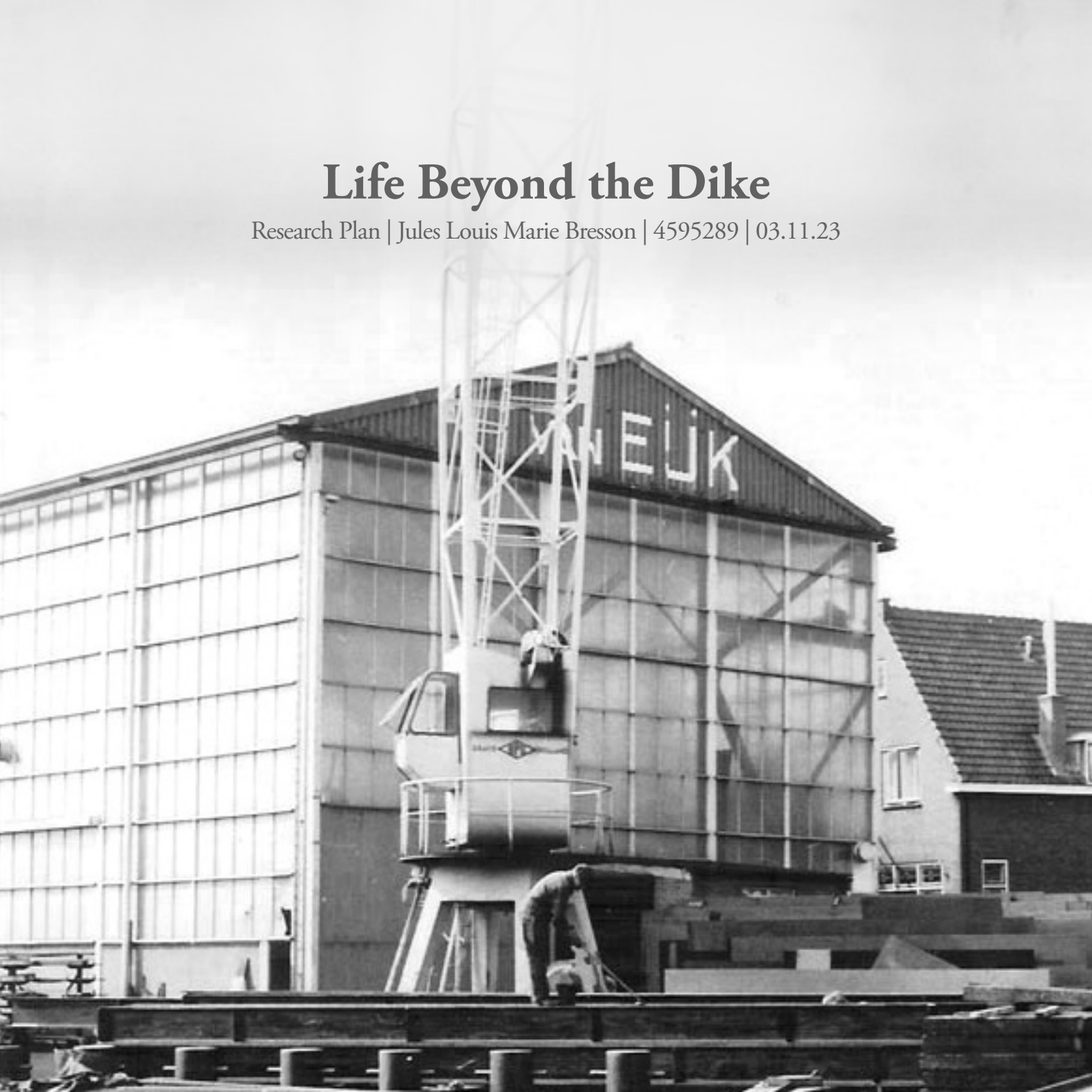


# Life Beyond the Dike

Research Plan | Jules Louis Marie Bresson | 4595289 | 03.11.23





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# Introduction

Water is flowing. Water is a force. Water is ever-changing. The flowing of water shapes landscapes. The force of water shapes culture. Its ever-changing nature is what enforces adaptability. When harnessed to fulfill one's requirements, capable of turning uncertainties into strengths, providing the ability to flourish.

The Netherlands is a land of water. The place where the rivers meet the sea. Where the narratives of the past are visible in the landscape and cities. Where practices revolving around water have been passed on generation to generation. Where water is bound to identity. Where water informs culture. Where water is national heritage.

*Is this so evident in contemporary times?*

Today, the complex and diverse systems of the past are necessarily the framework for preservation and reuse as well as for new systems<sup>1</sup>. But at present, heritage and water are largely two separate disciplinary and professional fields<sup>2</sup>. Water is examined through a scientific, engineering, and governance lens, while heritage is often looked at as individual structures rather than parts of a larger system. Both are mostly top-down approaches. This separation has led to a lack of exploration of water's potential to connect heritage sites, link the past with the present, and influence spatial developments. That is why understanding the link between water and heritage is crucial for designing new relationships with water. The adaptation of old systems can contribute to the quality of life, sense of place, and identity.

1 (Hein, 2020)

2 (Hein, 2020)

Understanding the relationship between water and heritage can also help us refine our understanding of tangible and intangible heritage more broadly<sup>3</sup>. This disconnection is evident in the Dutch delta, where Water-related policymaking is fragmented, and rich water management heritage is often overlooked in discussions about the delta's future. Together with built heritage, the population is safely protected inside the dikes, but therefore also curtailed from the inevitable change to come, with all the consequences.

3 (Hein, 2020)

## **Unraveling      Water & Maritime**

To better understand the region the difference between ‘water identity & heritage’ and ‘maritime identity & heritage’ has to be made clear. Firstly, water identity and heritage, are embodied by water management, defense against flooding, and the utilization of water as a resource. Including iconic elements like dikes, polder landscapes with mills, and the Biesbosch as a unique tidal landscape that provides drinking water. Secondly, maritime identity and heritage relate to access to the sea and the reliance on water for sustaining the livelihood of the communities. Tangible and intangible aspects of industries such as dredging and shipbuilding and their logistics in and along the river to the sea.

In the Dutch Delta, a unique combination of both has formed and influenced the region. While looking inwards to provide and protect, the Dutch delta also looks outwards as the birthplace of industries working on a global scale. This seemingly fictional character of both identities and heritage blends into a unique delta identity with diverse heritage. Changing water levels causes strategies to defend against water to evolve. This raises important ethical questions that affect the whole region: Do we start letting the water in again or do we reserve more space for dikes? What does that mean for remnants of the past? How do we tell both parts of the narrative? How does that translate into new spaces for people to interact with water?

## **Unraveling Peoples relation with water, Delta Identity & Delta Heritage**

As mentioned in the introduction understanding the link between water and heritage is crucial. This research attempts to link three, presumably related, themes. The relation between people and water, identity and heritage. *Figure 1*. The relation of inhabitants of the Dutch Delta with water strengthens their sense of place and self-identification and vice versa. In this research, the term ‘Delta Identity’ is used for a combination of both the water and maritime identities of the region. Contributing to the Delta Identity is also the regional water and maritime heritage and its built remnants. Tangible heritage such as shipyards, waterfront factories, warehouses, dikes, and mills have been there as the physical space that connects people to the water. But also the intangible heritage such as daily practices, rituals, and rich narratives around water sustain people’s relation with water. Therefore presumably, the relationship people hold with water also sustains the Delta Heritage.

I hypothesize that the ‘triangle’ is a mutually sustaining relationship between the three different themes. With this in mind, I also think that change in one of the three themes influences the other two. For this area, the floodplain, which will be introduced further in the next chapter, has been chosen. The main reason is that both water management and maritime industries influence its territory. The connection or disconnection to the sea is dependent on what we value, consequently heavily influencing how these floodplains will be used, and what heritage will be preserved. Part of the hypothesis is that solutions are to be found in these areas because of their proximity to the water. Enabling a hybrid between architecture, landscape, and infrastructure, blurring the lines between water and land.

This research aims to provide insights into how the relationship between people and water has changed and can be reactivated and strengthened. Consequently also has a positive effect on the preservation of the regional identity of the delta and its heritage. Ultimately, with the overarching goal of making citizens and policymakers of the Dutch delta more aware of the importance of water-related heritage and the relationship they had, have, and will have with water for a sustainable future.

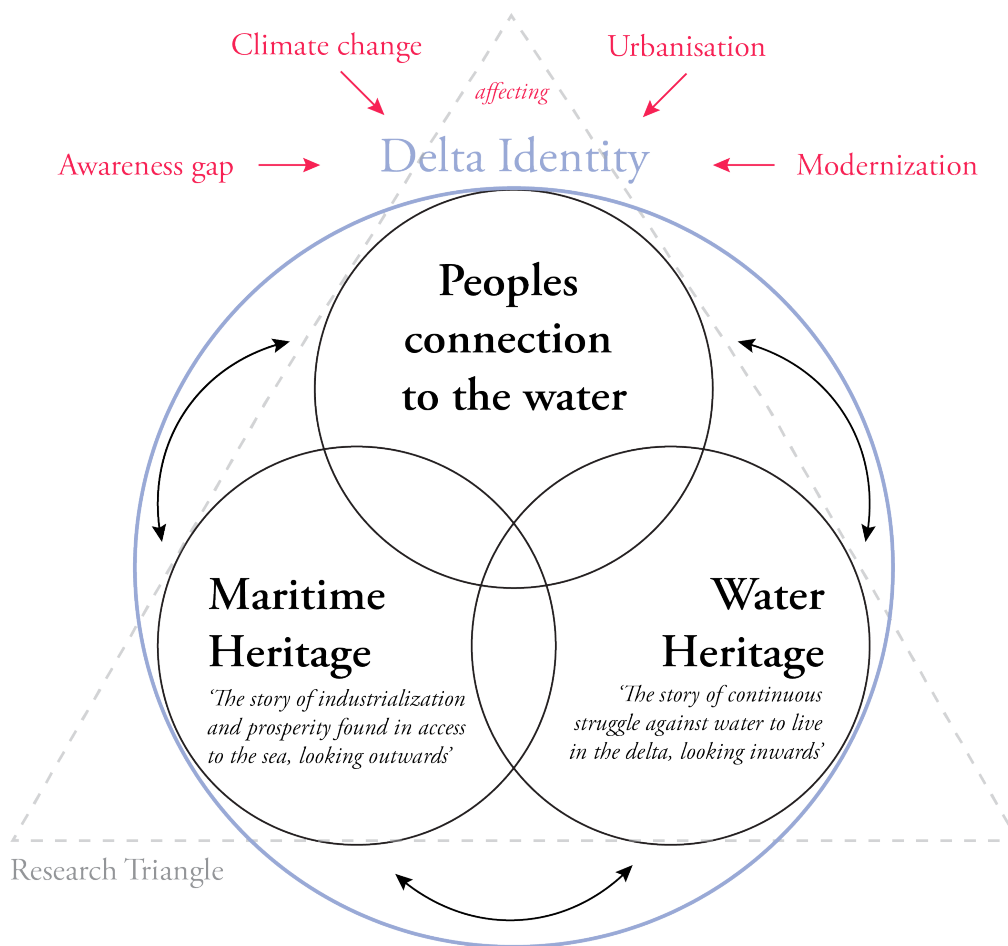


Fig. 1 Relationship diagram between different themes of the research (Referred to as 'Research triangle')

## The Dutch Delta and the Transitory Character of the Floodplain

Deltas are the most vulnerable places in the world<sup>4</sup>. More than half of the world's population lives in deltas because of their ability to provide fresh water, food, and trade. Although, deltas are also the first areas impacted by climate change. As climate change is accelerating, the Dutch delta is one of those areas impacted. The rising sea level is affecting the lower rivers, and their capacity is also under pressure from increasing rainfall in the Alps<sup>5</sup>. Coupled with the rising number of heavy downpours and growing urbanization, the ability to adapt is of growing importance.

4 (Willems & Van Schaik, 2015)

5 (Steenhuis, 2018)

The floodplain is generally considered to be the relatively flat area of land that stretches from the banks of the parent stream to the base of the valley walls and over which water from the parent stream flows at times of high discharge<sup>6</sup>. In the context of the Dutch Delta, these banks reach from the parent stream to the base of the winter dike. Therefore the areas outside of the dike are referenced to as 'uiterwaarden', the Dutch definition.

6 (Goudie, 2004)

*Figure 2.* The uiterwaarden in The Netherlands, especially in the lower delta, are often used for maritime activities, essentially losing their natural floodplain system. Water management and the maritime industry have a different relationship with water. One looks inwards whilst the other one looks outwards. During the modernization of the Dutch delta, rivers have been thoroughly engineered to provide particular services and functions, but as an unintended consequence, they have been engineered out of our daily perception and experience<sup>7</sup>. Resulting in the uiterwaarden being disconnected from the urban fabric, mentally because of their assigned function and physically by the primary water defense line, the dike. Ultimately disconnecting people inside of the polder from the water and riverfronts.

7 (Prominski et al., 2017)

The 'Room for the River' program was established in 2007 as a starting point for the adaptation of the uiterwaarden. More room for rivers also means a change in the land use around rivers. It not only delivers greater water safety but also new natural and recreational areas<sup>8</sup>. While this is a solution for the meadows in less urbanized areas, urbanized areas are harder to adapt. Firstly, because of the existing buildings inside the polders. Secondly, the maritime industry established in the uiterwaarden holds significant value. The historical industrial developments played an important role in the formulation of regional and local identities<sup>9</sup>. Understanding the territory of the uiterwaarden and how it relates to the different themes of the triangle, will be crucial when finding out how to preserve, reuse, or adapt the uiterwaarden, also in more urbanized areas.

8 (Ministerie van Infrastructuur en Waterstaat, 2023)

9 (Nevzgodin, 2016)



**Legend**



Watersystems



Uiterwaarden



Primary dyke



Fig. 2 Uiterwaarden around the Merwede PDOK & Rijkswaterstaat. (2021)

## Heritage of the Dutch Delta

Due to the density of early civilizations in delta areas, these places have a high density of heritage sites<sup>10</sup>. The relationship between water and heritage is clear in the Dutch delta. The Dutch delta's riverfronts are the birthplace of maritime industries such as shipbuilding and dredging, therefore the livelihood of the population in those areas was tightly connected to the industries. Furthermore, water management heritage in The Netherlands is rich, historically layered and strongly tied to cultural identity<sup>11</sup>. Together they form a strong regional identity this identity is also a substantial part of Dutch national history and culture.

10 (Willems & Van Schaik, 2015)

11 (Hein, 2020)

When the world around changes fast and with uncertainty, looking at heritage helps. A better understanding of place and historical continuity is key<sup>12</sup>. Therefore we must understand how people's relation with water affects the Delta Identity and Heritage, referring back to the triangle. From preliminary literary research, three factors presumably affect people's relationship with water. Urbanization, modernization, and public awareness.

12 (Willems & Van Schaik, 2015)

Firstly, Rapid urbanization of delta areas without respecting water-related heritage accumulated over the centuries makes these areas, in which economic, social, and cultural values are concentrated, vulnerable<sup>13</sup>. On top of that, riverbanks are losing their port functions due to the modernization of the maritime industry<sup>14</sup>. Small-scale shipyards, factories, and warehouses are being overshadowed by new industrial halls. However, it often is these smaller-scale buildings and objects that are evidence of the region's rich maritime history. An increasing number of these identity-defining historical buildings around the rivers the Noord and the Merwede are disappearing<sup>15</sup>.

13 (Willems & Van Schaik, 2015)

14 (Den Boer, 2019)

15 (Kramer et al., 2009)

Secondly, people's connection with water is evolving. Most no longer rely on it for their livelihood, also water management is no longer a public responsibility like it was in the past. Dutch citizens also often take water security for granted, resulting in reduced engagement in water-related discussions<sup>16</sup>. Additionally, heritage is rarely discussed in delta planning<sup>17</sup> widening the gap between water and heritage. The awareness gap may hinder the public's ability to adapt to changing water conditions in the future.

16 (OECD, 2014)

17 (Hein, 2020)

**Legend**

Industrial areas

Uiterwaarden

Primary dyke



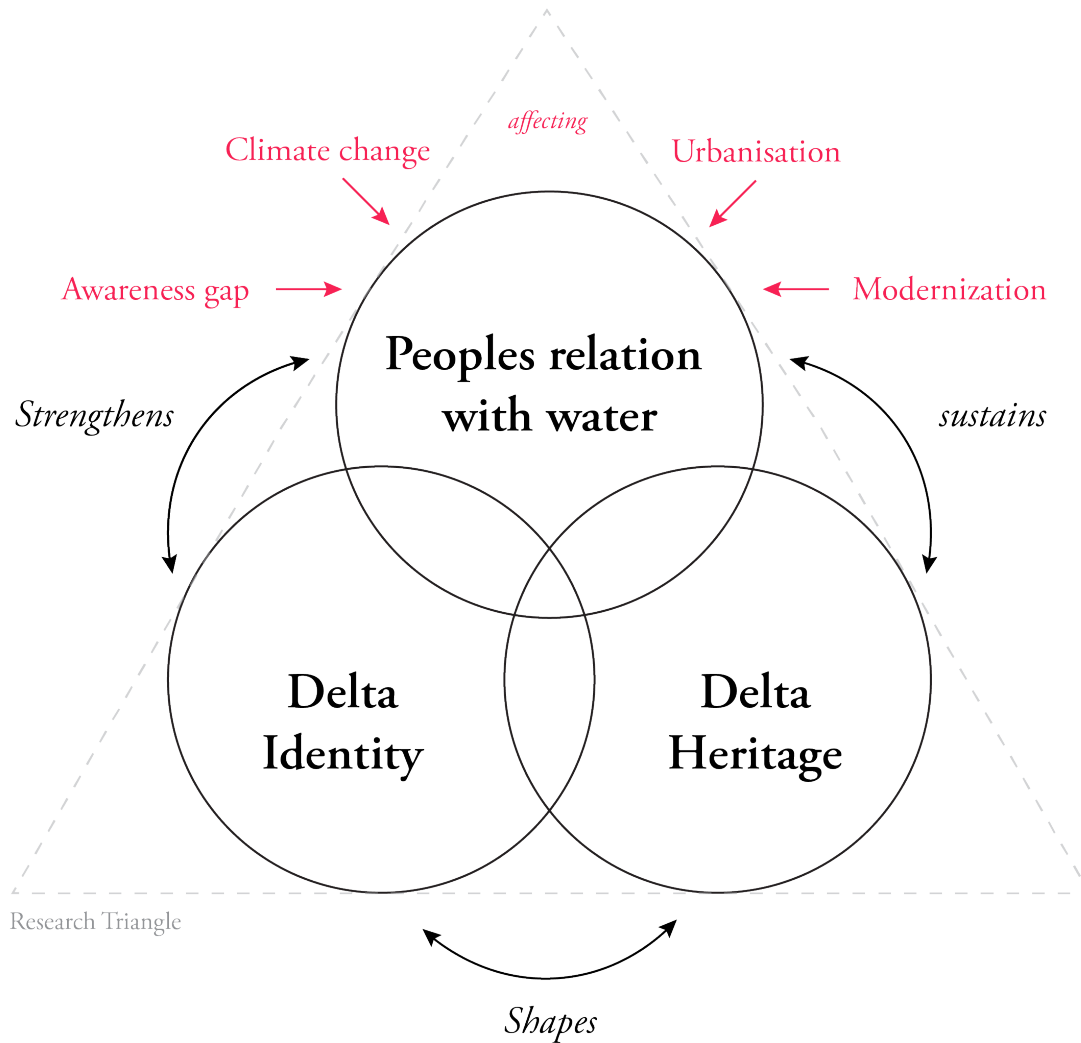
Fig. 3 Industrial sites around the Merwede Provincie Zuid-Holland. (2021).

## Problem Statement

The Dutch Delta region has a rich history deeply intertwined with water, which has shaped its cultural identity. However, a growing separation between heritage preservation and water management, coupled with the challenges of climate change and rapid urbanization, presents a critical problem. It not only threatens the relationship between people and water but also affects the preservation of both water and maritime heritage, weakening regional identity. In addition, this separation also causes heritage to be left out of discussions about delta planning, hindering the exploration of water's potential to link water and maritime heritage sites and connect the past to the present.

This problem raises a fundamental question: How can we reactivate and strengthen the relationship between people and water in the Dutch Delta? The key to addressing these questions lies in understanding the historical and cultural significance of water to the inhabitants of the Dutch delta. This knowledge, passed down through generations, can guide us in building a sustainable environment. By ingeniously using and reusing tangible and intangible water and maritime-related heritage, we can bridge the gap between heritage preservation and water management.

The uiterwaarden in urbanized areas acts at present as a physical barrier between people and water due to their assigned industrial and water management functions. However, in the face of a changing industrial landscape, the connection these sites have to water and to history might also give them the potential to connect people to water again. Thus, strengthening regional identity and preserving both water and maritime heritage, but how?



**Figure 4** - Problem statement diagram

# Research Questions

*How can adaptation, preservation, and reuse of the uiterwaarden reactivate and strengthen the relationship between people and the water of the Dutch Delta?*

## **Part 1.**

The documentation of the uiterwaarden in the ‘Waterdriehoek’ as a test case of the Dutch delta. Cataloging the characteristics from the territory to the element scale. Here the connection between landscape, human interventions, and heritage will be made. The distinction between maritime and water management related functions will provide insight into how the uiterwaarden are currently used and how they are not.

*How does the transitory character of the uiterwaarden relate to people’s relationship with water?*

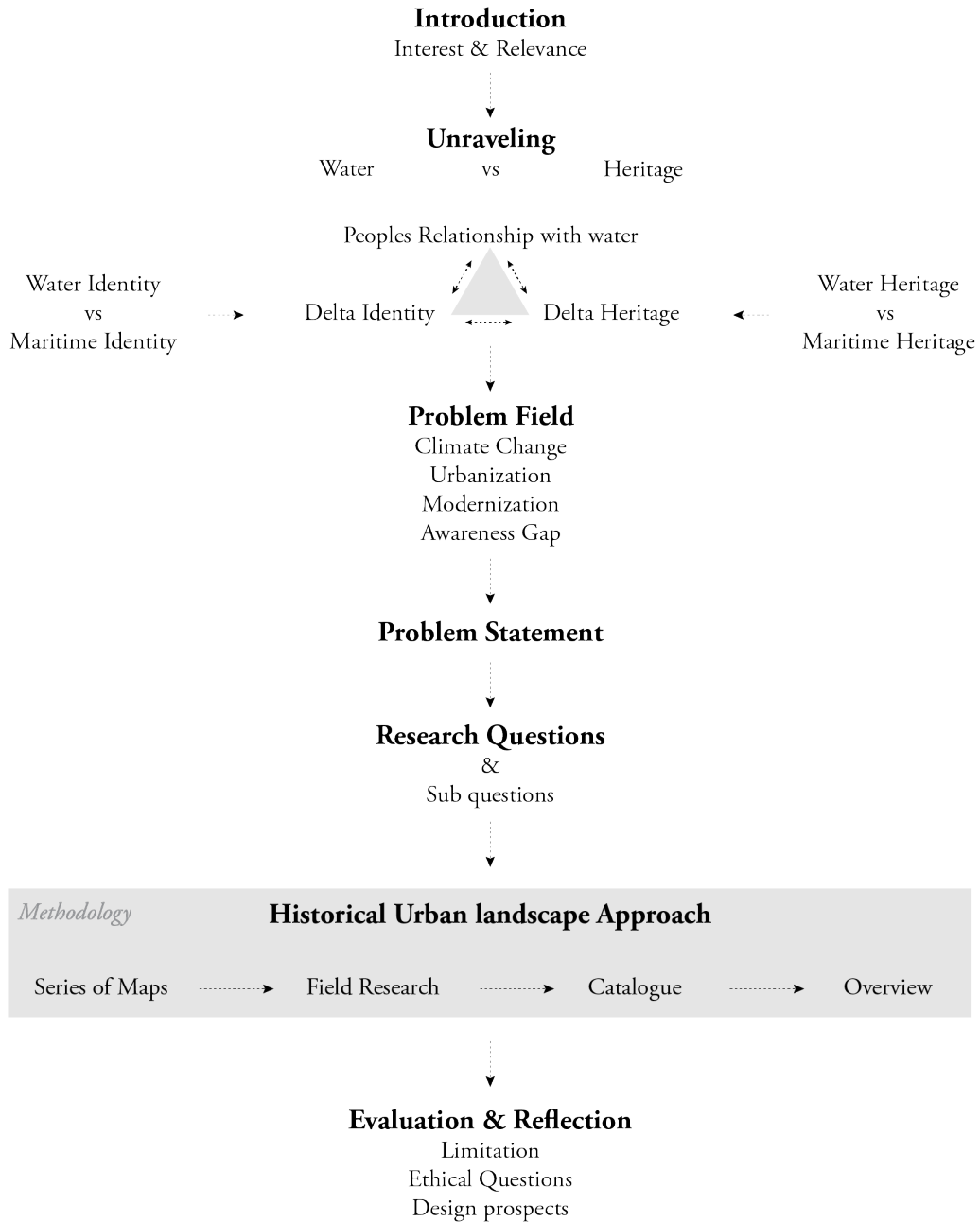
*What is the relation between water and maritime heritage and how do they relate to the uiterwaarden?*

## **Part 2.**

The changing relationship between people and water. Linking daily life, experiences, and public perception of the uiterwaarden to part one of the research. From there, the tangible and intangible will inform how the relationship between people and water affects the Delta Identity and Heritage.

*How do the key factors influence the changing relationship between people and water?*

*How does the changing relationship between people and water affect the Delta Identity and Heritage?*



**Figure 5** - Research plan structure diagram

# Methodology

The Historic Urban Landscape approach (HUL) provides the basis for a comprehensive and integrated approach to the identification, assessment, conservation, and management of historic urban landscapes<sup>18</sup>. Considering the uiterwaarden as a historic urban landscape will make this method a useful tool to provide insights into how these areas can be adapted, preserved, and/or reused to strengthen the relationship with water.

18 (United Nations Educational, Scientific and Cultural Organisation (UNESCO), 2011)

## Part 1.

Mapping - method of determinative evidence<sup>19</sup>. A cartographic approach to analyze the Dutch delta through data and research. Information and data are gathered from state of the art literature, expert reports, governmental websites, and databases such as PBL and PDOK. This method aims to better understand the different territories in and around the uiterwaarden as well as identify critical zones that are subjected to affecting factors mentioned in the problem statement diagram. The outcome is a series of maps on different scales that bring to attention: Flood risks, degree of urbanization, infrastructure, land use patterns, and spatial organization of the uiterwaarden throughout time. (*Appendix A*) This analysis will also be the basis of the field research, a route will be set out that connects the identified critical zones, due to the feasibility of the research only the area of the Waterdriehoek will be examined. (*Appendix B*)

19 (Groat & Wang, 2013)

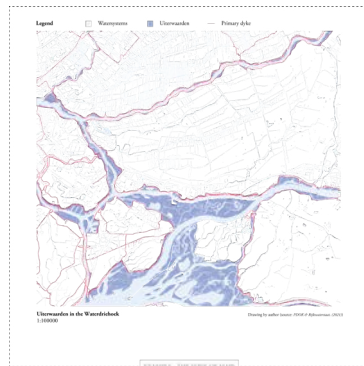
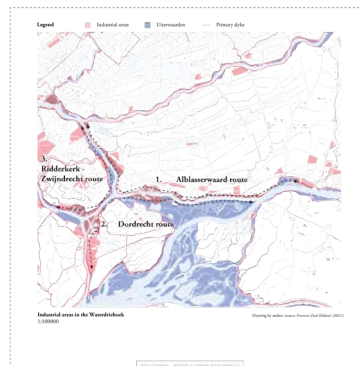
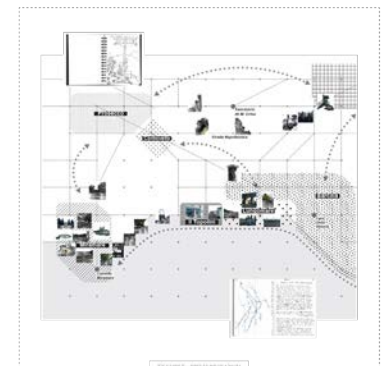


Figure 6 - Appendix A - Series of Maps



Appendix B - Estimated Routing



Appendix C - Field Research



## Part 2.

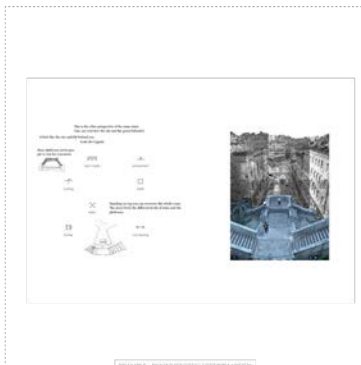
Field research - phenomenology as a qualitative research method<sup>20</sup>. Along the set-out route. The relationship between water and land will be closely examined. Sketches and photography will be combined with descriptive and observatory research to grasp the spirit of place and analyze the uiterwaarden more closely. (*Appendix C*) Informal interviews, literature, guided tours, news articles, and mental mapping are an array of methods that will be used to map the intangible: Daily lives of people, experiences, values, and different narratives around water, added as a second layer. (*Appendix D*) This wider context should help us rethink how our relationship with water can be strengthened through the uiterwaarden and guide any decision regarding the planning and design of interventions.

20 (Groat & Wang, 2013)

The outcome will be a catalog that documents the delta identity and delta heritage, subdivided into water heritage and maritime heritage. informed by the symbols found in the Blue papers<sup>21</sup>. (*Appendix E*) If feasible, a concluding single overview will be made, showing the possibilities of the uiterwaarden to strengthen the relationship between people and water. The catalog would be the starting point of a large-scale drawing/ collection of separate drawings of the Waterdriehoek. (*Appendix F*)

21 (Hein et al., 2022)

Figure 6 shows the step-by-step process of the research. I intend to combine different methods of documentation I have previously used with the newly acquired theory.



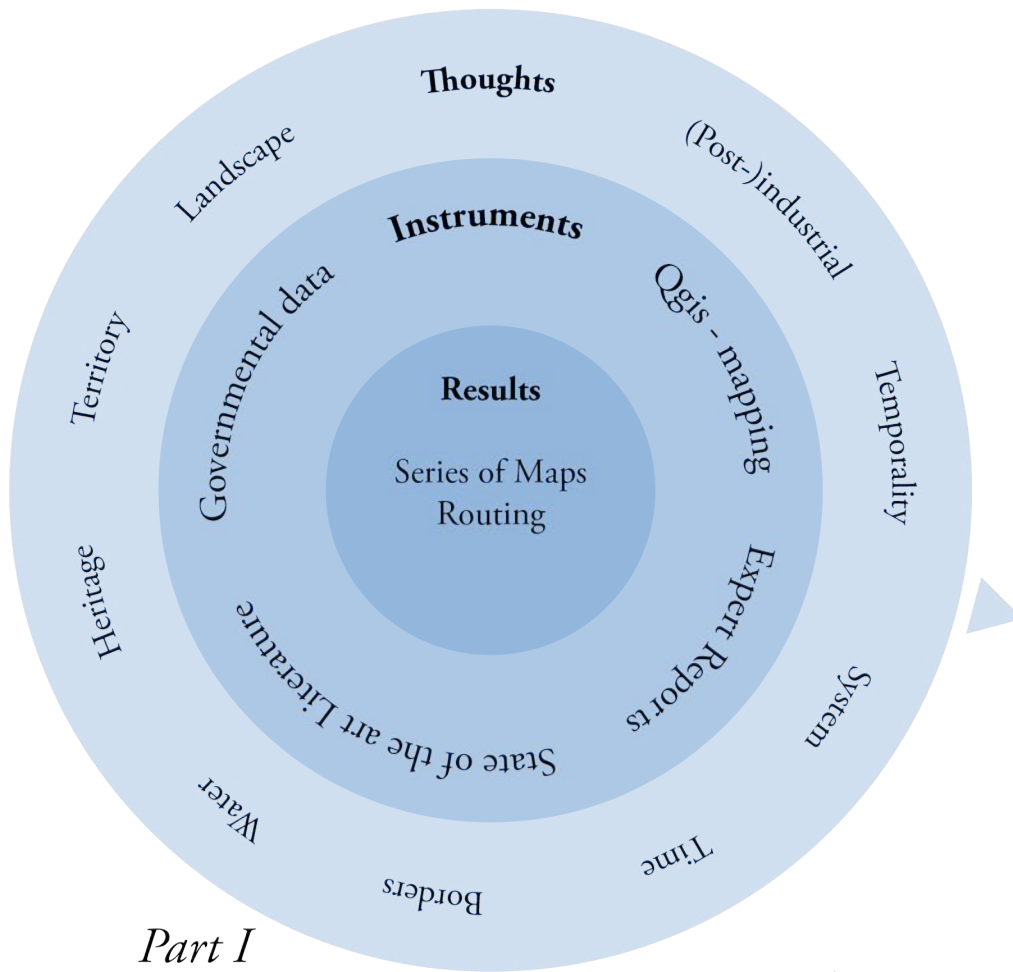
Appendix D - Documenting Uiterwaarden



Appendix E - Catalogue Uiterwaarden

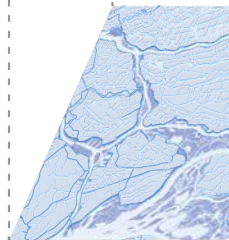
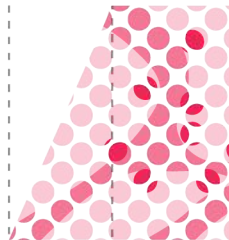
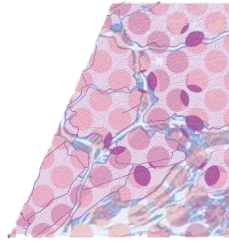


Appendix F - Final Overview



Answers

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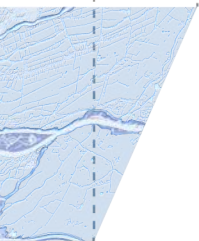
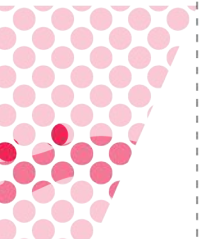
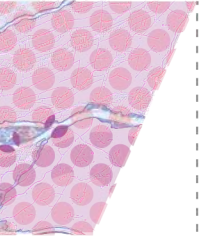
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Figure 7 - Research Diagram

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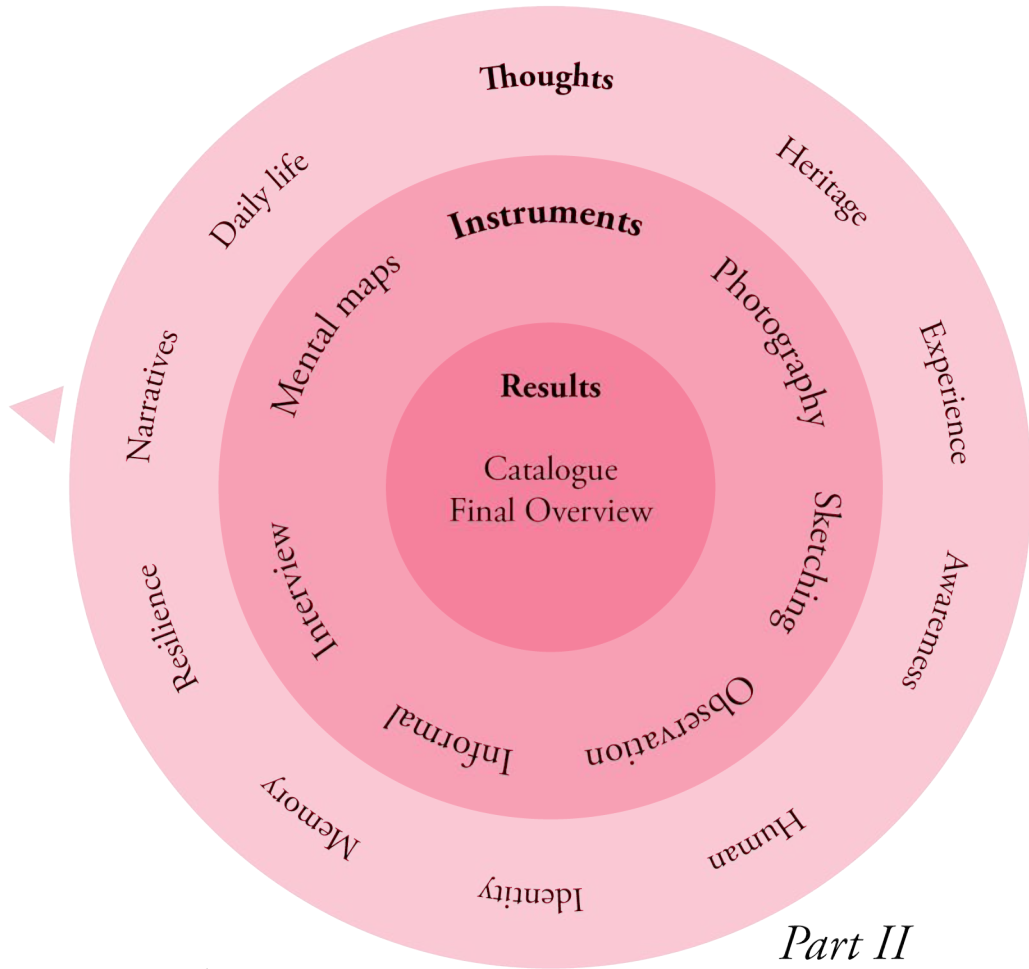
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## Evaluation & Reflection

In theory, the research triangle is in line with the literature. Although all three themes are already complicated on their own, each deserves an independent thorough examination. Due to time restrictions, this is not feasible. Therefore, I would classify this graduation thesis research as an exploratory analysis of the uiterwaarden. Basing my methodology on an existing method, the historic urban landscape approach, I believe that further research within this approach can make the study more comprehensive over time.

The different methods I intend to combine have their limitations. Mapping data is complex because of two things: Finding the right datasets and interpreting them in a useful manner. Datasets can be misleading as some of them omit certain information. Interpretation will only be useful if the relationships between different sets of data are brought to light. Furthermore, the field research is tied to subjective human experience. Subtracting my prejudice and developing an objective approach will be the challenge.

Lastly, the planning of the research is also difficult to assess. Practically, the areas I intend to visit are both large and presumably hard to reach. Therefore, the first field research will be evaluated, adjusting the research trajectory afterward. After the catalogue is made, the final overview as a means of communicating the research, can be finished in the period between P2 and P3. This is possible due to the research and design being complementary to, rather than depending on each other. In this period I will also be reflecting on the research for the last adjustments before P4.

## Maritime Heritage Graduation Studio - Planning

\*Evaluation point to readjust research trajectory

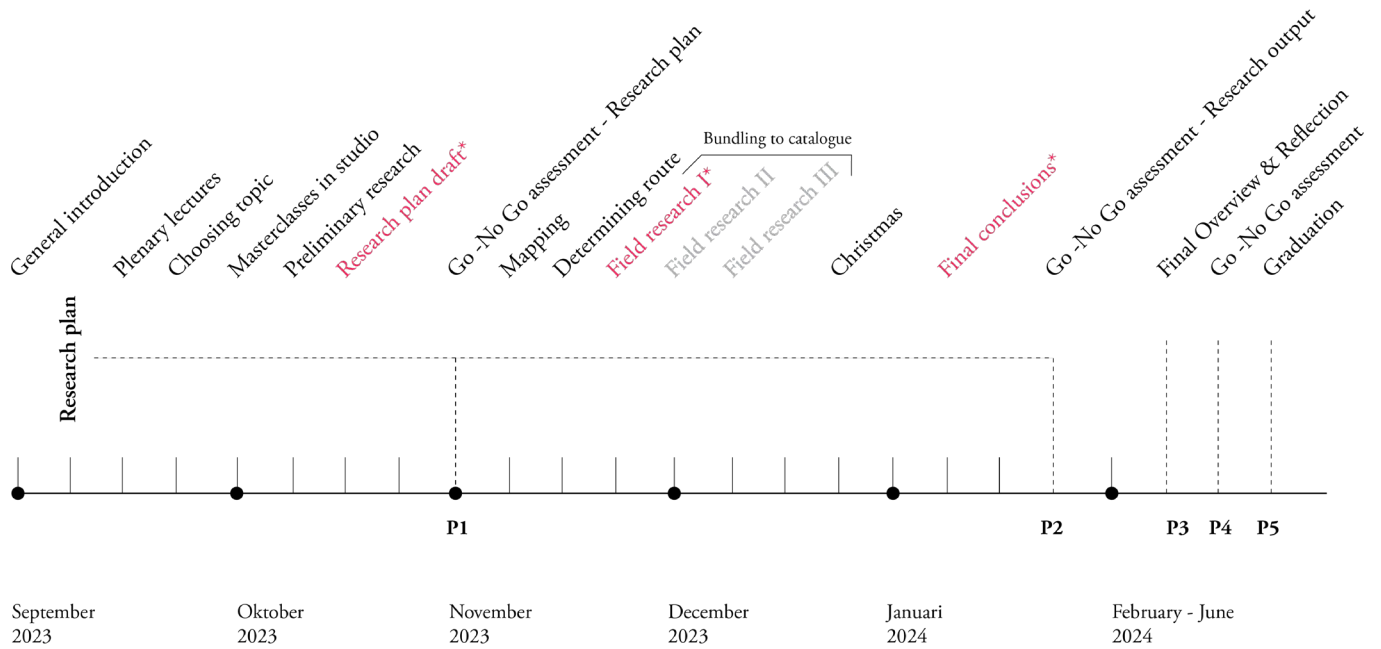


Figure 8 - Graduation research planning

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\* *Citation or paraphrases in the text*

## Glossary of terms

**Awareness** - knowledge or understanding about a specific issue, concept, or problem within a particular group or community.

**Climate change** - a change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards.

**Delta Heritage** - Combination of both water and maritime heritage in the region of the Dutch delta.

**Delta Identity** - Combination of both water and maritime identities in the region of the Dutch delta.

**Industrial landscape** - an area characterized by a concentration of industrial activities, infrastructure, and structures.

**Intangible** - something that exists but that cannot be touched, exactly described, or given an exact value.

**Maritime Heritage** - cultural, historical, and natural legacies that are passed down from previous generations to the present and are preserved for future generations, associated with activities on water.

**Maritime Identity** - characteristics, qualities, beliefs, values, and affiliations that define and distinguish an individual or a group of people associated with activities

on water.

**Modernization** - the process of starting to use the most recent methods, ideas, equipment so that something becomes or seems more of the present time.

**Narrative** - a particular way of explaining or understanding events.

**People's relationship with water** - the various ways in which individuals and communities interact with and depend on water in their daily lives and in the broader context of society and the environment.

**Resilience** - the capacity to withstand or to recover quickly from difficulties.

**Spirit of place** - visible and invisible distinctive aspects of a space that makes a place unique.

**Tangible** - something that can be touched or perceived through the senses, often referring to physical objects or assets.

**Territory** - A defined area controlled by a specific entity, for a particular set of functions.

**The Dutch Delta** - A region in the Netherlands where the Rhine splits into smaller rivers before reaching the ocean, known for its complex water management systems.

**Transitory** - a state or condition that is subject to change.



**Urbanization** - the population shift to urban areas, and the ways in which societies adapt to this change.

**Values** - the individual or collective principles and beliefs that motivate people to act one way or another or deem important.

**Water Heritage** - cultural, historical, and natural legacies that are passed down from previous generations to the present and are preserved for future generations, associated with management of water.

**Water Identity** - characteristics, qualities, beliefs, values, and affiliations that define and distinguish an individual or a group of people associated with management of water.

**Waterdriehoek** - the area of the Biesbosch, the Drechtsteden, and the UNESCO world heritage site Kinderdijk. Water serves as the connecting element in this region.

# Appendix

Six examples that show the expected results or intentions of the methodology.

- A One of the first maps in the Series of Maps I intend to make
- B Estimated routing for the field research. A more detailed variant will be made once the Series of Maps is finished. Will also contain a set of requirements and goals to make the field research more efficient.
- C The field research will be a combination of photos, sketches and written observations tied to specific places. For this example other projects have been used to give an idea of the format.
- D A selection of important places, findings of the field research will be made. Water Heritage and Maritime Heritage will be categorized. Here the tangible and intangible will be coupled to characteristics informed by the blue papers. Again an example from another project has been used.
- E The catalogue will combine the findings of the fieldtrip into an ordered documentation that will serve as a guideline for designing new relationships with water. Another catalogue that I made before is used as an example to show expected results.
- F As an example of the final overview I intend to make, I have used a picture of one of Nadia Nena's softmaps. For the value assessment I have already tested this method for the Baggermuseum site.

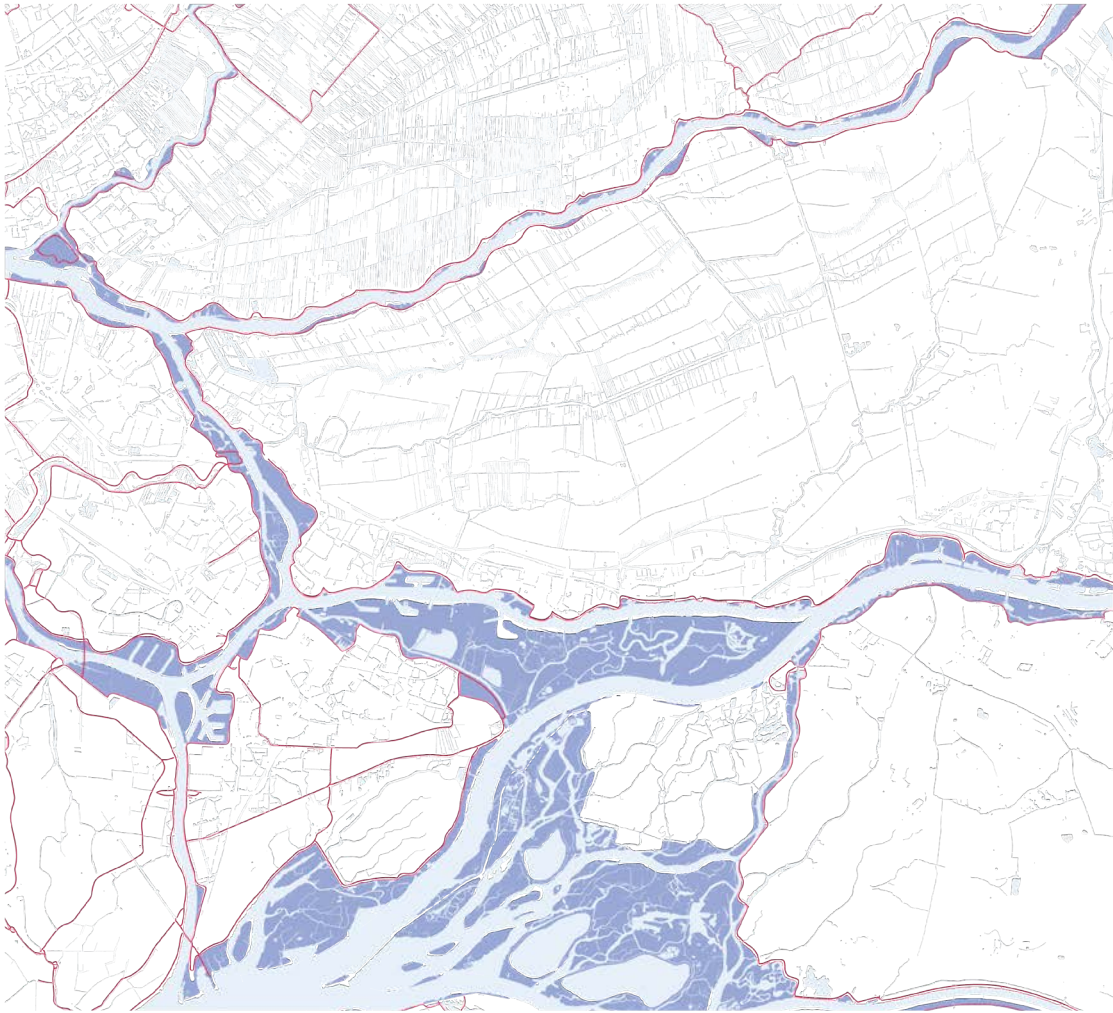
(source: NENA. 2022. *Het Dagboek van Ijsselmonde*. NADIANENA. <https://nadianena.com/ijsselmonde-binnenste-buiten/>.)

**Legend**

Watersystems

Uiterwaarden

Primary dyke



**Uiterwaarden in the Waterdriehoek**  
1:100000

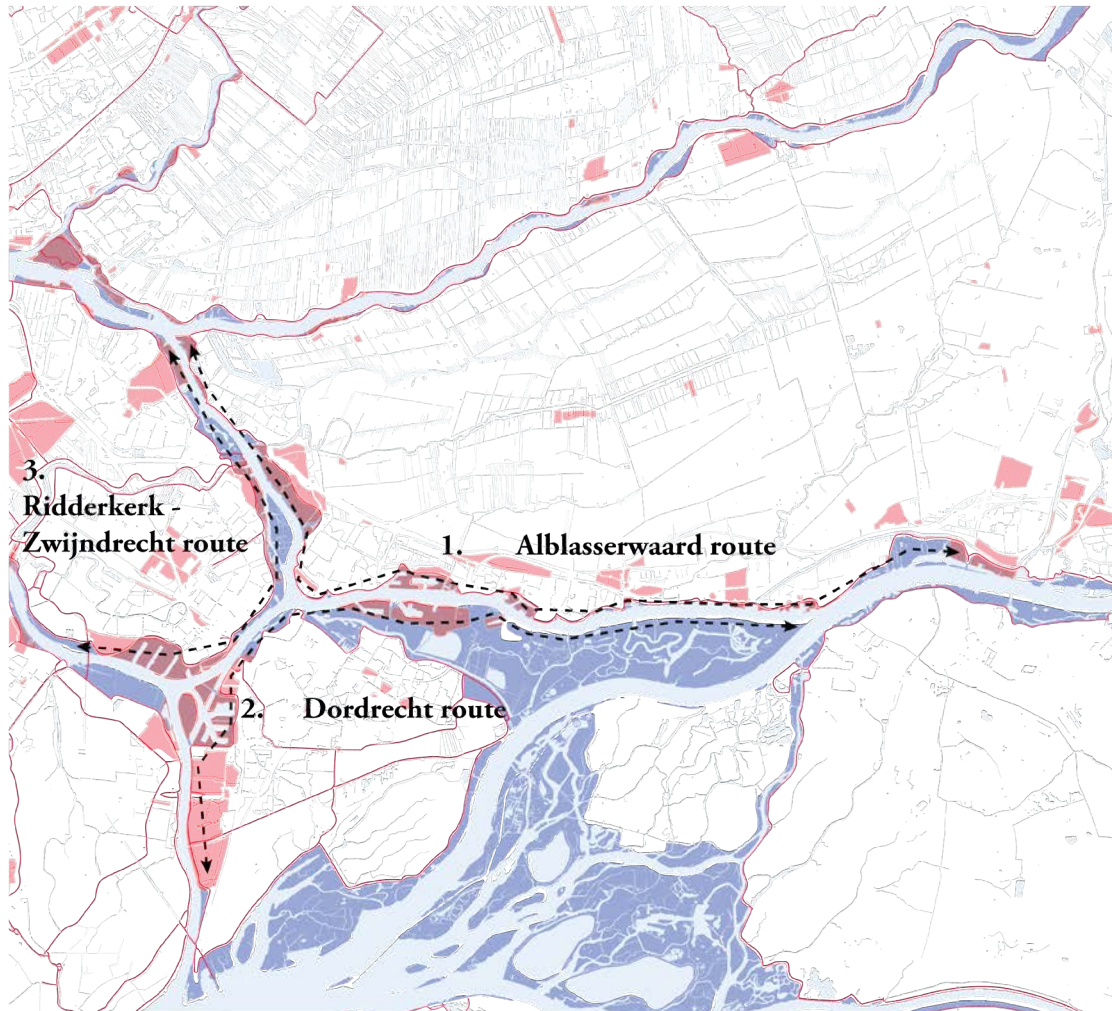
Drawing by author (source: PDOK & Rijkswaterstaat, (2021))

**Legend**

Industrial areas

Uiterwaarden

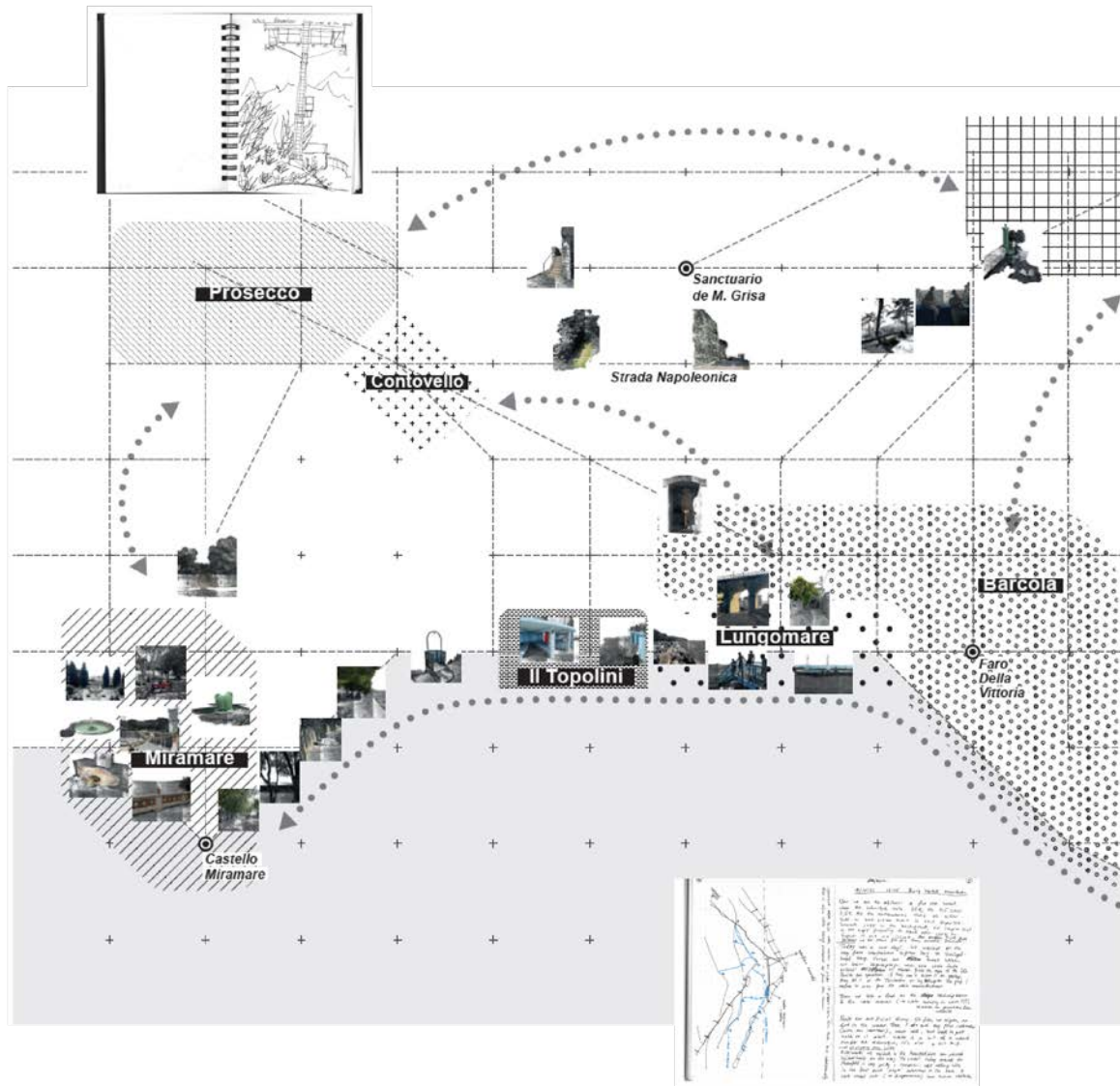
Primary dyke



**Industrial areas in the Waterdriehoek**  
1:100000

Drawing by author (source: Provincie Zuid-Holland, (2021))

EXAMPLE - ESTIMATED ROUTING



EXAMPLE - FIELD RESEARCH

This is the other perspective of the same stairs.  
One can overview the city and the green behind it.

It feels like the city unfolds behind you  
Scala dei Giganti

these platforms invite people to rest for a moment

Standing on top you can overview the whole scene.  
The street level, the different levels of stairs and the platforms.

man-made

extraverted

inviting

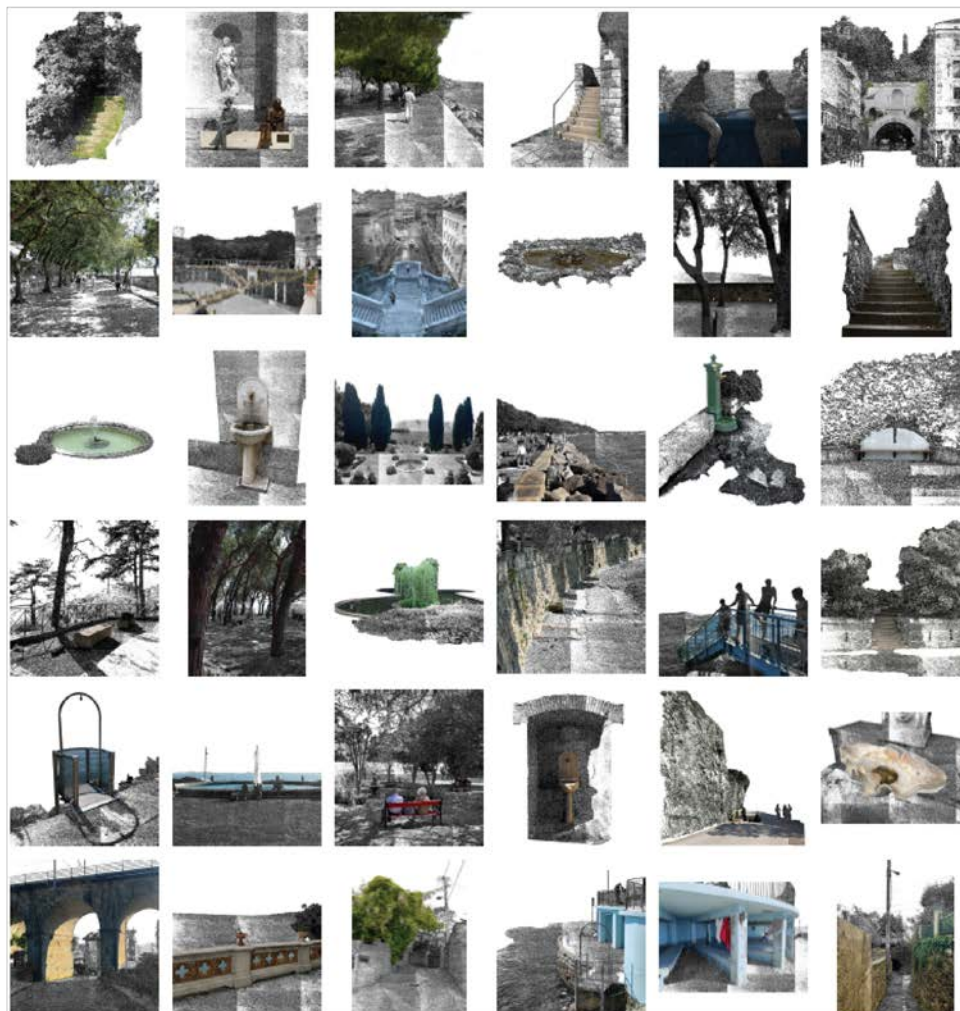
hard

static

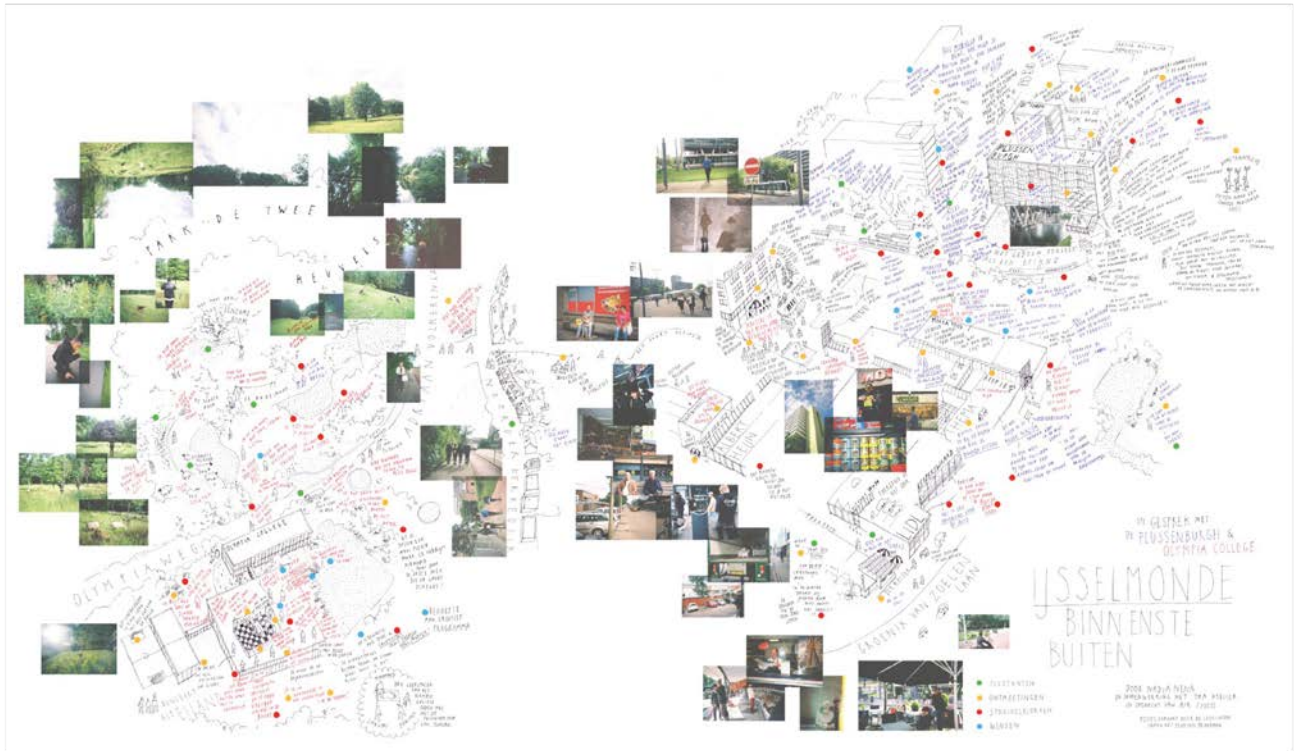
formal

connecting

EXAMPLE - DOCUMENTING UITERWAARDEN



EXAMPLE - CATALOG OF THE UITERWAARDEN



EXAMPLE - FINAL OVERVIEW



## Deleted text

Thought of seperately, having strayed away form eachother. Institutionalized and futher burried in an increasingly complex system. Hardly comprehensible by the more and more urbanised population.

*Could it be that the awareness and resilience around water is being tested by the evolution of contemporary times?*

Although unprotected and susceptible to change, the areas outside the dike are crucial parts of the delta landscape, and contain tangible and intangible parts of Dutch heritage. How changes in contemporary context are translated into the physical space of the uiterwaarden, might be the key to preserving the identity. Both tangible and intangible elements of maritime heritage could inform this transition.

Landscapes have the potential to absorb something of people's lives, works and thoughts. But landscapes also shape their own life histories on different timescales, imprinted by human existence<sup>9</sup>.

As the birthplace of Dutch maritime industry, the lower river delta landscape is filled with tangible maritime heritage such as shipyards, warehouses and factories.

Our planet, our cities, our built systems have all the core values and principles of complexity we need. But, gradually, we have lost track of these<sup>14</sup>. Ovink, H. (2020).

Remnants of the maritime industry such as old shipyards, warehouses and factories are

increasingly becoming more valuable as tangible heritage objects. Traditions, practices and narratives of the past can provide valuable insights into challenges of contemporary time.

and both are strongly tied to national and regional issues of cultural identification<sup>9</sup>

Industrial areas are mostly situated in the uiterwaarden as shown in figure 3. Therefore the research addresses the problem at a delta scale.

Does the awareness gap affect how maritime heritage is treated? Turning a once public responsibility in the hands of institutions, could be affecting the public's ability to adapt to new water circumstances.

On the one hand, water management heritage in the Netherlands is rich, historically layered and strongly tied to national and regional issues of cultural identification.

On the other hand, water heritage is rarely discussed in delta planning<sup>9</sup>.

On the other hand the relation people hold with water is changing, most of the people's livelihood is not dependent on water anymore, also watermanagement is not a public responsibility like it was in the past. On top of that Dutch citizens take levels of water security for granted. As a consequence the people tend to be less involved in discussions around water<sup>13</sup>. The awareness gap could be affecting the public's ability to adapt to new water circumstances. Another important thing to mention is the absence of water heritage in delta planning.

Given the profound historical, cultural, and environmental significance of water in the Netherlands, the separation of heritage preservation and water management as distinct fields, coupled with the accelerating challenges posed by climate change and rapid urbanization, presents a critical problem. This separation hinders the exploration of water's potential to link heritage sites, connect the past to the present, and influence spatial development. This division raises questions about the preservation of tangible and intangible maritime heritage in the uiterwaarden and the overall resilience and awareness of the Dutch population in the face of shifting water related challenges potentially weakening the connection to the nation's maritime history and regional identities.

Thus, exploring strategies for bridging the gap between heritage preservation and water

management, while also fostering regional identity, to ensure the preservation of Dutch maritime heritage and the resilience of both cultural and physical landscapes in the Dutch delta.

In the first part *Qgis* will be used to map datasets. These maps will form the basis of the *field research*. In the field research individual elements as well as the territory as a whole will be captured with *photography* and *sketches*. The elements will be categorized, informed by the symbols found in the Blue papers<sup>17</sup>. Landscapes also shape their own life histories on different timescales<sup>18</sup>. Linking landscape with the elements within, through mapping, will form the documentation of the uiterwaarden as an alternative of the landscape biography.

The second part of the research will focus on people and their daily rituals. Their practices and values. Their experience of water. The organisation of the target group is still undefined and rather dependent on feasibility. The documentation of part 1 of the research will be the starting point of the open *interviews*. Ideally the documentation itself will be the underlayer, and notes will be added on sketching paper on top. Resulting in an second layer of lived experiences.

Together with literature research, the documentation plus the layer of lived experience, will be used to inform the bigger picture regarding preservation of identity and maritime heritage.