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**ABSTRACT**

Contemporary coastal cities intertwine variegated stakes, linked to the economic, productive and social functions of the seashore, and need a correct management aimed at balancing the different needs and at maintaining a high ecological status of the coasts themselves. A fracture emerges between the urban development of coastal areas and the social desire and expectations of the 'urban coastal society', a community intimately connected to the coast and sea elements. Port and productive evolution has often neglected the socio-recreational component inherent in coastal areas, related to its attractiveness for citizens, the presence of natural qualities and an undeniable visual and perceptual value that influence the use of these places, influencing the conformation of coastal public spaces. The integrity of the urban coasts appears fragmented by the juxtaposition of variegated elements which can however be considered as pieces of a potential green-blue infrastructure, with a view to recomposing the city-sea interface. The contribution aims to investigate the management and design criticalities that affect urban blue spaces, mainly in relation to the implications related to leisure and sociality, proposing a historical, spatial and socio-perceptive comparison between Naples and Marseille.

# Exploring the Potential of Urban Coastal Interfaces for Socio-Environmental Connections: The Cases of Marseille and Naples

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# Exploring the Potential of Urban Coastal Interfaces for Socio-Environmental Connections: The Cases of Marseille and Naples

## Reinterpreting the urban coast for the society

### *Coast as a key area in large coastal cities*

Today, coastal cities are more than ever at crossroads of complex social and environmental processes, influenced at the same time by economic-productive issues. Regardless of their shape, coasts are places where urban civilization flourished. They are characterised by high population densities, due to their strong appeal for users and their environmental, economic and functional value (Small & Nicholls, 2003). The spatial and morphological characteristics of urban coasts have strongly influenced the evolution of the developments, generating interpenetrating and articulated spaces between land and sea. Urban beaches, port areas, docks, maritime walkways, but also wastelands, semi-natural spaces compose a complex yet interesting mosaic in the view of urban design, despite the strong functional competition that can compromise equal accessibility to the coasts and coastal identity (Green, 2010). From an environmental point of view, urban coasts are particularly vulnerable to climate change and the related risks that complicate the feasibility of urban interventions, reducing the spaces that can be dedicated to human activities (Giannakidou et al., 2019). Furthermore, the massive urbanization of the coasts has crystallized their original adaptive capacity, calling for new degrees of urban resilience. The urban fabric that characterizes contemporary urban coastal spaces can actually prevent them from adaptation, creating a disconnection of the coastal ecological networks (Pineschi, 2013). Also, the presence of defense works against hydraulic risk must be considered (Pilkey & Cooper, 2014), as well as the critical issue of developing and maintaining beach to meet the local needs of the population (Cabioch et Robert, 2022). These issues tend to be more acute and worsen much more rapidly in larger urban centers, due to the presence of multiple stakes.

However, coastal spaces within large cities are characterized by their landscape value, coherent with an intrinsic social and recreational character that can still inspire different uses. In these cities, the ecological role of the coast is fundamental, especially since most of the surrounding areas are entirely urbanized and because coast provides privileged contact with nature for the inhabitants (Edward, 2017). They are places where it is possible to experiment the ecological transition of the city through the development of strategies aimed at environmental restoration, the use of renewable energies from the sea or programmes to improve the quality of bathing water. In this context, coastal areas within cities represent a fundamental opportunity in terms of urban planning. They are spaces in which a new type of regeneration can be conceived and implemented with citizens.

### *Urban coastal society and the reappropriation of city-sea interface*

The link between contemporary urban communities and the coasts constitutes an interesting direction of research, in relation to the many changes that coastal areas of large cities are undergoing. In particular, it is possible to define an urban coastal society as a community

intimately connected to the coast, that is the city area of direct contact between the urban settlement and the sea (Timur, 2014), and to coastal water, considered as a component fluidly linked to the urban system whose shoreline is shaped by the formal or informal uses of citizens (Hannigan, 2017). Urban coasts, especially those of large cities, provide a varied range of socio-economic, cultural, logistical and environmental "urban services", but they are also a source of stress and social anxieties, due to the frenetic rhythm at which the urban ecosystem transforms itself. Therefore, the recreational value of urban coasts assumes an essential role for urban dwellers, influencing liveability, the cultural environment and the very appearance of coastal cities (Bolund & Hunhammar, 1999). An important distinguishing feature of coastal society is precisely the search for authenticity in response to a sense of loss of culture and identity due to the developments of the coast (Osbaldiston, 2018). Today, its evolution is also linked to themes such as climate change that alter the way of living on the coasts.

It is legitimate to ask how to deal with these urban transformations in favour of a less uncertain future, considering that cities are not infinitely able to adapt. Contemporary urban planning still seems far from a methodological and regulatory support that favours a resilient and flexible approach to face the environmental and social problems of coastal cities in an adaptive way (Arcidiacono & Ronchi, 2021). At the same time, the needs, desires and rights of coastal communities have evolved, including issues of spatial and functional equity and environmental justice, according to which the resolution of environmental problems, which undermine the liveability of urban public spaces, cannot ignore the mitigation of social inequalities. Therefore, it makes sense to analyse how urban dwellers perceive urban coasts and their functions. It is necessary to consider these instances in the reorganization of the spaces of coastal society, according to its current socio-recreational needs which require fewer large spaces dedicated to tourism, but more proximity public places allowing citizens to come in contact with the sea and the coasts of their city (Pittaluga, 2018).

The shimmering nature of the coasts requires a high degree of socio-spatial flexibility. In this perspective, the notion of urban amphibious, which is the area of contact in the city between land and sea rather than a dividing line between these two elements, can be introduced. It recalls the ability of the city and its community to constantly adjust to the two systems, in both spatial and functional terms (Worthington, 2017). It can be considered as an interface, a geographical entity characterized by mutual influences between the marine system and the terrestrial system, exercised on both sides of the coastline (Pittman & Armitage, 2015). Its complexity depends on the heterogeneous fragments that compose it, which can be classified in a range of juxtaposed spaces, from the most urbanized areas, that are less prone to urban transformation, such as ports, industrial areas and dense city sections, to the most natural zones, that are more malleable from an operational point of view, like urban green areas, poorly equipped open spaces, but also abandoned areas or public places perceived as unsafe. The latter elements can be read as components of a potential multifunctional green-blue infrastructure, leading the research towards ecological and landscape approaches.

Finally, coastal urbanization and coastal cities are considerably interesting due to their direct relationship with the sea, in a spatial, temporal and functional sense. In this perspective, the concept of city-sea interface can be introduced: it is the area of physical, ecological, social and functional contact between the edge of the city, structured in a socio-ecological way, and the sea edge, connected to the urban system next to the shore (Robert, 2019). At the basis of this concept, there is the hypothesis that the portion of the city closest to the coast and the sea is an area particularly influenced by the sea.

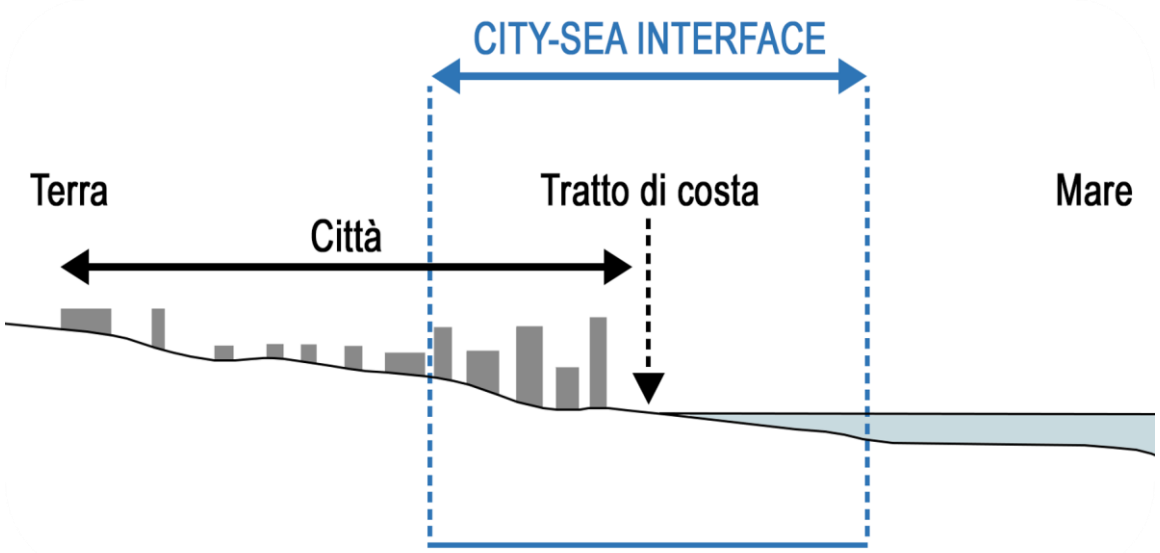



*Figure 1. Concept of the city-sea interface (S. Robert, 2019).*

Its geography is not fixed but articulates over time and is characterized by a variable but relatively small size on both sides of the coast, which is why this concept is mainly relevant in large coastal urban areas (Ollivro, 2016). The socio-ecological relationships between the urban and maritime ecosystems appear to be of maximum intensity in the city-sea interface, particularly sensitive to social and environmental transformative phenomena (Weissenberger & Chouinard, 2015). As an expression of urban amphibious, its planning must manage human activities not only in spatial terms, but also over time, to respond to the progressive disintegration of the margins between the different coastal spaces, considering environmental, economic and identity-cultural aspects (Zaucha & Gee, 2019). These themes indicate the need for a real, active and inclusive involvement of the urban coastal society.

## *Coastal development and socio-recreational value of the urban amphibious*

During the last century, coastal and port transformation have mainly involved the regression of former natural areas, the development of urban waterfronts, the improvement of the economic character of the coast, the strengthening of its logistical functions, the recovery of some coastal aesthetic values. Today, there is a need to focus more on regeneration, based on the analysis of coastal needs, a fundamental reading key to understand the current condition of the urban amphibious.

In the Seventies and Eighties, the development of the urban coast was oriented towards projects related to tourism, recreation, but also to economic progress. Also, numerous investments were made in favour of the renewal of ports and coastal areas, creating spaces for urban entertainment, redeveloping the existing built heritage, in particular abandoned industrial areas, and creating new infrastructures, such as commercial buildings, museums and other socio-cultural activities; this has led to significant economic growth and to the enhancement of the visual quality of urban waterfronts (Porfyriou & Sepe, 2017). In the last decade of the Twentieth century and at the dawn of the new millennium, there was a redirection of urban planning efforts to counterbalance the results of the first step of interventions on urban coastal areas. If the first planning actions had pursued economic profit and aesthetic requalification, studies and projects were subsequently produced for the development of more accessible and inclusive public spaces for the population. Also, there was a growing interest in social issues, despite the main reason being the containment of the phenomena of gentrification (Morena, 2011). In the last decade, social needs became more prominent and increasingly complex in terms of coastal management. Today, the economic

dimension is more strongly opposed to emerging social needs claimed by citizens, both being challenged by the effects of climate change, distorting the methods of social interaction, influencing the perception of spaces and the feeling of attachment to place (McElduff & Ritchie, 2018).

The community, in fact, evolves in relation to coastal changes. Urban coastal society is more and more involved in wide-ranging issues, such as environmental and ecological risks; added to this are the critical issues related to land consumption, an increasingly rare resource, yet necessary to ensure an equal enjoyment of places for recreation and socializing along urban coasts. The consequence is a growing spatial and environmental injustice inversely proportional to the need for quality coastal public spaces, also in relation to the necessity for social distancing in this particular historical period of pandemic (Mega, 2016).

## The Re-SEA-ourcing CITY project: studying the coast of two large Mediterranean cities

### *Background of the research*

In a coastal city, the city-sea interface is a multifaceted resource. However, as pointed out, the coast questions both socio-environmental equity and spatial justice. This is a critical issue because it concerns sustainable development, from the principles of which the current urban coastal zones seem to be rather distant. Though the socio-recreational function is only one dimension of integrated coastal zone management, it can act as a driver for more efficient governance and functional planning. Considering the social dimension of the coast leads to investigate its effective accessibility to the people. The two key questions are: who benefits from the urban coastline and the proximity of recreational areas, and do coastal public spaces allows for a sensorial link with the sea. From the governance point of view, the link between public policies and the stakeholders' interests must be investigated, studying the possible discrepancy between the needs of the population and the projects developed in the city-sea interface.

The opportunity to investigate these issues arose with the answer to the *Galileo 2021* international research call, a scientific cooperation programme between Italy and France organized by the *Université Franco-Italienne*. The project, entitled 'Re-SEA-ourcing CITY. City-sea interface as a resource for people: urban regeneration in the context of ecological transition' was nominated winner of the research call and foresees the collaboration of the Department of Architecture of the Federico II University of Naples and the CNR IRISS, for the part Italian, with the CNRS (Centre National de la Recherche Scientifique) and the University of Aix-Marseille, for the French part.

The aim is to deepen the study of the city-sea interface as a resource for the regeneration of urban coasts, characterized by contrasting community and economic interests. The objective is also re-reading the coasts of large cities with a socio-recreational and landscape-environmental point of view, while considering coastal risks in the context of ecological transition (Timmermanab & White, 1997) and targeting sustainable management and efficient planning. The proposed research seeks to explore and compare the coasts of Naples and Marseille, two coastal cities that face the challenge of urban sustainability, analysing their social dynamics and regenerative potential and connecting the most significant natural and semi-natural elements for the coast and society.
The Galileo programme covers a two-year period between January 2021 and December 2022. The research is currently under development, but the main objectives and axes of work can be presented.

## *Main objectives*

The main goal of the research is to understand the social function of the coast, analysing the practices and expectations of the users, in relation to the quality of life and accessibility to environmental services. It is necessary to study the dynamics of these areas and their potential in relation to citizens' needs.

The research will investigate specific coastal areas of Naples and Marseille, based on similar features that allow for comparison, to understand if the coasts are actually designed and managed to meet the socio-recreational expectations of citizens. To answer our question, we will analyse the coastal urban dynamics, look for the uses and practices of urban dwellers, and study the planning of these spaces, examining the effort of public policies to ensure accessibility to coastal functions for all users and to permeability between the coast and the rest of the city.

Since the waterfront influences the conformation of public spaces along the coast in relation to their use and perception, the research aims to integrate this theme in the ecological design of the city-sea interface, through approaches such as green-blue infrastructure. The goal is to try to reconnect the heterogeneous fragments of contemporary coasts from an environmental and functional point of view. This requires operating with a view to the use of ecosystem services and the reduction of coastal risks, considering the practices of urban coastal society especially in specific critical points, in order to favour the drafting of efficient coastal planning for these areas, proposing hybrid and sustainable recreational spaces where localized and punctual interventions can ensure greater social benefits. Interventions should be defined by the co-evolution of socio-cultural aspects, natural factors and anthropogenic elements. This presupposes a growing participation of the local society in the planning of the coastal urban system.

Finally, the study takes place in a context of persistent segmentation of public policies and separation between urban planning and coastal management. The research aims to analyse the attention that the public policies (local as well as international) devote to the socio-recreational areas of urban coasts, in order to establish whether there are recommendations or strategies regarding the city-sea interface.

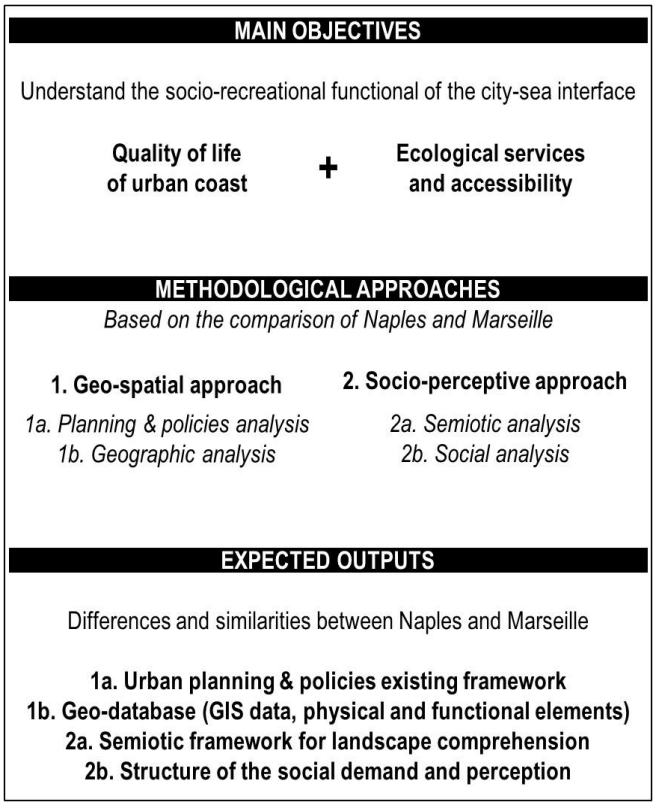



*Figure 2. Scheme of the main objectives, methodological approaches and expected outputs of the project.*

## *Methodological approaches*

From a methodological point of view, the research is based on a comparison of the two cities. Both are important port cities, with an almost similar size and a comparable articulation of the city-sea interface. They share the same problems of unequal accessibility to the sea, although Naples has remained fundamentally static over the last 50 years, while Marseille has tried to respond to the demands of coastal society with targeted interventions and policies. However, both cities have a significant influence on their metropolitan area and aspire to acquire the status of Euro-Mediterranean metropolis (Bertoncello & Rodrigues-Malta, 2003). The comparison will be conducted according to the following points of view: the geo-historical approach and the socio-perceptive approach.

The *geo-historical approach* consists of two branches of study. The first one is linked to an *urban planning and policies analysis*: its goal is to study the main local policies and plans of Marseille and Naples, also in relation to the European directives currently in force. This study is crucial because of the nature of the city-sea interface which is partly terrestrial but also partly maritime. The second one is connected to a *geographical analysis* and its aim is to reinterpret the urban amphibious of the two cities through the analysis of data related to the physical structure of their city-sea interface and its spatial and functional organization. The digital reconstruction of the territorial context of the urban amphibious can in fact provide inspiration for better understanding the conditions within which the public areas are more usable by users of coastal society, but also what are the physical-functional constraints that prevent efficient and equal spatial functionality.

The *socio-perceptive approach* is relevant to understand the attitude of citizens towards coastal spaces, in relation to possible activities, the natural value of the places, the sensory stimulation: the coastal perceptive effect can grant positive sensations and well-being to citizens, strengthen interest of the community towards the urban sea and enhance place attachment in urban coastal society (Völker & Kisteman, 2015). To investigate these issues, also the socio-perceptual approach is divided into two branches of study. The first branch of the investigation involves a *semiotic analysis* that aims to analyse contemporary urban coasts according to the articulated signs of human activities that transform and shape them. It is evident, in fact, that the perception of space is conditioned by the ways of living and the level of fruition, elements that the mind of users systematizes and attributes to the perceived image of the city-sea interface, an expression of the functional experience of the coastal society. The second branch instead concerns *a social analysis* on the territory of Marseille and Naples, disseminating structured questionnaires among coastal users, focusing in particular on some key points of the two city-sea interfaces: the aim is to highlight the influence exerted by morphological aspects of the coastal urban structure, economic and social elements and the effective presence of services and public spaces on the use that citizens make of the coasts of their city, identifying the relationship between these factors and the social and recreational development of urban coasts.

# Geo-historical approach to compare Marseille and Naples

## *The urban coast of Marseille*

### Peculiarities of the Marseille city-sea interface

Marseille is the second French city in terms of urban size and population (nearly 870.000 inhabitants for the municipality in 2018). For this reason, it can be considered as the largest coastal socio-economic pole in France, as well as one of the most influential coastal city in the Mediterranean. Its port ranks first in France and 2$^{nd}$ in the Mediterranean for all traffic, 5$^{th}$ in the Mediterranean for cruise passengers, 3$^{rd}$ in the world for petroleum products (Robert et Laffont-Schwob, 2021). Its coast is divided into two main sections. The northern one is articulated around a central port-logistic hub, inaccessible to the population for the most part, at the north end of

which is a small residential-recreational area. The southern one is an urban coast mainly residential and dedicated to sea related leisure activities (beaches, yachting harbours, etc.). This part of the city also integrates the historic centre and the Vieux Port, the ancient access from the sea, now a residential and tourist place. A much more fragmented and varied social geography in cultural and socioeconomic terms corresponds to the abovementioned coastal areas (Bertrand, 2012). Marseille proves to be an interesting study case from the perspective of coastal regeneration. In different phases, it has experienced various shoreline changes common to large coastal cities over the last 50 years, proposing innovative solutions to regenerate its city-sea interface from a recreational, cultural and environmental point of view. For example, the *Musée Subaquatique de Marseille*, in the Anse des Catalans area, is the first European submarine museum, and the systems of thalassothermic energy production, in the central part of the port is also an innovative initiative attesting the link between the sea and the city.

The transformative impulse of the coast began in the 1960s. In 1963, the development project for the metropolitan area of Marseille displaced the expansion of the port in the peripheral area of Fos-sur-Mer, locating industrial spaces in the most peripheral part of the Marseille coast and tertiary area in the urban centre, posing the problem of the role of the city in a vast urban region, but at the same time relieving the urban structure from a cumbersome element such as the main port infrastructure (Zalio, 1996). The Nineties then marked an important moment for the Marseille coast, with the launch of the Operation of National Interest *Euroméditerranée* which envisages the spatial and functional renewal of the areas closed to the older part of the port, for socio-economic, cultural and environmental purposes, aiming to reconcile the vocation of Marseille as a city-port with the search for a role within the Mediterranean basin, despite the globalizing inflection of some interventions (Bertoncello & Dubois, 2010).

From an environmental point of view, Marseille relates to the sea in different ways depending on the geographical area. In the southern part, the city fades into a progressive gradient of naturality; the port-productive area in the north is functionally confronted with the sea, through an artificial coast; in the urban core, the coast assumes greater complexity, with a radial structure of the green system that is articulated from the centre towards the periphery at different densities (Consalès et al., 2012).

## The Rade of Marseille: differences between northern and southern urban coast

The Marseille *Rade* is rather equally divided into two juxtaposed sections, namely the *Rade Sud*, richer and more suitable for leisure activities, and the *Rade Nord*, with a more marked productive and port character.

The *Rade Sud* extends from the *Parc National des Calanque*, established in 2012 and considered the first park in Europe to be both terrestrial and marine, and the *Vieux Port*, in the heart of the city-sea interface of Marseille. It includes the axis of the *Corniche*, through which is possible to reach important points of the urban shore, such as the *Plage des Catalans* and the *Plage des Prophètes*, but also the *Parc Balnéaire du Prado*. The latter was realised in the Seventies and Eighties of the last century and acts as a real terrace overlooking the sea, giving access to relevant urban beaches and large coastal green spaces. It is important to underline that these natural and semi-natural urban areas, harmoniously inserted in the urbanized fabric, have a public nature: it is easy to note the recreational-tourist and seaside connotation of the *Rade Sud*, along which there are high-level houses, performing urban services and a wealthy social status (Agam, 2015). Urban beaches and coastal open spaces are generally easily accessible and offer an important input to the definition of the city landscape of Marseille. The effects of the regeneration of these coastal places, which began at the end of the last century, have in fact favoured high-level commercial and economic: as a consequence, there is an evident social fragmentation of the spaces in the *Rade*

*Sud* which has only recently become more inclusive, also through targeted actions and regulations that favour social *mixité* and a valid recreational management of the coasts (Deboudt, 2010).

*Figure 3. Plage de Catalans, in the Rade Sud.*

The *Rade Nord* consists of the port areas between the historic centre of the Vieux Port, where there are numerous cultural offers for the population as well as both planned and spontaneous leisure spaces, and the *16e arrondissement*, the northernmost district of the city. It incorporates, in its southern part, the famous *Euromediterranée* regeneration area. These areas demonstrate a greater functional and social heterogeneity than the *Rade Sud*. In fact, most of the available land and sea is occupied by the eastern basins of the *Grand Port Maritime de Marseille* (GPMM) (Agam, 2015). The coast has been completely redesigned by the port infrastructure, despite the fact that several projects are trying to mend the relationship between port, coast and city. Within the Euromediterranée project, this can include the transformation of the port-commercial areas J4, near the neuralgic zone of *Place de la Joliette*, with the realization of important public buildings such as the MUCEM, a museum connected to important elements of cultural heritage and to vast public spaces along the coast, as well as *Les Terrasses du Port*, a shopping centre whose roof is conceived as a public square overlooking the sea in perspective relationship with the historic docks (Bertoncello & Rodrigues-Malta, 2003). In any case, the neighbourhoods facing the port are still deeply affected by strong constraints on the use of the urban sea, as well as by gentrification and by the presence of economically weak social segments in degraded urban areas.

In this sense is emblematic the case of the aforementioned *16e arrondissement*, a former industrial district which, despite its recreational value, is extremely complex to enjoy equally. There, the port-shipyard area of Saumaty and the numerous nautical clubs occupy almost the entire coast, depriving the seafront of physical access to the sea and damaging socio-

environmental justice. Also, the *cale de la Lave* is the only public entrance for private boats not registered in clubs in the entire Rade Nord. Globally, long stretches of coast are intended solely for vehicular traffic, lacking adequate spaces for a social use of the sea. And finally, the *Plages de Corbière* system is the only and overcrowded officially planned bathing spot in the area (Bertoncello & Hagel, 2016). It is clear, therefore, that in these places there is a strong feeling of social redemption as well as an interest in urban transformation in the short term.

*Figure 4. Plage de Corbière, in the Rade Nord.*

The heterogeneity of the urban amphibious of Marseille suggests the relevance of the case study but also the difficulty of adopting univocal approach, in relation to the juxtaposition between port and productive areas, in which social tensions amplify the complexity of understanding the territory, and spaces more prone to host dialogue with users, in the southern part of the coast.

## Current policies for coastal socio-environmental resource

It can be said that Marseille takes care of the socio-recreational value of its coast. During the last thirty years of the Twentieth century, an enhancement of the urban coasts favoured developments for leisure activities, with the realization of the yachting harbour of Pointe Rouge and the Parc Balnéaire du Prado, in the *Rade Sud*, and the beaches of Corbière, in the *Rade Nord*, together with the improvement of the water quality thanks to the water treatment plant. From 2000 to 2010, the municipality developed an ambitious coastal policy, starting with the *Plan de Gestion de la Rade de Marseille* (2009) which provided for: better and more equal accessibility to urban coasts, an improvement of leisure ports, an analysis of the criticalities of the 21 urban beaches, a redevelopment of coastal paths. Issues related to social uses, coastal pollution, environmental

risks remaining critical, a further municipal policy was designed for the coast in the decade 2010-2020, composed of 4 master plans.

First, the *Plan Plages et Littoral* (2010) concerns urban beaches. It aims to improve the quality of urban beach waters for recreational purposes, to protect the areas available for social and bathing activities from erosion, and to give particular attention to services to better the fruition of urban beaches. The subsequent *Plan Nautisme et Plongée* (2011) implements the nautical character of the city through tourism initiatives, improving the quality of tourist ports through a rational and sustainable use of water spaces and involving the population in leisure and cultural activities. The drafting of the *Plan de valorisation du milieu marin et de ses ressources* (2011) is linked to more environmental and ecological aspects, promoting cooperation between public and research bodies with associations and users to limit the conditions of maritime degradation. Finally, the *Plan de Gestion et de Valorisation des Espaces Naturels Littoraux et Insulaires* (2013) aims to enhance the natural spaces of the Marseille coast as well as its islands, with a view to ecological transition, disseminating awareness of maritime problems among users. In addition to this municipal policy, the *Contrat de Baie* also shows great interest for the coast and the coastal sea, proposing a strategic vision for the period 2015-2020, both from an ecological point of view and from the perspective of management of social uses. It is a document of great importance for the entire *Rade*, drawn up through the joint efforts of the municipality, the province and research and urban planning bodies.

At the metropolitan level, the Urban planning master plan (*Plan Local d'Urbanisme Intercommunal*, PLUi) focuses on the contribution to well-being of coastal areas and their recreational and environmental potential. Compatibly with the Loi Littoral (1986), it highlights different types of coastal spaces to be organized and protected, enhancing the ecological and functional quality of the green areas along the coast through an ecosystem approach. At the same time, it proposes a recomposition of the functional and spatial elements of the *Rade Nord*, while reconfirming the social and seaside characteristics of the *Rade Sud*. This is in line with the *Charte Ville-Port* (2013), elaborated by the Port Authority with local authorities, which proposes a similar functional distinction of coastal spaces, but affirms the neuralgic role of the port in the city. The proposed interventions envisaged the development of the central area of the Rade Nord with more activities dedicated to logistic, ship repair, cruise and other port activities. But the proposed evolution faced strong opposition from local dwellers and local NGO, who were not associated into the design of the *Charte Ville-Port*. For this reason, the *Dialogue Ville-Port*, a cycle of workshops with public institutions, technicians and citizens, was established at the request of the State. From 2019, various meetings have been organised to satisfy the request of stakeholders to be informed on the planning of coast and port areas and to give them the possibility to comment projects which may have great impact on their quality of life. For example, the work elaborated for the opening to the public of the *digue du large* is interesting. This dyke about 7 kilometres long that protects the basins of the port from strong waves, is proposed as a maritime promenade that would strongly change the urban waterfront. Therefore, this example show how much Marseille is available to various kinds of approach for the social and environmental transformation of the urban amphibious.

## *The urban coast of Naples*

### Introduction the urban amphibious of Naples and its industry and port areas

The coast of Naples, as for all large and ancient European cities, is characterised by a millenary stratification of uses and transformations, resulting in a densely populated territory (roughly 922.000 inhabitants for the municipality in 2021), rich in naturalistic and cultural resources but also degraded areas and competing uses. From the Pietrarsa museum in the eastern border with

Portici to the Bagnoli area in the Gulf of Pozzuoli, the Neapolitan coast is variously articulated and occupied for a large portion by the port with its incessant activities, from freight to passenger transport. According to the ISTAT data in 2020, the port of Naples is the 3rd in Italy for tourist transportation; the Port Authority of Central Tyrrhenian Sea studied passenger traffic in 2021 with roughly over 4,000,000 users carried, while container traffic exceeded 1,000,000 units: this data testifies the relevance of the Neapolitan port, despite the negative inflection of the pandemic period.

Access to the sea resource by the population for recreational and leisure uses is extremely limited due to the cumbersome and polluting presence of the port as well as the orography and often the privatization of areas near the coast.

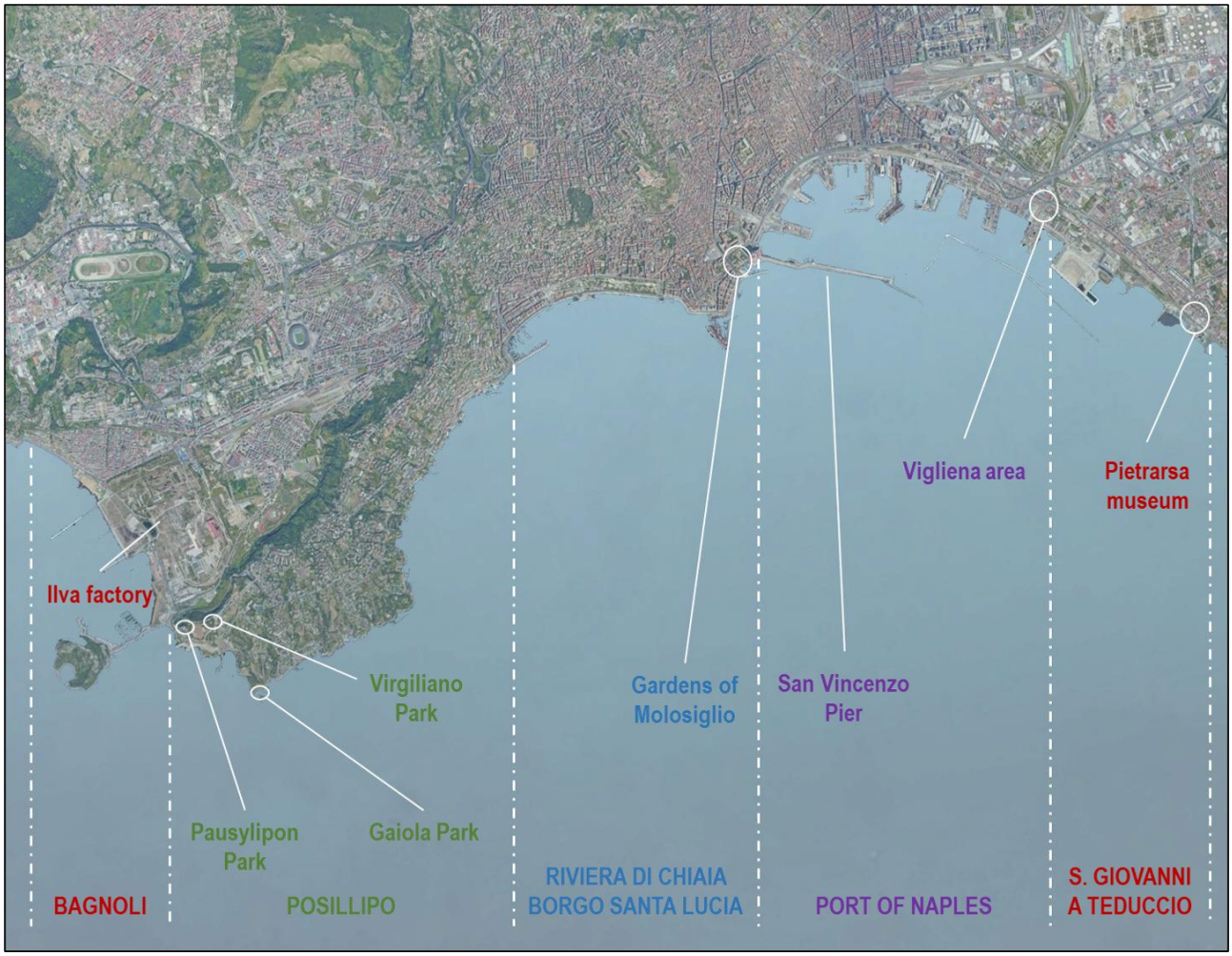



*Figure 5. Main areas and elements of the Naples' city-sea interface.*

The recent history of the city tells us about the progressive articulation of the port infrastructure in the eastern area (from the Beverello pier to San Giovanni a Teduccio), starting from the second half of the nineteenth century, while the western area remained less compromised over the centuries from a naturalistic and landscape point of view (Posillipo and Chiaia) with the exception of the Bagnoli plain which, from the beginning of the twentieth century, was occupied by the Ilva steel factory, definitively abandoned in the Nineties.

Also, the eastern area of San Giovanni has been for years the site of industrial settlements which are now in total abandonment and already partially reconverted. In the last thirty years, Naples has begun the decommissioning of the industrial and inner harbour areas, like the main European cities. However, this happened without starting a virtuous cycle of urban regeneration, in

particular along coastal areas. Even today, the crucial questions regarding the reclamation of the *SIN* (Site of National Interest) areas of Bagnoli and the eastern area of San Giovanni a Teduccio remain unsolved. In both districts the local population, mainly composed by working class closely linked to the industrial activities that have been present for decades, claim a bathing use of beaches and sea. However, the presence of the port, which aspires to expand its quays eastward to meet the growing demand for container transport on huge ships, clashes with the aspirations of the population. Some plans and programmes for the transformation of the area have been developed, among which certainly the *Preliminare di PUA*, initiated by the municipal administration, provides a broad general strategy for the reconversion of disused spaces into places for socialization and adaptation of equipment at metropolitan and neighbourhood scale.

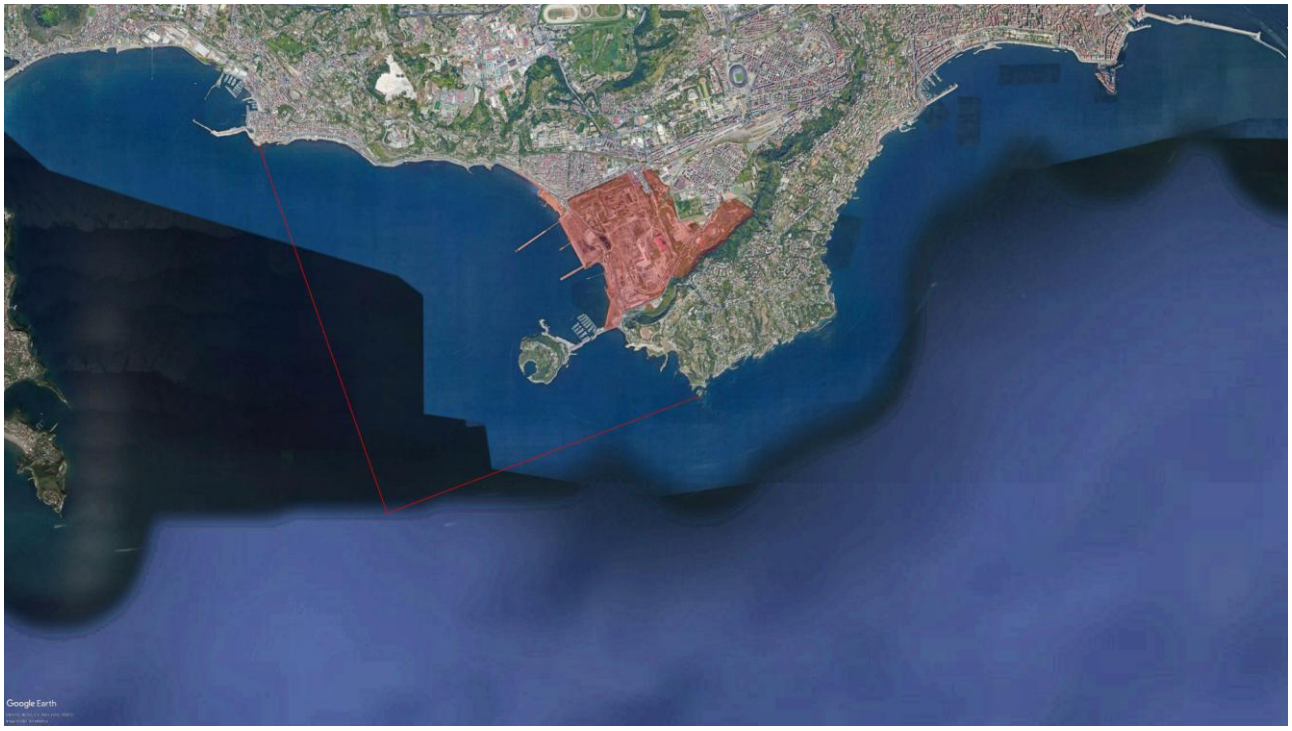



*Figure 6. Sito di Interesse Nazionale (SIN) Bagnoli Coroglio in Naples, both on land (red area) and in the sea (yellow line).*

The former industrial area of Bagnoli has a similar past but a less conflictual relationship with local population due to the absence of aspirations for expansion of the operational and logistic port. In Bagnoli, the conflicts have shifted to the integration of uses like bathing in the sea and fruition of the beaches, public park, service hub, sports and cultural areas. In this part of the coast, the decisive question arises from the reclamation of soils and water, fundamental for the establishment of new activities. Bagnoli has been involved in long planning processes since the beginning of the 90s of the last century, with the drafting of the *PUE (Piano Urbanistico Esecutivo*), the establishment of the *STU (Urban Transformation Society) Bagnoli Futura*, which subsequently failed, until the current institutional assignment to the Invitalia Development Agency for applying the *Programma di bonifica e rilancio dell'ex area industriale di Bagnoli-Coroglio*.

## Recreational, residential and port-logistic areas along the Neapolitan coast

Between the two large regeneration and reclamation areas of San Giovanni A Teduccio and Bagnoli there are three other vast macro-areas: the area of significant landscape interest of Posillipo-Chiaia, the area of S. Lucia up to the Molo S. Vincenzo, the port for passengers and operational activities.

The *Posillipo* area up to Mergellina has a high landscape value and is bound and regulated by the *Piano territoriale paesistico dell'area di Posillipo*. It is difficult to access due to the orographic

features and the system of private properties. The terrain is hilly, the coast is steep and often rocky except for a few small coves which generally allow access only to residents.

Mobility is severely compromised since the street network is made of narrow streets with no parking areas. Although it constitutes the stretch of coast with the greatest landscape values of the city and with acceptable bathing water quality, it is very hardly accessible to the population. It remains an area reserved for local owners mainly from the wealthiest classes of the population.

Indeed, this stretch of coast is characterized by private residences, some of which possess historic and exceptional landscape value, and by catering activities that prevent easy access to the coast from both land and sea. Moreover, many areas are poorly maintained and present high risks of landslides which are combined with phenomena of illegal buildings. It is the most evocative coast due to the easy relationship to natural and cultural landscape features, like the widespread vegetation on the slopes of the hill, the sea, and the significant historical traces from the *Parco Virgiliano* to the *Parco di Pausylipon*, to the Seiano cave, to the Gaiola submerged park.

The *Chiaia* area is a district characterized by the urban coastal promenade, next to the municipal villa and prestigious buildings historically inhabited by the upper middle class of the city. The coast is characterized by low artificial walls and small stretches of beach that citizens usually use for bathing and other leisure activities. There, bathing is allowed in some parts of the coast but nevertheless there are no equipped areas predisposed for this function, leading to unconventional and non-regulated recreational uses of coastal spaces (e.g. sunbathing on artificial rocks, swimming or fishing in off-limits waters, etc.). The waterfront presents high-level architecture with catering activities on the ground floors, but lacks an adequate spatial arrangement, hosting today a mixed use between emergency driveways and pedestrian access. Instead, a project would be appropriate for the integral transformation of the zone in a permanent pedestrian area connected to green and equipped spaces for tourists and residents.


*Figure 7. Bathing areas along the Naples coast. (Comune di Napoli, 2021).*

Towards the East, the area of *Santa Lucia* continues the Chiaia promenade until the gardens of Molosiglio which can be considered as the head of the San Vincenzo pier, the historic Neapolitan axis of penetration into the sea that is currently abandoned and inaccessible. Numerous redevelopment projects have been produced to open the San Vincenzo pier to citizens, transforming it into an area with strong recreational potential for residents and tourists. Indeed, it could be possible to install equipment for the seaside use of the coast although many obstacles to the transformation, mainly due to the presence of military and tertiary activities, remain.

The coastal area from Molo Beverello to Vigliena is occupied by the main port of the city. In the first section, stands the historic port, mainly dedicated to passenger traffic with hydrofoils and ferries to the islands of the gulf and to the main Italian ones, and by cruise traffic. In the second section, there is the operational port with the commercial, shipbuilding and container handling areas up to the tourist port of Vigliena under construction.

Nowadays, the port of Naples is regulated by the *Variante del PRG*, even if the main urban plan will be the future *PRSP (Piano Regolatore di Sistema Portuale)*. With the introduction of the new legislation on the discipline of port areas, the old *PRP (Piano Regolatore Portuale)* of the Naples port, drafted in accordance with law no. 84/94, adopted by the Port Committee in 2012 and never approved, lost its normative sense and a new planning process was set up with the drafting of a strategic document for the entire port system of Naples, Castellammare and Salerno.

The port of Naples, like the majority of ports in metropolitan cities, has a double and contrasting characterization due to the development of a productive area, in direct proximity to the historic port with cultural and unique landscape values, in obvious contrast with the hypertrophic needs of space and logistics. The productive port, which represents the main source of work for the entire metropolitan region, is based on commercial, shipbuilding and logistic activities that require large inner harbour spaces and strong connections with the other major industrial and economic hubs of the region. The historic port constitutes an appealing pole for millions of passengers a year. At the same time, it potentially represents the public space *par excellence* that will have to be gradually integrated with the network of public areas in the city and host cultural and museum functions for the full usability of its historical and landscape resources.

In this perspective, it was the subject of a design competition in 2003 which was abandoned but is still under discussion. Actually, in the RE-SEA-OURCING CITY project, it does not constitute an area of interest because it obviously does not identify areas to be used for bathing and equipment clearly oriented to public use for leisure and tourism purposes.

## Main planning and programmatic framework of the Naples' coastal interface

The *Preliminare di PUC (Piano Urbanistico Comunale)* of the Municipality of Naples, approved in 2020, bases its strategy on the areas of regeneration by identifying different categories of urban intervention. For the coastal area, interventions are proposed only on areas not directly affected by the port, therefore on mainly western areas and the modest areas occupied by the beaches of San Giovanni a Teduccio. The protagonism and autonomy of the Port Authority is highlighted: it is in fact responsible not only for the port areas but for the entire Neapolitan coast. This anomaly in the government of the coast weakens the authority but also the same interest on the part of the municipal administration which seems to have little stakes in the fate of public uses and coastal bathing. This constitutes one of the main weaknesses and focuses of attention for the purposes of this research because they demonstrate the absence of plans and policies to enhance the coastal area.

The *Piano di gestione delle aree demaniali*, at a regional level, is the only planning tool for the uses related to leisure and tourism in coastal areas but is limited to providing a few rules for the granting of concessions and the use of beaches.

Paradoxically, the current *Variante del PRG* approved in 2004 remains the instrument that pays greater attention to the coastline, aiming at the reconstruction of the city-sea relationship on the entire coastline, overcoming the current physical and functional barriers, with the ultimate aim of creating a unique infrastructure for leisure, sport and the enjoyment of natural resources. The objective is pursued through the improvement of access to the sea, the strengthening and redevelopment of coastal port and bathing services and the creation of an efficient infrastructure for mobility along the coast, all in compliance of environmental and landscape resources.

For the *Coroglio-Bagnoli* area, the umpteenth *competition of ideas*, managed by the Invitalia company and offering recreational and sports uses, urban parks and accomodation and tertiary facilities, recently concluded (2021). The winning project foresees the recovery of bathing activities of a large stretch of coast with the provision of an equipped beach, a small leisure port near the pier and a large park behind the beach.

In the end, to complete the main planning and programmatic framework in the territory of the future metropolitan city, the *PTCP (Piano Territoriale di Coordinamento Provinciale) di Napoli* is also taken into consideration, even if at the moment it could assume the role of *Piano Territoriale Metropolitano*. In the PTCP the port areas of the main municipalities are identified as nodal elements in the construction of the structural reinforcement of the provincial territory, however there are no particular prescriptions and there is not an in-depth study dedicated to the theme of coastal recreation and the related strategies on the ports.

The urban planning of the metropolitan city of Naples, on the other hand, can constitute one of the greatest opportunities for the transformation of proximity leisure areas along the coast in the perspective of building a territorial framework for bathing activities, equipped and green areas at the service of the metropolitan population.

## Socio-perceptive approach to understand the urban amphibious

### *Landscape semiotic analysis of the city-sea interface*

The contemporary territory is characterized by a singular complexity of signs left by human actions on the natural forms and spaces, as an effect of anthropic actions linked to inhabiting those places; even in the case of still scarcely anthropized territories, a place remains uncontaminated only until the perception of an observer overlaps with it: the observer in fact at its forms, recognizes them and organizes them in a semiotic mental model in which the process of signification inevitably draw on the previous experiences of the perceiving subject.

The contemporary polysemic concept of landscape is determined by the multiple fields of investigation in which this term is declined, such as physical geography, natural and social sciences, as well as urban planning, economics and anthropology, etc. Within this richness and variability of approaches and disciplines, the European Landscape Convention established in 2000 that the term refers to a specific part of the territory as perceived by the populations. This interpretation configures landscape as a 'mental image of the territory', produced by the sensitive experience of the user and determined, not only by visual perception, but also by the interaction of emotional, cultural and psychological factors. In fact, the most ancient definitions of the concept of landscape are connected to the aesthetic experience of the environment and its

pictorial representation: the territory becomes landscape when its significant aspects are chosen to" be transposed into painting, through a subjective re-elaboration of the sensorial *datum*, which becomes 'concept' and therefore 'object of representation'. As Turri points out «... the breadth of vision, commonly implied by the term *panorama* (glance at all things), does not define a landscape [...] In short, a landscape is dimensionally defined more than anything else by its content; it is its content that determines its dimensions, which thus also depend on our subjective, interpretative attitude, in which we bring together our experience of the world (aesthetic, sentimental, cognitive, etc.) which spontaneously leads us to recognize the landscape» (Turri, 2014). Although the landscape is the result of human habitation over the centuries, those images that effectively fix its characters, identifying its essential lines, constitute a revealing tool to understand the ability to absorb transformations, which is in fact inevitable in a dynamic structure such as the landscape itself. Starting from the affirmations of Merlau-Ponty (2003) regarding the awareness of the world that we reach when we learn how to look at it, our research also deals with a semiotic interpretation of those recognizable signs in the landscape and of how the signification processes of the perceived image are based on them. The aim is of outlining a method of analysis and knowledge based on geometric-visual criteria, which can produce a critical survey of the perceptive qualities of a determined piece of landscape and a consequent evaluation grid of the sustainability of the visual impacts determined by a possible transformation due to both natural and anthropogenic factors. The methodology pursues to identify how objects and forms that compose the physical space are recognized as signs and therefore interpreted as meaningful. The history of coastal cities is intimately linked to the waters that lap them: the seaside cities derive their urban organization from the configuration of the coast along which they are built.

From the analysis of historical graphic representations, considered for the identification of which signs are still today are important and meaningful for the recognizability of the city-sea interface landscape, a common lyrical aspect in the image is evident thanks to the strong evidence of water, to the relationship of the architectures with its reflections, light and its movement. Historical paintings allow us to evaluate what landscape aspects are considered poetic and representative and, if repeated frequently, how they influence the refers to a specific part of the territory as perceived by the populations of both local communities and travellers. Similarly, the rapid and wide diffusion of photographs through social media brings a similar effect to the one obtained by ancient paintings because it ends up stratifying the imaginary dimension of a place and creates the desire to visit those places 'searching for that same emotion felt while observing the photography'. So, according to a semiotic approach, what are those signs, invariant and dominant, able to characterize a costal landscape? What of those sings are needed to recognize it even in the constant modification of that scenic unit?

The semiotic reading of the landscape of the Neapolitan and Marseille coasts is therefore useful to identify the degree of sensitivity to future transformations in terms of visual impact and impairment of recognizability of the coast. In both case studies, common invariants and traits of greater diversity were found, determined in the first instance by the orography of the place, which conditioned the forms of the settlement and therefore the image of the landscape over the centuries. The representation method adopted for the critical survey is based on photographic images taken from effectively accessible points of view to re-draw the image in a geometric way because the drawing, for its intrinsic nature, is able to make evident the semiotic issues of an image, through the identification of those signs that make it recognizable. The coast is divided into 'scenic landscape units', that are images characterized 'by clear recognition thanks to the presence of distinctive and characterizing signs' (Piedmont and Liguria Region). The scenic units are landscape portions perceived as homogeneous and are useful to recognize the degree of scenic richness and fragility to transformation. In this research, the aim is to identify which portions of the coast are more suitable than others, according to a perceptual criterion, for recreational uses, but considering the relate level of visual fragility to a possible transformation.

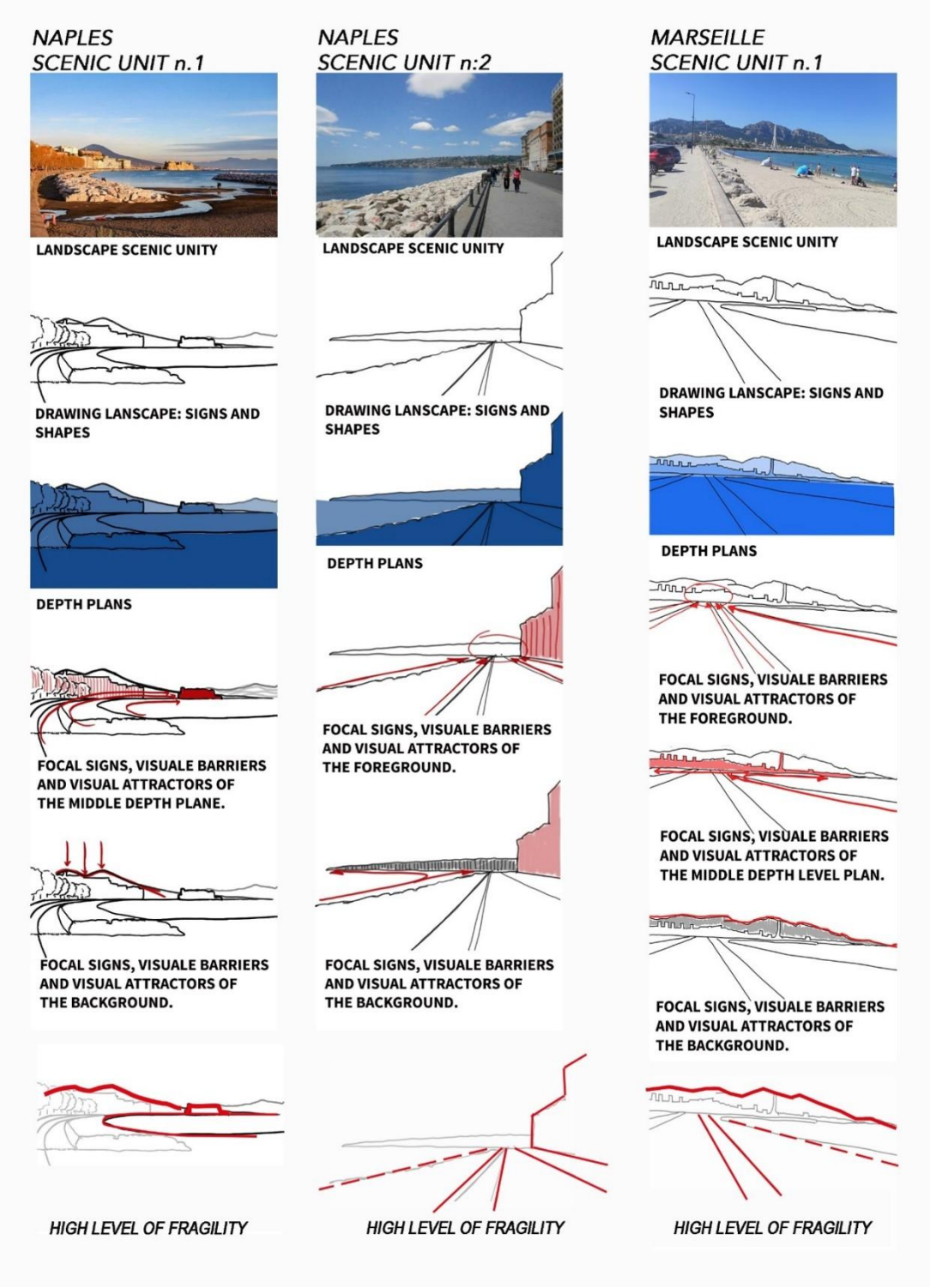



*Figure 8. The sea promenade of Naples (left and centre) and Marseille (right): semiological reading of the landscape scenic units.*

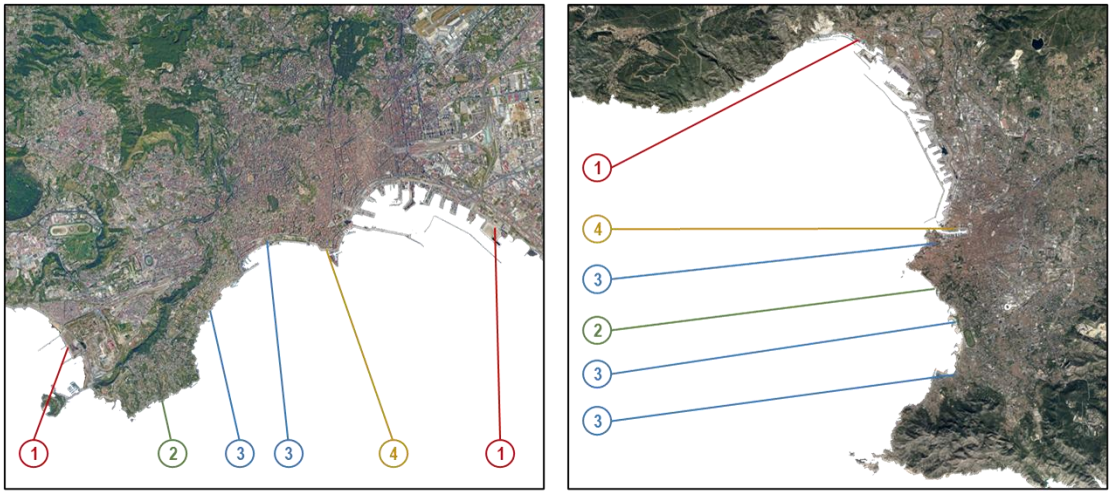
The scenic units of landscape bring together elements that are sometimes distant but whose interaction in perceptive terms must be considered because determining those signs which characterize the quality and the recognizability of the landscape observed. In each unit here analysed, we highlighted those signs that act as a visual attractor of high or medium intensity, due to their strongly or medium contribute to determine the aesthetic quality of that landscape. Those sings can contribute to evaluate, in terms of visual impact, any future transformation that can insert new sign in the scenic unit or changing the existent ones. Each visual attractor is related to its own 'depth plane' with respect to the observer in order to determine the degree and need for

the aforementioned interaction with any new and eventual signs to be inserted in the scenic unit. The visual fragility is linked to the degree of 'absorption' and the ability to receive transformations of the landscape without compromising its recognizability or decreasing the aesthetic quality of those places. A complex landscape, with a very articulated texture, is in fact more capable of transforming itself without significantly altering its visual characteristics, compared to a landscape characterized by strong homogeneity and scenic simplicity. In the scenic-perceptual analysis fundamental is the identification of paths, shapes and colours, in relation to which it is appropriate to make the main assessments. The result is a map of perceptual fragility, examined exclusively for the coastline of both cities, which aims to guide transformations without decrease in quality.

## *Social analysis: exploring the expectations of urban coastal society*

### General framework: identification of coastal users and areas of interest

Naples and Marseille present coastal areas with overlapping functional and spatial characters, even if there are significant differences. The social analysis aims to highlight how the conformation and structure of different urban areas influences the coastal life, in terms of recreational use but not only, and at the same time raise questions about environment and accessibility. In order to explore these issues, a questionnaire was created to collect information in the two cities for comparative purposes, considering relevant sections of the urban coast. The aforementioned interesting areas fall into the categories of industry and port areas, green and residential areas, urban beach areas and dense urban areas (Figure 9).




| TIPOLOGY | NAPLES | MARSEILLE |
|---|---|---|
| 1. Industry and port areas | S. Giovanni a Teduccio, Bagnoli | 16th Arrondissement |
| 2. Green & residential urban areas | Posillipo | La Corniche (between Malmousque and Prado) |
| 3. Urban beach areas | Mergellina, Bagni Regina Elena | Prado, Pointe Rouge, Catalans |
| 4. Dense urban areas | Riviera di Chiaia | Vieux Port |

*Figure 9. Areas of interest for the survey in Naples (left) and Marseille (right).*

Users of the coast targeted by the questionnaires are people who may live nearby the coast or in more remoted neighbourhoods, but they are local dwellers in both cities. The approach being exploratory, the survey is conceived in order to get a wide range of ideas and views of the coast from people living in both cities. However, social and demographic profile of the population living near the coast being unknown, the building of a sample representative of this population is not possible. Therefore, our target is only to collect responses from people of both gender and of various ages, that we can meet on the coast.

Although the cultural level and personal wealth influence the way of living the coast (Hein, 2014), it is less obvious to understand if these factors bind users to particular places of the coastal interface, for example in relation to the attachment to place. In this sense, it is possible to hypothesize that the distance between the residence and some points of the urban sea can exert a different influence on different citizens: plausibly, the less tourist places could be frequented and appreciated by users who live nearby, regardless of social classes (Green, 2010).

## Questionnaire structure: fruition and perception of the coastal space

The questionnaire is divided into three main sections (*A. Accessibility of urban blue spaces*, *B. Land and sea uses in the city-sea interface*, *C. Perception and future scenarios of the urban coast*), with a total of 14 questions (Figure 10).

Section A (*Accessibility of urban blue spaces*) aims to analyse the use of the city-sea interface, according to the importance that users attribute to direct contact with the maritime resource (Cortinovis et al. 2018), using a scale allowing respondents to rate the frequency of their visits to the urban sea. This section also asks the influence of transport infrastructures on the easiness to reach the coast, whether physical or legal barriers can prevent citizens from reaching these very important recreational spaces, and whether environmental pollutions may constitute an obstacle to enjoy the sea and coast for leisure purposes (Geneletti et al., 2020).

Questions of section B (*Land and sea uses in the city-sea interface*) aim to understand if the urban coast offers a fair amount of spaces for social activity, especially in relation to open and natural areas. Indeed, the city-sea interface is an extremely complex space with competing uses, where the social and recreational demand of the community is challenged by the development of residential, commercial and logistic-port functions. I It is therefore interesting to analyse whether citizens believe that these spaces are effectively equipped to allow socio-recreational functions and how they would improve their efficiency in the short term (Badami & Ronsivalle, 2008). Here, we support the idea that in cities public spaces and natural and semi-natural areas allow people to come in contact with the coastal-maritime environment, despite environmental problems and urban barriers. Public areas of the interface also offer the possibility of functionally regenerate the social and recreational network of the urban coast, providing ideas for functional sustainability on an urban and neighbourhood scale and guaranteeing important transformative opportunities in favour of urban coastal society (Tan & Jim, 2017).The questions therefore aim to reveal the demand for recreational uses and the need for contact with the coast, and promote these expectations into efficient planning indications.

The section C of the questionnaire (*Perception and future scenarios of the urban coast*) investigates how the aspect of the coasts (from land and from sea) is perceived by the community and may change in the future. If the coastal public space offers a privileged meeting point where various social groups can interact, the condition of the coast can influence how users perceive it today and in the near future, in relation to the fragmented conformation of the urban amphibious and other phenomena like climate change (Bell et al., 2020).

Coastal blue spaces are places that give direct and indirect access to urban water, similar to therapeutic landscapes, because of the psychophysical benefits they offer to the coastal community (Gascon et al., 2017). It is therefore necessary to define which factors have the strongest influence on the development of the interface, with particular attention to the implications that the latter has on well-being and sociality. The coastal environment stimulates users who in turn interact through activities that should be sustainably regulated at the urban planning level (Mishra et al., 2020); the project of the interface must also consider quantitative and qualitative parameters to improve coastal public spaces, according to a framework that adapts to contemporary environmental problems as well as to the social demand for urban services (Arcidiacono & Ronchi, 2021). In this sense, the questions in this section aim to highlight the transformation that users consider most plausible and desirable, investigating their knowledge and involvement in social issues and in the economic and environmental constraints that characterize the city-sea interface.

*International research programme*
***"GALILEO 2020"***

Code:_____

**RE-SEA-OURCING CITY**
City-sea interface as a resource for people: urban regeneration in the context of ecological transition

**QUESTIONNAIRE**
Accessibility, usability and future scenarios of the urban coasts

Date: _____
Hour: _____
Place: _____

**1.** In the city, how much is important for you to have physical contact with the sea (*e.g. swimming, bathing, fishing, snorkelling*)?

| 1.Not at all | 2.A little | 3.Indifferent | 4.Quite much | 5.Very much |
|---|---|---|---|---|

**2.** In the city, how often do you go to the coast for recreation?
- ○ Never or rarely (*less than twice a month*)
- ○ Sometimes (*about once a week*)
- ○ Often (*about twice a week*)
- ○ Very often (*at least three times a week*)

**3.** From where you live, how easy is it to reach the shore in the city?

| | 1.Very hard | 2.Hard | 3.Within the norm | 4.Easy | 5.Very easy |
|---|---|---|---|---|---|
| By walk | | | | | |
| Bicycle | | | | | |
| Bus | | | | | |
| Electric tram | | | | | |
| Metro | | | | | |
| Car | | | | | |
| Scooter / motorbike | | | | | |

**4.** In the city, what is the means of transport to reach the shore that you prefer? *Select one option from the previous ones*

_____

**5.** In the city, do you think shore access is limited by:

| | 1.Not at all | 2.A little | 3.Indifferent | 4.Quite much | 5.Very much |
|---|---|---|---|---|---|
| Physical barriers (*e.g. gates, fences, barbed wire*) | | | | | |
| Pollution / bad quality of water | | | | | |
| Legal constraints (*e.g. regulations, forbidden areas*) | | | | | |

**6.** Here in the city, are there enough of the following public areas along the coast, according to you?

| 1.Insufficient | 2.A few | 3.Enough | 4.A lot | 5.More than enough |
|---|---|---|---|---|

| | |
|---|---|
| Promenade / pedestrian areas | |
| Parks (*e.g. natural area along the shore, gardens*) | |
| Squares (*e.g. public plazas*) | |
| Sport areas (*e.g. playgrounds, outdoor training areas*) | |
| Jettys / water walkpath (*e.g. wood platform*) | |
| Beaches | |
| Other: | |

**7.** Here in the city, what facilities would you like to be developed or improved along the seashore in the future?

| | 1.Not at all | 2.A little | 3.Indifferent | 4.Quite much | 5.Very much |
|---|---|---|---|---|---|
| Restaurants, bars | | | | | |
| Shops | | | | | |
| Rental of nautical equipment (*e.g. kayaks*) | | | | | |
| Leisure docks | | | | | |
| Outdoor swimming pool | | | | | |
| Museums / cultural centres | | | | | |
| Submarine museums | | | | | |
| Other: | | | | | |

**8.** Today, to your knowledge, what social or recreational activity exists or is taking place here along the seashore?

| | Yes | No |
|---|---|---|
| Strolling | Yes | No |
| Running / Jogging | Yes | No |
| Cycling | Yes | No |
| Visiting street markets | Yes | No |
| Sport activity (*e.g. outdoor gymnastics*) | Yes | No |
| Swimming / bathing | Yes | No |
| Rowing / sailing boats | Yes | No |
| Diving / Snorkelling | Yes | No |
| Fishing | Yes | No |
| Guided tours | Yes | No |
| Cultural or political events | Yes | No |
| Other: | Yes | No |

**9.** In the future, what activities would you like to be promoted or allowed here along the seashore?

| | 1.Not at all | 2.A little | 3.Indifferent | 4.Quite much | 5.Very much |
|---|---|---|---|---|---|
| Strolling | | | | | |
| Running / Jogging | | | | | |
| Cycling | | | | | |
| Visiting street markets | | | | | |
| Sport activity (*e.g. outdoor gymnastics*) | | | | | |
| Swimming / bathing | | | | | |
| Rowing / sailing boats | | | | | |
| Diving / Snorkelling | | | | | |
| Fishing | | | | | |
| Guided tours | | | | | |
| Cultural or political events | | | | | |
| Other: | | | | | |

**10.** Here, what is the landscape value of the coast, according to you?

| | 1.Very low | 2.Low | 3.Neutral | 4.High | 5.Very high |
|---|---|---|---|---|---|
| Built-urbanized environment | | | | | |
| Naturale environment | | | | | |

**11.** In your opinion, what are the elements contributing to this value?
*Positively*:_____
_____
_____
*Negatively*:_____
_____
_____

**12.** In your opinion, how this area is likely to evolve in the next 5 years?

| 1.Not likely | 2.Hardly likely | 3.Likely | 4.Quite likely | 5.Very likely |
|---|---|---|---|---|

| | |
|---|---|
| Sea-level rise | |
| Strong coastal erosion | |
| Frequent coastal floods | |
| Improvement of water quality | |
| Improvement of marine biodiversity | |
| More vegetated areas on the coast (e.g. gardens, parks) | |
| Other: | |

**13.** How would you like this coastal area to evolve over the next 5 years to improve social and recreational possibilities?

| | 1.Not at all | 2.A little | 3.Indifferent | 4.Quite much | 5.Very much |
|---|---|---|---|---|---|
| New land reclaimed from the sea | | | | | |
| Offshore structures (*e.g. platforms, floating solariums*) | | | | | |
| New leisure docks | | | | | |
| New public leisure areas (*e.g. squares, outdoor sport areas*) | | | | | |
| More commercial-oriented areas (*e.g. shops, restaurants*) | | | | | |
| New areas or facilities for bathing | | | | | |
| Other: | | | | | |

**14.** If in 5 years there could be changes for the urban seashore here, what would be your first choice?

_____
_____
_____
_____

**15.** According to you, should this coast get more attention by public authorities and why?

_____
_____
_____
_____

**Additional notes**

**Personal informations**

Year of birth__:_____
Place of birth:_____
Gender:_____
City of living:_____
Neighbourhood of living:_____
Since when do you live there?_____
Educational level:_____
Current job:_____

*Figure 10. The questionnaire structure. Section A comprehends questions from 1 to 5, section B comprehends questions from 6 to 9 and section C comprehends questions from 10 to 15.*

The survey started along the coast of Naples and along the coast of Marseille, during working days and weekend days of March 2022, in order to obtain the most complete results possible. The data collection on the field will continue in the following weeks until a sample of about 150 questionnaires is gathered for each of the two cities. From the first analysis, it was possible to extrapolate some graphs and maps that translate users' preferences in a spatial way: this operation will be further refined and implemented, in order to provide an efficient comparison between the socio-recreational demand of Naples and Marseille. An example is shown below in Figure 11.

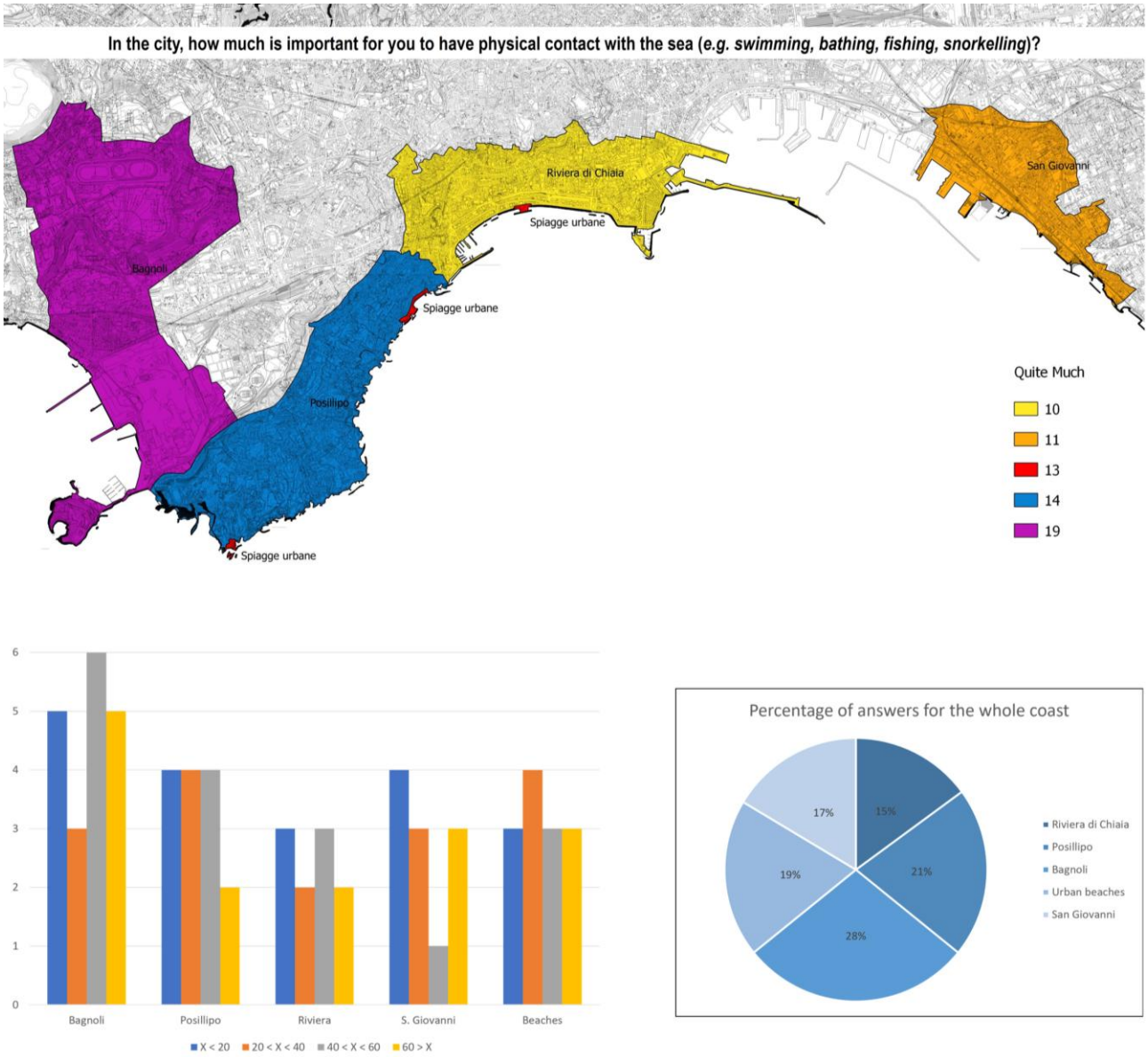



*Figure 11. Spatialization of data from the questionnaire, regarding the physical accessibility to the Naples' coast.*

## Conclusions

The Re-SEA-ourcing CITY research within the Galileo programme presents a specific and well-defined scope within which it poses its exploratory question: to interpret the needs and aspirations of coastal communities regarding the leisure and recreational spaces on the coasts, and to identify the potential of urban coasts to be transformed in order to better satisfy communities expectations in terms of recreational and social activities on the coast. The expected

outputs of the research will underline the differences and the similarities of Naples and Marseille according to the abovementioned study approaches.

The geo-historical approach highlighted a clear differentiation between the two case studies, Marseille and Naples. This led to a critical study of the plans and projects developed on the coast with reference to the transformations implemented. The planning and policies analysis showed that the French metropolis represents the model of a European city that, between 1990-2020, has been able to renew and significantly change its image through phases of regeneration of coastal brownfields and urban waterfront. Today planning and co-design laboratories in the area are more able to read social needs and translate them into active projects, but the main change does not come from bottom-up proposals. The transformations of the coastal skyline are an evident testimony that has been interpreted by the semiotic perceptual investigation. Conversely, the Neapolitan metropolis suffers the consequence of a delay in planning and implementing the numerous plans and projects drawn up for the transformation of coastal areas. However, social and co-design workshops have been activated, in San Giovanni a Teduccio as in Bagnoli, reaching the definition of feasibility projects; however, the results are limited to small local interventions. In both cities, the main transformations were implemented through top-down planning acts that more or less listened to the local communities. This has mainly produced interventions for the regeneration of containers and redevelopment of public spaces, with the purpose of real estate, commercial and tertiary development. No direct response was given to the aspirations of the communities at the recreational use of beaches and urban parks close to the coast. These results highlighted the weakness of the co-design activities confining the needs and aspirations of the coastal communities within restricted listening areas by the political-administrative management, albeit showing virtuous processes of development of social know-how. This led to the elaboration of an urban planning and policies existing framework, describing the main elements of the project and organizational structure of the two urban coasts.

The geographic analysis is still ongoing: a geo-database will be further implemented, integrating GIS data and physical and functional information about the city-sea interface of Naples and Marseille through the creation of a spatial data model, that is a tool that allows the georeferencing of spatial information linked to individual elements in the coastal space, in order to represent the various components of the urban shore in the form of geometric objects with precise characteristics related to the socio-recreational research.

The socio-perceptive approach has led to some initial reflections on the need for hybridization of the social readings of local communities and the semiotic readings of researchers, although it is not excluded to extend the latter also to citizens through questionnaires. The semiotic reading demonstrates that it is possible to integrate different coastal transformations, which involve variously structured spaces of the city, from the tertiary-commercial areas to the recreational proximity the public spaces, if endowed with intrinsic quality widely recognized by local communities.

The semiotic analysis was directed by experts who interpreted the signs of transformation of coastal landscapes, highlighting the fragility of perceptual frameworks, or scenic landscape units, but also the quality of certain transformations. The output is a semiotic framework for landscape comprehension, helpful to guide the planners and the policymakers in introducing the perception of the users into the operation to transform the city-sea interface.

For the social analysis, the research work consisted in designing a questionnaire tool, which has been distributed in March 2022 in areas selected from the coast of the two cities. Thanks to the first data collected, it was possible to make hypotheses of comparison between the Neapolitan coast and the Marseille coast, in relation to social demand, through the development of specific graphs. The expected output consists in the study of the structure of social demand and

perception of a sample of coastal population in Naples and Marseille that provides relevant insights to introduce social expectations in the planning process of the shore in the two cities.

The future prospects of the research aim to complete the second phase of the geo-historical and socio-perceptive analysis, in order to develop sufficient data to extract useful indicators for the interpretation of the close relationships between coastal communities and leisure spaces.

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