5.ª Conferência Internacional da Rede de Museus da Água

5th International Conference Of The Global Network Of Water Museums

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Waterviews: How can mapping facilitate a better understanding of water systems and practices in cities and landscapes? Past, present and future perspectives

Carola Hein, Yvonne van Mil, Matteo D'Agostino

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Carola Hein	Introduction: Mapping Multilayered Water Systems for Water Awareness and Sustainable Futures
Yvonne van Mil	Mapping the unique water-related characteristics of Europe's port city territories
Matteo D'Agostino	Mental mapping methods

Carola Hein, Yvonne van Mil, Matteo D'Agostino, Carlien Donkor, Fotini Tsigoni

Workshop Session
Discussion
Conclusion and wrap-up

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Introduction: Mapping Multilayered Water Systems for Water Awareness and Sustainable Futures

Carola Hein

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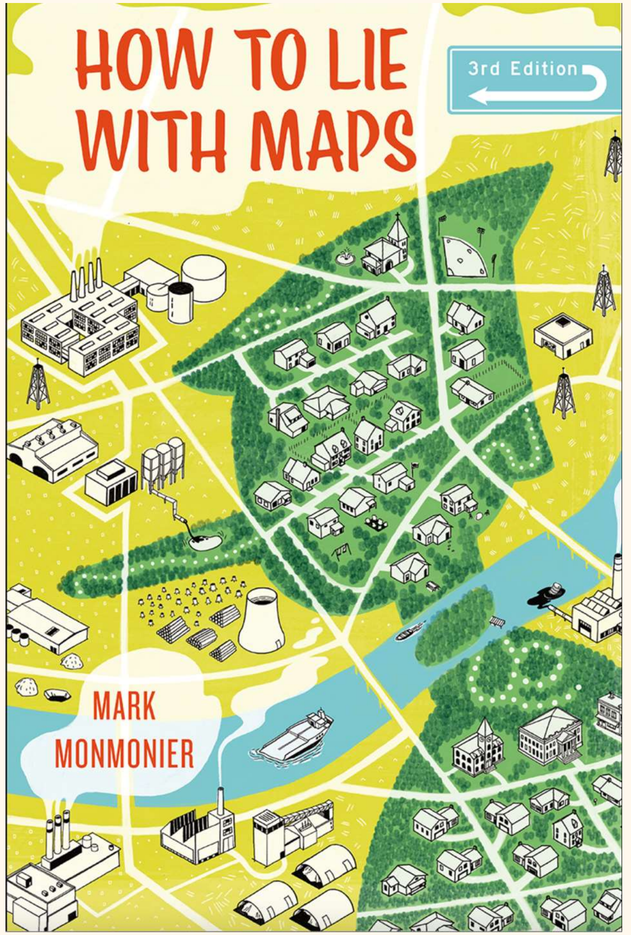
Mapping as Gap-Finder: Geddes, Tyrwhitt, and the Comparative Spatial Analysis of Port City Regions

June 2020 · Urban Planning 5(2):152
DOI: 10.17645/up.v5i2.2803

Carola Hein · Yvonne van Mil



@ Middle: Booth Maps

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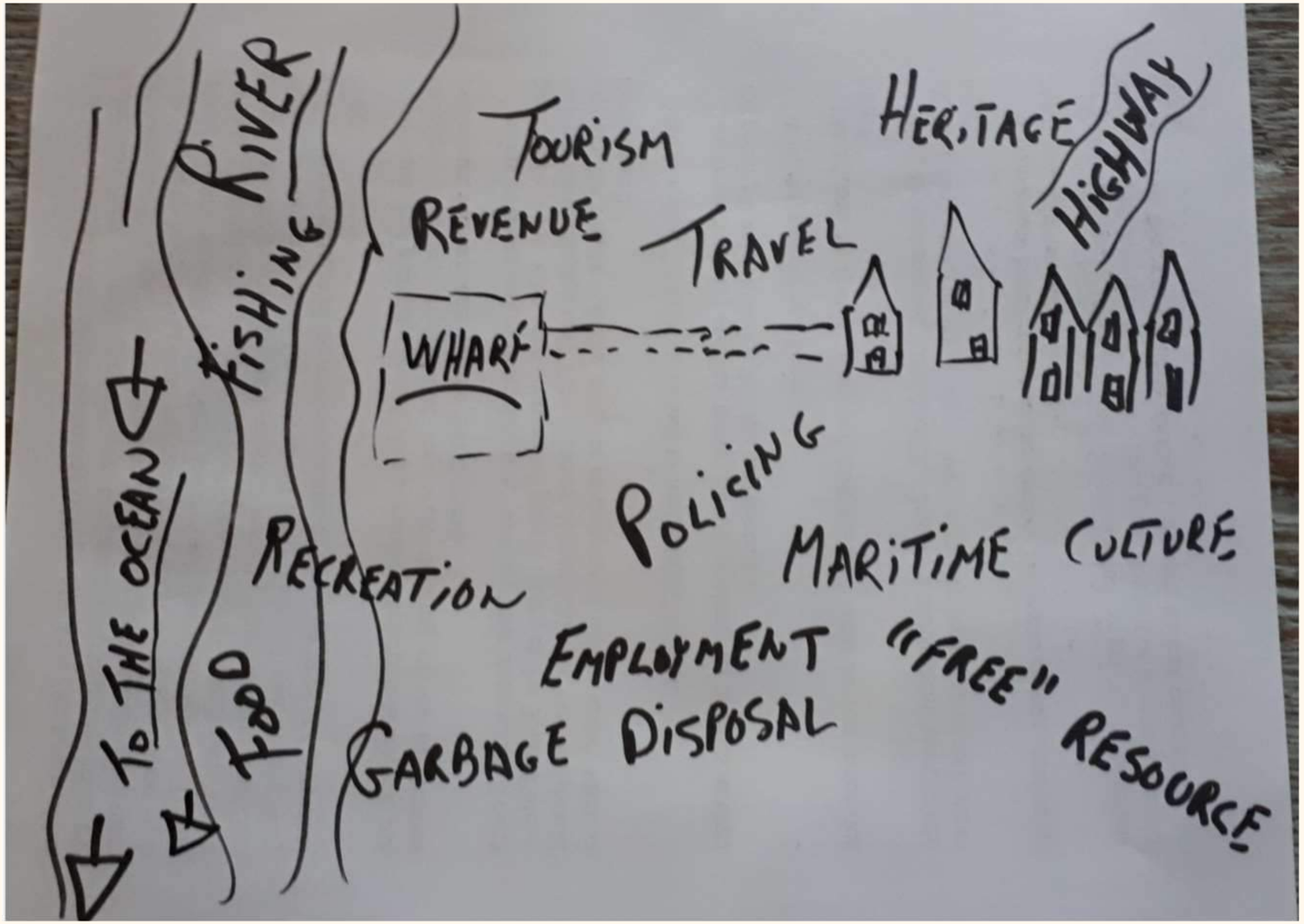

Saint Andrews, New Brunswick

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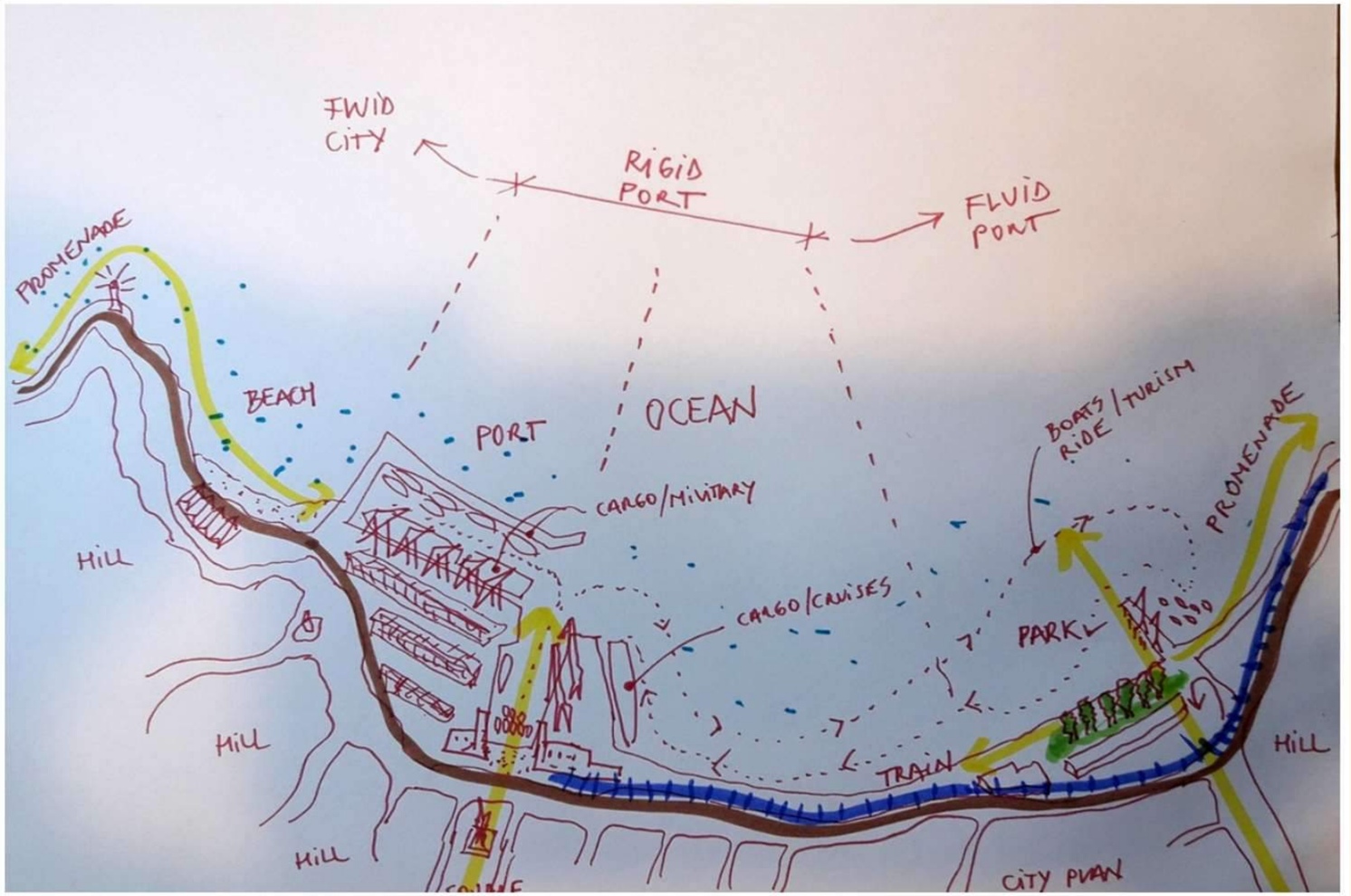

Figure 1. Mental map of the port city of Valparaíso by Cristian Moreno, made for the online course "(Re)Imagining Port Cities." Source: Courtesy of Cristian Moreno.

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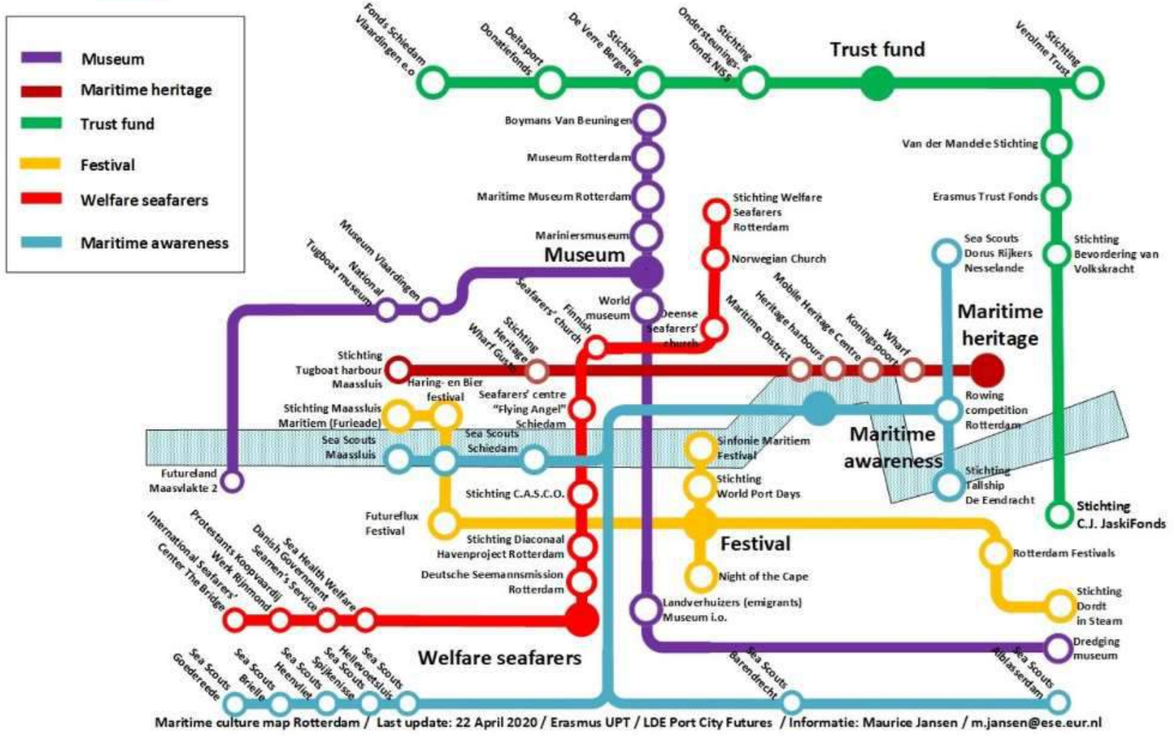
A Guggenheim effect for Rotterdam South side?

29 Jun 2020

Maurice Jansen



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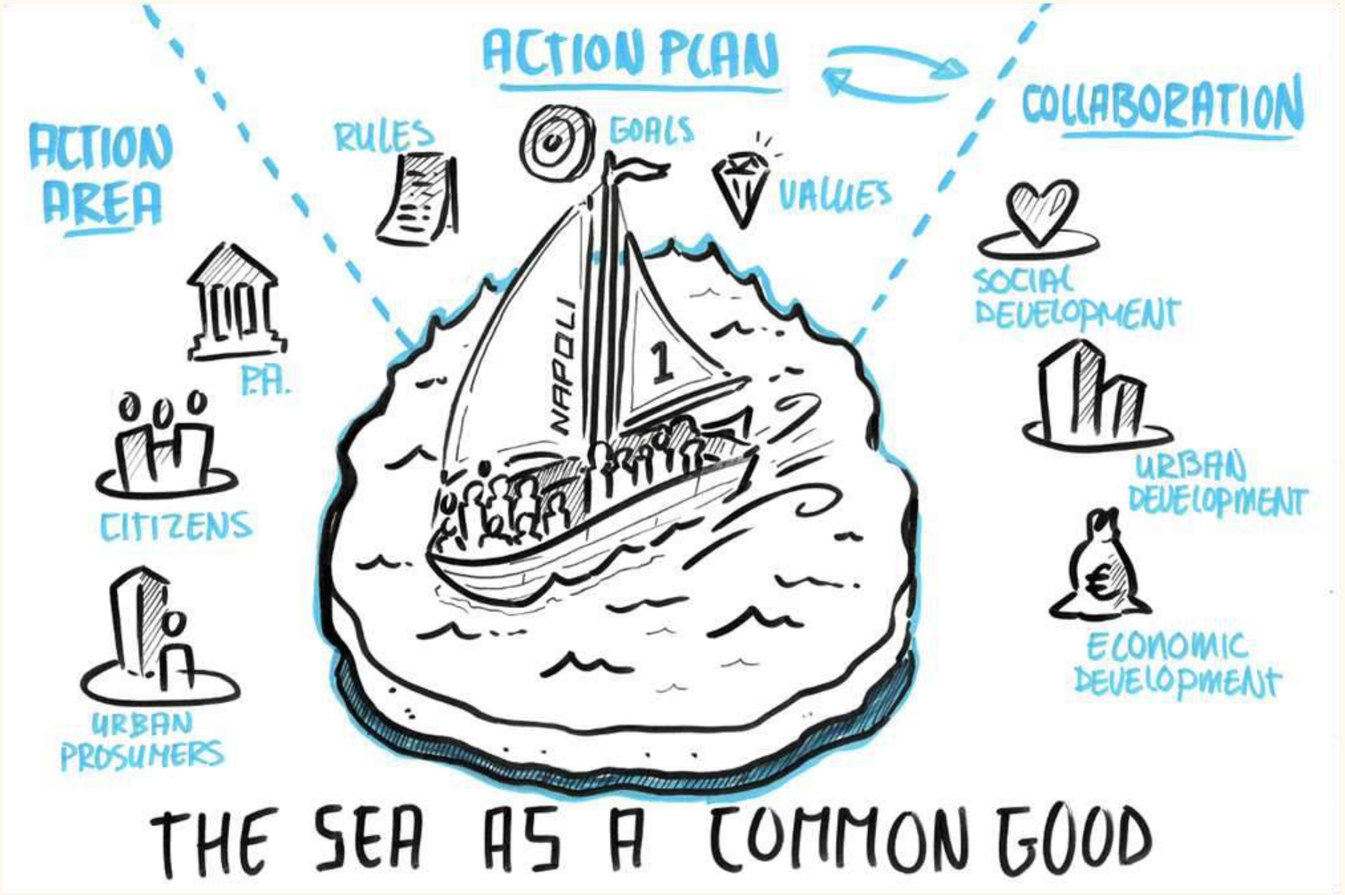

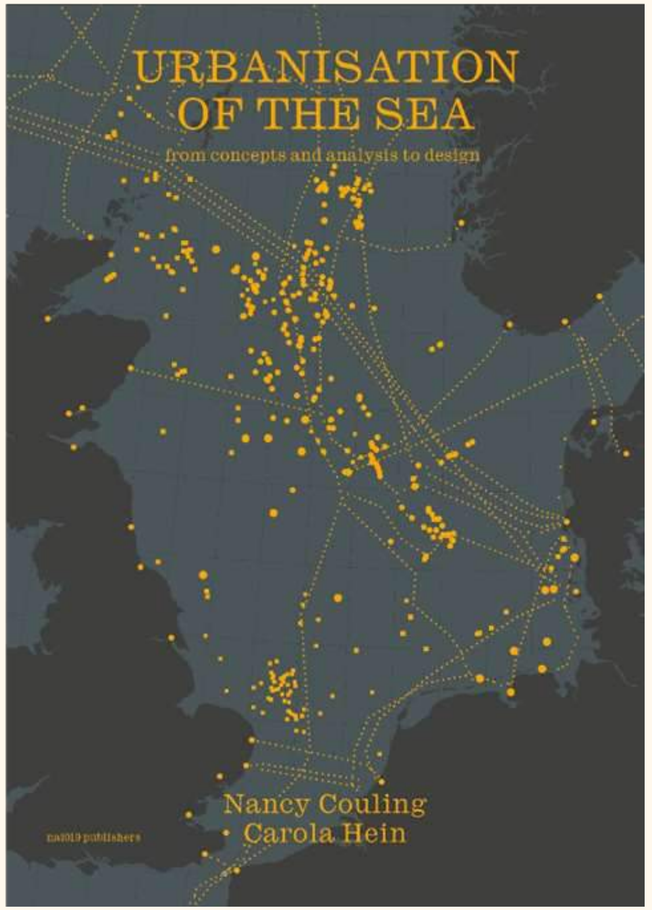

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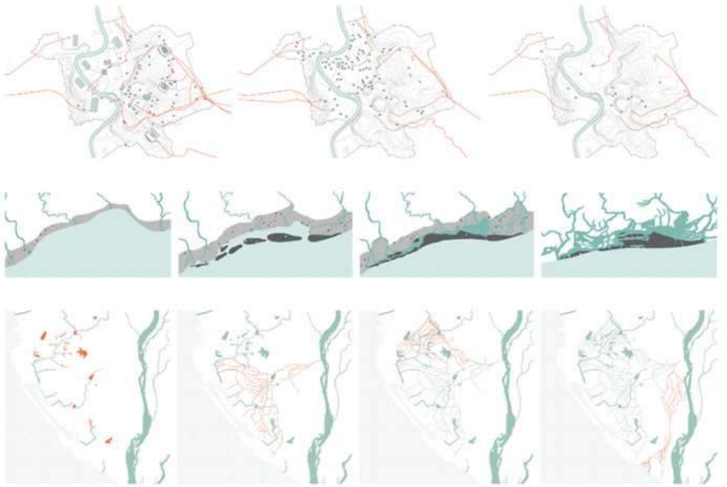

Fig. 6 Transformation over time (Sources [from top to bottom]: Roman aqueducts and their decline [from 312 B.C. to 226 A.D., 5th to 15th century and 16th to 17th century], Italy – C. Di Nicola; Kuttanad Kayalnilam agrosystem evolved because of sedimentation and fixation of the coastal area [Pre-Holocene, Middle-Holocene, Late-Holocene and early nineteenth century], India – N. Ali; Ksŏkong Tsùn irrigation system [before 1837, 1837–1838, 1842 and 193], Taiwan – M. Lin; Images processed by A. Chouairi).

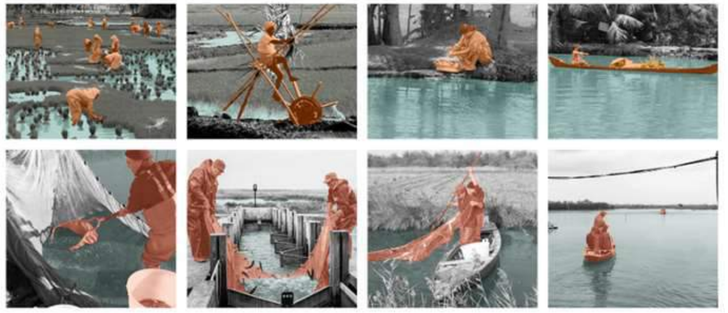

Fig. 7 Human interactions. First row – Kuttanad Kayalnilam agrosystem, India: planting rice, ploughing, washing and sailing (Source: N. Ali). Second row – Fishing valleys, Italy: sowing juvenile larvae in the valley, standing on the lavorièro (fish trap) with nets, capturing fish, inspecting the valley lakes (Source: A. Chouairi).

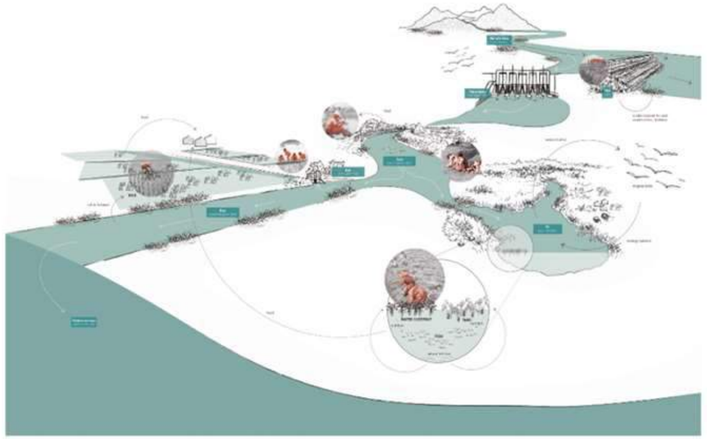

Fig. 9 Circularity. Ksŏkong Tsùn irrigation system, Taiwan: A dam in the Ko-pin-khe river redirects water with the help of irrigation ditches and inlets to the plain to make farming possible. In addition to the rice fields, water plants, such as taros and water chestnuts, are part of the circular production systems. The Ksŏkong irrigation system accommodated a variety of human activities (Source: M.C. Lin).

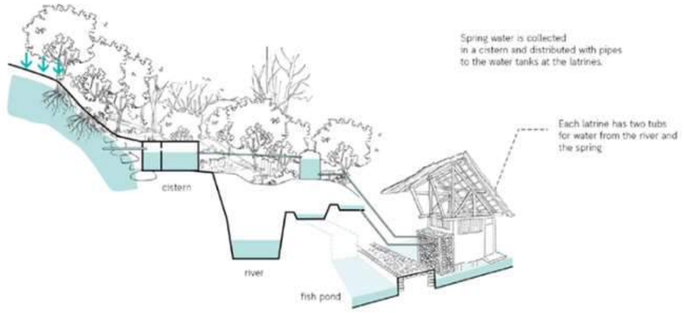

Fig. 10 Details. Schematic drawing of the collection and distribution of spring waters, Kampung Naga, Indonesia (Source: A. T. Prestasia and B. Kim).

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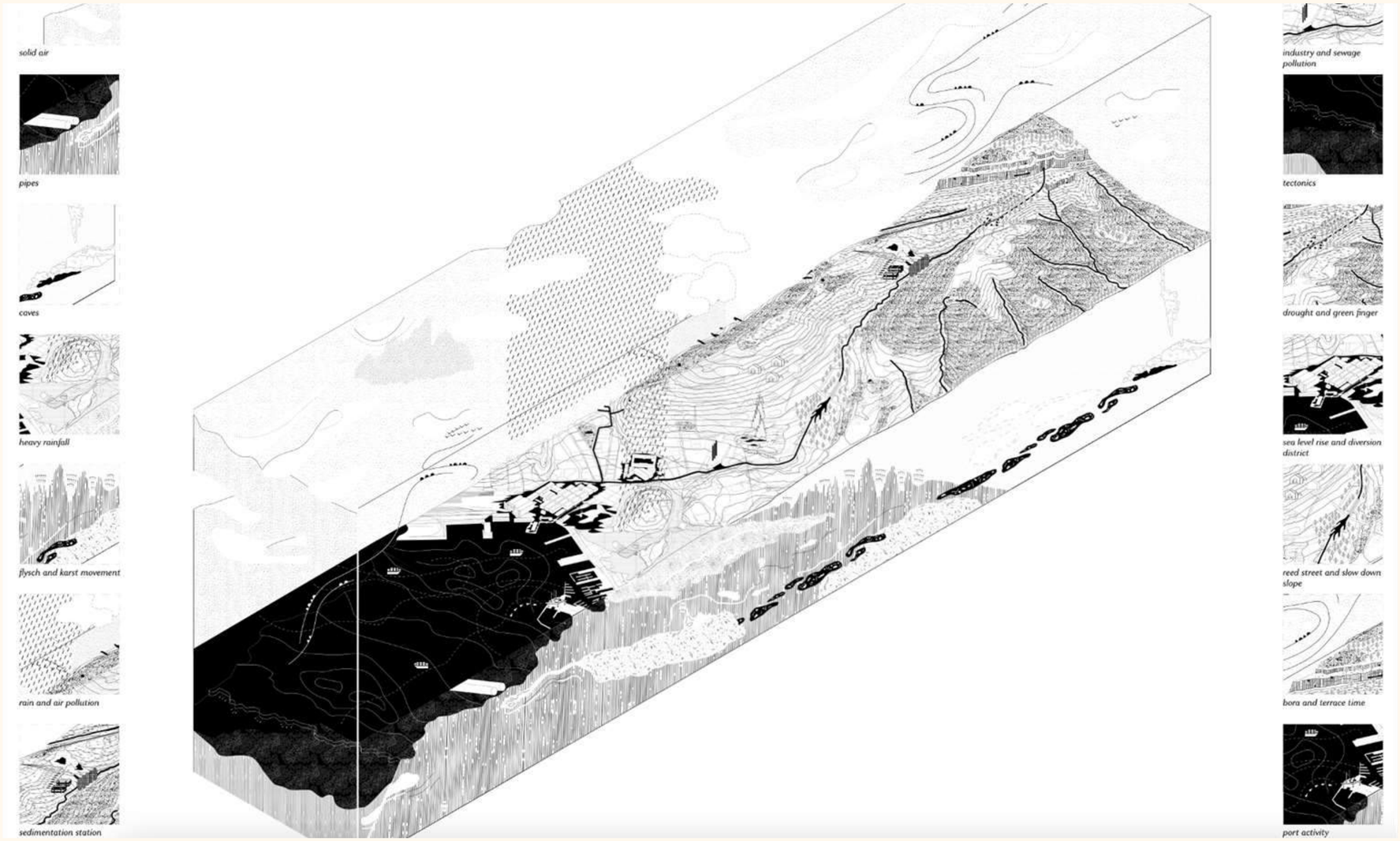

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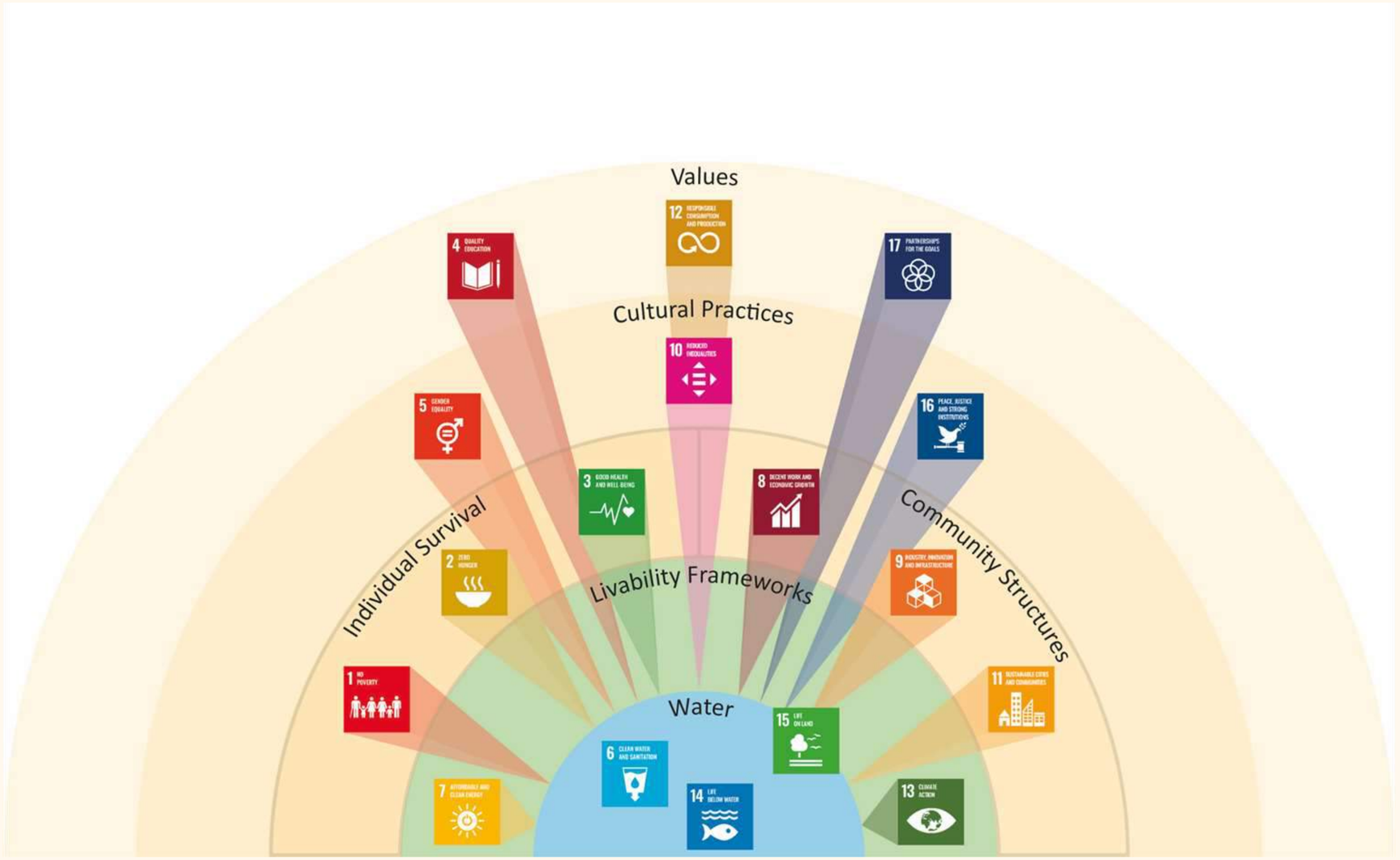

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Tangible


Drinking


Agriculture and Irrigation


Drainage and Sewage


Food from Water Bodies


Shelter and Defense


Health


Energy/ Industry


Transport


Places of Leisure


Place of Worship

Intangible


Daily Water Practices


Recreation


Rites and Rituals

Language / Idioms


Laws and Policies


Institutions


Education


Preservation, Adaptation, Reuse


Music, Arts and Dance


Festivals and Ceremonies

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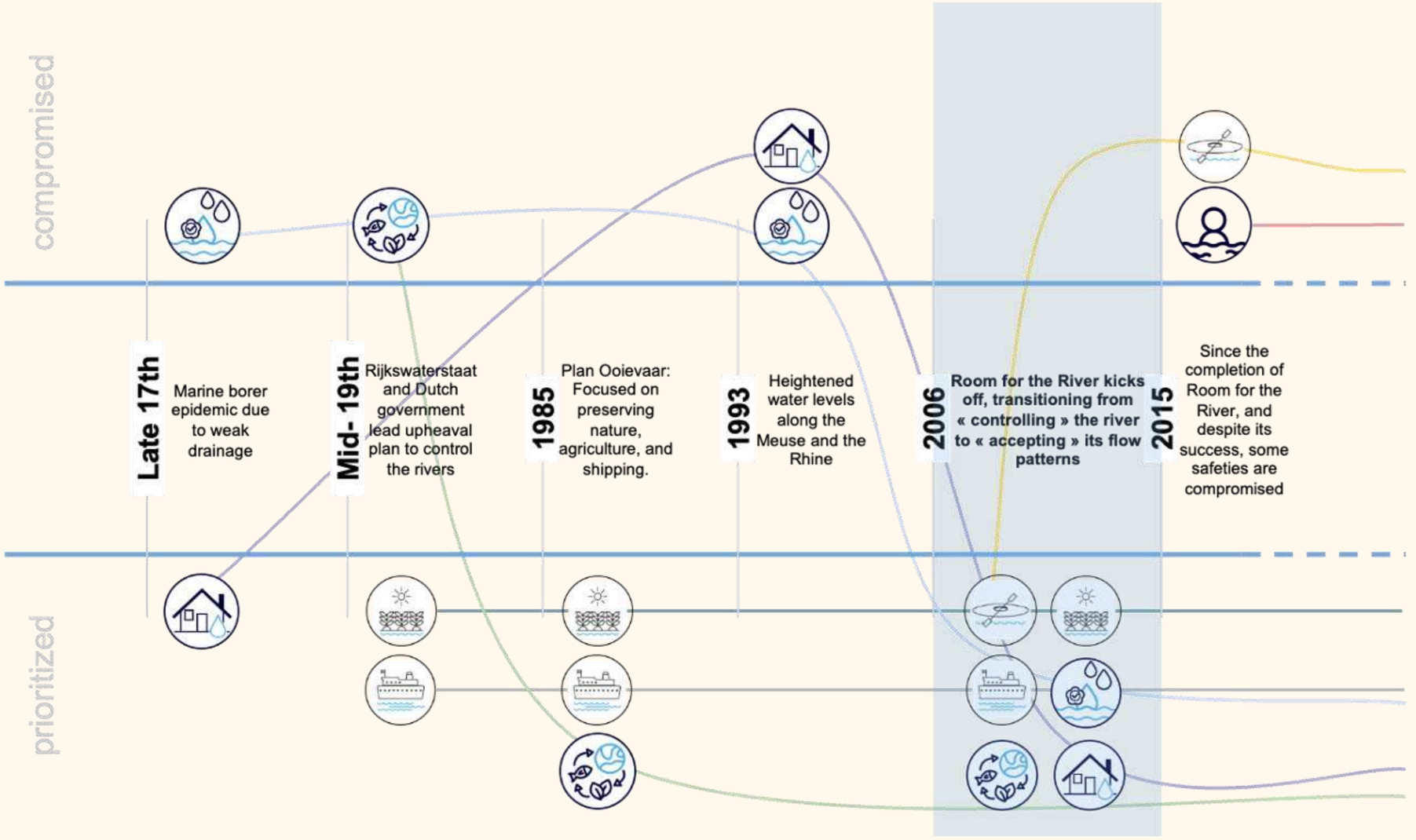

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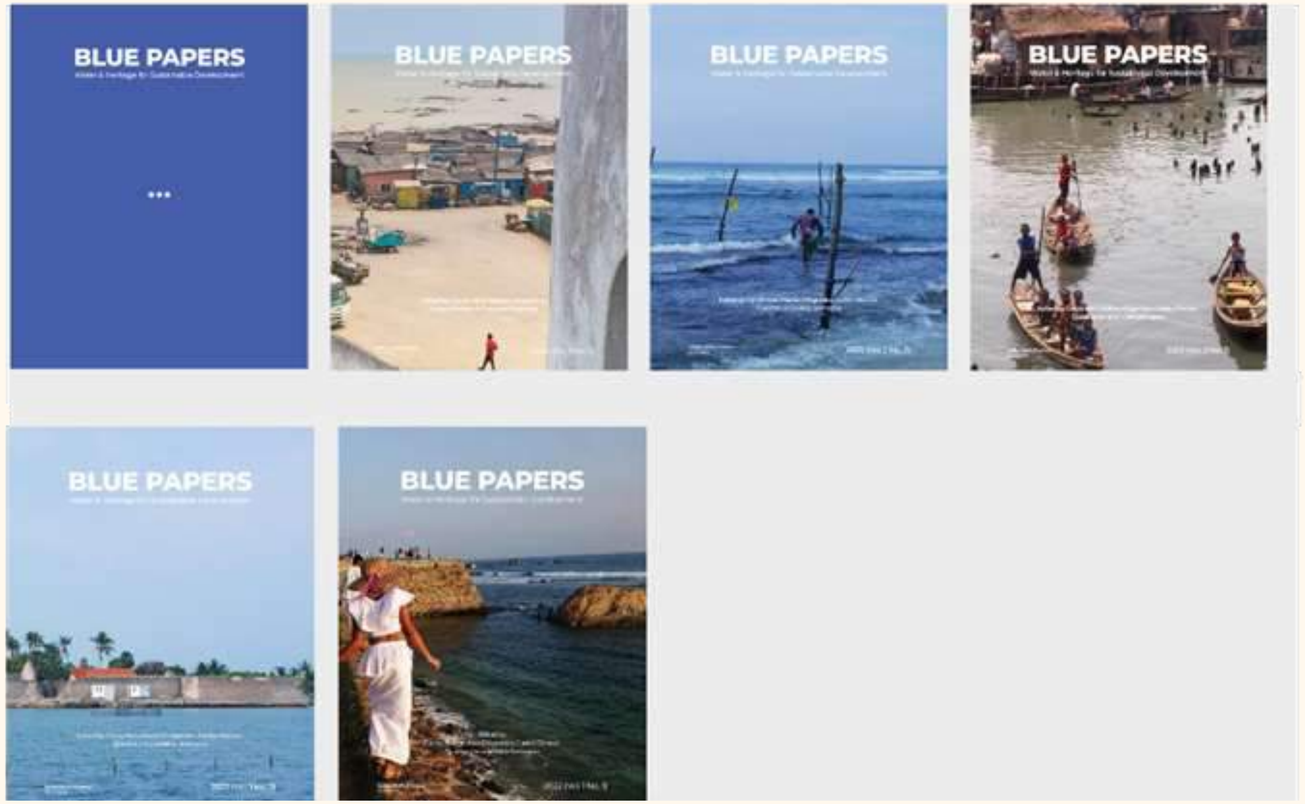
Blue Papers

A Journal for Empowering Water and Heritage

for Sustainable Development

Water in all its forms is key to human survival and well-being. Humans have created intricate and ingenious solutions to survive and thrive in difficult and complex territories, and adapt to changes in social and environmental conditions. Remnants of past practices, structures and objects are still with us – in the built environment, in our institutions, in our ways of living and in our languages. Sometimes we call these objects and practices heritage, but more often they are so much a part of our everyday lives that we take them for granted.



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Mapping the unique water-related characteristics of Europe's port city territories

Yvonne van Mil

Mapping the unique characteristics of Europe's port city territories: across time and scale and beyond the case study approach

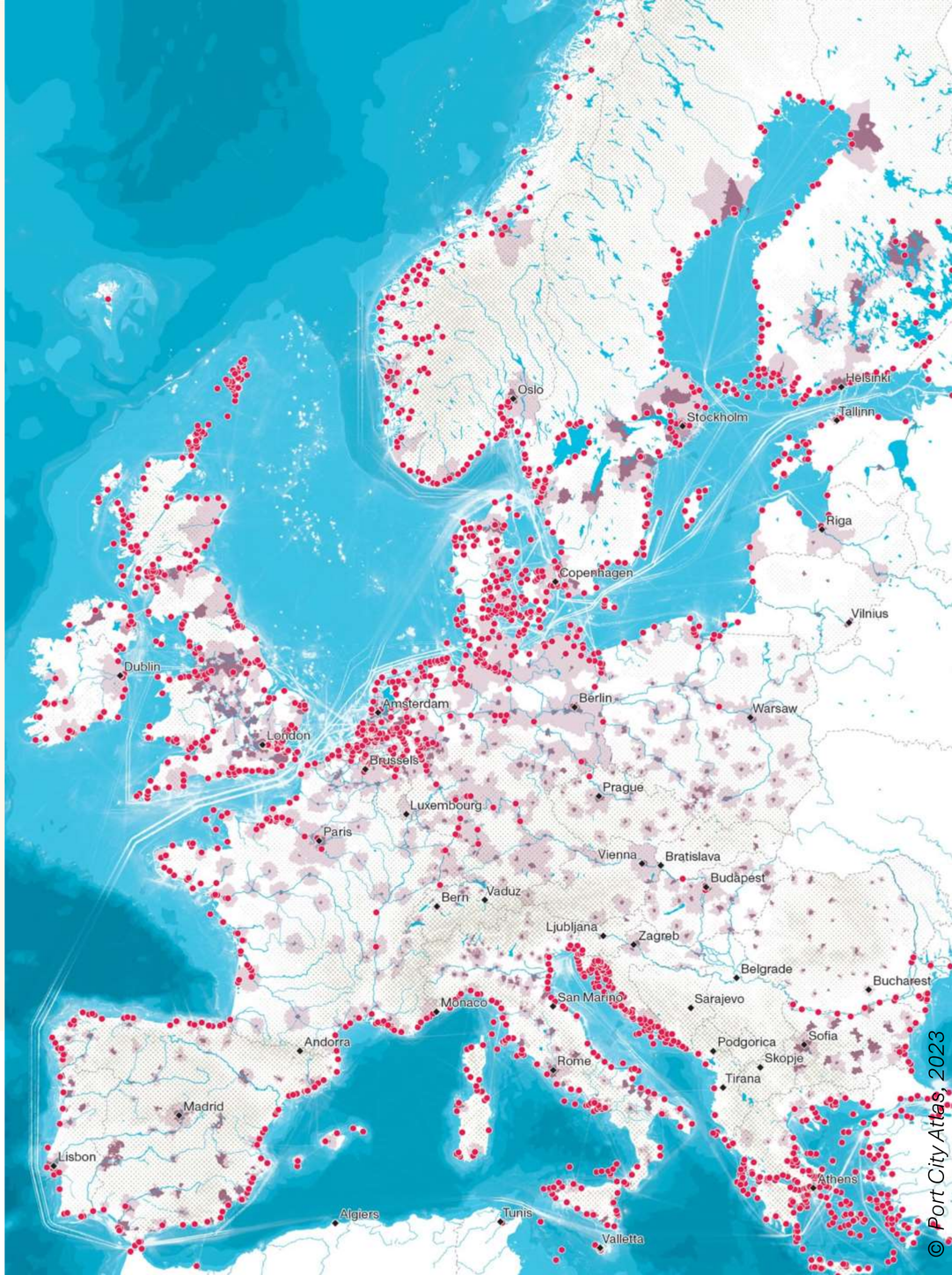
- Topic overview
  - Focus on mapping across time, scale and beyond a single case study.
- Structure of the talk
  - Why a new approach to mapping is needed.
  - Introduction to two different mapping methods based on three case studies:
    1. Port City Atlas mapping method
    2. UNESCO Historic Urban Landscape approach
- Conclude

Why do we need a new mapping approach?

- Complex networks of waterways
  - The map shows all European ports identified by Eurostat, metropolitan regions and vessel density.
  - Ports are connected by an extensive network of waterways, both at sea and on land.

- Similarities and unique developments
  - Port cities may share common spatial, economic, political, social and cultural patterns.
  - Over time, each port city has developed unique spatial strategies, resulting in differences in scale, form and challenges.

- Heritage and stakeholder interests
  - Many port city territories are rich in natural and cultural World Heritage Sites, often linked to maritime practices.
  - Key stakeholders, such as port authorities, influence policy decisions, making it crucial for policy makers to balance the relationship between ports and the heritage values of the territory.



The role of mapping in understanding port city diversity

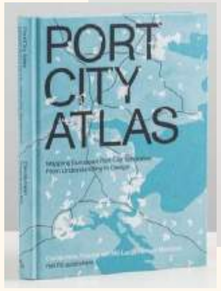
- Facilitating comparisons
  - Mapping can facilitate the understanding of the relationship between ports and the heritage values of the territory.
  - Mapping allows European port cities to be compared and help us raise questions about their unique characteristics.

- Challenges of existing studies
  - Many current studies use different data sources and techniques, and often focus on specific times, spaces or disciplines.
  - This fragmented approach makes it difficult to compare and fully understand the unique characteristics of port cities.

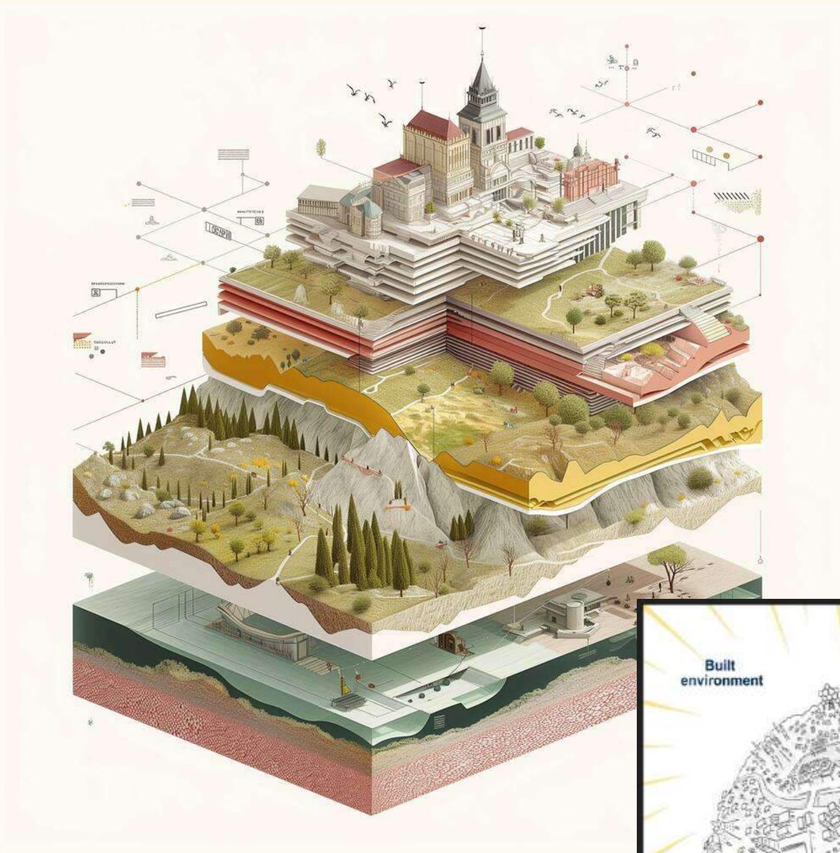
- The need for new methods
  - To fill these gaps, we need mapping methods that go beyond case studies and explore multiple scales.

Two different approaches

Port City Atlas and the UNESCO HUL approach



CAROLA HEIN, YVONNE VAN MIL & LUCIJA AŽMAN MOMIRSKI (2023). **PORT CITY ATLAS: MAPPING EUROPEAN PORT-CITY TERRITORIES: FROM UNDERSTANDING TO DESIGN**, 2023.



UNESCO URBAN HERITAGE ATLAS (interactive platform), 2023

A mapping methodology for comparative analysis of port city territories

Carola Hein, Yvonne van Mil & Lucija Ažman Momirski (2023). Port City Atlas: Mapping European Port-City Territories: From Understanding to Design, 2023.

Framework for the mapping of the particularities of the contemporary port city in the context of the water they border, and the wider territory influenced by port activities.

A mapping methodology for comparative analysis of 100 port city territories

The Port City Atlas

Mapping principles

- Multiscale approach
- Water-based approach (beyond political boundaries)
- Territorial perspective (beyond fixed locations)
- Standardised methodology to allow comparison
- Statistical and spatial data sets covering all European countries

A mapping methodology for comparative analysis of 100 port city territories

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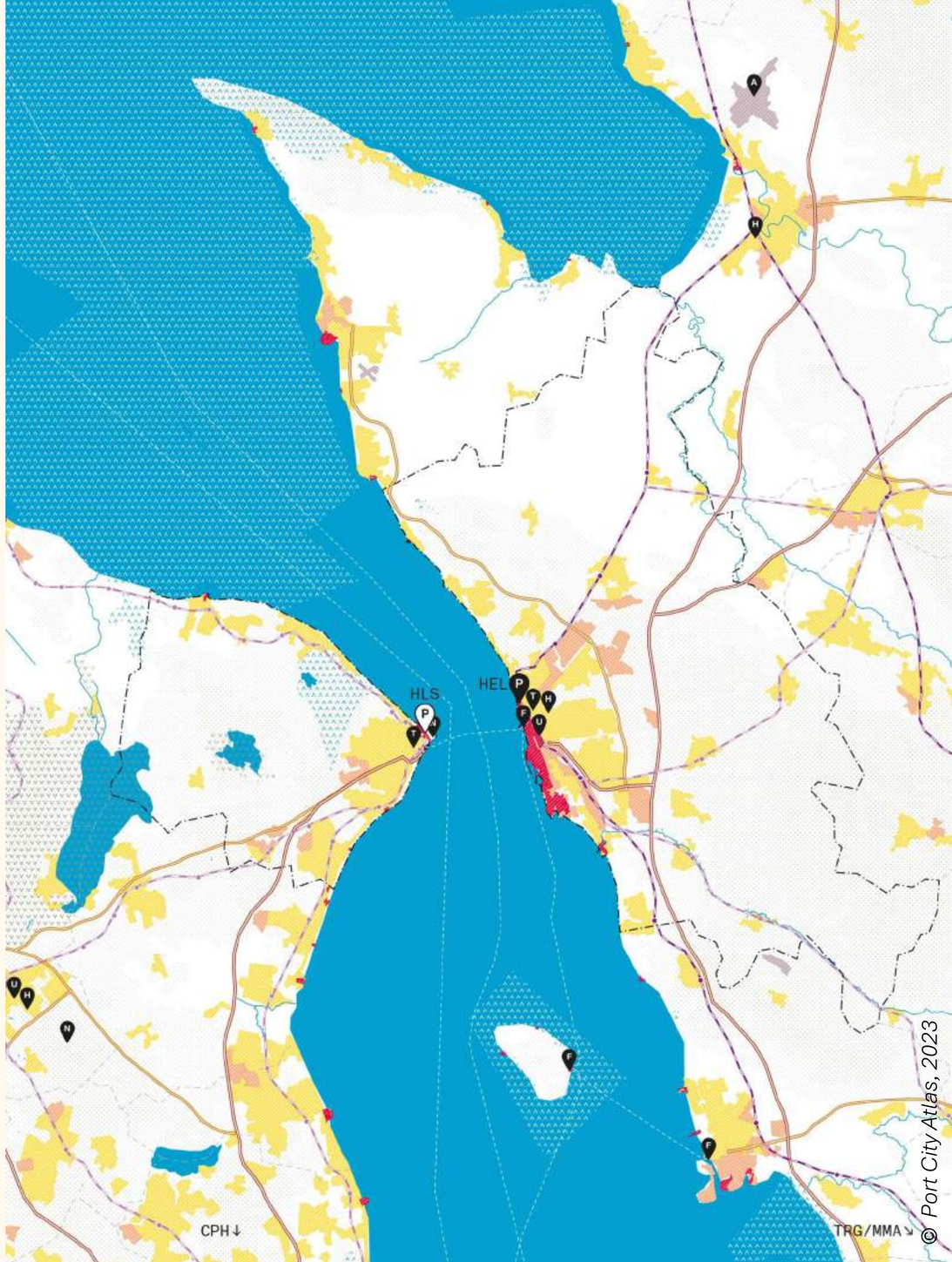

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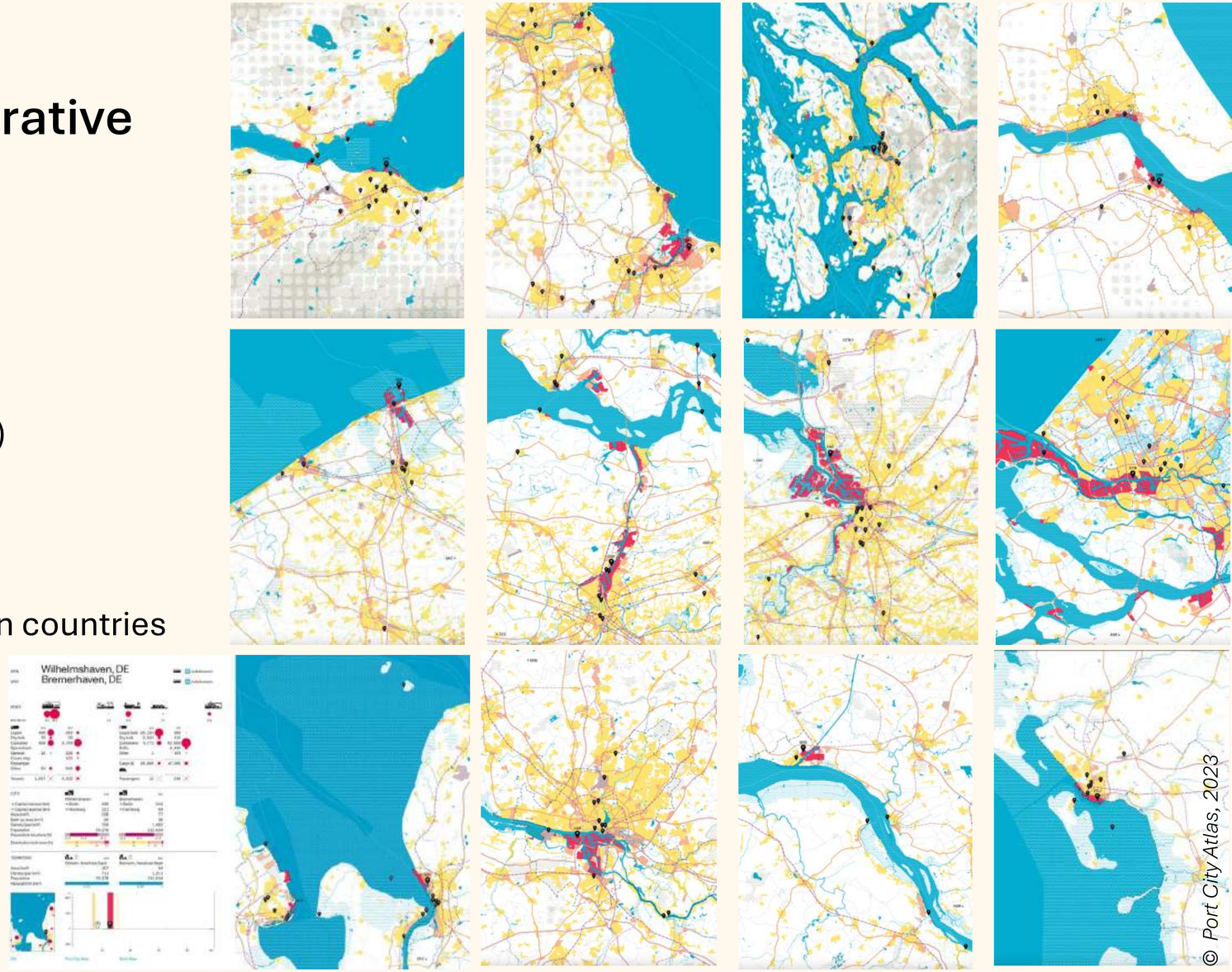
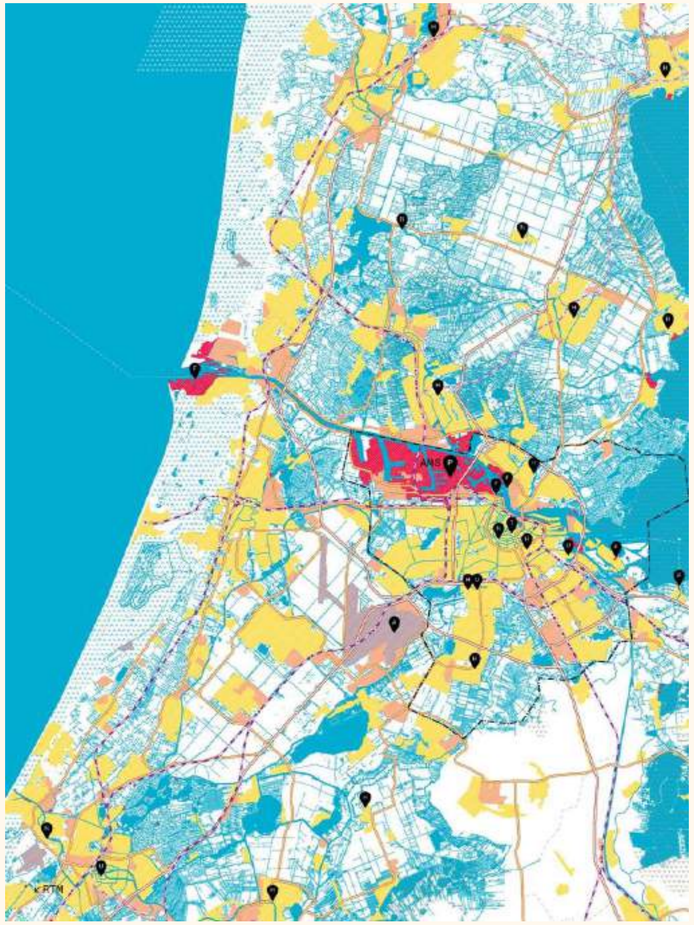
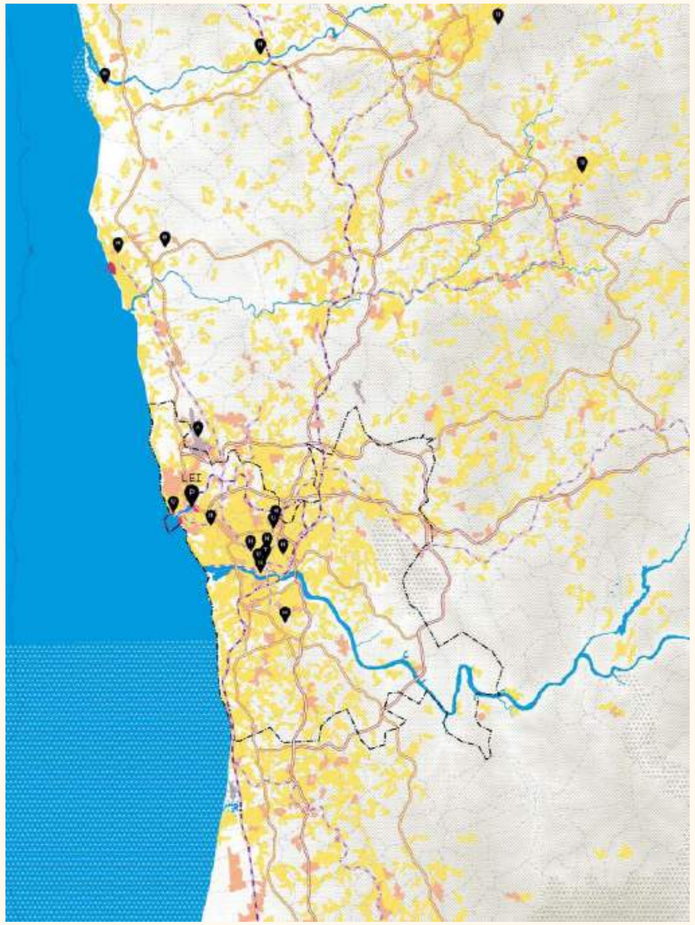


A comparison of three port city territories on three different maritime waters

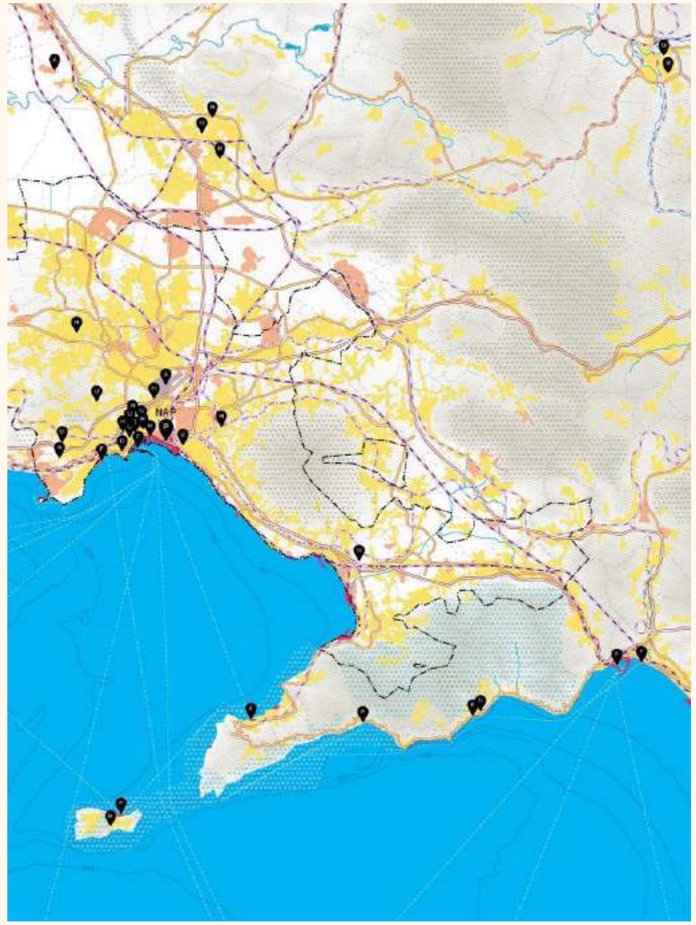
Findings from the Port City Atlas



AMSTERDAM



PORTO



NAPLES

North Sea Map and Statistics

ID	Port name	[1]	[2]
AAL	Aalborg, DK	2,994	0
FDH	Frederikshavn, DK	2,568	1,960
HIR	Hirtshals, DK	1,948	2,541
EJB	Esbjerg, DK	4,310	1,824
BRB	Brunsbüttel, DE	10,131	0
HAM	Hamburg, DE	117,154	847
BRE	Bremen, DE	12,123	2
WVN	Wilhelmshaven, DE	28,869	13
BRV	Bremerhaven, DE	47,586	248
DZL	Delfzijl, NL	6,063	26
EME	Emden, DE	4,428	1,137
AMS	Amsterdam, NL	103,911	614
RTM	Rotterdam, NL	439,631	1,333
ANR	Antwerp, BE	214,025	61
GNE	Ghent, BE	33,336	4
ZEE	Zeebrugge, BE	28,993	1,022
DKK	Dunkirk, FR	42,555	2,330
DVR	Dover, UK	23,432	11,025
CQF	Calais, FR	18,099	8,478
MED	Medway, UK	13,137	0
LON	London, UK	54,034	112
FXT	Felixstowe, UK	25,344	9
HRW	Harwich, UK	4,275	692
IPS	Ipswich, UK	2,367	0
IMM	Immingham, UK	54,084	95
HUL	Hull, UK	9927	827
MME	Tees & Hartlepool, UK	28,154	2
TYN	Tyne, UK	4,679	670
FOR	Forth (Edinburgh), UK	25,221	25
BGO	Bergen, NO	44,174	169
TON	Tønsberg, NO	10,709	0
OSL	Oslo, NO	6,039	2,362
GOT	Göteborg, SE	38,890	1,675

Fourth largest gateway port in the North Sea and Europe in terms of transit of goods.

Situated at the crossroads of several major shipping routes and in one of the most densely populated areas in Europe.

AMS

Amsterdam, NL

North Sea Canal

PORT

AMS [%] 98.0 1.4 0.6

	AMS
Liquid	2,095
Dry bulk	694
Container	163
Specialized	92
General	2,244
Cruise ship	20
Passenger	
Other	304
Vessels	5,612

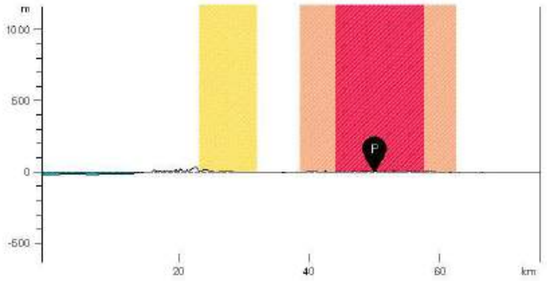
	AMS
Liquid bulk	49,914
Dry bulk	44,524
Containers	754
RoRo	630
Other	8,089
Cargo (t)	103,911
Passengers	614

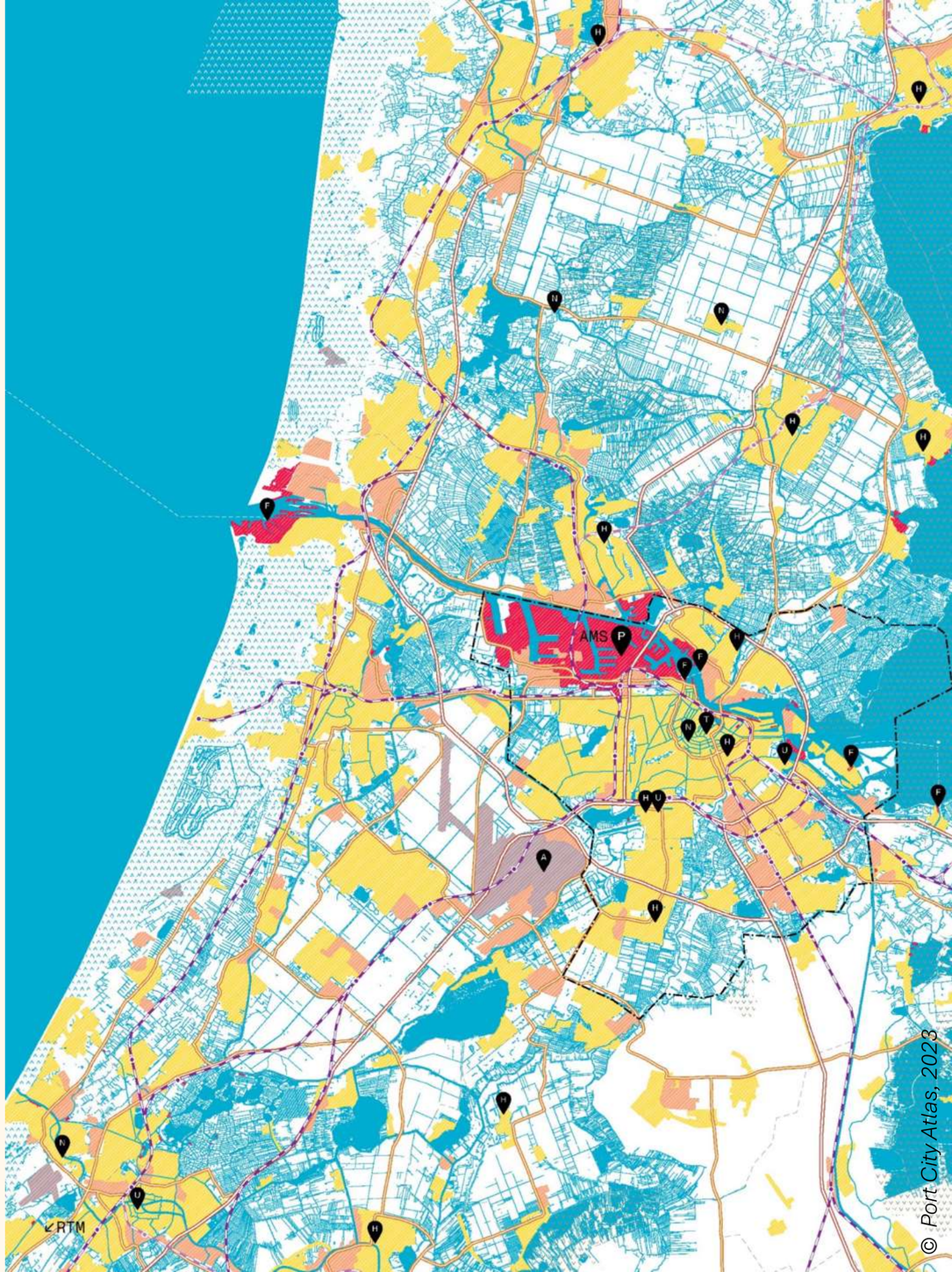
CITY

	AMS
	Greater Amsterdam
→ Capital national (km)	
→ Capital regional (km)	→ Amsterdam 0
Area (km²)	303
Built-up area (km²)	135
Density (per km²)	3,286
Population	996,915
Population structure (%)	14.9 71.7 13.3
Distribution built area (%)	74 13 13

TERRITORY

	AMS
	Groot-Amsterdam
Area (km²)	875
Density (per km²)	1,567
Population	1,370,657
Natura2000 (km²)	166 777





Atlantic Map and Statistics

ID	Port name	[1]	[2]
CYP	Clydeport (Glasgow), UK	8,801	0
CYN	Cairnryan, UK	2,705	1,770
BEL	Belfast, UK	18,515	1,626
LAR	Larne, UK	2,767	467
DUB	Dublin, IE	26,332	1,991
LMK	Limerick, IE	9,622	2
ORK	Cork, IE	8,706	114
HYM	Heysham, UK	4,538	284
LIV	Liverpool, UK	34,314	694
HLY	Holyhead, UK	5,324	1,886
MLF	Milford Haven, UK	34,952	327
BRS	Bristol, UK	8,190	0
SOU	Southampton, UK	33,151	1,807
PME	Portsmouth, UK	3,620	1,754
LEH	Le Havre, FR	60,173	172
NTE	Nantes Saint-Nazaire, FR	30,155	0
LRH	La Rochelle, FR	9,763	0
BOD	Bordeaux, FR	6,499	1
BIO	Bilbao, ES	33,881	107
GIJ	Gijón, ES	17,220	0
LCG	La Coruña, ES	13,584	1
FRO	Ferrol, ES	11,154	0
LEI	Leixões (Porto), PT	17,924	1
LIS	Lisboa, PT	10,465	73
SET	Setúbal, PT	6,735	0
HUV	Huelva, ES	33,255	43
LPA	Las Palmas, ES	19,850	1,994
SCT	Santa Cruz de Tenerife, ES	9,788	5,615
CAD	Cádiz, ES	4,015	25

Situated at a major shipping route between southern and northern Europe

Medium-sized port on basis of transit data

LEI

Leixões (Porto), PT

Douro River

PORT

LEI (%) 87.4

	LEI
Liquid	373
Dry bulk	87
Container	1,124
Specialized	17
General	853
Cruise ship	100
Passenger	
Other	
Vessels	2,550

62.6

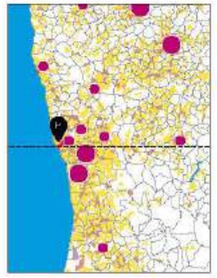
	LEI
Liquid bulk	7,758
Dry bulk	2,606
Containers	5,481
RoRo	1,047
Other	1,032
Cargo (t)	17,924
Passengers	1

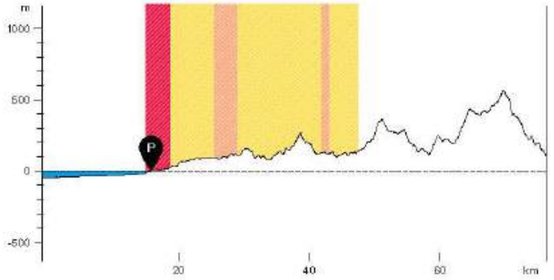
CITY

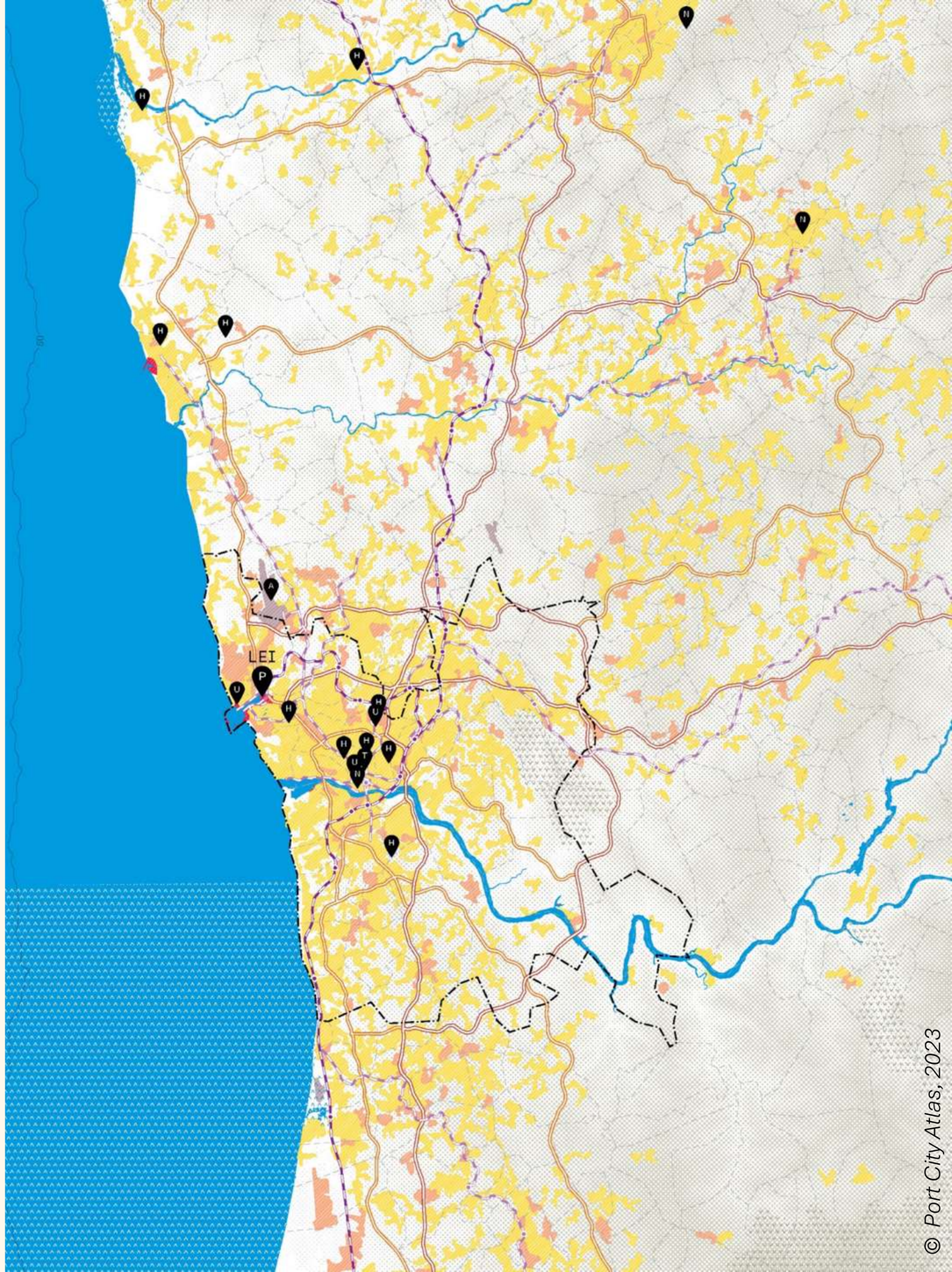
	Porto	LEI
→ Capital national (km)	→ Lisboa	275
→ Capital regional (km)		
Area (km²)		479
Built-up area (km²)		255
Density (per km²)		1,986
Population		951,805
Population structure (%)		13.3 65.0 21.6
Distribution built area (%)		96 1.12 1

TERRITORY

	Metropolitana do Porto	LEI
Area (km²)		2,040
Density (per km²)		844
Population		1,722,374
Natura2000 (km²)		2,369 426







Mediterranean Sea Map and Statistics

ID	Port name	[1]	[2]
ALG	Algeciras, ES	89,908	6,148
CEU	Ceuta, MA	1,247	2,102
CAR	Cartagena, ES	33,933	1
VLC	Valencia, ES	65,308	757
CAS	Castellón, ES	20,265	0
TAR	Tarragona, ES	32,584	31
BCN	Barcelona, ES	54,713	3,239
MRS	Marseille, FR	74,049	1,705
TLN	Toulon, FR	1,742	1,749
GOA	Genova, IT	49,698	2,881
SVN	Savona, IT	13,450	806
SPE	La Spezia, IT	18,805	
LIV	Livorno, IT	36,262	2,941
CVV	Civitavecchia (Roma), IT	9,527	2,886
NAP	Napoli, IT	15,431	9,257
PFX	Porto Foxi, IT	28,818	
CAG	Cagliari, IT	12,680	389
PMO	Palermo, IT	10,047	2,017
SIR	Siracusa, IT	12,132	

ID	Port name	[1]	[2]
MSN	Messina, IT	7,293	11,669
MLZ	Milazzo, IT	15,469	471
GIT	Gioia Tau, IT	22,694	
REG	Reggio di Calabria, IT	4,528	10,884
TAR	Taranto, IT	17,608	
RAN	Ravenna, IT	31,351	
VCE	Venezia, IT	27,935	854
TRS	Trieste, IT	60,332	
KOP	Koper, SI	22,125	0
MNF	Monfalcone, IT	4,485	
RJK	Rijeka, HR	3,356	114
SPU	Split, HR	1,940	4,958
PIR	Peiraias (Athene), GR	56,825	9,931
PER	Perama, GR	3,699	6,939
EEU	Elefsina, GR	16,214	0
SKG	Thessaloniki, GR	15,172	2

Situated on a national route along the Italian coast and between the Italian islands and the mainland

Medium to small cargo port, but one of the largest passenger ports, especially cruise terminals, in the Mediterranean and in Europe

NAP

Napoli, IT

Gulf of Naples

PORT

NAP(%) 28.6 62.1 8.2 11.1

	NAP
Liquid	784
Dry bulk	52
Container	486
Specialized	
General	41,536
Cruise ship	454
Passenger	3,133
Other	377
Vessels	46,822

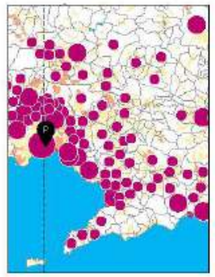
	NAP
Liquid bulk	6,323
Dry bulk	1,246
Containers	3,486
RoRo	4,161
Other	215
Cargo (t)	15,431
Passengers	9,257

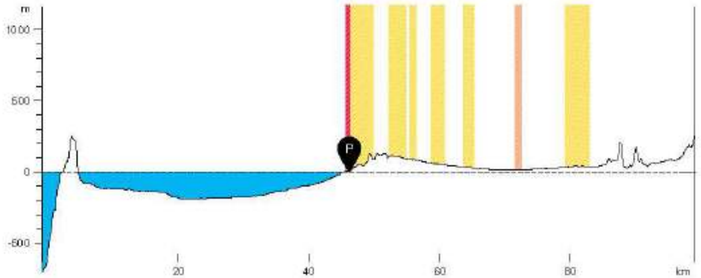
CITY

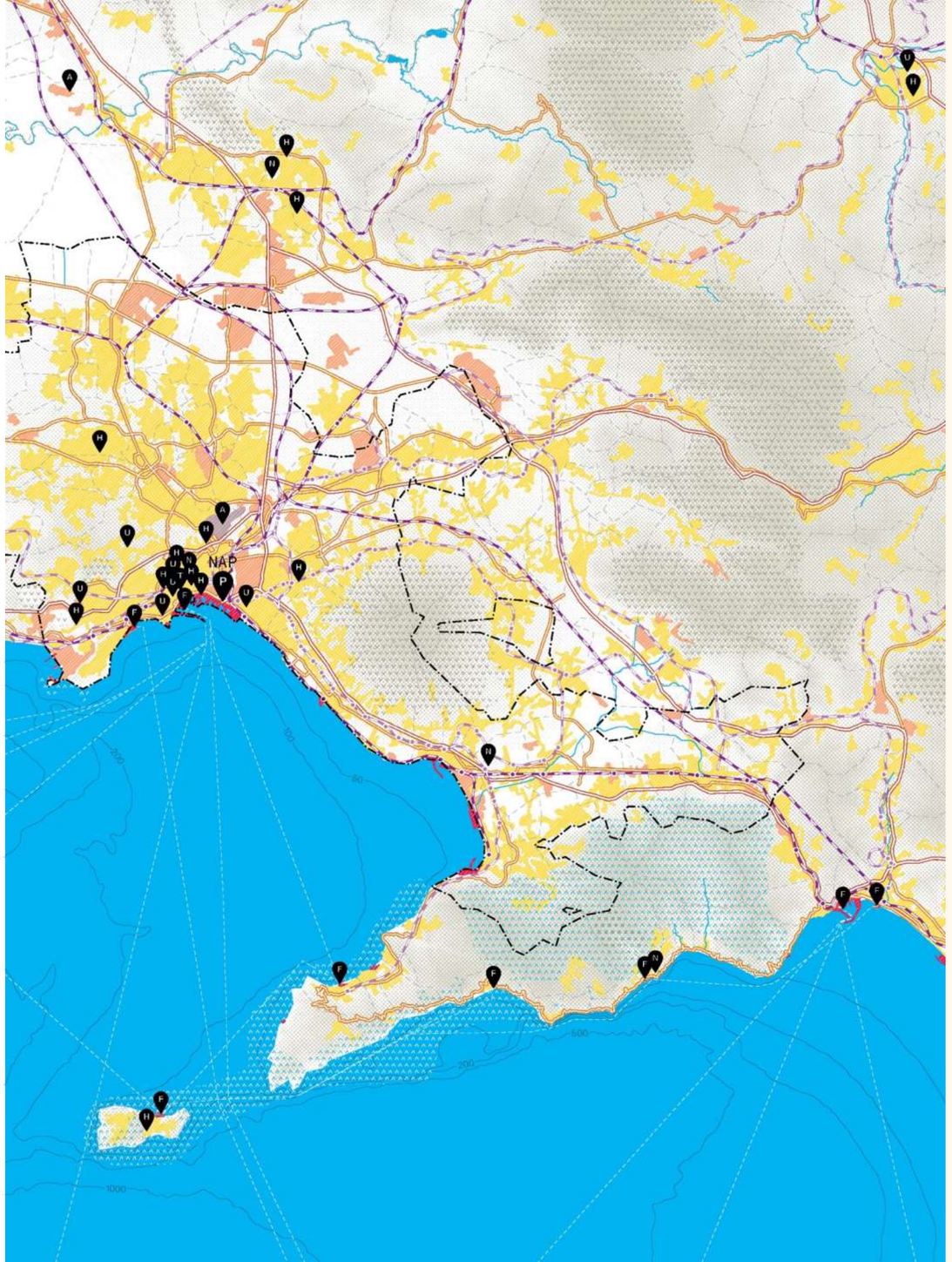
	Napoli	NAP
→ Capital national (km)	→ Roma	254
→ Capital regional (km)		
Area (km²)		849
Built-up area (km²)		359
Density (per km²)		1,124
Population		954,318
Population structure (%)		15.6 67.1 17.4
Distribution built area (%)		83 1 15 1

TERRITORY

	Napoli	NAP
Area (km²)		1,175
Density (per km²)		2,594
Population		3,048,194
Natura2000 (km²)		M 370 T 400

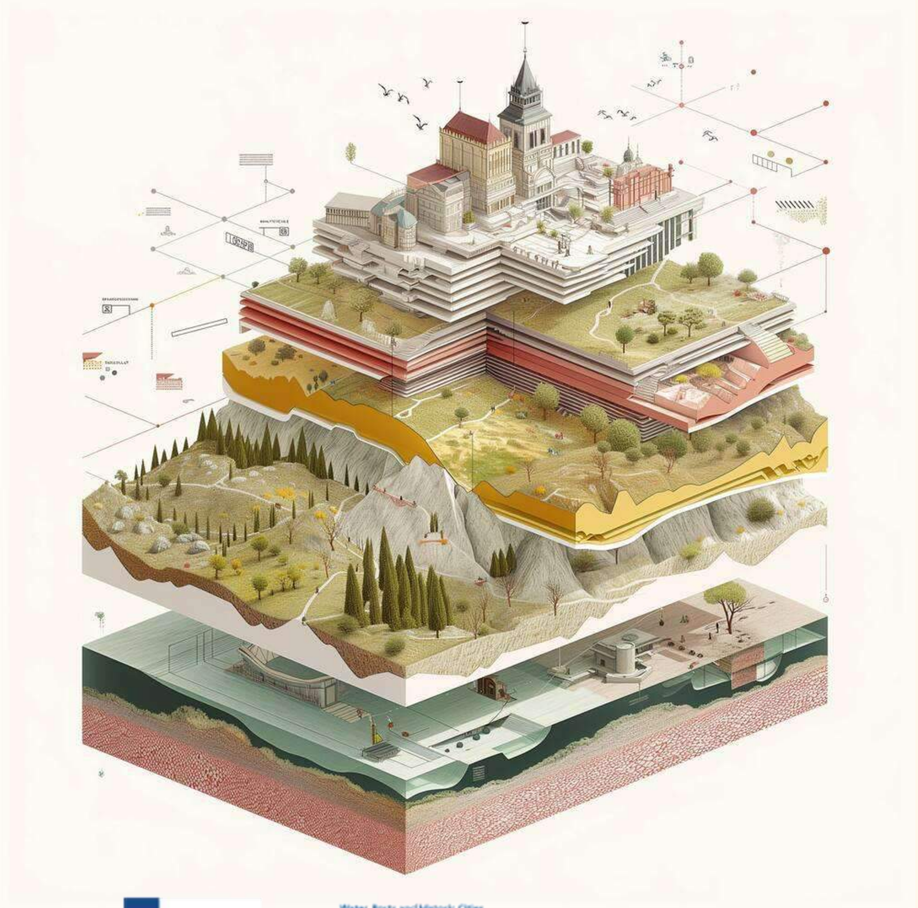






A mapping methodology for comparative analysis of water-related heritage

UNESCO Urban Heritage Atlas (interactive platform), 2023



Framework for the mapping of the visible and invisible cultural values of UNESCO Heritage sites.

Focus specifically on water-related heritage and comparison. This can help us to better understand the particularities of water-related heritage and to raise questions.

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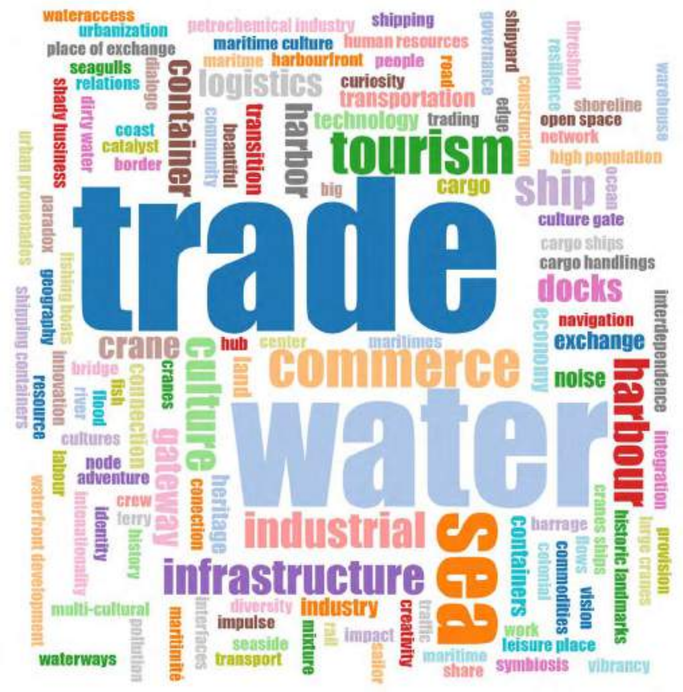
A mapping methodology for comparative analysis of water-related heritage

Based on the UNESCO Historic Urban Landscape approach



Dataset of water-related World Heritage sites based on terms or words.

Dai, T., Hein, C. M., & Baciu, D. C. (2021). Heritage Words: Exploring Port City Terms . European Journal of Creative Practices in Cities and Landscapes (CPCL), 4(2).

WATER MUSEUMS GLOBAL NETWORK

unesco Intergovernmental Hydrological Programme

A mapping methodology for comparative analysis of water heritage

UNESCO Historic Urban Landscape approach

Methodology for the Urban Heritage Atlas

- The mapping is developed according to the urban layering and urban processes.
- The material is showcased in a consistent way through plans, drawings, and photographs of each site to give a holistic vision of each property.

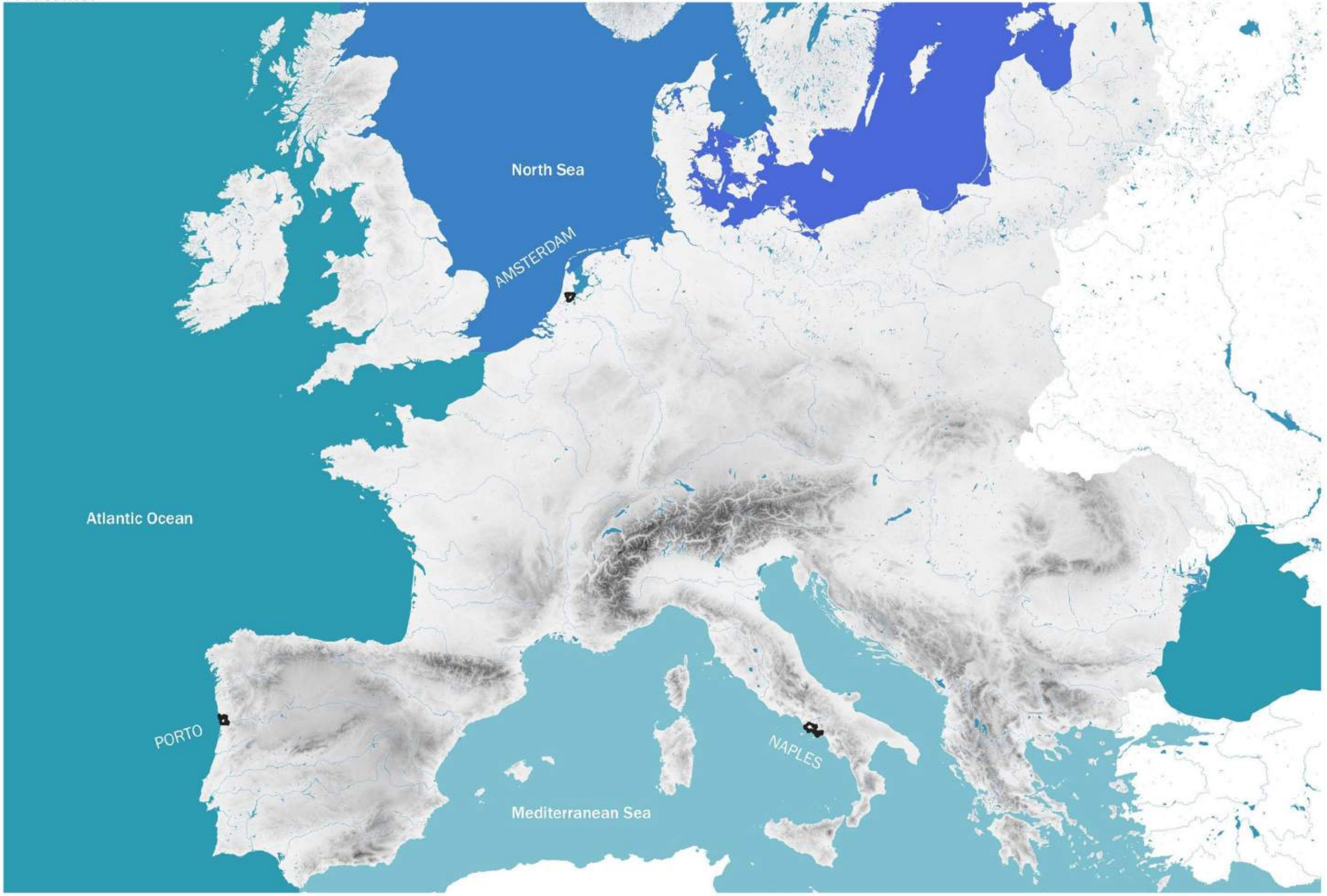
Identification of attributes of the Urban Heritage Values

The water-related attributes of the UNESCO site were identified in each of the scales applying the framework developed by UNESCO:

- Attributes of the wider setting of a city or settlement: geographic setting, scenic views, natural elements that determine the shape and the lifestyle of the city, etc.
- Attributes of Urban elements: patterns, infrastructure, historic areas, built-up density, balance of open and built spaces, etc.
- Historic building attributes: building typologies, architectural styles, ornamentation, construction details, and materials.
- Intangible heritage values: traditions, gastronomy, festivals, creative practices.

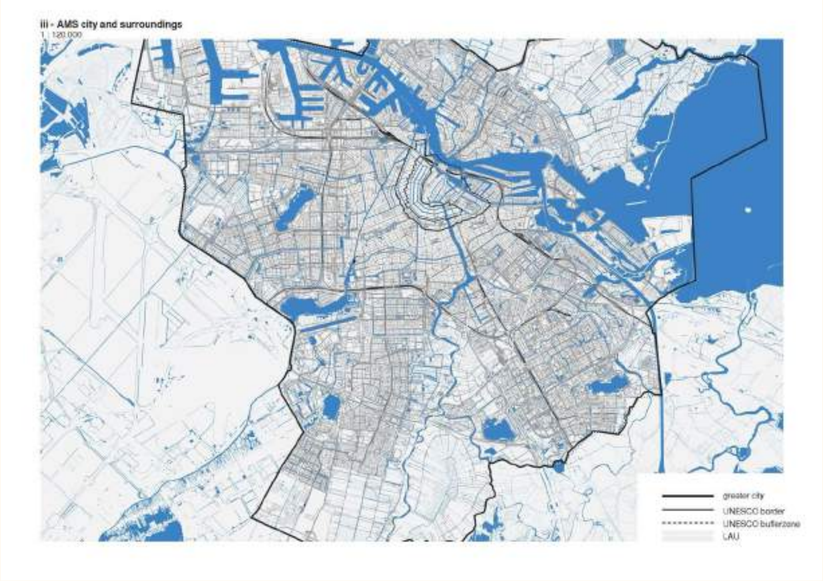
i - EUROPE Amsterdam, Paples, Porto

1 : 15.000.000

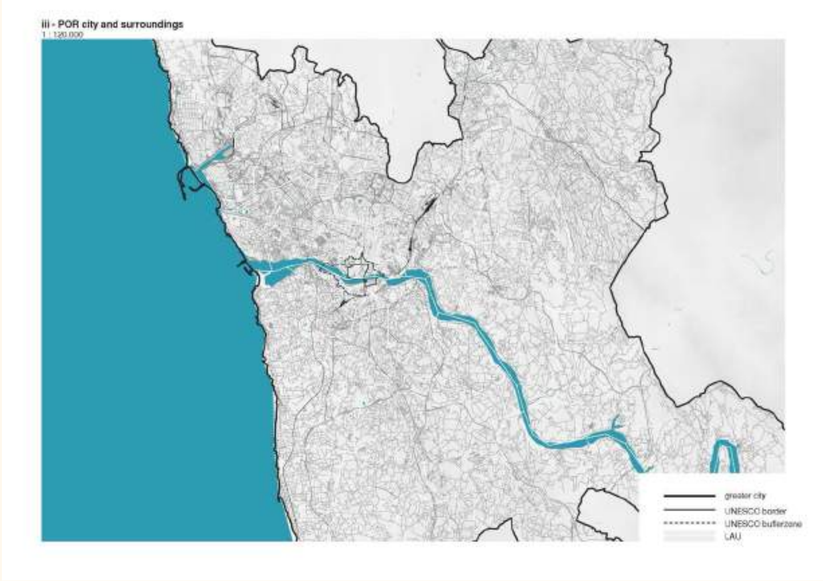


A mapping methodology for comparative analysis of water heritage

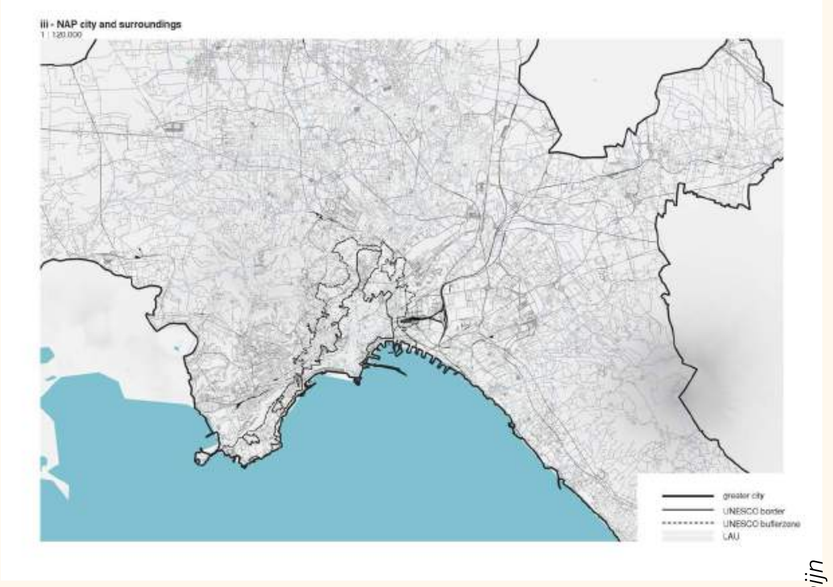
Findings from the UNESCO Historic Urban Landscape approach



AMSTERDAM



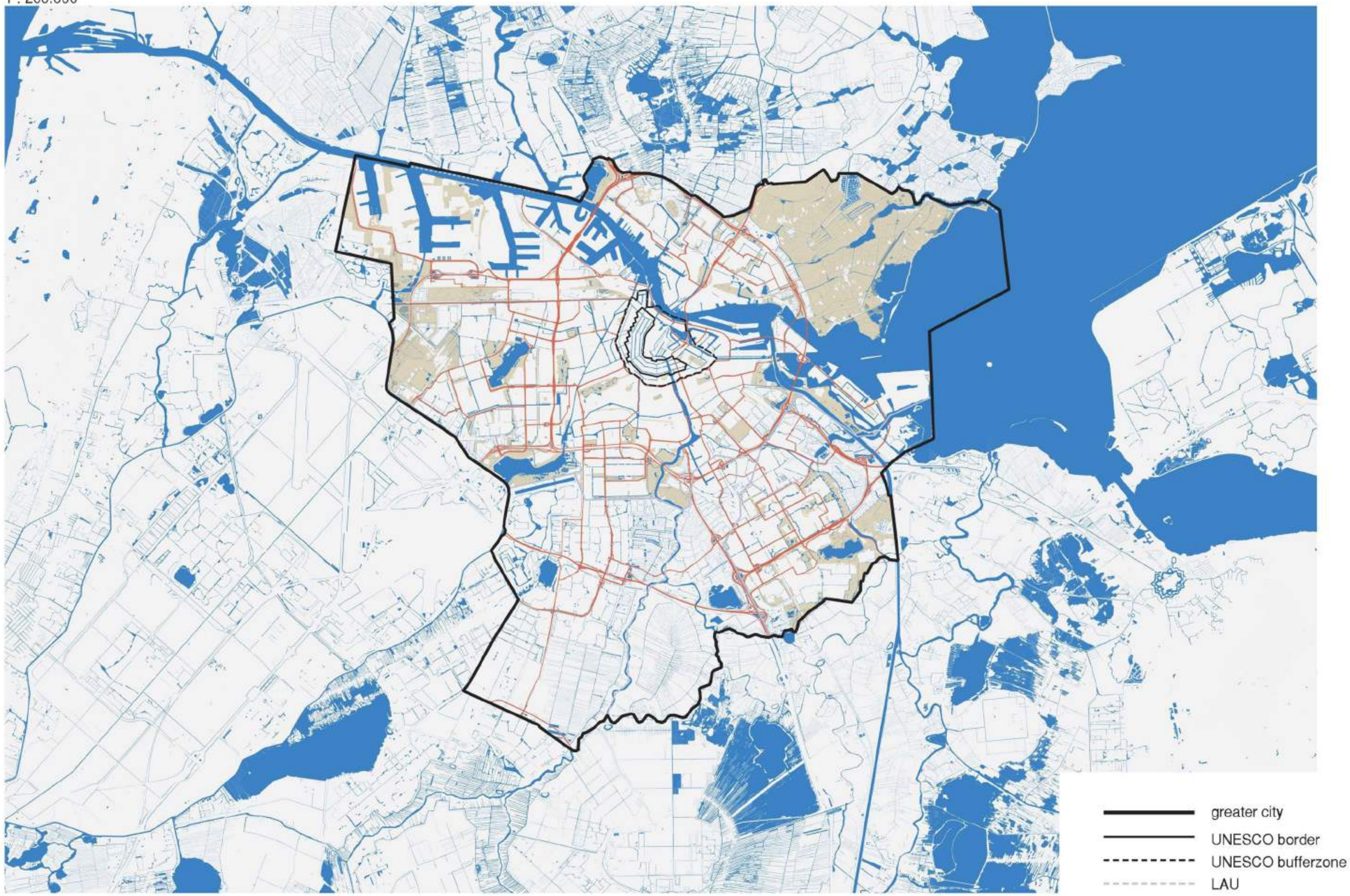
PORTO



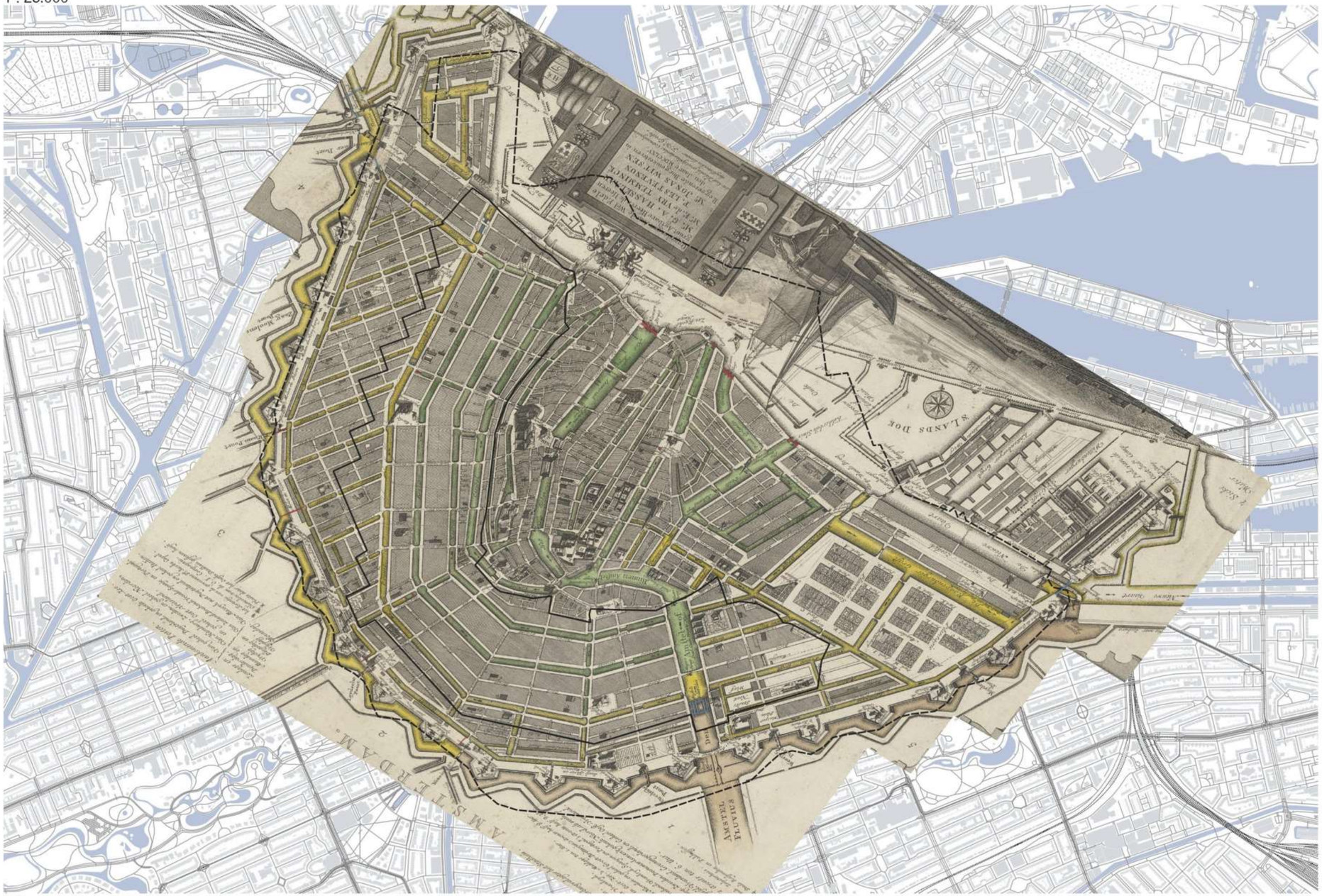
NAPLES

ii - AMS city and surroundings

1 : 200.000



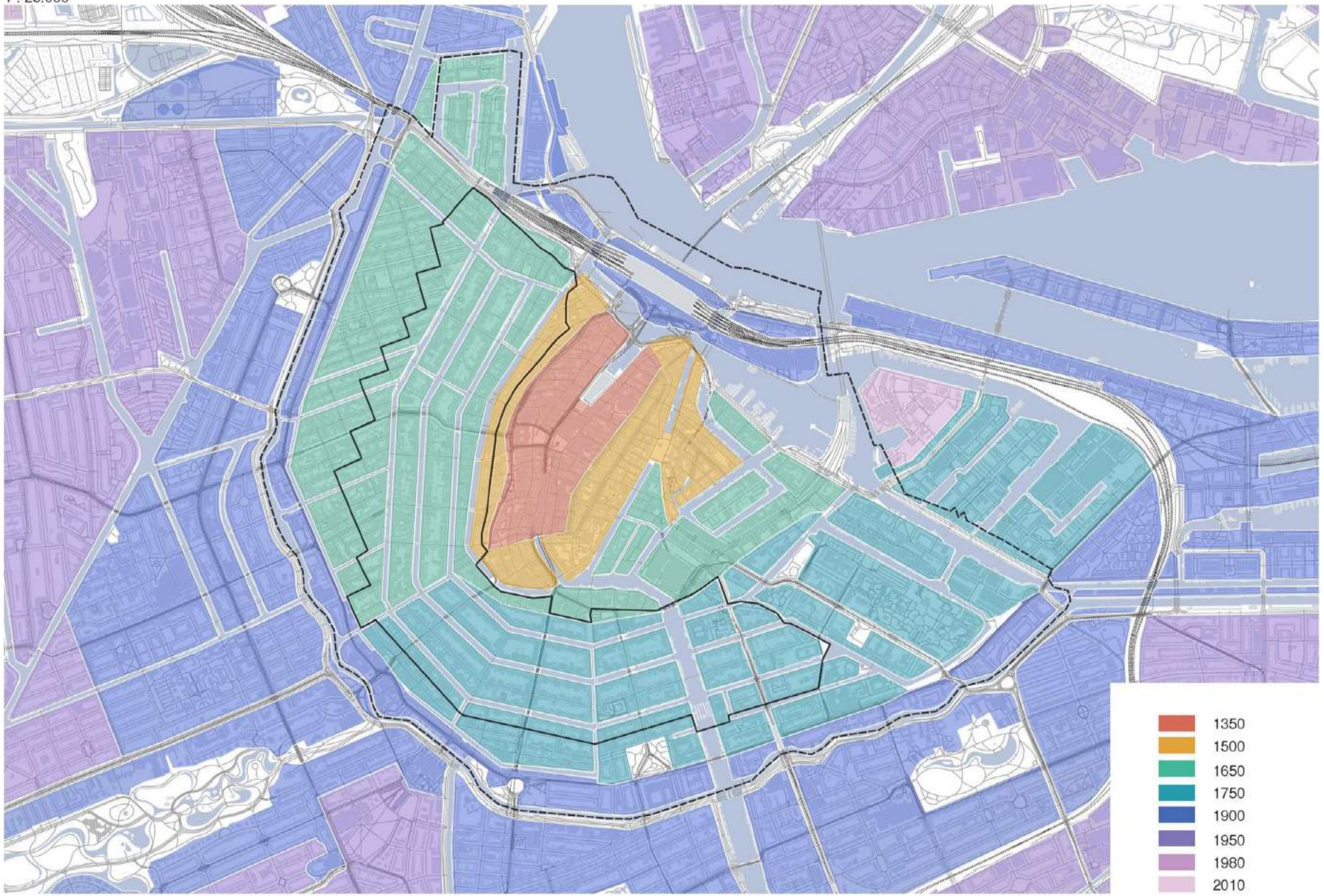
v - AMS historic map 1766
1 : 25.000



Historical map from Amsterdam, 1766, source: Utrecht University Library

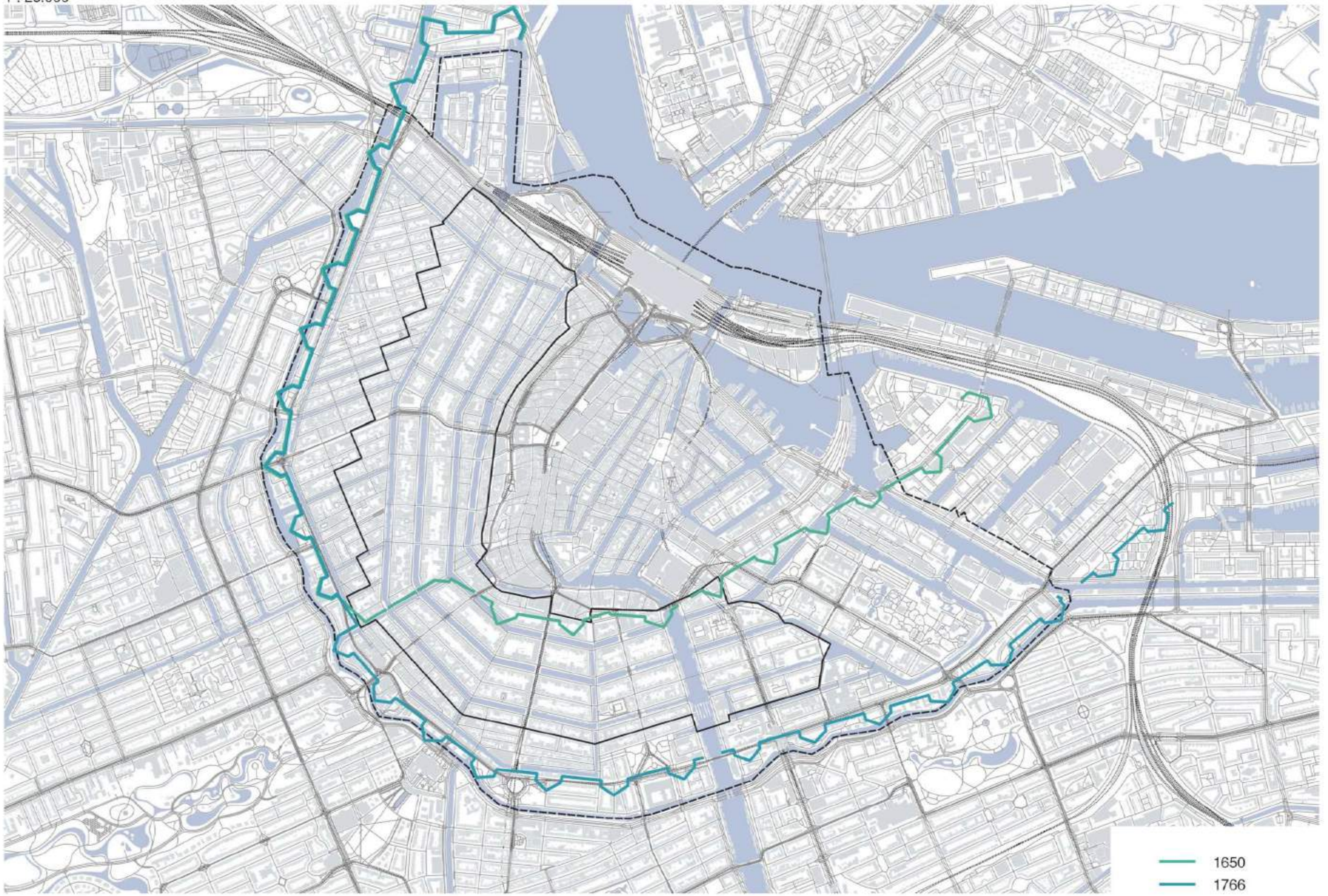
vi - AMS urban development

1 : 25.000



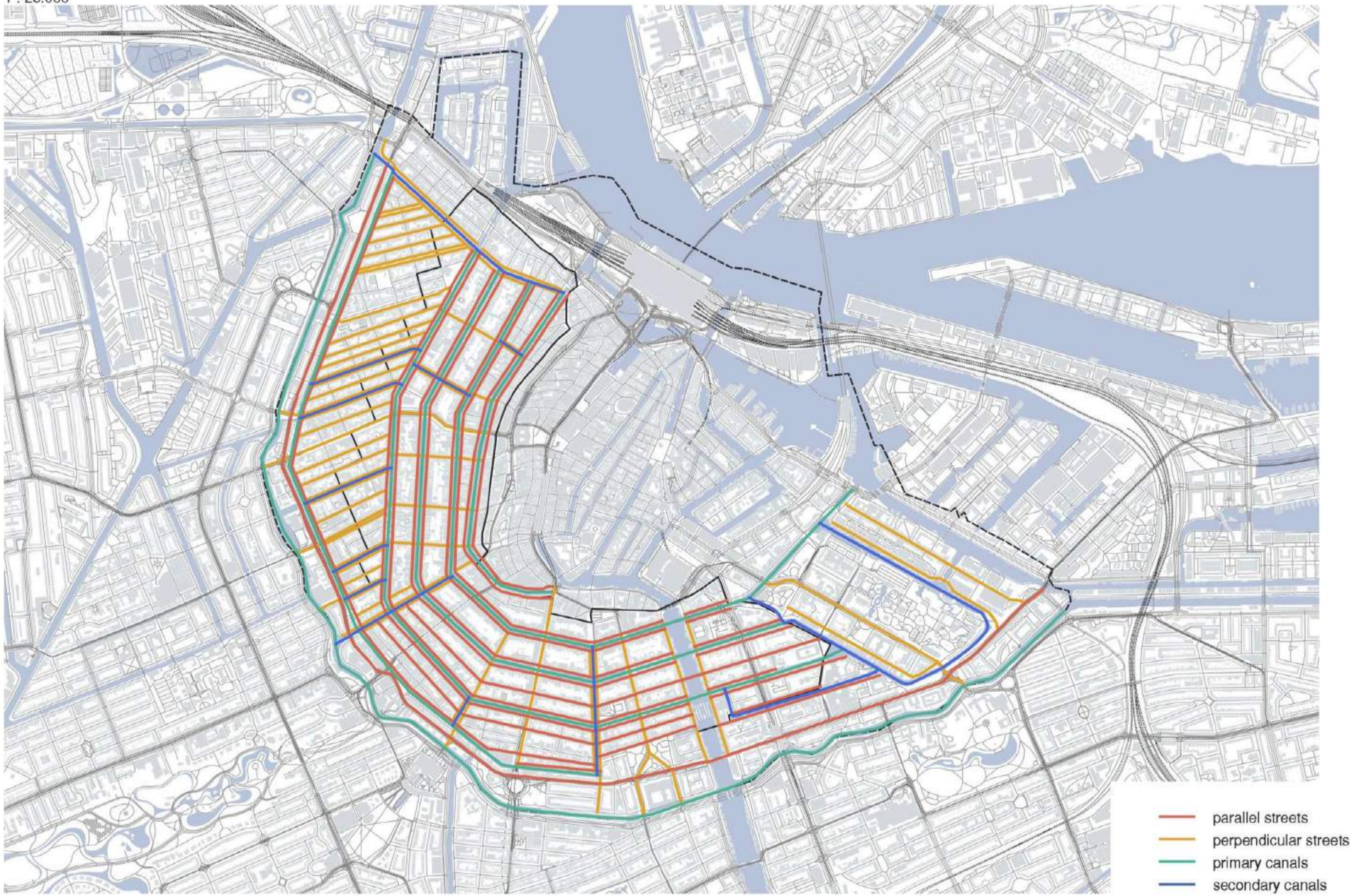
vii - AMS city walls

1 : 25.000



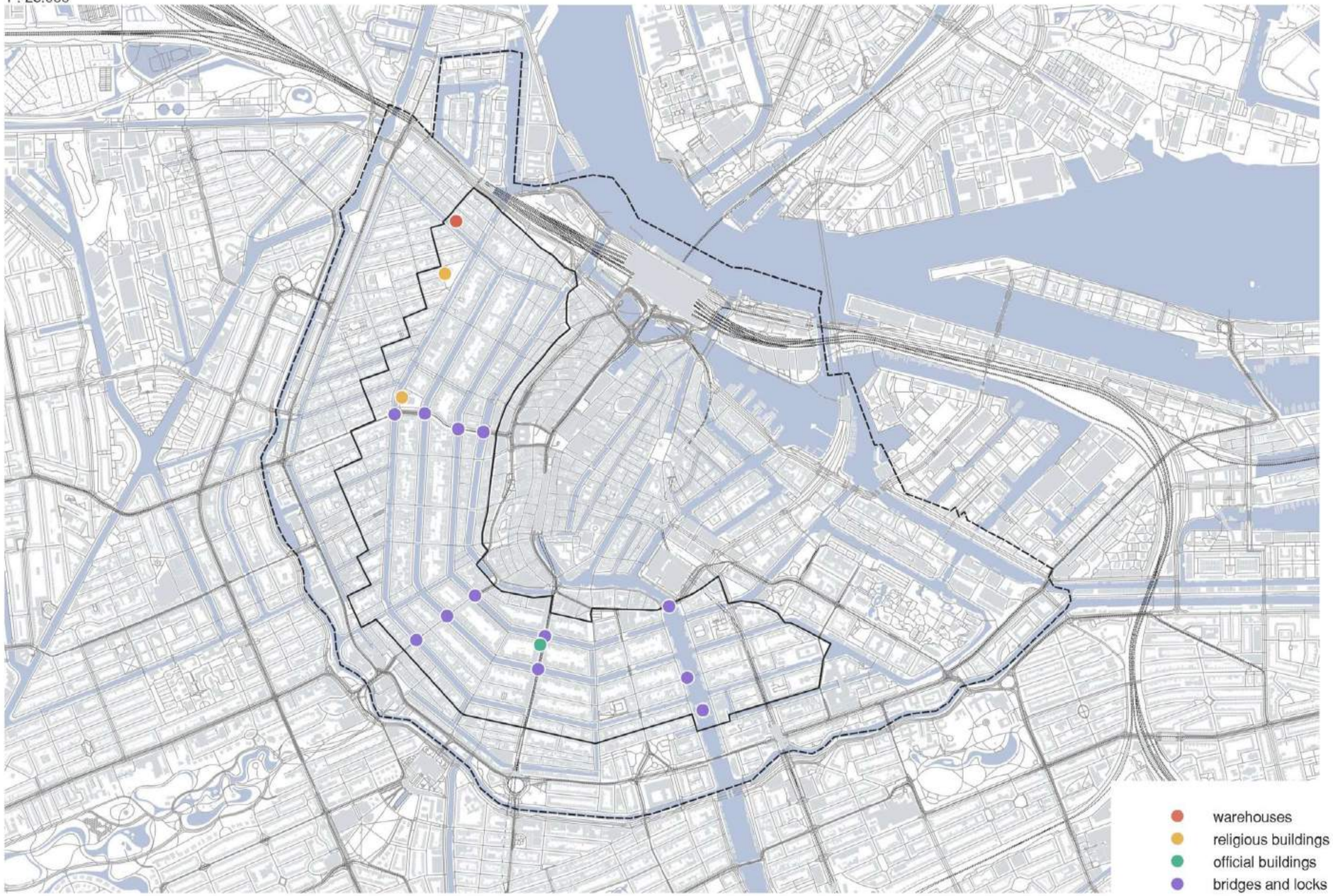
ix - AMS urban morphology

1 : 25.000



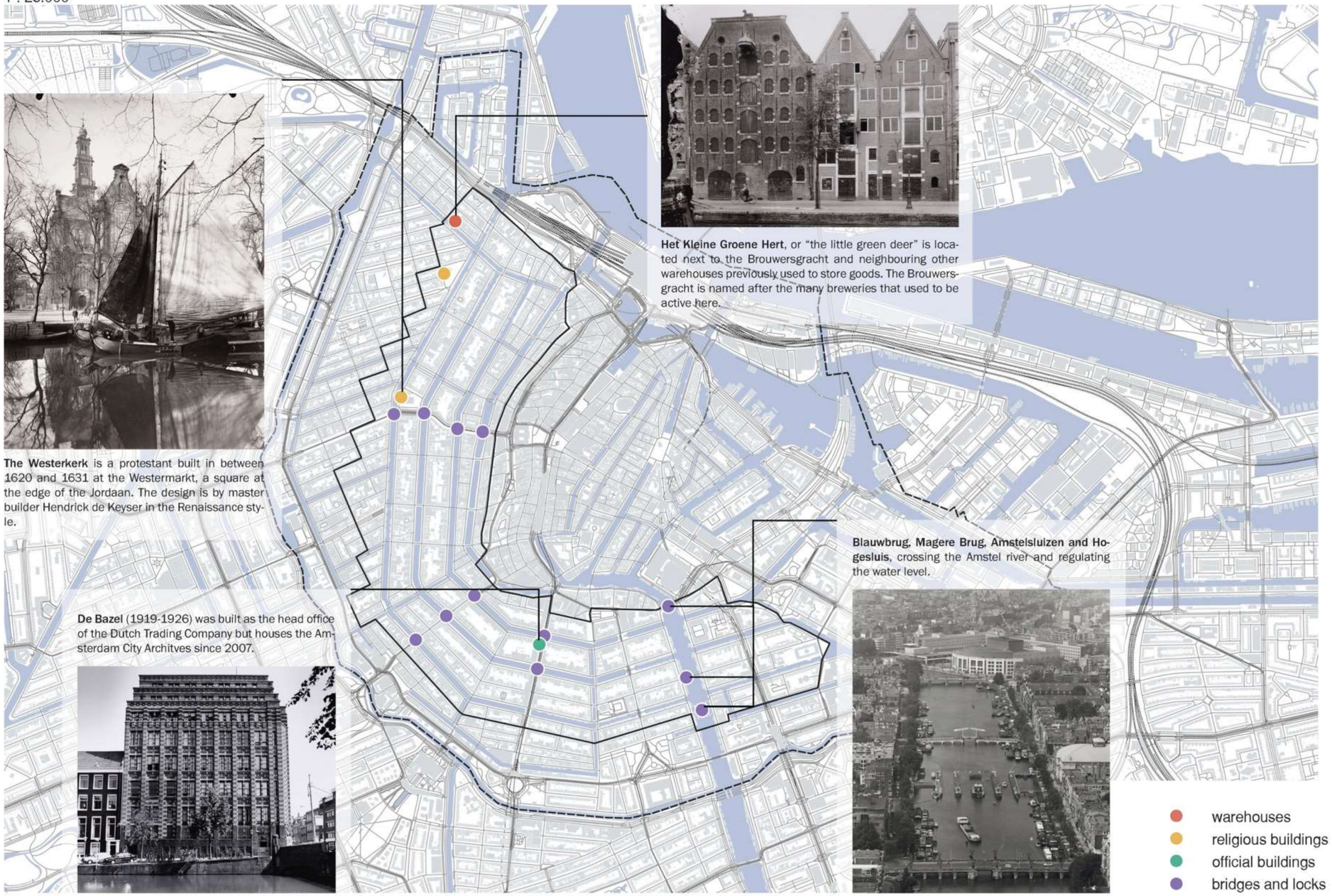
x - AMS architectural attributes

1 : 25.000



x - AMS architectural attributes

1 : 25.000



Het Kleine Groene Hert, or "the little green deer" is located next to the Brouwersgracht and neighbouring other warehouses previously used to store goods. The Brouwersgracht is named after the many breweries that used to be active here.

The Westerkerk is a protestant built in between 1620 and 1631 at the Westermarkt, a square at the edge of the Jordaan. The design is by master builder Hendrick de Keyser in the Renaissance style.

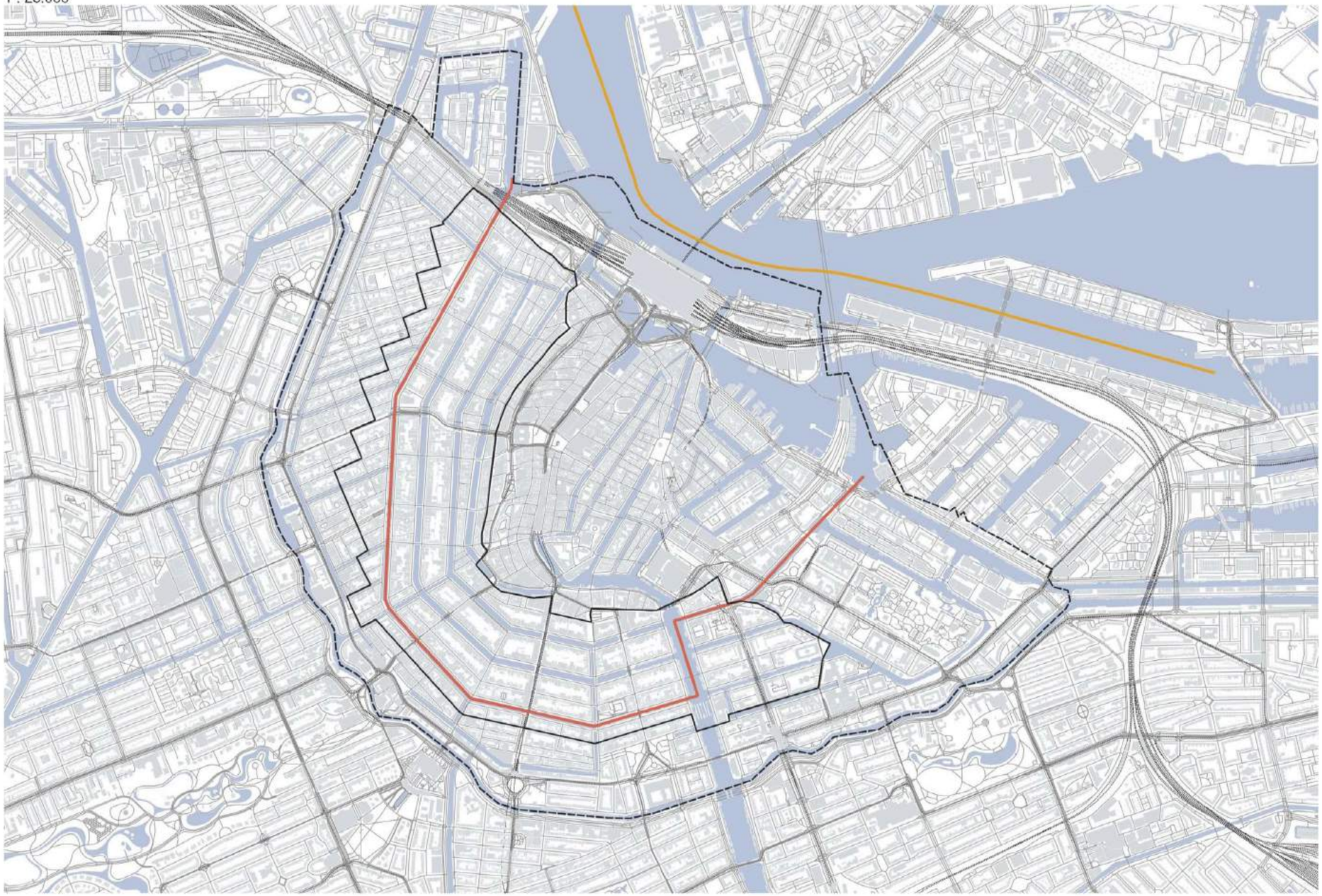
Blauwbrug, Magere Brug, Amstelsluizen and Hogesluis, crossing the Amstel river and regulating the water level.

De Bazel (1919-1926) was built as the head office of the Dutch Trading Company but houses the Amsterdam City Architves since 2007.

warehouses
religious buildings
official buildings
bridges and locks

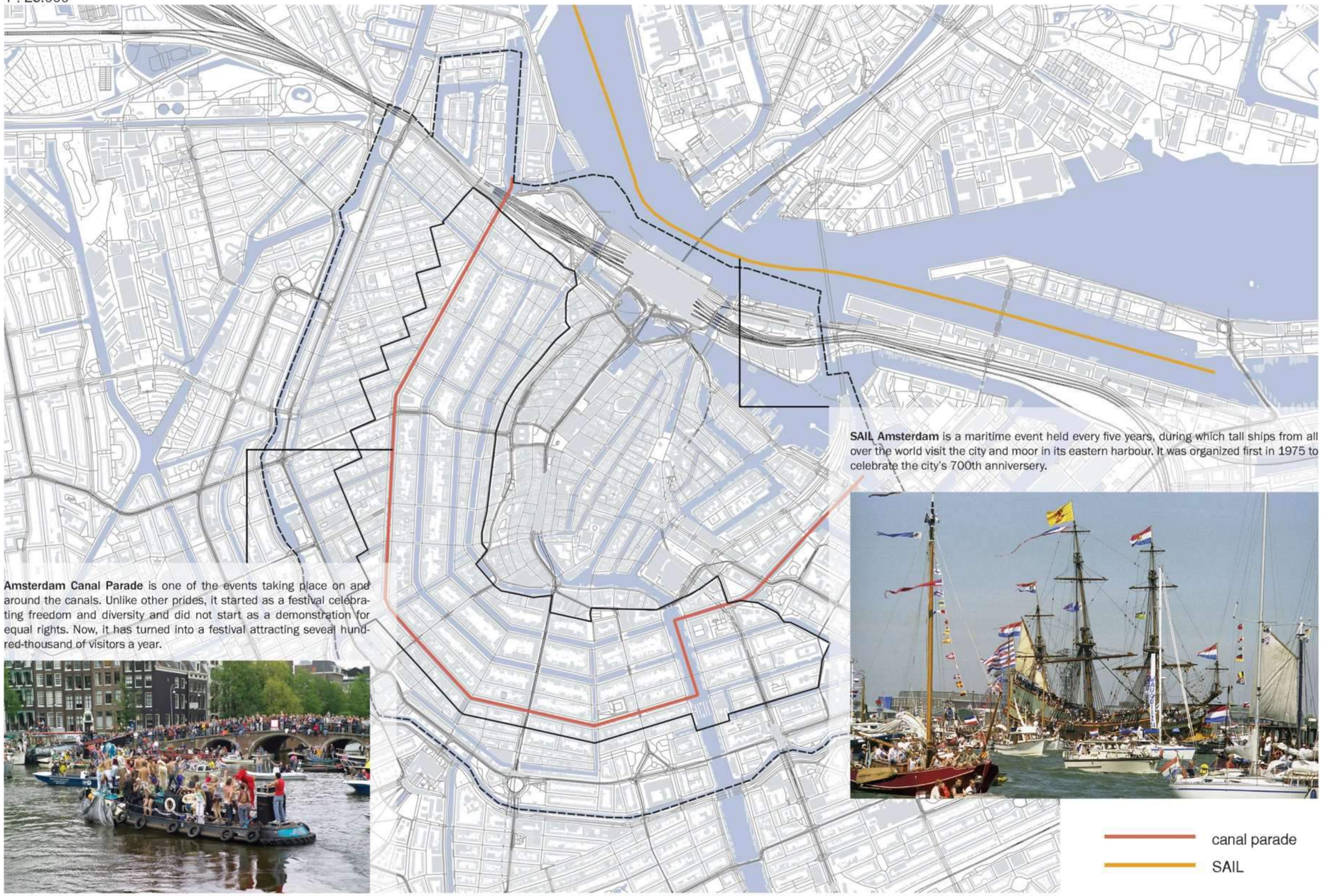
Source of the photo's: Amsterdam city archives

xi - AMS intangible heritage
1 : 25.000



xi - AMS intangible heritage

1 : 25.000



Source of the photo's: Amsterdam city archives

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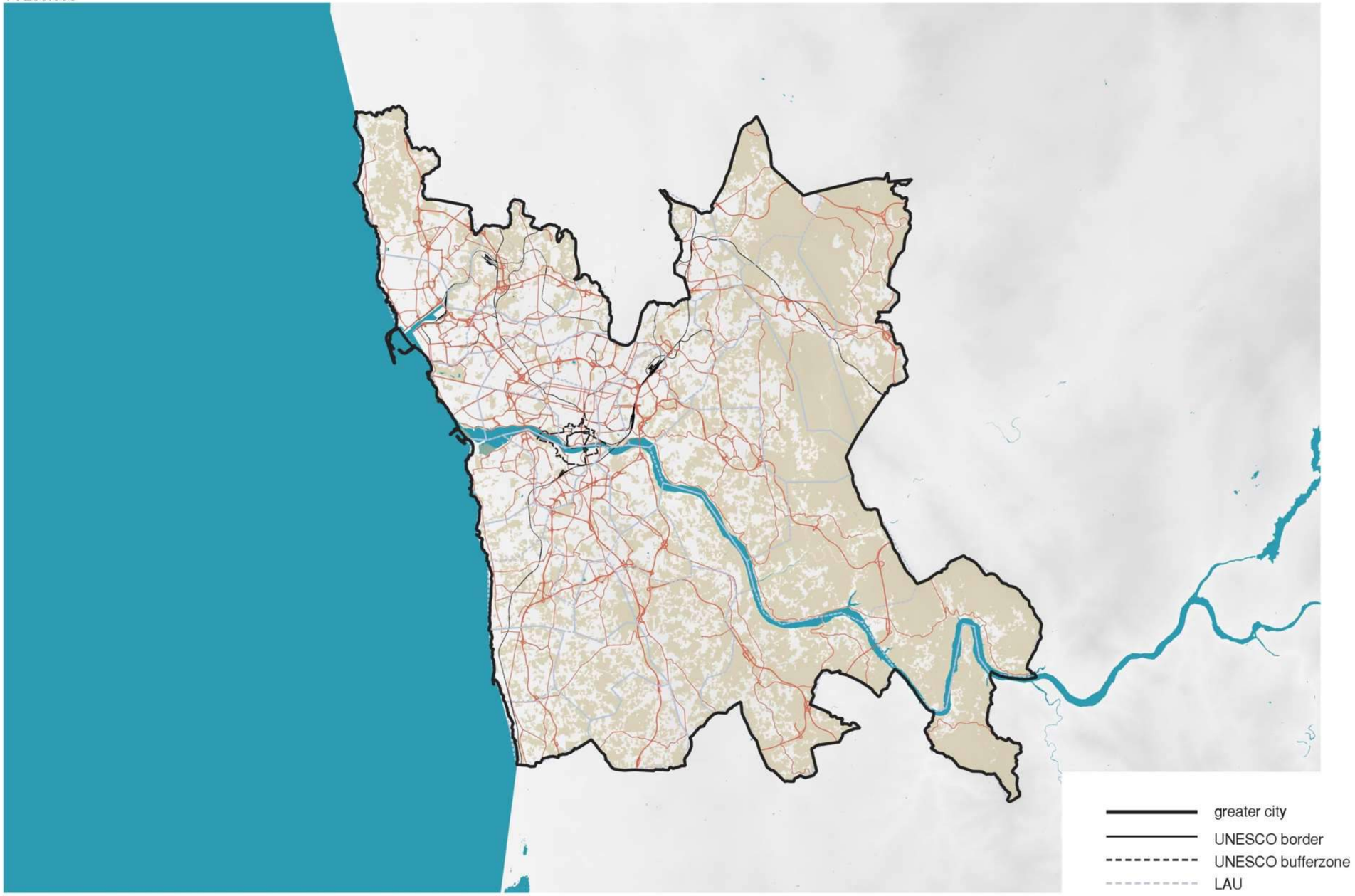
Representations of the water-related heritage of Amsterdam.

Map of Amsterdam in 1649 by Joan Blaeu, source: Amsterdam City Archive; Painting by Gerrit Adriaensz Berckheyde, View of the Golden Bend, 1671, source: Rijksmuseam Amsterdam; Painting by Ludolf Bakhuizen, View of Amsterdam with ships on the IJ, 1666, source: Louvre Museum/ Wikipedia.

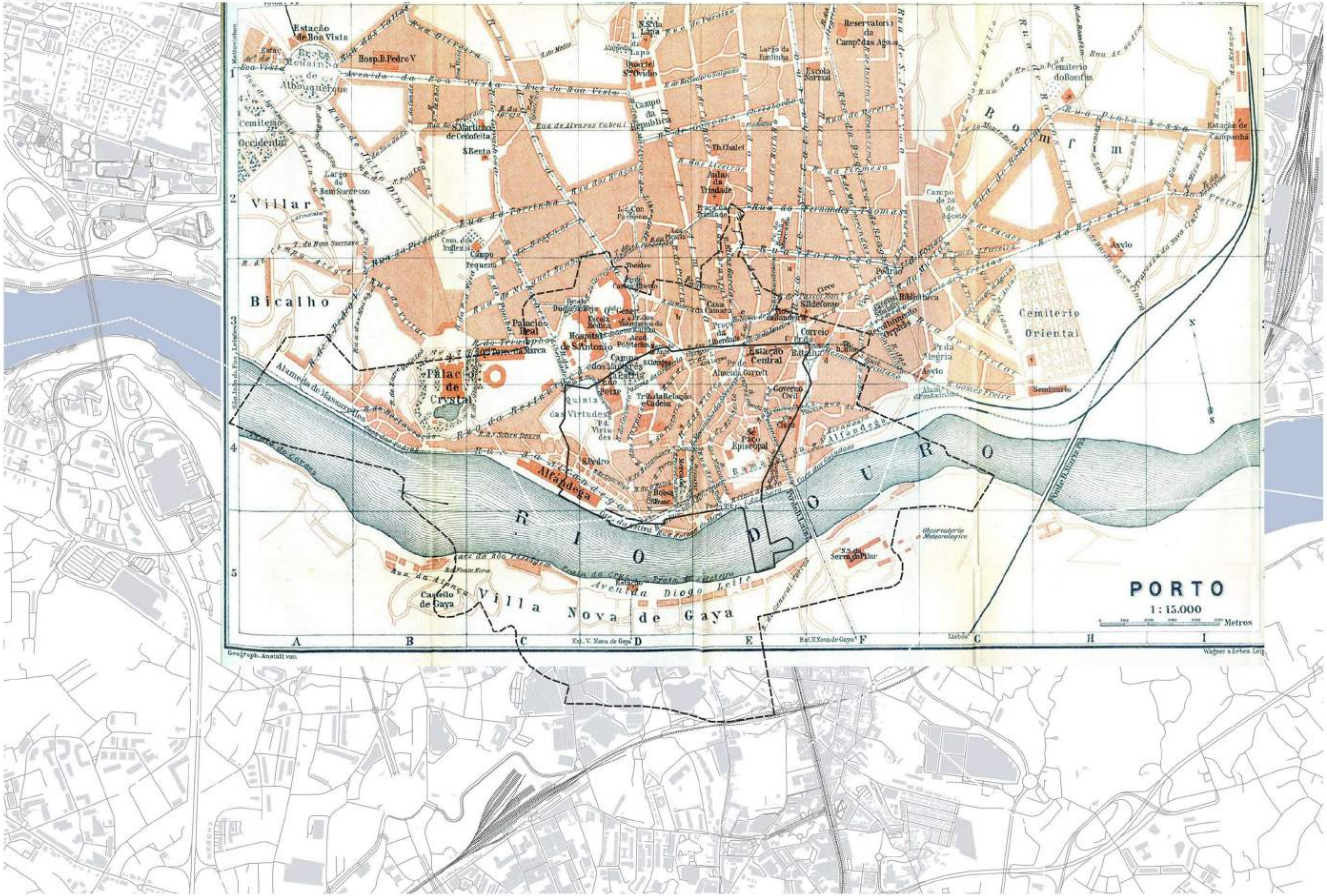
ii - POR city and surroundings

1 : 200.000



v - POR historic map 1913

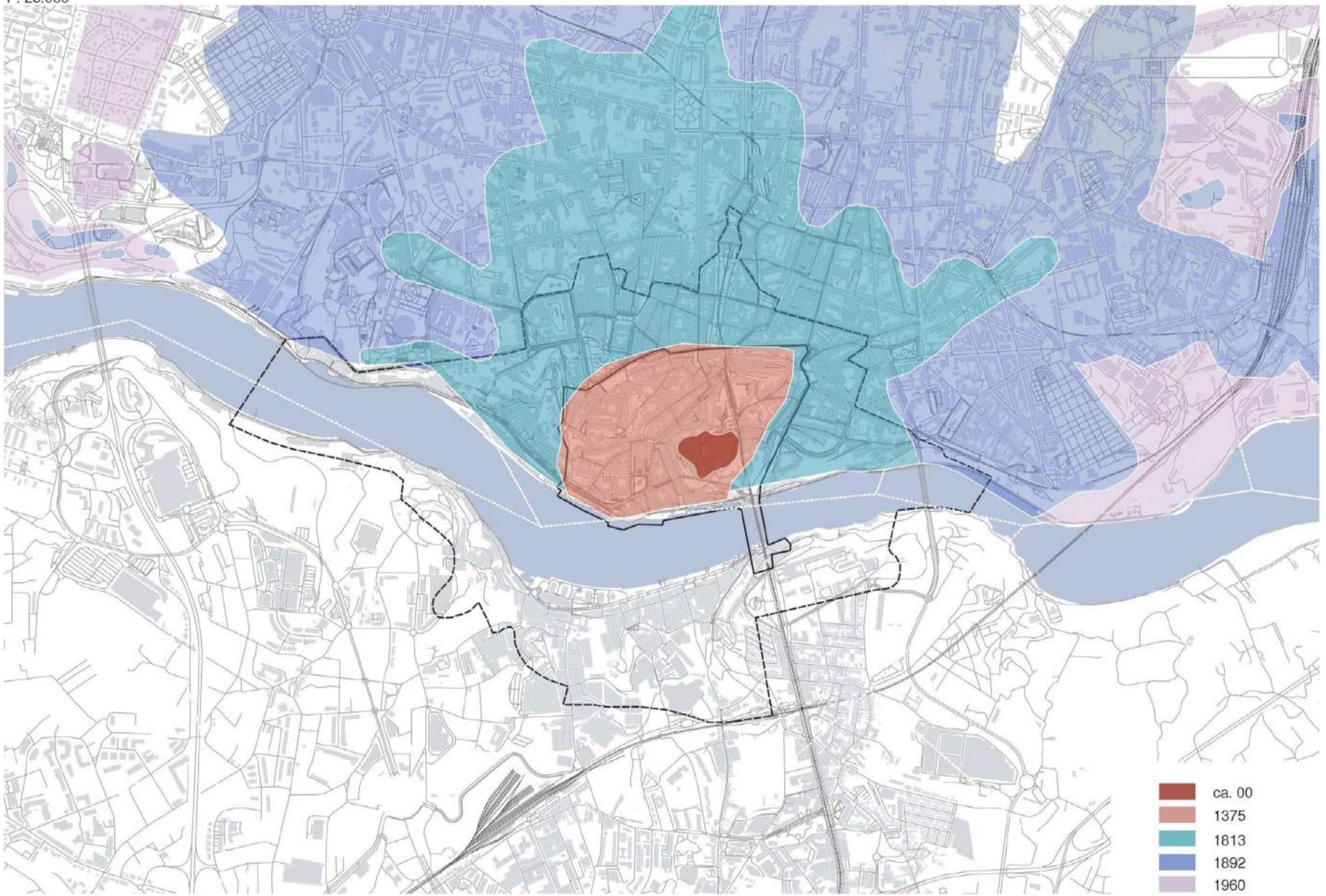
1 : 25.000



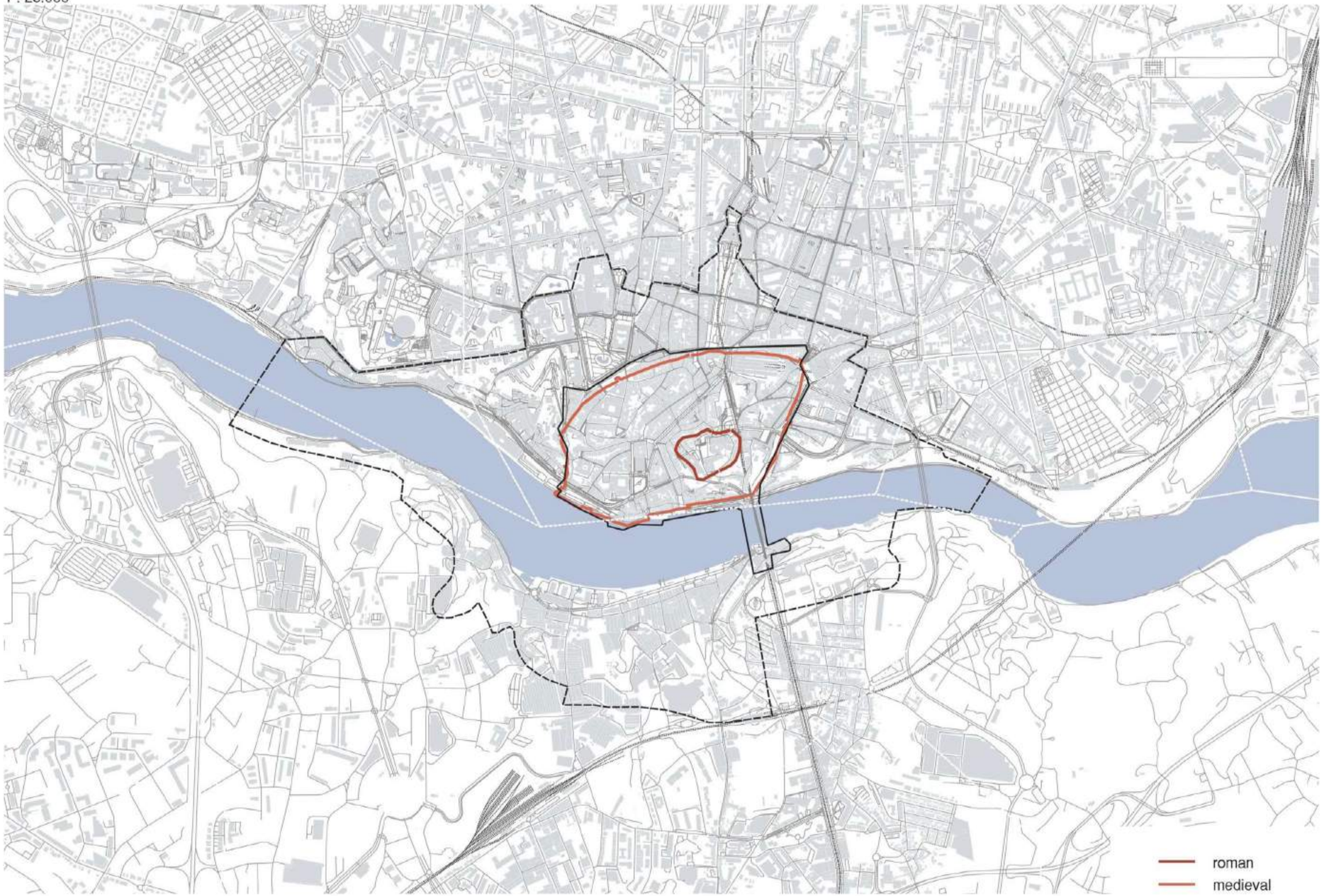
Map of Port, about 1900, source : Karl Baedeker, Spain and Portugal: handbook for travellers, 1901

vi - POR urban development

1 : 25.000

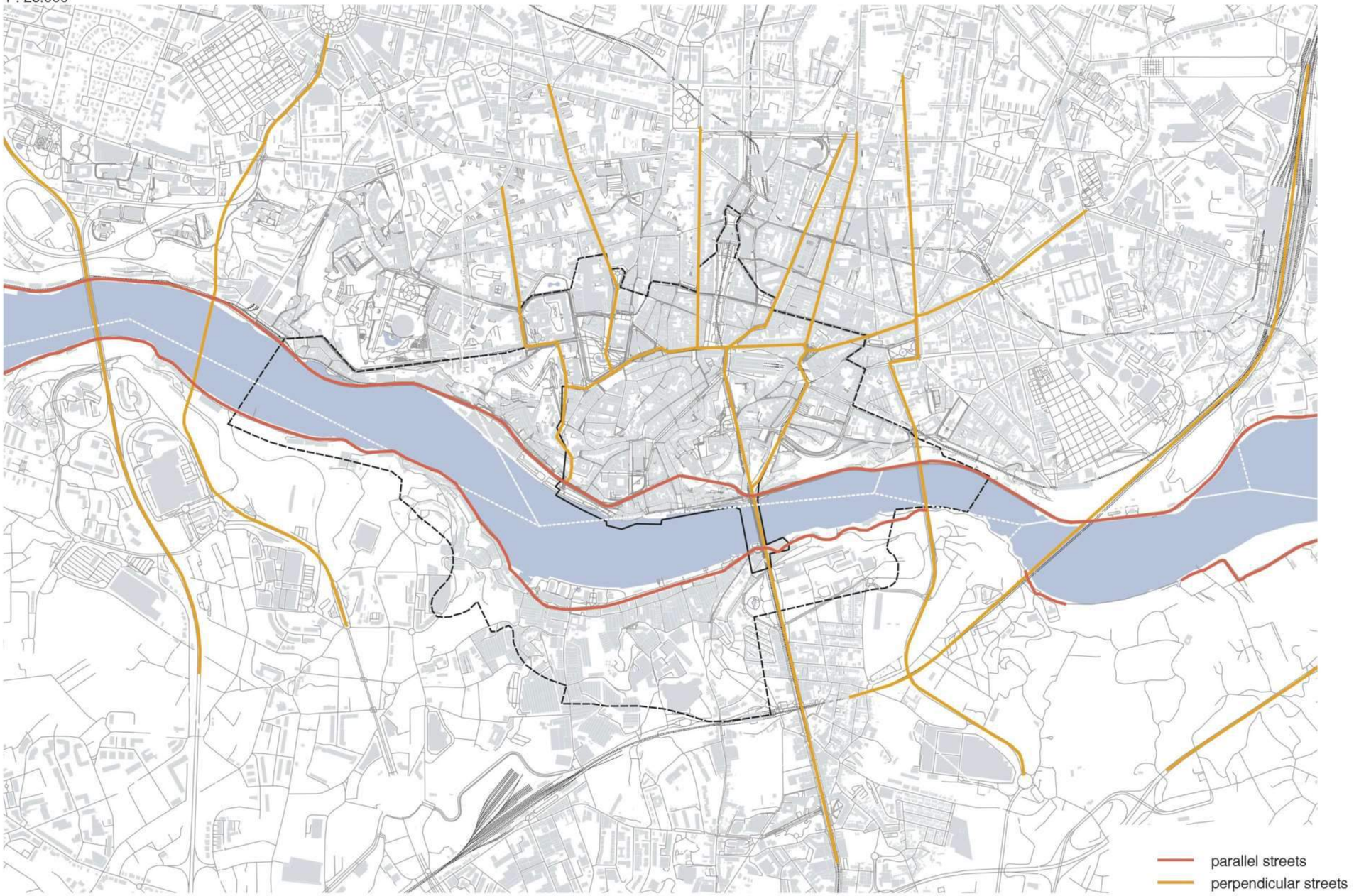


vii - POR city walls
1 : 25.000



ix - POR urban morphology

1 : 25.000



x - POR architectural attributes

1 : 25.000

Devesas Factory Warehouse is a former ceramics factory in neo-Islamic style with arabesque motifs from the early 20th century.

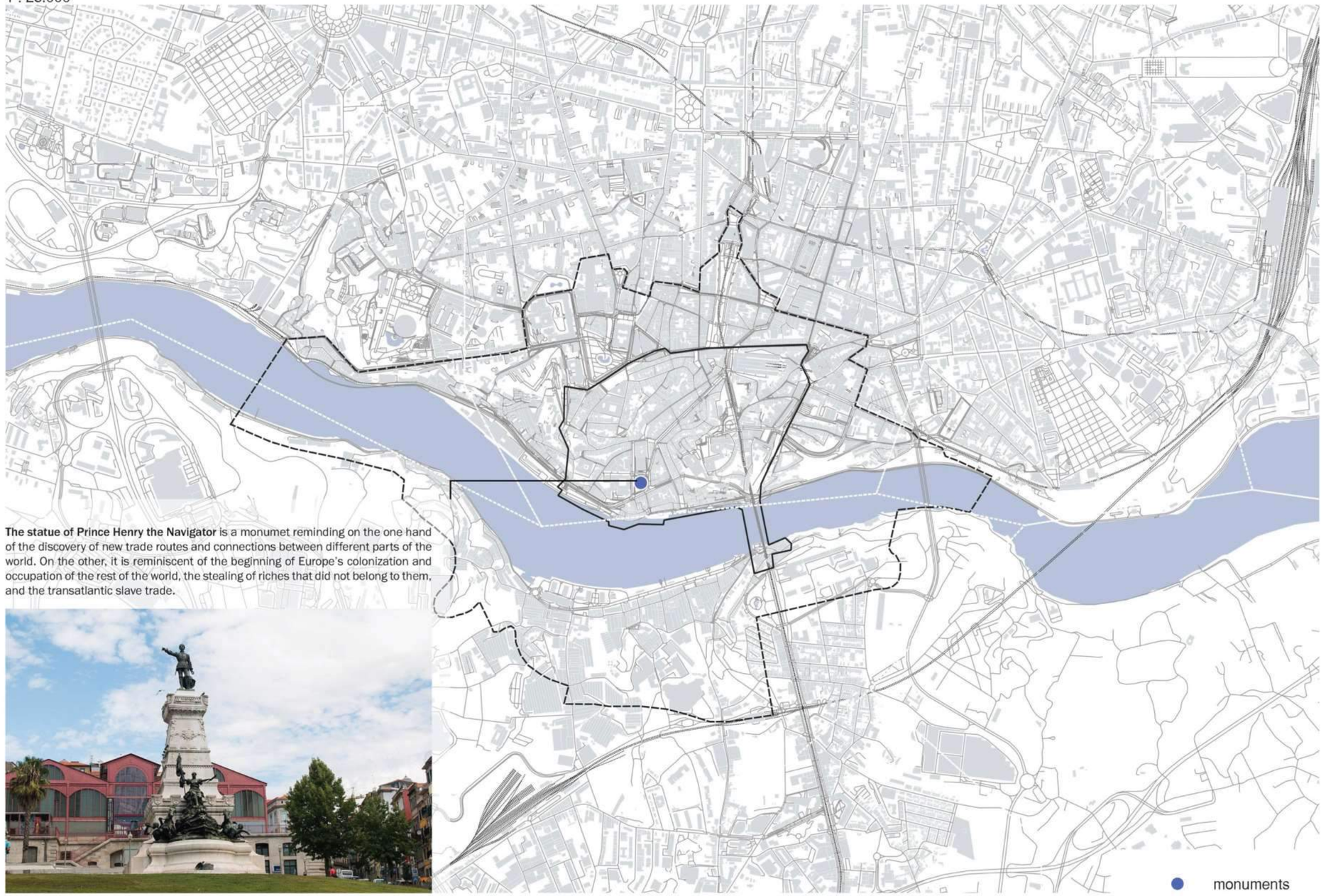
Torre de D. Pedro Pitões/Torre da Cidade is a medieval fortification tower and was reconstructed after its rediscovery around 1940, during the demolition of several buildings surrounding the Sé cathedral.

Ponte de Dom Luís I is a double-deck metal arch bridge spanning the Douro. With its 172 m span, it was the longest of its type at the time of its construction (1881-1886). It was designed by Théophile Seyrig, a disciple of Gustave Eiffel.

Source of the photo's: Wikimedia Commons

xi - POR intangible heritage

1 : 25.000



The statue of Prince Henry the Navigator is a monumet reminding on the one hand of the discovery of new trade routes and connections between different parts of the world. On the other, it is reminiscent of the beginning of Europe's colonization and occupation of the rest of the world, the stealing of riches that did not belong to them, and the transatlantic slave trade.

Source of the photo's: Wikimedia Commons

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WATER MUSEUMS GLOBAL NETWORK

unesco Intergovernmental Hydrological Programme

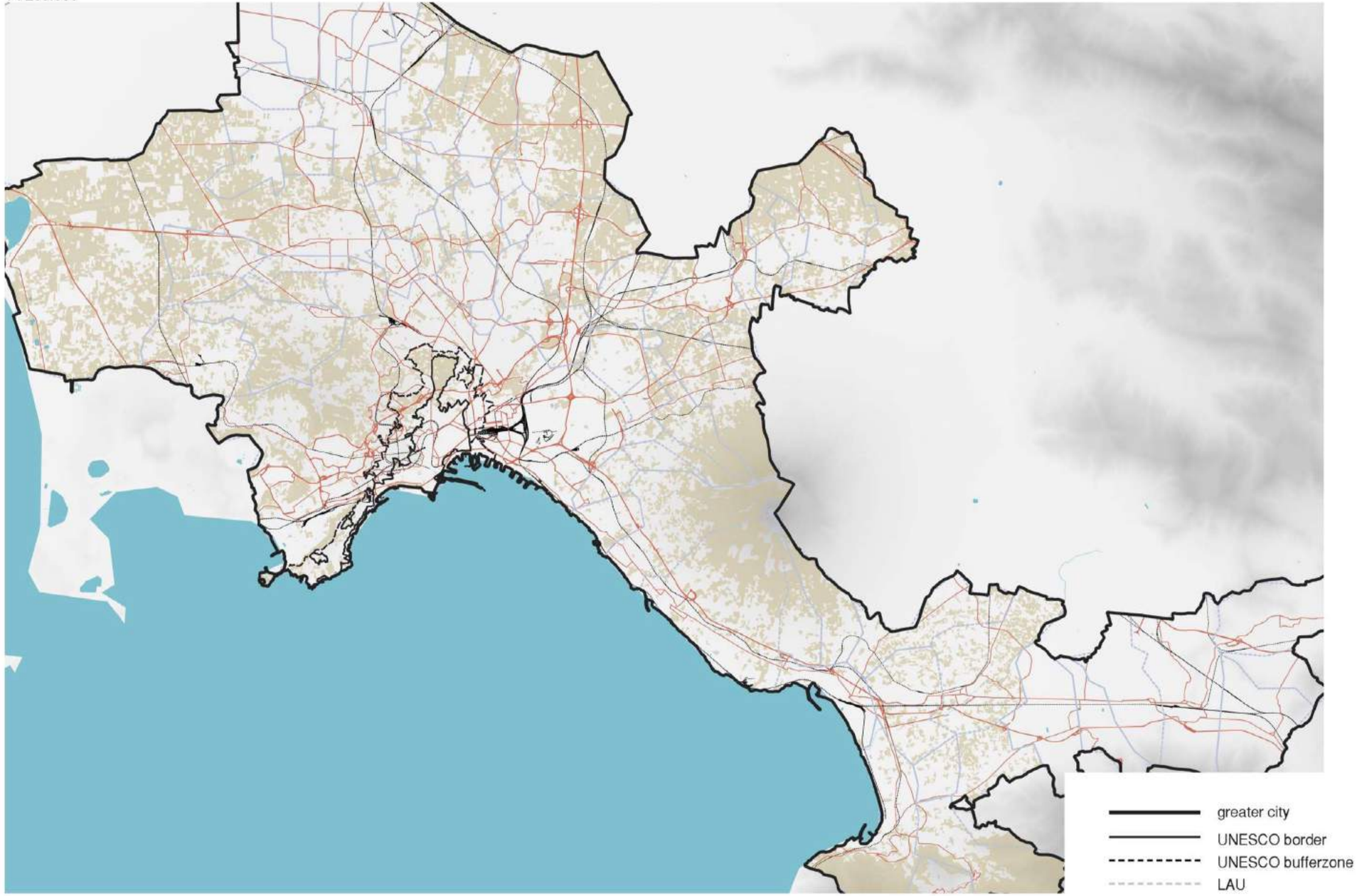
Porto.

Representations of the water-related heritage of Porto.

Below: Painting of the city of Porto in 1817, source: Biblioteca Nacional de Portugal; Map of Porto in 1833, source: Raremaps.com; Above: Painting of boats unloading on the River Douro in 1927, source: Museu Nacional Soares dos Reis, Porto.

ii - NAP city and surroundings

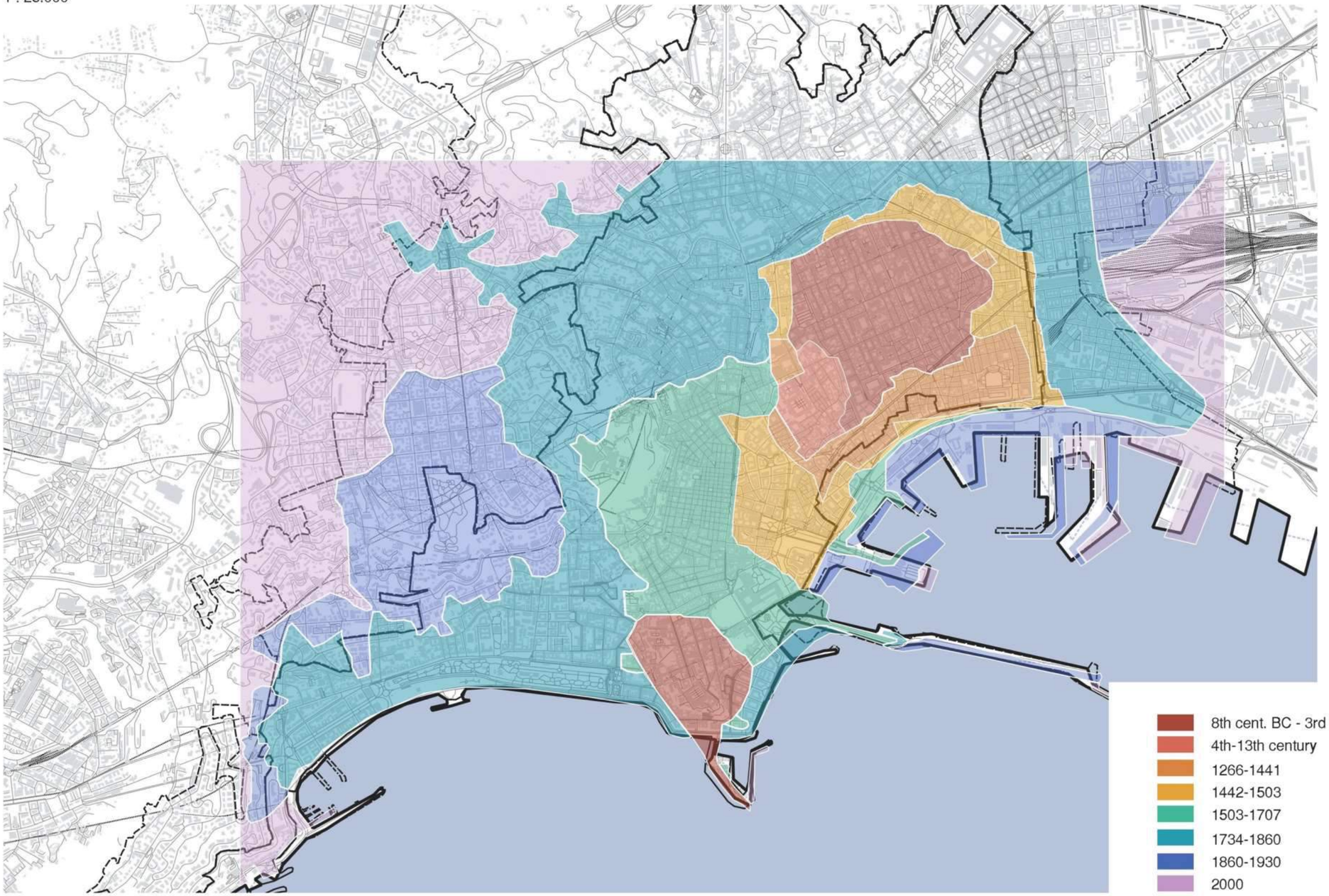
1 : 200.000



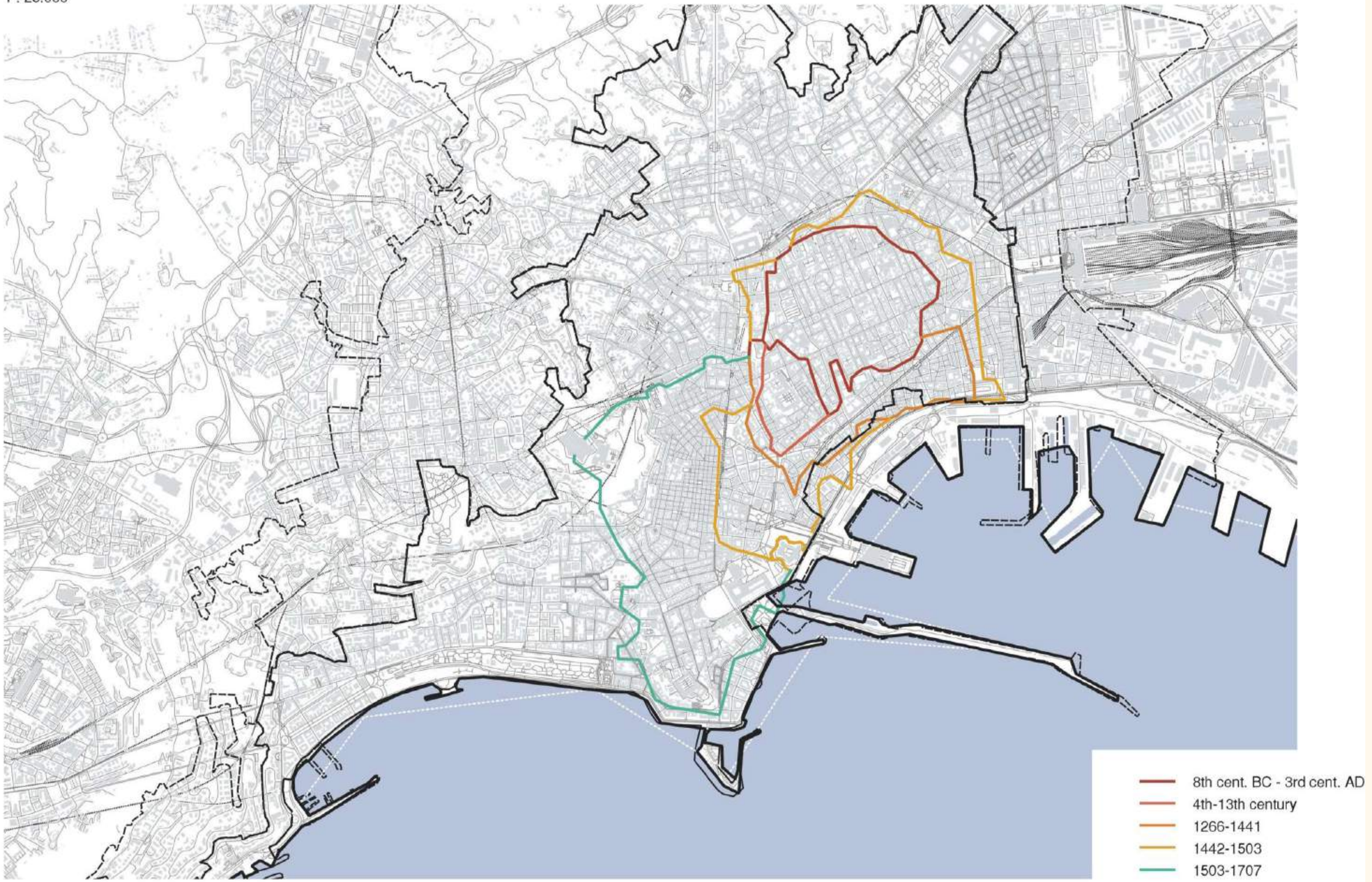
v - NAP historic map 1845
1 : 25.000

Historical map by J. Meyer, 1845, sure: ETH.

vi - NAP urban development
1 : 25.000



vii - NAP city walls
1 : 25.000

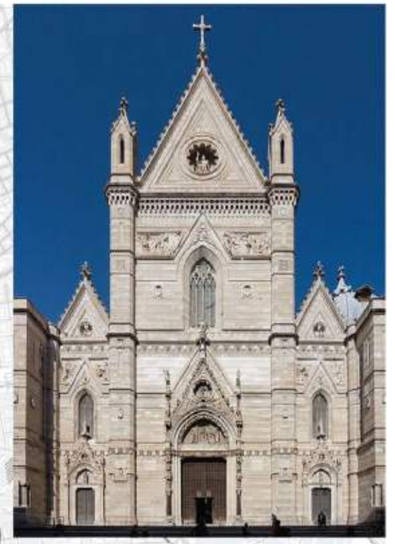


ix - NAP urban morphology
1 : 25.000

x - NAP architectural attributes

1 : 25.000

Napoli Sotteranea is an underground network of tunnels and cisterns, 40 meters below street level. The first of them were opened by the Greeks in the third century BC.



Duomo di Napoli is a Roman cathedral from the 13th century, widely known as the Cathedral of Saint Januarius (*Cattedrale di San Gennaro*), honouring the city's patron saint.

Castel dell'Ovo ("Egg Castle") is a castle at the waterfront of Naples, originally on the island of Megarida, now a peninsula connected to the city.

Palazzo Donn'Anna is a seventeenth-century baroque palace projecting directly into the sea. It stands on the site of the so-called "Rocks of the Siren" and was orignally named "La Villa Sirena".

VUE DU GOLPHE DE NAPLES PRISE DU PALAIS DE DON ANNA A POSILIP

official buildings

religious buildings

Source of the photo's: Wikimedia Commons

xi - NAP intangible heritage
1 : 25.000

Fontana della Sirena showcases Parthenope, one of the sirens in Greek mythology who, according to legend, gave rise to the city of Naples after plunging herself to the rocks here in despair. The fountain was built in 1869 by sculptor Onofrio Buccini.

Fontana del Sebeto is a fountain built for its namesake, the god of the river Sebeto which used to end into the Mediterranean in Naples around the Porta della Maddalena. It was built in 1635 after a design of Cosimo Fanzago.

monuments

Source of the photo's: Wikimedia Commons

wamu-net

WATER MUSEUMS GLOBAL NETWORK

unesco Intergovernmental Hydrological Programme

Representations of the water-related heritage of Naples.

Map of Naples by Georg Braun e Frans Hogenberg, 1572, source: Universitätsbibliothek Heidelberg; Painting by Auguste Renoir, The Bay of Naples, 1881, source: Wikimedia; painting by Consalvo Carelli, Fishermen at the Port of Naples, mid 19th century, source: Wikimedia.

Porto.

Conclusion: The Importance of Standardized Mapping in Understanding Water-Related Heritage

- Mapping as a Tool for Spatial Understanding
  - Reveals challenges and opportunities for water-related heritage.
  - Identifies key similarities or differences in the heritage of port cities.

- Insights into Heritage and Port City Characteristics
  - Related to founding periods (e.g. Porto and Naples vs. Amsterdam).
  - Related to types of water bodies (river, coastal, estuary).
  - In terms of seas or regions.

- Critical Questions Raised by Mapping
  - Unique inland fortifications of cities like Amsterdam?
  - Can we see common patterns or distinctions in Mediterranean port heritage?
  - Is there a "common" water-related heritage?

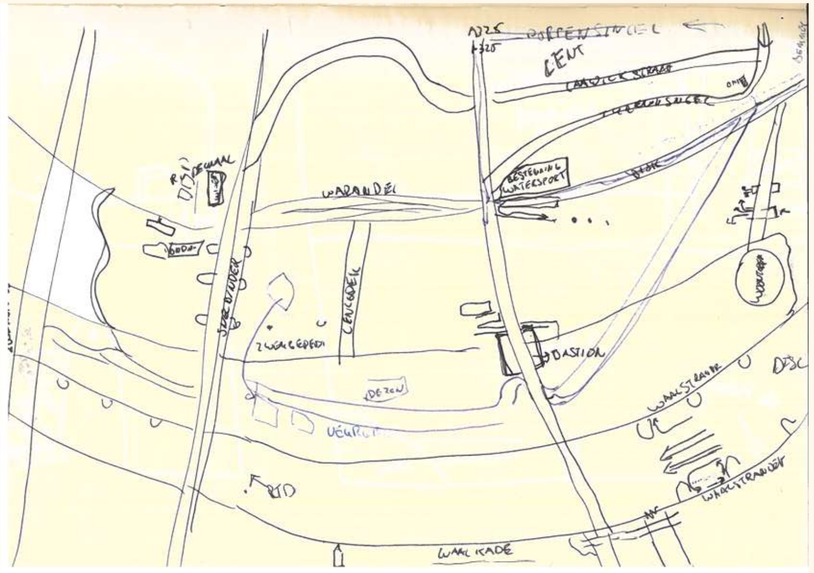
Mapping perspectives, practices, connections and values

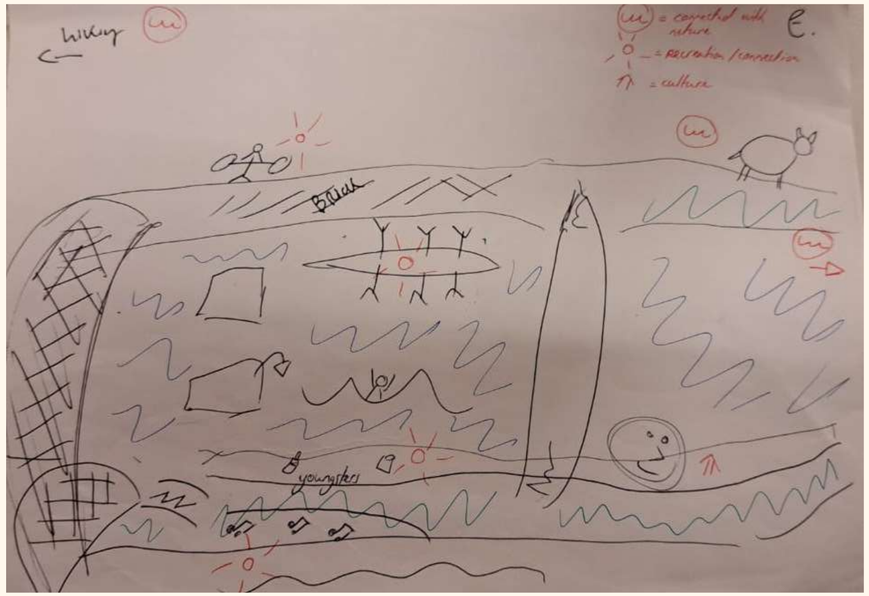
Matteo D’Agostino

Mapping perspectives - Mental Mapping

- An exercise to visualize experiences and visions related to a particular space.

- A process to reveal the representations, tensions and values associated with spaces and practices through the creation of visual material.

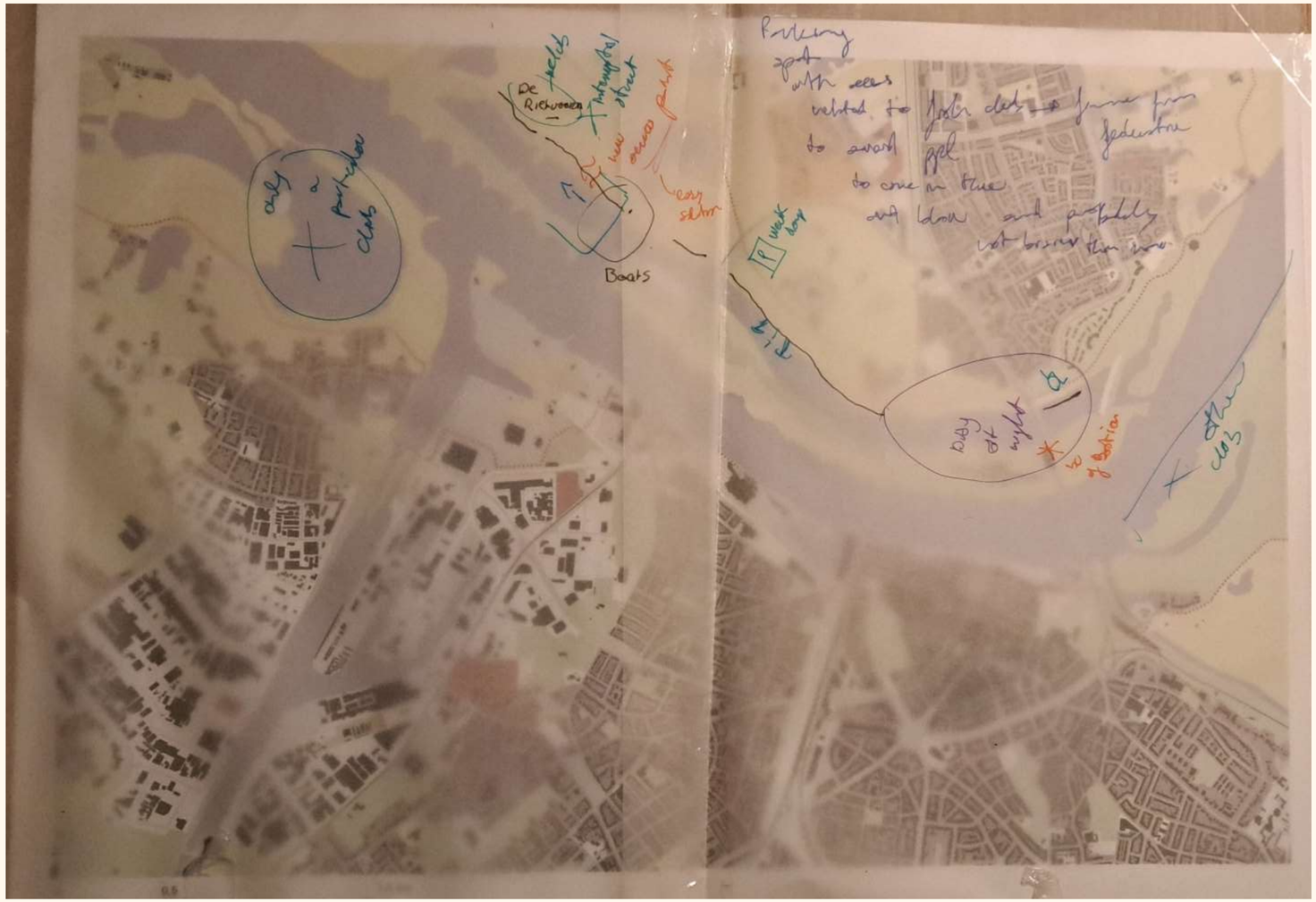




Mapping practices - Community Mapping

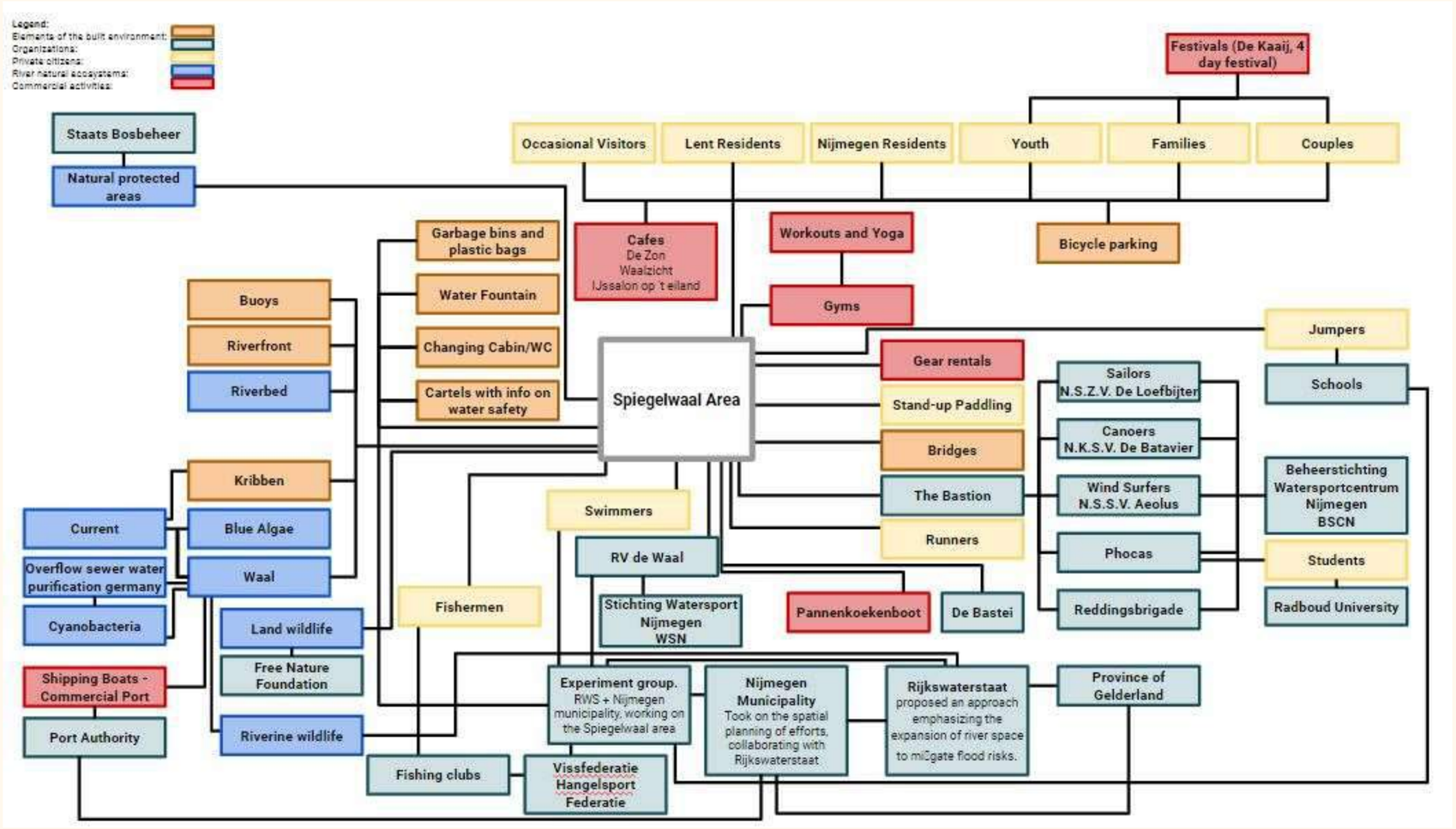
- A participatory workshop to trace community's practices related to space. Also useful to trace memories.

- Overlapping outputs of different communities provides visual insights on mixed uses of space



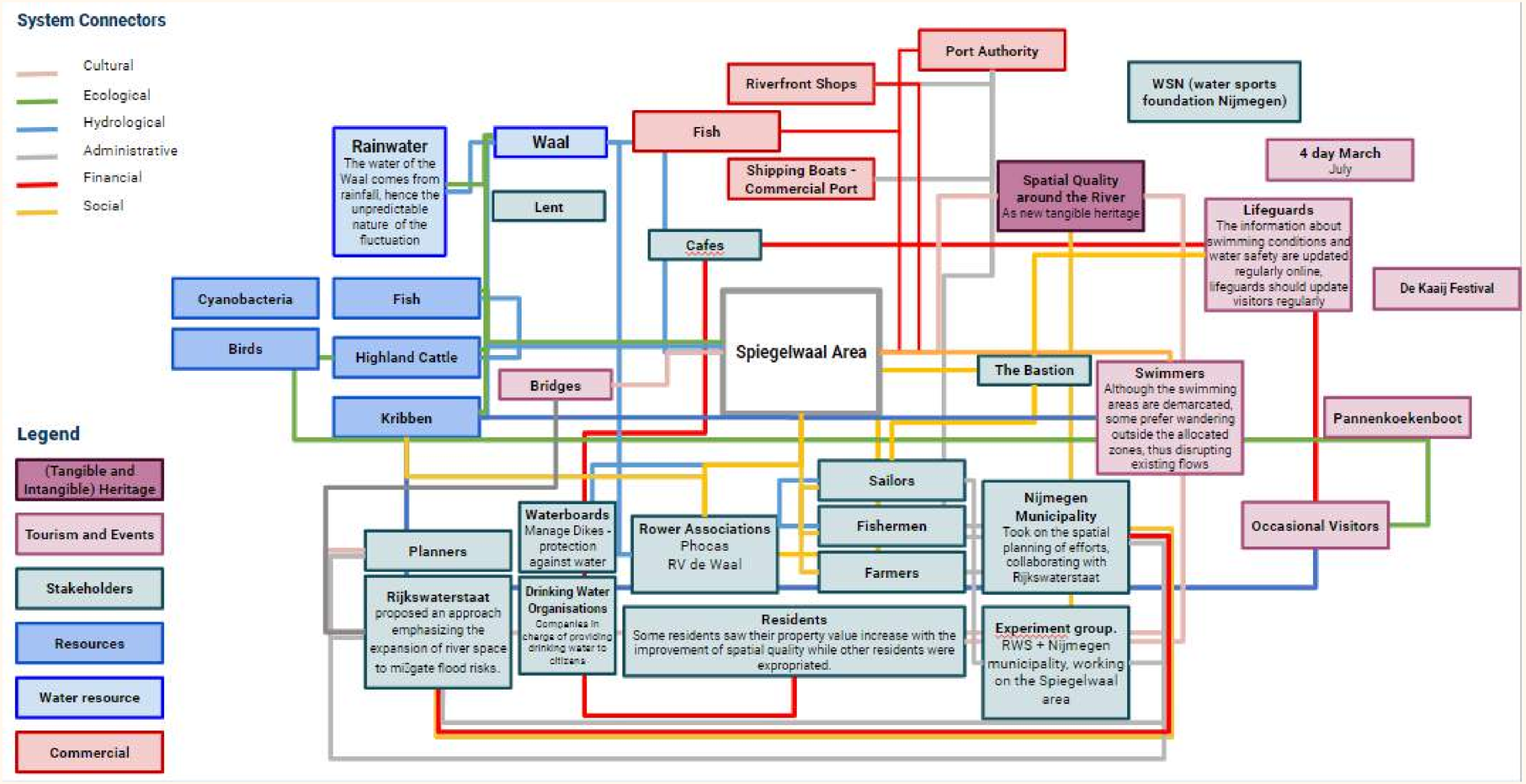
Mapping connections – Micro Canvas (1)

- This ecosystemic approach can facilitate discussions and decision-making around complex issues affecting multiple stakeholders
- Visualize existing and missing connections surrounding a particular object, place or practice



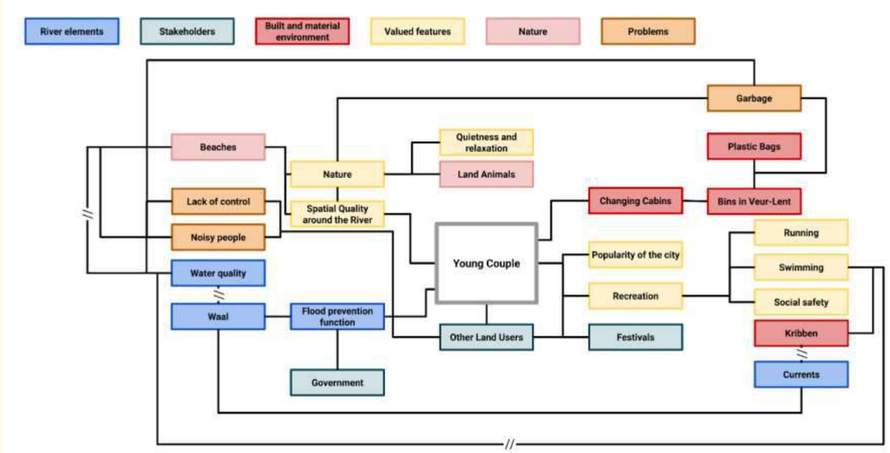
Mapping connections – Micro Canvas (2)

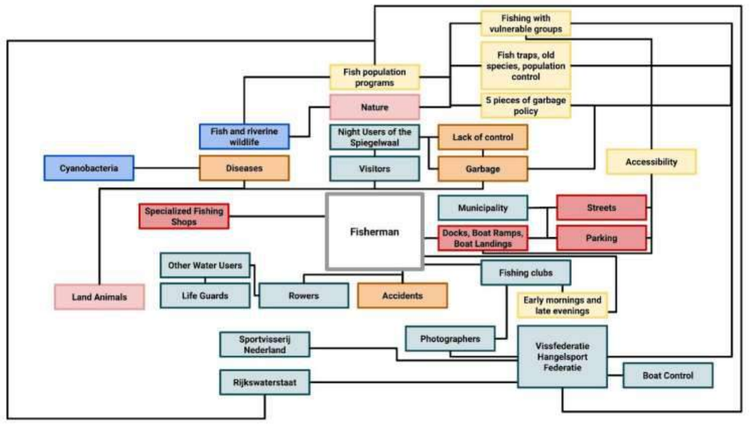
- Highlight main stakeholders, material and financial flows.
- Identify potential threats and synergies within the local ecosystem
- Analyse potential positive and negative domino effects

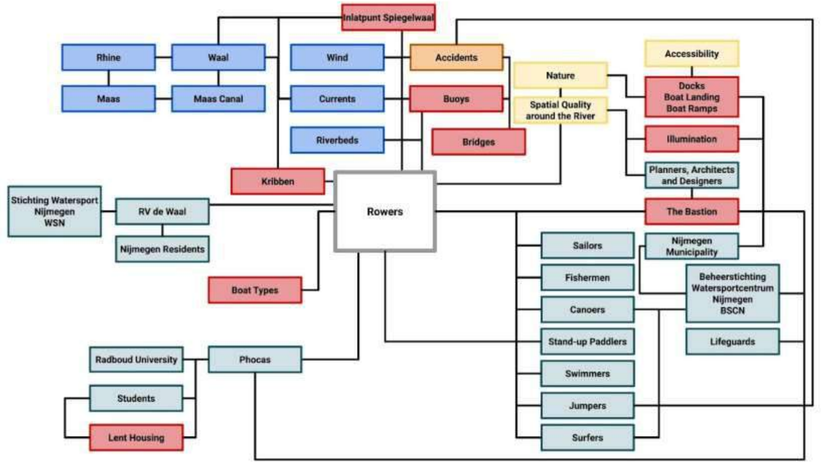


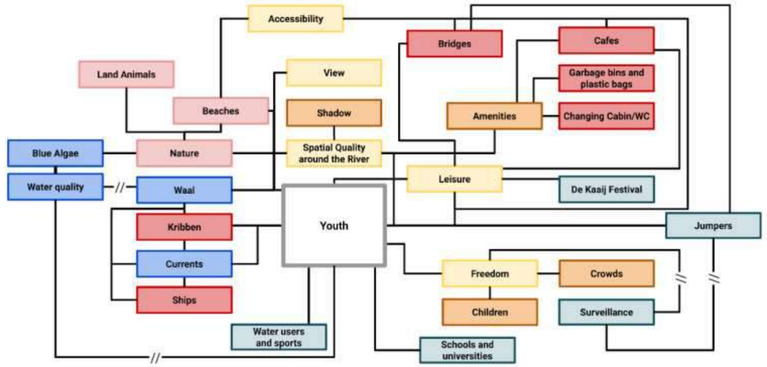
Mapping personal values – Persona Mapping

- Reconstruct the perspective of particular groups of actor in relation to space, other stakeholders and non-human actors
- Highlight different types of awareness and relationships with the surrounding



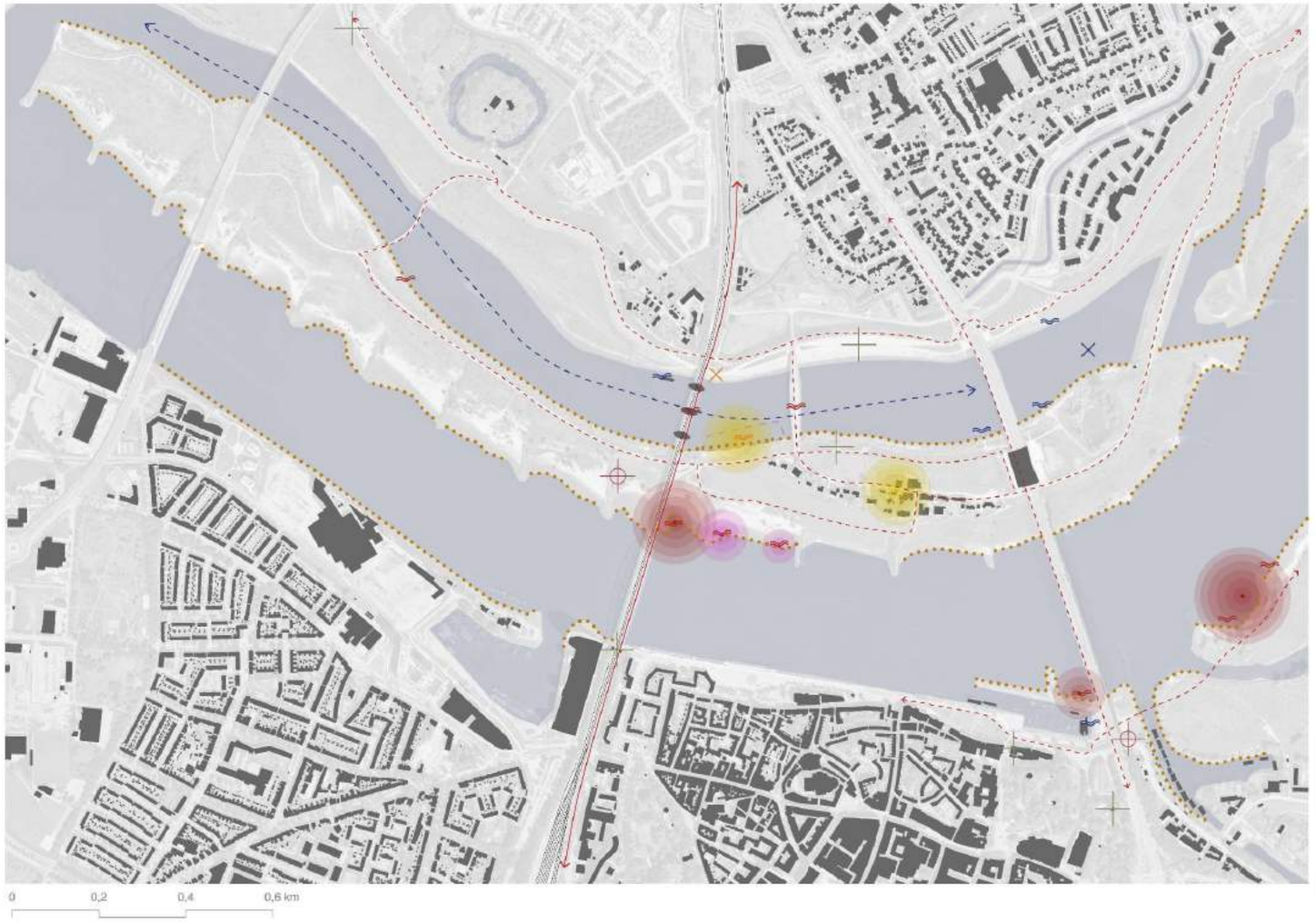






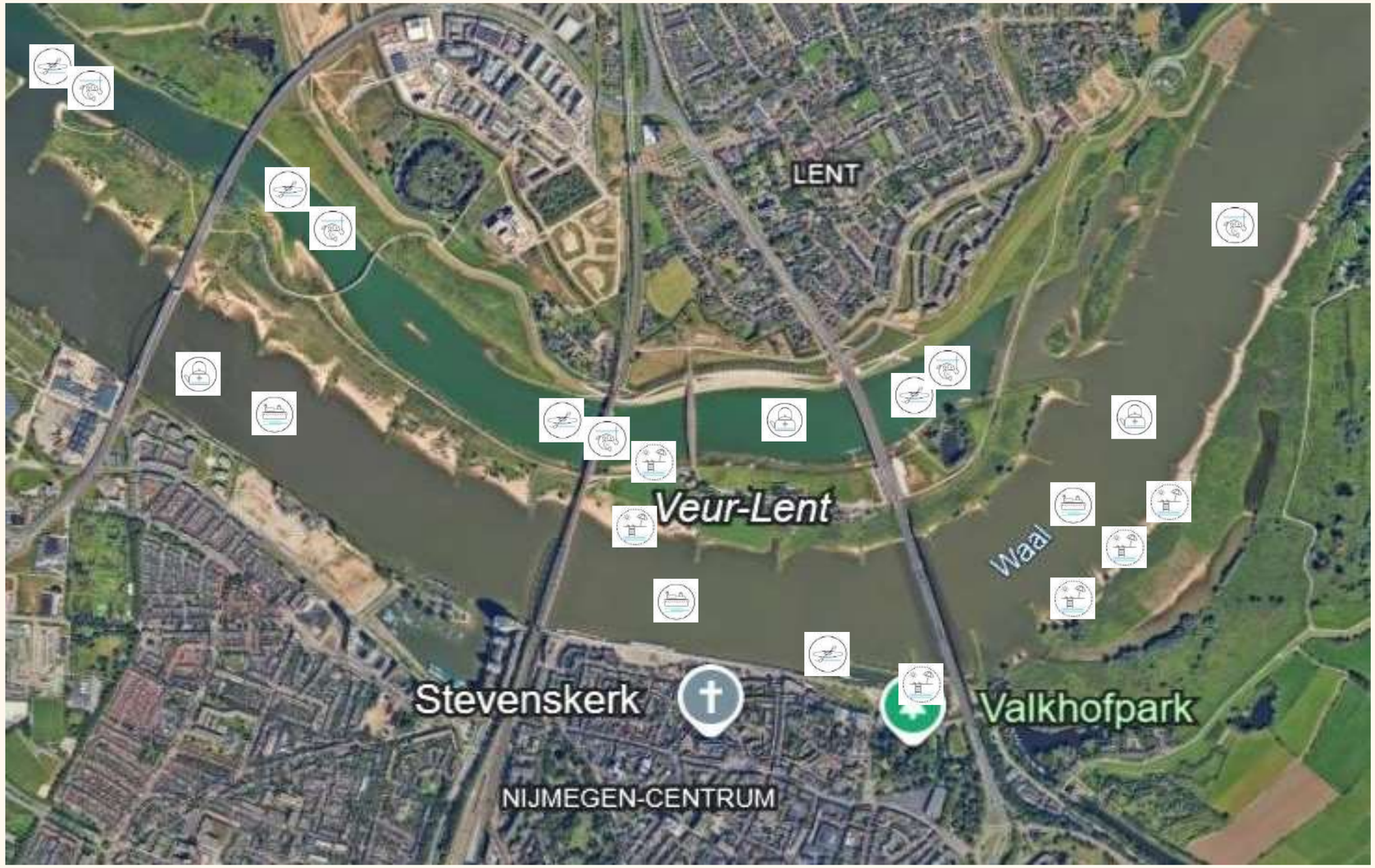
Combine and Analyse

Taken together, these qualitative mapping methods provide insights on how different actors inhabit, value and perceive spaces…



Combine and Analyse

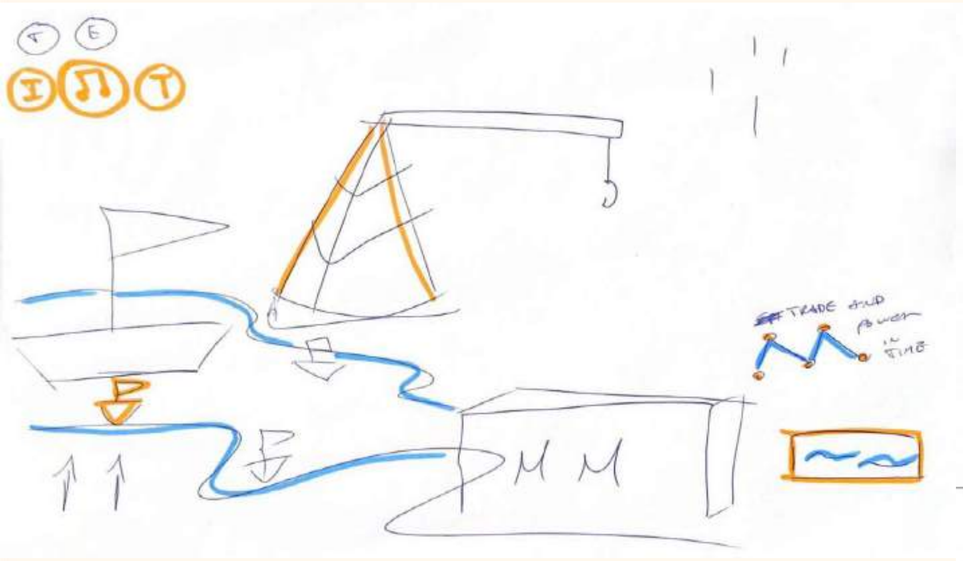
… and they offer valuable visualisations to reflect and discuss upon conflicting uses of the space.



Q&A session

Hands-on mapping session

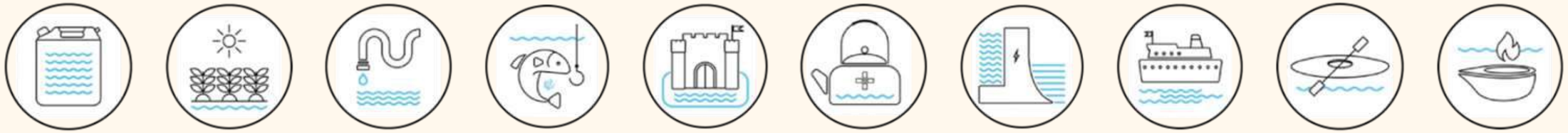
Carola Hein, Yvonne van Mil, Matteo D'Agostino, Carlien Donkor, Foteini Tsigoni



Draw your water museum in its context

What kind of water does your water museum focus on?

Tangible



Drinking | Agriculture and Irrigation | Drainage and Sewage | Food from Water Bodies | Shelter and Defense | Health | Energy/ Industry | Transport | Places of Leisure | Place of Worship

Intangible

Daily Water Practices | Recreation | Rites and Rituals | Language / Idioms | Laws and Policies | Institutions | Education | Preservation, Adaptation, Reuse | Music, Arts and Dance | Festivals and Ceremonies

wamu-net

Indicate on the map if/where/how you are engaging with heritage

WATER MUSEUMS GLOBAL NETWORK

unesco Intergovernmental Hydrological Programme

Universiteit Leiden

TU Delft Delft University of Technology

Erasmus Universiteit Rotterdam

PORT CITY FUTURES

Wales, Ports and Historic Cities unesco Chair

Porto.

Choose additional icons to show how heritage can help

Tangible


Drinking


Agriculture and Irrigation


Drainage and Sewage


Food from Water Bodies


Shelter and Defense


Health


Energy/ Industry


Transport


Places of Leisure


Place of Worship

Intangible


Daily Water Practices


Recreation


Rites and Rituals

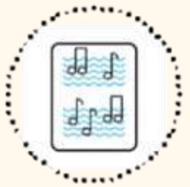
Language / Idioms


Laws and Policies


Institutions


Education


Preservation, Adaptation, Reuse


Music, Arts and Dance


Festivals and Ceremonies

Group discussion

1. What is your water vision/of your museum?

1. Does heritage matter for you/your message?

obrigado

thank you

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