the loss of community for an

already disadvantaged section of the population.

A similar dynamic of unevenly distributed benefits and costs, inequalities and even polarisation shapes other stories. *I can't go out today, again* (written by Andrew at the workshop held in the English Midlands in June 2023) imagines another future 40–50 years away. The story starts: 'It's too hot, it's too cold, it's too rainy, it's too windy'. The narrator is 'one hundred and in good health' but is trapped in their bungalow – initially the reader is led to understand that this is a result of the extreme weather. Their needs are catered for via drone deliveries and '4D entertainment' in their virtual world:

But for all these advances, I miss going for a spring walk and hear the pigeons hurrumping, the rapid-fire yaffling of the woodpecker and the rustling of leaves in the cooling breeze. To sit outside a pub and see the sun sink over the horizon.

But it turns out that it is not simply the emergence of an environmental, climatic harmscape that prevents the narrator from going outside:

Then there are the dispossessed who they say range the countryside waiting for the old and vulnerable. They say they will hold you hostage to demand credits from your family. At least that is what I'm led to believe.

To Scotmid Over the Dunes (written by Lauren in the Scottish Central Belt workshop in August 2023) imagines a future in which Gorgie, a currently damp and green area to the west of Edinburgh, is transformed into sand dunes. The unnamed protagonist, referred to only as 'they' or 'them', is crossing these, surrounded by 'the white-noise din of the aircon units at each and every window' – something currently not needed in typical Scottish buildings. The story is infused with detail demonstrating the writer's sensitivity to and understanding of the potential transformation of a familiar place into a harmscape:

The colour of the sand took them back to university when they had first learned that Scotland has once been a desert, back when it was a part of Pangea and close to the equator with a much thinner atmosphere.

It was returning to that now.

This transformed and still transforming landscape has resulted in significant social reconfiguration:

It's been a number of years since those who could moved south to the climate-controlled bubbles that are the cities in England and Wales these days ... It seemed criminal to them that the bubble technology in the south was patented and just a handful of people got to decide who got liveable air to breath and a stable climate.

The unequal impacts imagined in *The Leisure Centre* are even more pronounced here, made worse through an innovation system based on the notion of intellectual property rights and thus energising lines of articulation around ownership and control.

The inequalities emerging in these stories are imagined on a more global scale in *Small Hands, Close to the Ground*, which was created by the lead author in October 2022, immediately following the Scottish Central Belt workshop held that month. Like *To Scotmid over the Dunes*, this story enrolls important knowledge of place-present and a level of place and landscape literacy that allows a climate-changed future imaginary to be created. It also explicitly draws on then-current political events and discourses to imagine a near future in which climate refugees from southern Africa and elsewhere are allowed into the UK via a 'Guest Worker' scheme. Although many stories connect the local to the global in relation to changing weather and climate, this story is one of just a handful that connect the local with the global at the level of human migration and politics. Despite this, the story is still firmly rooted in the ordinary, with familiar preoccupations such as ambivalence towards refugees and problems with domestic waste collection:

Noone had anything against them per se, but our schools were already overstretched ... Why not let the Guests earn extra Loyalty Points if their children did useful work too? Stirling had faced a growing problem with litter as a combination of funding cuts and rising oil prices had forced the Council to reduce the domestic waste collection service, first to once per month and then to once every six weeks.

The last story we consider here is one of a small number that imagine a reconfiguration towards *increased* fairness. *Township Dumyat*, created by Moira at the workshop held in the Scottish Central Belt in October 2022, displays a deep knowledge of place-present and sensitivity towards potential transformation into harmscape similar to the stories described above. In this case, the action is set around the women's prison that currently occupies a patch of flood plain by the River Forth. The story starts with the staff and prisoners being evacuated due to floods:

... the folk up the hill took us in again. Not the prisoners of course, they got carted in vans up tae the Uni and set up in makeshift camps in Pathfoot and Cottrell. We aw waited for the water tae go doon, but the high heid yins at SEPA said, 'No this time.'

As local residents, staff and prisoners alike adapt to the permanently changed conditions, a new partnership develops between them, recognising the skills and resourcefulness of the prisoners. They make use of scrap from the local tip to build huts on higher ground:

Township Dumyat stretched fae the Hermitage Wids as far as Jerah and beyond. When it's finished we reckon we'll be safe fae floods fur a decade or two.

And the prisoners? Hell, we've thrown away the keys. We need aw the help we can get and mair-some.

Thus the archetypal striated space – a prison – is destroyed by the irresistible smoothing force of rising water described in other stories, allowing a new type of order to emerge.

6. Discussion

In the present, the unfolding sequences of deadly floods, droughts and fires affecting more vulnerable countries and regions might be read as a primer for the future for those living in more temperate zones. There is an understandable emphasis on the urgency of the situation and the very real potential for cataclysmic events to occur. In this context, work using speculative fictions and scenarios is often intended not only to explore possible consequences, but also to create a sense of responsibility for, and to look for ways to avert, what are recognised as catastrophically bad outcomes, and to empower people to articulate preferred alternatives. The dominant use of scenarios has thus involved imagining preferred futures and ideal alternatives, and pathways towards them, often involving ‘seemingly viable, readily visualised storylines’ (Tysczuk, 2021, p. 11), and often including elements of the hero’s journey narrative arc (Schultz et al., 2012). Indeed, such speculative practices often encourage stories and imaginaries that include dynamics of resistance, overturning established norms and hierarchies, defiance of convention and empowerment of the oppressed (e.g. Clot-Garrell, 2023; Riedy & Waddock, 2022; Wilkie et al., 2017).

The images and imaginaries presented here do something different. They do not focus on moments of drama and decision-making, and they tend to avoid the responsabilization implied when participants are required to embrace the role of hero. Instead, they highlight the importance of place-based ordinaries.

6.1. Place-knowledge and the ordinary

The images and captions in the photovoice albums from South Africa illustrate how the pedagogical power of Anthropocene harmscapes resides in and is strengthened by repetition and familiarity. Their images do not show dramatic, cataclysmic events; the focus is not on showing the impacts of a singular disaster, but rather on evidencing the ever-present risks inherent in the harmscapes produced by the collision of urbanisation, informality and climate change. Despite these risks, people continue to live their lives. As more frequent flooding, drought and fire weather becomes normal, the changes to life and landscape become invisible, transparent through their persistence and ubiquity. Indeed, awareness of climate change, or its association with the permanent predicaments experienced by the residents of Sweet Home Farm, Delft and Overcome Heights, is conspicuous by its absence.

The time-constrained workshops in which our UK-based participants produced their imagined futures meant they generally took the form of scenarios or flash fictions rather than fully-developed stories. They share many similarities with the stories of the present expressed through the images and texts from South Africa, including the three dynamics that we illustrate above and a focus on small-scale, everyday experiences. As described above, the participants in each workshop were asked to think about the ways climate change might impact life, and to ground their imaginings in places that they felt they knew well. Thus it may not be surprising that the stories are firmly rooted in place. What is perhaps more surprising is their consistent focus on the everyday. Despite our use of a fantastical, sci-fi like example of a possible “climate solution” as a prompt, our participants seemed to be more drawn to creating snapshots of future ordinaries: afternoons in gardens, familiar walks, having a cup of tea or a drink at a pub.

Some stories draw on the themes of climate catastrophism identified by Yusuff and Gabrys (2011) – for example, *The Bridge* describes a landscape dominated by the ruins of transport infrastructure, suggesting society’s inability to cope with the changing climate. But it was more common for the imagined futures to be recognisable as the result of small changes and adaptations made in response to repeated inundations, droughts or storms, or gradually rising temperatures. While climate change is present, “tipping point” narratives (in the sense of sudden phase changes in environment or society) are absent. This is in marked contrast with other speculative climate futures research focusing on ‘catastrophe and collapse’ (Clot-Garrell, 2023) or ‘mov[ing] from a problematic present to a more desirable future’ (Riedy & Waddock, 2022, p. 11) through awakenings produced by crisis, and in the process ‘challeng[ing] neoliberal capitalism’ (ibid., p. 14).

6.2. Dynamics of resentment and blame

Our understanding of place-presents as contingent and path-dependent assemblages of people, things, environment and landscape suggests a need to avoid responsabilizing individuals or our species both for the situation we are currently in and for finding ways out. This is not to say that humans have no responsibility, but that understanding humans as parts of complex socio-ecological assemblages requires a recognition that they are not the sole wielders of power and agency. The (human, social and ecological) world remains riddled with inequalities of resources, agency and possible futures, which have been arrived at through the complex interactions of many factors and influences, but which are nevertheless real. Both the realities in South Africa and the imagined futures in the UK reinforce this view. Dynamics of blame, where they are present, are not linked to lines of flight leading to positive action or transformation but rather to lines of articulation as resentment builds over repeated minor violations of perhaps unspoken or unshared expectations.

6.3. Reconfigured social structures in reconfigured landscapes

Both present accounts and future imaginaries contain reconfigurations of place, where place is understood as a relational assemblage of physical environment, bodies and objects, social practices and relations. There is, however, an important difference in scale and scope. The reconfigurations in the Cape Flats are largely confined to the neighbourhoods where impacts are most felt, with flood and fire events coped with at a highly localised level. The images taken in response to the questions about what could improve the situation focus on reforming the behaviours of individuals, or fixing existing infrastructure. Even where an existing reconfiguration

goes beyond the immediate locality, as in the city-wide water restrictions that were the focus of the research in Delft, imagined solutions were directed at finding ways to cope locally – fixing leaking meters or increasing the number of Jojo tanks, for example.

The UK-based participants, imagining situations that they are not yet having to deal with, have more freedom to imagine more dramatic reconfigurations of place. Some of these (such as *The Bridge* and *A Thought from 2056*) focused on reconfigurations of the physical landscape. Others described social reconfigurations resulting from the changed physical environment. Most of these tended to imagine what we might think of as negative reconfigurations, reflecting the transformation of familiar landscapes into harmscapes and consequent inequalities in e.g. distribution of resources or capacities to cope. Where positive change was envisaged, it tended to be in the form of strengthened social cohesion within a restricted group or region, in the face of local adversity, as illustrated in *Township Dumyat*.

7. Conclusions

Aguiar et al. (2020) recognise the need for climate futures research to explore perspectives across a range of different scales and perspectives, including Global South and Global North, and in particular to look for convergence and divergence. Our analysis above contributes a new dimension to this effort, by assembling stories of the everyday life of individuals across geographical spaces, socio-economic contexts and present/future times.

In the concluding chapter to *Learning to Live with Climate Change*, Verlie (2022) imagines that:

learning to live with climate change ... involves the kinds of respectful sorrow encompassed in the common idiom ‘learning to live with’ something. It refers to the entwined affective labours of identifying and mourning relationships as they are torn apart, disfigured and/or reconfigured as the planet cooks. (p. 114)

She advocates collective storytelling as a way of ‘learning to live with’ and suggests that the process of ‘storying-with’ both climate (p. 98) and climate-changed people (p. 93) will help us to “mourn” the reconfiguration of the places we are embedded in:

As such, learning to live with climate change is going to be disconcerting and distressing, but it could also be joyful, reassuring, refreshing and/or invigorating. (ibid., p114)

The story creation workshops in the UK certainly proved disconcerting for some, but they also provided a sense of collective expression that whilst not necessarily reassuring seemed to be refreshing. Part of the power of stories produced in this way is the creation of futures that seem realisable – the continuation of the ordinary as a category is perhaps comforting in the face of potential cataclysm.

However, the stories produced in our workshops also suggest that joyfulness and reinvigoration are not strong themes when people are asked to imagine possible futures. Instead, there is a consistent and perhaps worrying sense that we will find ways to persist within harmscapes, just as we see in the present in South Africa (and elsewhere), rather than visions of future landscapes that have *not* been transformed into harmscapes. The exceptions to this are *The Soil is Dead* and *Food All Year Round*, although the former has us passing through disaster and transforming a harmscape back to something less dangerous. The stories from the UK are characterised by a perhaps unhelpful combination of stoicism and lethargy. We can speculate that this may be a consequence of widespread awareness of climate change, rather than ignorance of it: the increasingly repetitive news of climate disasters may habituate audiences to their inevitability. Alternatively, it may be that when the landscapes they play out in are unfamiliar, their pedagogical power is diminished.

Our work suggests that if we want to understand the local knowledges that might be mobilized in response to climate change in the near future and beyond, we need to know about the everyday – the ordinary – as much as the extraordinary, the crisis or utopian vision that animates much climate futures research. On the one hand, it is the ordinary that provides a continuity between present and future: the extraordinary is always a rupture (or in Deleuze's, 1994 terms, a caesura). Thus if the resilience of a place is related to its capacities for continuity and consistency, then that resilience is inherently linked to the ordinary. On the other hand, our accounts of both present and future show how harm is embedded in the ordinary: indeed the normalisation of harm, when it fades into the background through repeated exposure, may be a defining feature of an Anthropocene harmscape. Navigating a path from the present to a more desirable future may require careful attention to both present- and becoming-ordinaries.

CRedit authorship contribution statement

Anna Wilson: Writing – review & editing, Writing – original draft, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **George Robertson:** Project administration, Investigation, Data curation, Conceptualization. **Jen Dickie:** Writing – review & editing, Investigation, Funding acquisition.

Declaration of Competing Interest

The authors declare that there are no competing interests.

Data Availability

Data will be made available on request.

Acknowledgements

This work was supported by the UKRI through the Global Challenges Research Fund, project award reference: ES/T003561/1.

References

- Aguiar, A. P. D., Collste, D., Harmáčková, Z. V., Pereira, L., Selomane, O., Galafassi, D., Van Vuuren, D., & Van Der Leeuw, S. (2020). Co-designing global target-seeking scenarios: A cross-scale participatory process for capturing multiple perspectives on pathways to sustainability. *Global Environmental Change*, 65, Article 102198. <https://doi.org/10.1016/j.gloenvcha.2020.102198>
- Albrich, K., Rammer, W., & Seidl, R. (2020). Climate change causes critical transitions and irreversible alterations of mountain forests. *Global Change Biology*, 26(7), 4013–4027. <https://doi.org/10.1111/gcb.15118>
- Anderson, B., & McFarlane, C. (2011). Assemblage and geography. *Area*, 42(2), 124–127. <https://doi.org/10.1111/j.1475-4762.2011.01004.x>
- Berg, J., & Shearing, C. (2018). Governing-through-harm and public goods policing. *The Annals of the American Academy of Political and Social Science*, 679(1), 72–85. <https://doi.org/10.1177/0002716218778540>
- Briggs, J., & Sharp, J. (2004). Indigenous knowledges and development: A postcolonial caution. *Third World Quarterly*, 25(4), 661–676. <https://doi.org/10.1080/01436590410001678915>
- Clot-Garrell, A. (2023). Voices of emergency: Imagined climate futures and forms of collective action. *Current Sociology*, Article 00113921231182179. <https://doi.org/10.1177/00113921231182179>
- Deleuze, G. (1994). *Difference and Repetition*. Columbia University Press.
- Deleuze, G., & Guattari, F. (1987). *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota press.
- Doyle, J. (2020). Creative communication approaches to youth climate engagement: Using speculative fiction and participatory play to facilitate young people's multidimensional engagement with climate change. *International Journal of Communication*, 14, 24. <https://ijoc.org/index.php/ijoc/article/view/14003>
- Feely, M. (2020). Assemblage analysis: An experimental new-materialist method for analysing narrative data. *Qualitative Research*, 20(2), 174–193. <https://doi.org/10.1177/1468794119830641>
- Forster, P. M., Maycock, A. C., McKenna, C. M., & Smith, C. J. (2020). Latest climate models confirm need for urgent mitigation. *Nature Climate Change*, 10(1), 7–10. <https://doi.org/10.1038/s41558-019-0660-0>
- Gruenewald, D. A. (2003). Foundations of place: A multidisciplinary framework for place-conscious education. *American Educational Research Journal*, 40(3), 619–654. <https://doi.org/10.3102/00028312040003619>
- Gruenewald, D. A. (2014). Place-based education: Grounding culturally responsive teaching in geographical diversity. *Place-based education in the global age* (pp. 161–178). London: Routledge.
- Iossifidis, M. J. M., & Garforth, L. (2022). Reimagining climate futures: Reading annihilation. *Geoforum*, 137, 248–257. <https://doi.org/10.1016/j.geoforum.2021.12.001>
- Jevrejeva, S., Moore, J. C., & Grinstead, A. (2012). Sea level projections to AD2500 with a new generation of climate change scenarios. *Global and Planetary Change*, 80, 14–20. <https://doi.org/10.1016/j.gloplacha.2011.09.006>
- Lohmann, J., & Ditlevsen, P. D. (2021). Risk of tipping the overturning circulation due to increasing rates of ice melt. *Proceedings of the National Academy of Sciences*, 118(9), Article e2017989118. <https://doi.org/10.1073/pnas.2017989118>
- Milman, O. (2023). A solution to the climate crisis: mining the moon, researchers say. *The Guardian*, 8th February 2023. <https://www.theguardian.com/science/2023/feb/08/moon-dust-moonshot-geoengineering-climate-crisis>
- Miner, K. R., Turetsky, M. R., Malina, E., Bartsch, A., Tamminen, J., McGuire, A. D., Fix, A., Sweeney, C., Elder, C. D., & Miller, C. E. (2022). Permafrost carbon emissions in a changing Arctic. *Nature Reviews Earth & Environment*, 3(1), 55–67. <https://doi.org/10.1038/s43017-021-00230-3>
- Mpofu-Mketwa, T. J., Abrams, A., & Black, G. F. (2023). Reflections on measuring the soundness of the digital storytelling method applied to three Cape Flats vulnerable communities affected by drought, fire and flooding in Cape Town. *Social Sciences & Humanities Open*, 7(1), Article 100407. <https://doi.org/10.1016/j.ssho.2023.100407>
- Ncube, S., Wilson, A., Petersen, L., Black, G., Abrams, A., Carden, K., ... Swanson, D. (2023). Understanding resilience capitals, agency and habitus in household experiences of water scarcity, floods and fire in marginalized settlements in the Cape Flats, South Africa. *Social Sciences & Humanities Open*, 8(1), Article 100710. <https://doi.org/10.1016/j.ssho.2023.100710>
- Pink, S. (2012). *Situating everyday life: Practices and places*. Sage.
- Riedy, C., & Waddock, S. (2022). Imagining transformation: Change agent narratives of sustainable futures. *Futures*, 142, Article 103010. <https://doi.org/10.1016/j.futures.2022.103010>
- Rounsevell, M. D., & Metzger, M. J. (2010). Developing qualitative scenario storylines for environmental change assessment. *Wiley Interdisciplinary Reviews: Climate Change*, 1(4), 606–619. <https://doi.org/10.1002/wcc.63>
- Schultz, W. L., Crews, C., & Lum, R. (2012). Scenarios: A hero's journey across turbulent systems. *Journal of Futures Studies*, 17(1), 129–140. <https://jfsdigital.org/wp-content/uploads/2013/10/171-S04.pdf.pdf>
- Simpson, N. P., Shearing, C. D., & Dupont, B. (2019). Climate gating: A case study of emerging responses to Anthropocene Risks. *Climate Risk Management*, 26, Article 100196. <https://doi.org/10.1016/j.crm.2019.100196>
- Smith, J., & Jenks, C. (2006). *Qualitative complexity: Ecology, cognitive processes and the re-emergence of structures in post-humanist social theory*. Routledge.
- Smith, J., & Wilson, A. N. (2024). In *Radical ecology in the face of the anthropocene extinction: a new and urgent philosophy for complexity in the social sciences*. London: Routledge.
- Somerville, M. (2007). Place literacies. *The Australian Journal of Language and Literacy*, 30(2), 149–164. <https://doi.org/10.1007/BF03651788>
- Somerville, M. (2013). Thinking through country: New literacy practices for a sustainable world. *Rethinking Rural literacies: Transnational Perspectives*, 179–196. https://doi.org/10.1057/9781137275493_10
- Tyszczyk, R. (2021). Collective scenarios: Speculative improvisations for the Anthropocene. *Futures*, 134, Article 102854. <https://doi.org/10.1016/j.futures.2021.102854>
- Verlie, B. (2022). *Learning to live with climate change: From anxiety to transformation*. Taylor & Francis. <https://library.oapen.org/handle/20.500.12657/49477>
- Water and, Fire. (2022). UKRI GCRF Water and Fire project website. <https://waterandfire.stir.ac.uk>
- Wilkie, A., Savransky, M., & Rosengarten, M. (Eds.). (2017). *Speculative research: The lure of possible futures*. Taylor & Francis.
- Wilson, A., Ross, J., McKie, J., Collier, A., & Lockley, P. (2022). Telling data stories: developing an online tool for participatory speculative fiction. *Sage Research Methods: Doing Research Online*. SAGE Publications, Ltd., <https://doi.org/10.4135/9781529603514>
- Wilson, A., Dick, L., Ncube, S., Dickie, J., Abrams, A., Black, G., ... Roberston, G. (2023). Living the life of floods: Place-based learning in an Anthropocene harmscape. *Geoforum*, 147, Article 103914. <https://doi.org/10.1016/j.geoforum.2023.103914>
- Wilson, A. N. (2021). Learning to see with Deleuze: understanding affective responses in image-viewer research assemblages. *Qualitative Research*, 21(6), 906–922. <https://doi.org/10.1177/1468794120946979>
- Wilson, A. N. (2024). From Crime and Punishment to Future Archaeologies – reimagining relationships of waste and value. In C. Jordan-Baker, & P. Holloway (Eds.), *Writing landscape and Setting in the Anthropocene: Britain and Beyond*. Palgrave MacMillan.
- Wilson, A., Black, G., Petersen, L., Dick, L., Abrams, A., Carden, K., Mpofu-Mketwa, T., Ncube, S., Dickie, J., Hamilton-Smith, N., Lamb, G., & Roberston, G. (2024). Pedagogies of water stress. *Geoforum*, in review.
- Yusoff, K., & Gabrys, J. (2011). Climate change and the imagination. *Wiley Interdisciplinary Reviews: Climate Change*, 2(4), 516–534. <https://doi.org/10.1002/wcc.117>