11 A call for fuzziness in uncertain times

Rethinking thresholds

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Introduction

> Man has an uneasy relationship with the coast. Throughout history we have tried to ignore it, adjust to it, tame it or control it, more often than not unsuccessfully.
>
> (Carter, 1989, p. 355)

The fuzziness of threshold spaces between water and land, and the consequent necessity of defining their boundaries, physical and formal characteristics, as well as their socio-political and economic implications, is a central theme in both academic debate and professional practice. A degree of abstraction can be valuable for reflecting and interpreting reality (Gandelsonas, 1991; Goméz Escoda, 2018; Viganò, 1999); however, recognising plurality beyond binary oppositions is crucial for understanding and engaging with complex contexts, where overlaps, nuanced gradations, and ambiguity prevail – allowing us to move beyond the oversimplifications of black-and-white thinking. Recognising fuzziness requires a view in which dynamics are part of the systems that shape and form specific local relations between land and water; beyond that, these depend on the intertwining relationships between natural processes and human interventions (García García, 2022; Palmer et al., 2009).

The complex spatial relationship that develops in threshold spaces – between natural elements, such as water and land, and artificial environments, such as urban

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boundaries – is determined by a series of variables (Moretti, 2021). These factors include urban waterfront porosity (Bres & Krosnicka, 2021; Hein, 2021), which influences public access to the waterline; the separation of the water body from the urban agglomeration through boundaries created by natural or artificial barriers, such as port infrastructures (Akhavan, 2020; Hein, 2011; Hoyle, 2000; Meyer, 1999); the permeability of the land, which enables floodwaters to be absorbed; and the capacity of both natural and artificial areas to store water during flood events (Jamali et al., 2020; Matos Silva, 2019).

The variables present in threshold spaces arise from processes of formation and transformation, shaped by both the urban needs of the local populations and the geomorphological and topographical characteristics of the land on which the threshold is located (Hoyle, 1996; Meyer, 2014; Schubert, 2008). Along the urban space near the waterline, different architectural elements of cultural and artistic value can be found (Ochoa, 2012; Ziegler et al., 2024), reflecting the historical and symbolic relations between the city and its aquatic, maritime, or fluvial environment (Andrade & Costa, 2020). These singular buildings (Caniggia & Maffei, 2001), together with monuments present in the urban landscape near the waterline, define places of collective identity, where historical memory intertwines with the social and cultural dynamics of the community (Palmer, 2020; Shaw, 2009; Strang, 2006).

The first forms of recreational use of coastal spaces, such as seaside promenades, healthcare-related, and *villeggiatura*[1] structures, date back to the late 19th and early 20th centuries (Bell et al., 2021; Borsay, 2013; Casais et al., 2025; Gray, 2009; Lobo, 2012). However, it was only in the post-Second World War period that a systematic transformation of the residual spaces between the built environment and the water body began, turning them into true urban leisure areas, giving rise to an urban model that is now widespread in coastal and river cities.

The seashore street or 'street by the sea' (Dal Cin, 2022) has promoted the development of waterfront promenades in areas once dedicated to industrial and maritime functions – a regenerative process that, by the late 20th century, also extended to disused harbour zones (Costa et al., 2023; Marshall, 2004). This type of space has been developed as a public urban area where gardens and squares can coexist, thus allowing the population to interact with the water body (Bell et al., 2021; Borsay, 2013; Casais et al., 2025; Gray, 2009; Lobo, 2012).

Today, these areas are also vulnerable to the effects of climate change, such as rising sea levels and flooding (IPCC, 2023), making it essential to adopt an integrated approach for their conservation and enhancement, balancing the needs for protection with those of accessibility and enjoyment (Michels-Brito et al., 2024). Therefore, understanding the morphological characteristics of the continuous space between land and water is necessary, as it is fundamental for designing consistent and effective adaptation strategies (Barreiros Proença et al., 2023).

The urban space between the artificial system (the city) and the natural system is often seen as an 'in-between' place. The street by the sea (the coastal boulevard) as well as elements like piers or pontoons, also function as the final boundary between the urban system and nature, with the water body defining one of the coastal city's

urban limits (Dal Cin, 2022), while the inland areas are typically characterised by a diffuse network of urban and infrastructural elements. However, due to water's natural and variable characteristics – such as tides, wind, air moisture, vegetation gradients, and topography, among others – it is a boundary that a clear line cannot define. Although navigation charts clearly define the boundary based on the tide, reflecting on the variability of the water-land interface is essential and must be questioned in light of the absence of reference points or lines delineating an area of influence (Boak & Turner, 2005; Cooper & Pilkey, 2004; Dolan et al., 1980), a thickness that seamlessly traverses both urban areas – cities, buildings, and public spaces – and natural areas – such as beaches, shores, and water bodies. This variability of the threshold between sea and land is also a characteristic that exists in river courses. Rivers are more than lines contained within fixed boundaries and this physical dynamic is due both to anthropic and natural causes (Forgaci, 2018; Hein et al., 2024; Hutton, 2022; Prominski et al., 2012).

The effects of climate change, such as rising sea levels and extreme weather events, and scientific projections of flooding and erosion risks (Kirezci et al., 2020; Pollard et al., 2018), have made it clear that, to address future urban, social, economic, and political needs, it is necessary to move beyond the concept of linear boundaries between land and water and to study the liminal territory as a thickness (Roy et al., 2023). A thickness in which complex urban relations – characterised by social tensions and urban vulnerabilities – represent a challenge for researchers, urban planners, designers, as well as policy- and decision-makers. Managing these threshold spaces between water and land through consequent operative adaptation plans and projects is essential, especially in the face of challenges posed by climate change and increasing urban and infrastructural pressure on ecosystems (IPCC, 2022). Solutions must go beyond technical approaches, integrating sustainable strategies that address both societal and environmental needs (Das & Swain, 2024; Michels-Brito et al., 2024).

In conclusion, the various chapters of this book, *Fuzzy Boundaries: Threshold between water and land* emphasise the urgent need to build resilience and adaptability in response to the climate crisis, advocating for transdisciplinary and global collaboration to tackle contemporary challenges.

An essential framework of fuzziness

Through different analytical lenses, the chapters of this book explore threshold spaces between land and water, as well as between natural and artificial environments. They examine the social and spatial relationships within these thresholds, address the intersections between different fields of knowledge; and delve into the role of memory and transformative actions that have shaped these spaces. Additionally, they describe attempts to alter the characteristics of the two environments, thus outlining, through deep reflection, the grounds for a future 'essential framework of fuzziness'.

The common perception of urban and natural phenomena tends to simplify them through clear boundaries and sharp separations between the various subjects

interacting within the landscape. However, while the natural world is in constant transformation, the architectural and urban limits that have so far been considered necessary to define reality are, in light of climate change, becoming increasingly evident as fleeting abstractions. The authors consider that defining the interpretations of marginal space and its meanings, through this collective project that establishes the basis for a framework, allows for the acceptance of the indeterminacy that characterises the threshold spaces between land and water (Dal Cin et al., 2022), as a possible design tool (D'Agostino & Hein, 2024) for rethinking the adaptation of the urban landscape (Beaujeu-Garnier & Chabot, 1966).

As Bathla (2024) highlighted, we must gaze over established boundaries across worlds of knowledge. The present challenges of our urban world must make us turn to each other to learn from different perspectives, be they scientific or geographic. "Research in landscape and urban studies, as in other disciplines, has been subject to the act of border and boundary-making that mediates, conditions, and limits its horizons while determining its outcomes" (Bathla, 2024, p. 14). A possible path for a design process that integrates complementary and sometimes divergent perspectives from different bodies of knowledge was presented by Günther Vogt (2015) as a 'discursive' design process that incorporates contributions

> not only from landscape architecture but also, and predominantly, from other disciplines such as biology, architecture, and geography. As a result, over time our discourses became more interdisciplinary, which strongly influenced our *modus operandi* and ultimately the projects themselves. (…) it is my opinion that in this day and age we should no longer attempt to design them [open spaces] as sole authors (…) we always work in groups (…) that way, extremely divergent experiences are brought to bear on the discussions.
>
> (Vogt, 2015, pp. 176–189)

Matos Silva (2019) further emphasises the importance of a transdisciplinary approach to urban flooding, integrating infrastructure, people, and territory, while fostering adaptable spaces, requiring negotiation between knowledges, in the ever-conflicting interests of safety and search – as well as pressured interest – for closeness to water (Barroca et al., 2019; Buchan et al., 2024; Prominski et al., 2012). "A synthesis residing at the periphery of disciplinary definitions but perhaps at the center of a wholly new form" (Weiss & Manfredi, 2016, p. 150).

This book, within the context of this series, challenges the traditional compartmentalised approaches in teaching, research, and practice, particularly in relation to threshold areas between water and land. It critiques the tendency to treat these domains separately, advocating for an integrated perspective essential to expanding and deepening our understanding of boundary spaces. This book aims to rethink these spaces, providing tools to question their nature and dynamics, and to develop more informed approaches for their adaptation and transformation. It calls for a shift from rigid boundaries to fuzzy ones that accommodate overlapping elements, their movement, and both material and immaterial values.

Operationalising fuzziness: studying and interpreting; drawing, modelling, and designing; implementing and [un]building

In a world where borders, limits, and well-defined lines are often seen as objectives, how can planning incorporate and acknowledge mechanisms to navigate increasing uncertainty? And what shifts are needed in the current project design thinking to incorporate this?

The recognition of fuzziness emerges as the result of a process of learning, observing, and experiencing. However, in contexts marked by urgent decision-making linked to natural or political cycles, this approach requires a gradual deconstruction of both physical and conceptual dimensions of reality.

The chapters in this book propose interpretative and operational tools to address fuzziness, offering evidence and strategies to strengthen resilience and adaptive capacities to both understand and act. This book takes us on a journey of (i) studying and interpreting surroundings to understand context; (ii) drawing, modelling, and designing the threshold space between water and land entailing a dynamic agreement of natural and anthropic realities; and (iii) implementing and [un]building thinking of how to effectively curate, create, establish, protect and promote 'fuzzy boundaries'. The collected contributions thus provide a foundation for further exploration of the role of fuzziness in contemporary planning and design.

Studying and interpreting

The interpretation of threshold spaces represents a fundamental step towards engaging with the fuzziness concept, serving as a lens to observe the landscape and the spaces of interaction between water dynamics and the urban waterfronts – a correlation that often shapes the form and identity of a city (Barreiros Proença et al., 2025; Clua & Giménez, 2025). A critical observation of the spatial relationships between land and water requires a reflection that includes the temporal dimension of the physical transformations that both bodies undergo – whether in the short term, such as tides or seasonal floods, or in the long term, such as coastal erosion, sea level rise, or the gradual silting of shores (Cipriani, 2022; Wambecq & Beja da Costa, 2025). Added to these are the urban transformations that take place within the thickness of the boundary between water and land (Barreiros Proença et al., 2025); such as the construction of ports (docks and shipyards), artificial canals, embankments and dams, retaining walls and breakwaters, piers and seashore streets, riverfront and coastal parks, and floating buildings.

Understanding the spatial configuration and temporal evolution of a waterbody (Clua & Giménez, 2025), as well as its natural or human-induced transformations, requires recognition – through an interdisciplinary, interscalar and intersectional approach, and cross-boundary strategies (Michels-Brito et al., 2024) – of its physical and ecological interactions with the land, flora, and fauna, as well as the sociological, religious, and cultural meanings attributed to it by local communities (Fiallo Cardona et al., 2025; Johnstone et al., 2025; Wambecq & Beja da Costa, 2025). This recognition cannot remain an end in itself; still, it must instead lead to

a pedagogical reflection capable of guiding design thinking – at geographical and territorial scales as well as at urban and landscape levels (Clua & Giménez, 2025). The integration of hyperlocal ecological knowledge, deeply rooted in traditional land stewardship practices, with global and planetary perspectives provides a form of resilience against the excessive simplifications common in large-scale environmental frameworks (Chouairi & Putalik, 2025; Zhou & Guo, 2025).

In the increasingly complex world of today, the interaction between hyperlocal ecological knowledge and historically rooted practices of territorial care becomes essential to design the adaptation of urban spaces adjacent to water bodies in a more conscious and informed way (Clua & Giménez, 2025). It requires a deep understanding and reading across systems, outside of sectoral silos (Johnstone et al., 2025; Wambecq & Beja da Costa, 2025). Interdisciplinary collaboration is essential for fostering innovation in spatial planning and design by integrating engineering, landscape architecture, urban design, and social sciences from the outset, allowing for the incorporation of diverse perspectives and even failures into design, which are often excluded by rigid technical models (Dal Bo Zanon et al. 2025; Hooimeijer et al., 2017; Sabaté, 2025; Vogt, 2025). Moreover, planning must involve citizens and consider societal acceptance, as human psychology tends to resist uncertainty and seek control through boundaries and definitions (Johnstone et al., 2025).

Designing for urban environments needs a more integrated approach with human systems. There needs to be a careful design process in which urban engineering of 'fuzzy' urban coastal zones can be designed in a way that is more nature-inclusive and adaptive to changing conditions (Hooimeijer et al., 2022; Johnstone et al., 2025).

Drawing, modelling, and designing

In representation, which is inherently static, the intrinsic dynamic complexity of water bodies is not easily synthesised (Fiallo Cardona et al., 2025; Wambecq & Beja da Costa, 2025). In fact, if we limit ourselves to representing these water bodies through scenarios and projections, even scientific ones, we risk excluding the multiple transformations that characterise their behaviour over time and space; also excluding the ecological, social, and cultural interactions that take place in these fluid zones (Ziegler et al., 2024). The static nature of representation fails to convey the actual complexity of marginal territories and the actors that engage within them (Barreiros Proença et al., 2025; Clua & Giménez, 2025; Fiallo Cardona et al., 2025).

Measuring the threshold space boundary and, where possible, drawing the changing and overlapping demarcation lines between elements in the urban structure (Barreiros Proença et al., 2025) implies carrying out a process of metric representation – from the planetary to the microscopic scale (Arènes, 2025; Chouairi & Putalik, 2025).

Anastasia (2024) advocates for a 'thinking of thickness' in waterfront areas, urging a shift in perspective where borders are seen not as obstacles, but as

interconnected spaces to be integrated into the urban fabric. Cavalieri (2020) argues that this representation should consider the area of transition rather than areas of potential loss, allowing for thinking of the reorganisation of space. However, the elaboration of drawings, models, and diagrams to reveal the relationships between urban forms in the space between the city and the water, allows a typological and topological narrative to be generated through selective mapping, not exclusively through chronologically ordered urban structures (Clua & Giménez, 2025; Dal Cin, 2022).

Emilio Tuñón (2015, p. 83), in his introductory text to Carrilho da Graça's book, writes that

> the links and transformations that his architectures establish in the city and the territory where they are located (…) build a new workspace based on the permanent oscillation between the objectual and the relational, between a typological architecture, typical of a process of rational optimization, and a topological architecture, whose meaning is no longer the shape of the objects themselves, but the broad field of relationships that exist between them and the world that surrounds them.

There is, therefore, also the implicit possibility to acknowledge a leading role in the territory or in the 'order of the landscape' for its design (Fiallo Cardona et al., 2025; Gomes da Silva, 2023; Viganò, 2024).

Drawing, therefore, is part of an eternally incomplete process (Jellema et al., 2022). In attempting to represent the uncertainty of boundaries in the spaces between land and water, as negotiation zones in transitional landscapes, the act of drawing becomes a tool for observation and reflection on the characteristics of the margin's thickness, the areas of influence, the overlaps, and the boundaries that define them (Barreiros Proença et al., 2023). It allows for the representation or the provision of spaces to show the constant movement and interaction between water and land, giving space to continuous transformations of the space between sea and land and its design in dynamic agreement with the place (Barreiros Proença et al., 2022). Prominski et al. (2012) advocate the need for this, a requirement for thinking and designing waterfronts, considering that when the representation of river spaces focuses on a static condition, the design falls short of the potential of the space. Nevertheless, fuzziness can be significantly more apprehensible through synthesis representations – whether drawn or modelled – that reveal the systemic complexity or suggest paths to follow and uncover the dynamics and relations that exist below a superficial glance and ground the design of future transformations.

Implementing and [un]building

The act of designing the boundary space between two entities – such as water and land – is primarily realised through the [de]construction of the semantic and figurative boundary that separates them. João Nunes (2021) states that landscape does not have limits, only continuous transitions. In a contemporary context, increasingly

seeking sharp distinctions and clearly defined limits, traditional planning – rooted in assumptions of clear divisions between land and water, public and private, built and unbuilt – is challenged by environmental changes and evolving urban needs, making these boundaries more fluid and needing a shift from rigid zoning regulations to more adaptable and flexible land-use policies (Dal Bo Zanon et al. 2025; Jauhiainen & Moilanen, 2011; Johnstone et al., 2025).

The rigid delineations of planning strategies can benefit from a shift towards recognising 'thickening margins', transforming boundaries from simple lines into dynamic spaces rich in ecological interactions, socio-cultural practices, and infrastructural layers. This recognition calls for policies and area development practices that understand these areas simultaneously as land and water, requiring responses to terrestrial and marine spatial planning while respecting the dynamics of wet and dry environments and their ongoing maintenance. The impermeability of lines that currently dominate institutional and design thinking must be broken down as this rigidity confronts the fluid, dynamic, and multidimensional geographies of the reality of space (Carella et al., 2025).

Landscape-based approaches are explored in their capacity to embrace uncertainty, redefining spatial margins as zones of negotiation (Chouairi & Putalik, 2025). This proves particularly relevant in transient landscapes, such as salt marshes subject to tides (Chouairi & Putalik, 2025), estuaries, river deltas, and even areas where fuzziness does not seem so evident, such as semi-arid regions (Wambecq & Beja da Costa, 2025) – where the boundary between land and water is constantly shifting under the influence of natural processes and human interventions. Restoration initiatives, such as those observed in the Venice Lagoon and Assateague Island, exemplify this shift by transforming abstract margins into living zones, embracing uncertainty and prioritising local specificity while fostering multi-scalar dialogues to address the ecological and infrastructural nuances essential for effective environmental planning in times of growing uncertainty (Chouairi & Putalik, 2025).

Designing for such uncertainty requires architectural solutions, urban planning, and design tools that assume both ephemerality and timelessness, to design and plan the intertidal space (Barreiros Proença et al., 2025; Carella et al., 2025). As David Harvey (1989) notes, urban transformation unfolds within a 'permanent time', in which the past, present, and future intersect. Engaging with this temporal continuity while addressing spatial fluidity demands a profound rethinking of our planning and designing paradigms (Zhou & Guo, 2025). Designing 'for water' is indeed a present matter on which the future of our cities relies (D'Agostino & Hein, 2024; Matos Silva, 2019). Floating developments, for example, illustrate this transition by proposing urban forms that dynamically respond to water-based environments, rather than reinforcing static separations (Dal Bo Zanon et al. 2025; Olthuis & Keuning, 2010). These are not necessarily new strategies in learning to live with and on water, such as those described in Adeyemi (2023) and De Meulder & Shannon (2024), yet the context of this approach is being transformed as exposure to risk becomes more wide-reaching.

Cyclical and temporary occupations of the liminal space where water and land overlap have been a constant of human settlements near the water (Barreiros

Proença et al., 2025). Contemporary planning for uncertainty thus requires flexibility and porosity also in the governance sphere, in a way that can consider and absorb ambiguity, multiplicity and change. Carella et al. (2025) propose reinforcing multi-level governance systems and moving closer to soft planning mechanisms that allow for more adaptive planning and inclusive practices (Cavaco et al., 2023; Wilke, 2023).

The contemporary challenges faced by human settlements across the globe, with 50 per cent of the world's population living next to water (Adeyemi, 2023), and 11 per cent within the first 10m above sea level – 2 per cent of the world's surface (Cavalieri, 2020) – planning thus needs to support the navigation through the multi-layered complexity of these threshold spaces. A paradigm shift in planning is required to bring together climate change, biodiversity loss, and competing economic and social interests. There must be an understanding that, regardless of the planning scope on land, coastal or marine spaces, there needs to be a flexible framework driven by emerging possibilities and undefined becoming (Carella et al., 2025; Jay, 2018). This shift requires implementation of the precautionary principle – acting now – despite sea level rise projections often being interpreted as being too far away in time to be included in present planning exercises (Cavalieri, 2020) (Figures 11.1 and 11.2).

Final considerations

The chapters in *Fuzzy Boundaries: Threshold between water and land* thus underscore the need for flexible approaches to navigate the complex interactions between land and water, highlighting the value of systems-based thinking in understanding these dynamic relationships (Carter, 1989). Throughout this book, there is a strong call for 'thickening' boundaries and acknowledging their permeability and variability, urging the recognition of spaces where multiple relationships intersect and coexist.

Embracing fuzziness: recognising the fluidity of boundaries

We consider that the 'fuzzy boundary' should be understood as a dynamic and living mechanism continuously evolving and sustaining life, deeply interwoven into the culture and identity of both places and people (Buchan et al., 2024; Fiallo Cardona et al., 2025; Wambecq & Beja da Costa, 2025).

The resources within these threshold spaces deserve recognition, not only for their intrinsic value but for their essential role in safeguarding future generations and the urban environment. Therefore, the intrinsic connection between water and land must be recognised, as it provides an essential context to the territory and its occupation, with the delicate balance between these elements underpinning their mutual sustainability. This encompasses surface and subterranean waters as well as cultural values and norms that are often not reflected in statutory documents and management (Johnstone et al., 2025). For example, customary systems in Timor-Leste, where water management is intrinsically linked to the way upon

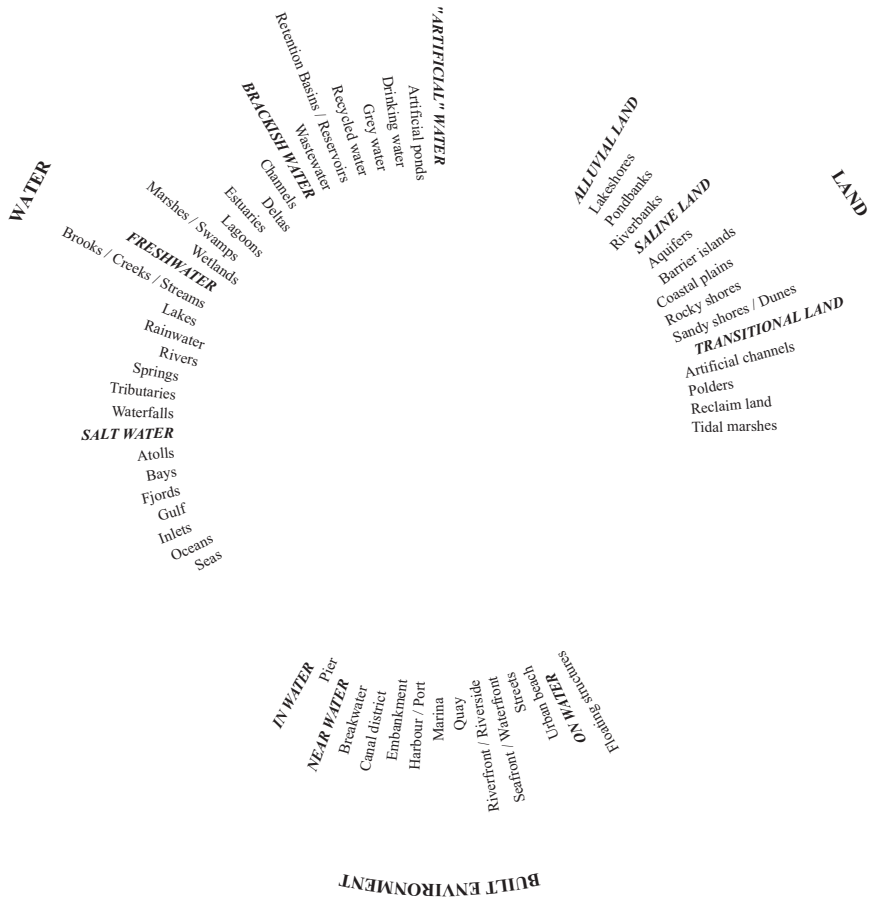

Figure 11.1 Charting relations: weavings between land and water. (a) Circular weaving.

Source: Francesca Dal Cin; Joana de Mesquita Lima; Sérgio Barreiros Proença with edition by Beatriz de Freitas Gordinho, 2025.

which traditional society organises its social life, through unmapped boundaries of the spiritual rather than terrestrial systems, have been shown to be more effective than formal water management mechanisms with strict boundaries (Palmer, 2011). Threshold spaces thus contain values beyond mineral and palpable elements, traditionally unmappable in a planning instrument, but that require recognition and inclusion in planning infrastructure. Hence, the need to find alternative ways of mapping and of understanding significance of the water-land interrelationship, as advocated by Fiallo Cardona et al. (2025).

This recognition calls for a pivotal shift from traditional, infrastructure-heavy projects to adaptive management practices that respond to the complex and evolving interactions between human activities and natural processes (Chouairi &

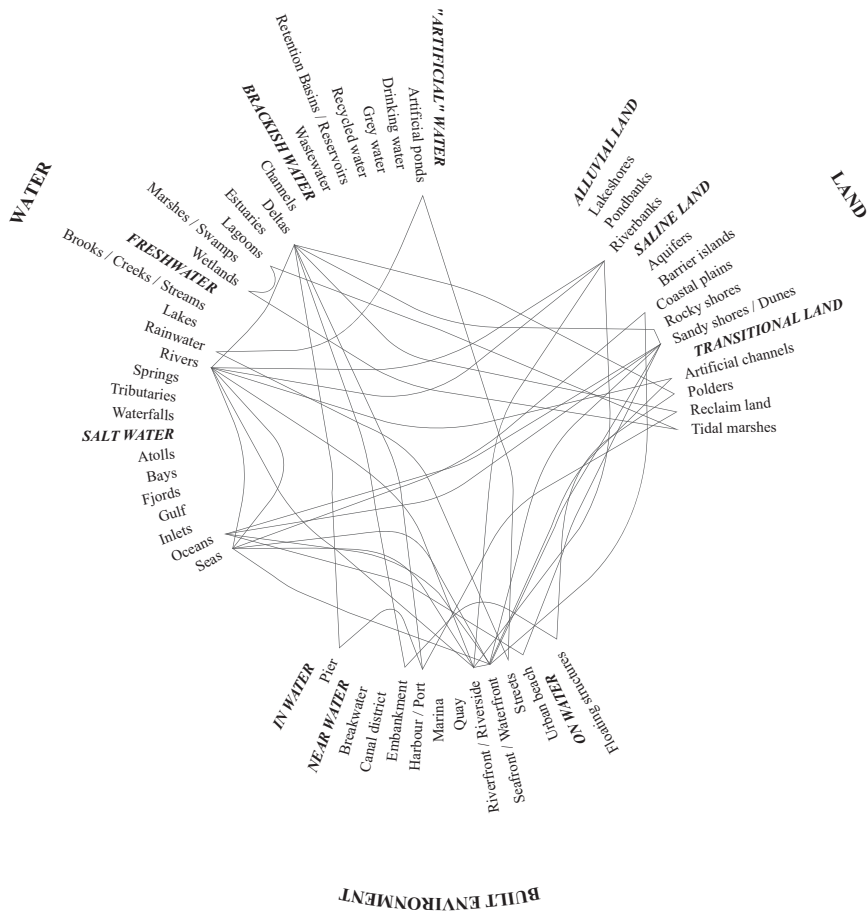

Figure 11.2 Charting relations: weavings between land and water. (b) An interpretation of spatial relations.

Source: Francesca Dal Cin; Joana de Mesquita Lima; Sérgio Barreiros Proença with edition by Beatriz de Freitas Gordinho, 2025.

Putalik, 2025). Infrastructure must be designed to accommodate the uncertainties and imbalances of natural cycles and changing conditions, adopting a flexible approach to remain effective. Integrating traditional knowledge (Zhou & Gou, 2025), alongside innovative mechanisms, presents a fundamental strategy for addressing contemporary challenges. As Zhou and Guo emphasise, preserving traditional knowledge is crucial, particularly when technological solutions and standardised processes – often rigid and defined by fixed boundaries – fail to meet the demands of a changing climate. Resilience, therefore, depends on a willingness to embrace spatial flexibility and learn from the past, beyond technological solutions, to manage resources more effectively and to enhance the well-being of local populations.

Gunther Vogt (2025) highlights the diverse forms that water can take, drawing on the example of the Alps to demonstrate the need for plural and dynamic approaches to water management. Acknowledging and embracing a transformation in how to approach water opens the door to a deeper understanding of the changing relationship between land and water.

The study of transitional spaces – understood as the 'thickness' of the territory – allows for a deeper interpretation of place and the unveiling of its historical delayering (Barreiros Proença et al., 2025; Wambecq & Beja da Costa, 2025). This approach unveils the temporal transformations of these spaces, from seasonal occupations to those shaped by longer-term historical processes such as colonialism (Shaw, 2009), which have left lasting imprints on the spatial configuration of the territory. To project for uncertainty is to project for reality, understanding time and temporality as both condition and opportunity, characterising and shaping the liminal urban landscape (Barreiros Proença et al., 2025).

These perspectives encourage the integration of water with land, fostering innovative ways of occupying these spaces (Dal Bo Zanon et al., 2025; Nordenson et al., 2010; Olthuis & Keuning, 2010), such as floating technologies or amphibious structures. These solutions offer new insights into the relationship between wetness and dryness (Cavalieri, 2025; Kumar et al., 2015). However, the challenge also lies in the tools available to plan such spaces, acknowledging the importance of a deeper understanding of thresholds, and learning how to integrate and harness the processes that act on these dynamic edges (Carella et al., 2025).

Planning tools may also contribute to a risk reduction strategy focused on mitigating consequences, rather than relying exclusively on decreasing the probability of risk occurrence (Hooimeijer et al., 2022) or of adaptive strategies. Yet, it might be questioned if fuzziness is truly desirable and at what point the pursuit of fuzziness may become counterproductive or even harmful. In certain cases, a clear limit between land and water may be essential, whether for practical considerations or to ensure the safeguarding of the natural environment and its diverse values, as well as the protection of livelihoods, infrastructure, and people.

Integrating the concept of 'fuzziness' into project thinking requires not only learning how to 'think fuzzy', but also assessing both the degree of fuzziness needed and the extent to which it is feasible in all project thinking stages. This entails reflecting on territorial approaches across various scales and time cycles, comparing case studies, and drawing lessons from diverse contexts (Arènes, in this publication; Clua & Giménez, 2025; Sabaté, in this publication).

The threshold space between water and land, thus needs to be seen, understood, drawn, and recognised as a space of porosity (Bres & Krosnicka, 2021; Hein, 2021), where land and water intertwine, and where the different components of the particular land and the particular water interconnect. The endless opportunities offered by this interrelationship must be mirrored in project thinking and consequently across planning and design scales – from policy, to the human settlement, to the neighbourhood, to the street, or to the building.

Note

1 *Villeggiatura* is an Italian term that refers to the practice of spending extended periods of time in the countryside, by the sea, or in the mountains, typically during the summer months, for rest, leisure, and escape from urban life (Treccani, n.d.).

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