

WATERFRONT DIALECTICS

ROME AND ITS
REGION FACING
CLIMATE CHANGE
IMPACTS

Edited by:
Pedro Ressano Garcia
Claudia Mattogno
Bruno Monardo
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MARIE CURIE ACTIONS





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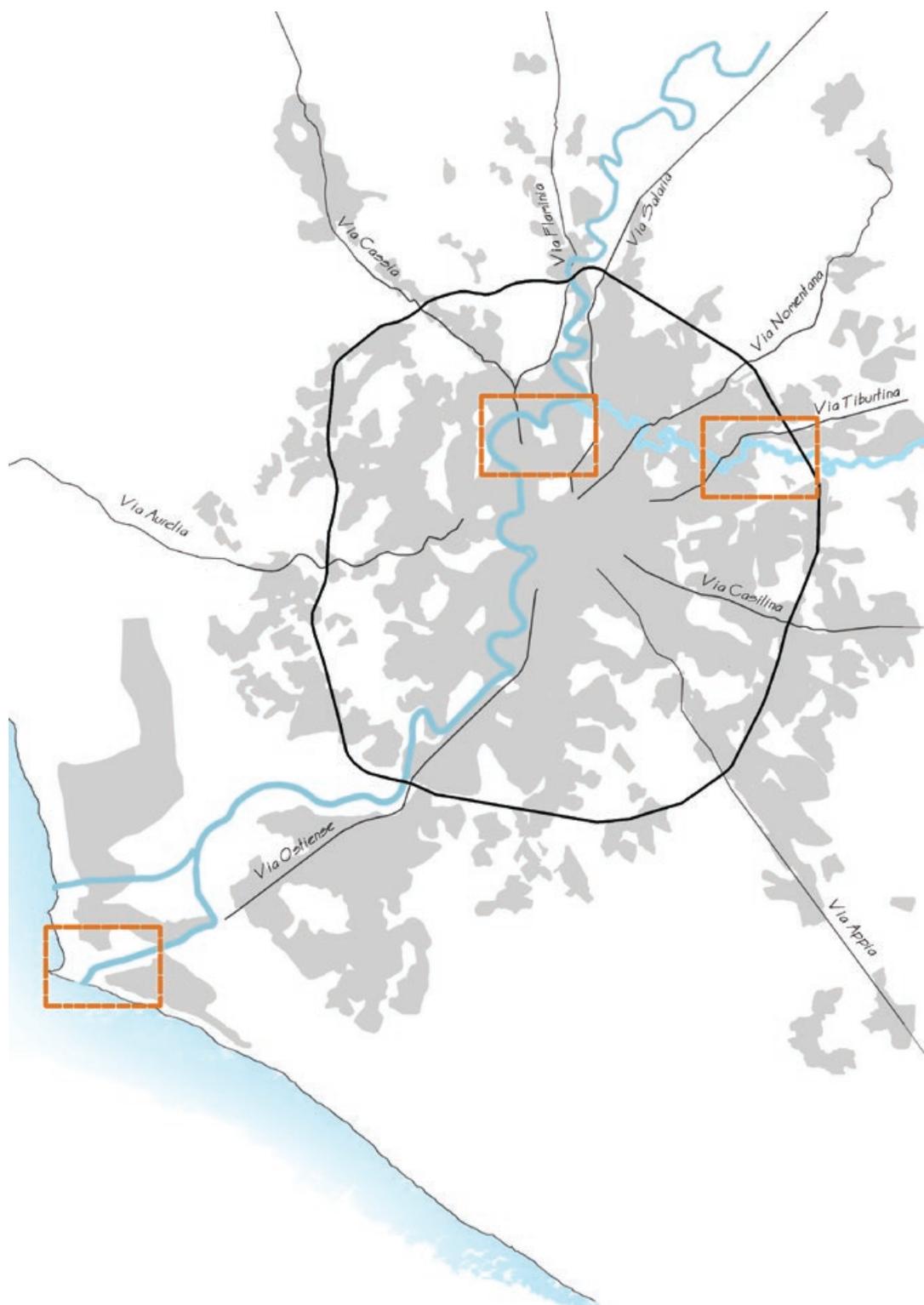
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Part 1.
Rome Coastal System



Rediscovering Layers and Links Between Water Landscapes and Cultural Heritage

The Lazio coast has very peculiar characteristics outlined by ancient evidence of human presence. Finds from the protohistoric era; traces of Roman roads; ancient port structures, transformed later into archaeological and naturalistic areas; defence systems such as watchtowers; salt marshes; wooded areas and scrub Mediterranean maquis; farms and hydraulic reclamation; drainage channels, constitute the historical wealth of the territory. These morphological and environmental characteristics include numerous archaeological and architectural presences in a complex physical context marked by important modern and contemporary anthropic transformations as well as by the effects of recent climate changes.

The different landscapes of the coast, however, still manage to bring out the traces of geography and history, although today they are largely compromised by a consistent, and often uncontrolled, building pressure and tourist use in addition to the construction of important infrastructures, starting from the Fiumicino airport.

These morphological and environmental characteristics include numerous archaeological and architectural relics in a complex physical context, marked by important modern and contemporary anthropic transformations as well as by the effects of recent climatic changes.

Such a varied territory is still able to bring out environmental and cultural potential, but it needs a new strategic vision. The design and awareness-raising practices must be aimed at taking care of the territory so that the equipment and public spaces, the infrastructures and the archaeological-architectural pre-existence are able to dialogue with the environmental peculiarities and generate new forms of collective identity combined with resilient approaches.

However, to challenge climate change it will be necessary to involve local communities and the various stakeholders according to a new synergistic relationship with the administrative powers at all levels: from central government to local administrators. And above all we need an effective and shared strategic vision, immediately followed from concrete actions. Therefore, conscious projects and practices must create a new care of the territory based on sensitive approaches to social needs while preserving the historical, cultural, and environmental legacy.

The first part of the book analyses the Roman coastal system, using the rich and fragile cultural and landscape heritage as a key to understanding it in relation to historical stratifications and in the light of the most recent climate changes. It is proposed

to investigate the development process of the settlements that occurred along the Lazio coast between Civitavecchia in the north and Monte Circeo in the south.

Between the two extremes of this long geographical band, the contributions that follow are concentrated mainly between Ostia Antica and the mouth of the river and are aimed at rediscovering the stratifications and links between the water landscapes of the coast and the cultural heritage, reflecting on the interaction and interdependence of a waterfront territory as a cultural artefact.

The article by Maria Grazia Turco, *The various landscape of the Ostiense coastal and environmental heritage*, introduces this first part and deals with the complex cultural, environmental and landscape heritage of the Ostiense coast, illustrating how the highly valuable morphological conformations that have settled over time are subjected to strong anthropogenic pressures. Its setting is completed by a different approach shared by Sonia Gallico and Barbara Tetti in their article *The coastal territory of Rome. Environment, Architecture and Archaeology* which highlights the continuous transformation of the territory along the Tyrrhenian coast.

Annalisa Metta closes the historical topic with an article with a very suggestive title, *Lake Navona and the eels of the Pantheon. Architecture and landscape for floods*, which highlights the fruitful interweaving between architecture of the past and knowledge of the water dynamics, testifying how in ancient Rome buildings and urban artefacts were conceived to accommodate floods and designed to integrate with the needs of the environment.

Giulia Luciani's contribution *A trip along the coast* invites us to travel along the coast, making us discover suggestive images and problems of great environmental emergency, such as those addressed more specifically in the text by Michele Manigrasso entitled *Land consumption and coastal erosion in Italy. A focus on the Lazio Region*. The anthropic transformations and the strong erosion along the Lazio coast are complementary topics to the article *Land consumption along the coast is increasing the local vulnerability: the case of Rome and other six cities* written by Francesca Assennato of ISPRA. Both recognize the vulnerabilities and alterations created by human interventions on this particular coastal territory where valuable landscapes alternate with areas of chaotic urbanization.

The case study of the Roman Riviera concludes the first part by prefiguring a new vision of the Ostia area aimed at reconnecting the links between environmental and historical

values and at the same time attentive to contemporary uses that can allow for an increase in spatial qualities.

It is essential to “free” the shoreline from any incongruous and invasive activity, reusing the areas left free to reconfigure new forms of naturalness capable of ensuring ecological continuity between the different parts that make up the coast, both longitudinal and transversal depth of the territory itself. The protection of the artefacts and landscapes that make up our cultural heritage proves to be strategic as a starting point for a profound environmental redevelopment that knows how to dialogue with the water spaces and the needs required by the ongoing and now unavoidable climate changes.



Figure 1. The Circeo promontory seen from the coast of Sabaudia.

Figure 2. The dunes of Sabaudia.

The ‘Various Landscapes’ of the Ostiense Coast Cultural and Environmental Heritage

The essay analyzes the various 'different landscapes' of the Ostiense coastal system intended as strength of the geographical considered area; in this frame, the territory is perceived as a resource, seen as a set of elements settled over time. Ostiense coast is full of ancient, medieval, and modern settlements and testimonies representing an exceptional archive regarding the reconstruction of the main phases characterizing the history, the human and wild environment, over the time (Turco 2016).

Based on archaeological and historical data, as well as on iconographic and photographic documentation, the research aims at reconstructing the various steps describing the settlements' evolution, highlighting the most significant stages; the relation with geomorphological changes, significantly influencing human activities, will be also considered.

These traces have not yet been completely altered by human modification, although the deep recent transformation due to the urban expansion – often uncontrolled – occurred especially during the past century, and the construction of large infrastructures, such as Fiumicino airport.

This landscape is characterized by the presence of ancient vestiges, including: from the protohistoric period finds; ancient urban settlements, such as the archaeological site of Ostia Antica near Rome; paths of Roman origin (via Ostiense, via Appia, via Severiana); harbor facilities; towers, in a defensive system still legible (Cimbolli Spagnesi 1997; Id. 2006, Turco 2020); salt pans and forest; archaeological traces of a punctual built system, such as villas and farmhouses; historic mansions closest to the sea (Torlonia, Sacchetti); archaeological layers, currently included in naturalistic contexts, wooded areas and coastal dunes.

The territory considered comprises valuable landscape and cultural values, some of them already protected by the present regulation (Cambi, Terrenato 1994). For their sustainable use the process of knowledge and reading ability is required in order to reconnect the places and the elements, to base the actions of the present on History, highlighting historical and artistic connections and instances, in some cases, difficulty to read.

The program will achieve a direct impact on local communities, promoting the collaboration with associations of the territory; moreover, the study can include the construction of a free digital archive, to share information about the various architectural, archaeological, and landscape assets, in both the historical context and current.

Figure 1. Pine forest of Castel Fusano, Chigi castle; below the Canale dei Pescatori.

Figure 2. The Ostian coast.

Figure 3. The 'green' in the archaeological area of Ostia Antica.



Among scholars and experts, the consideration of the topic based on the interrelation between Cultural Heritage and territorial and urban issues, urban planning, has been established; this includes social and environmental issues consideration involving a profound rethinking in the planning, design, and management of the various actions.

Actually, 'landscape', 'environment' and 'territory' concepts have been the subject of dialogue and debate for several decades. Since 2000, when the European Landscape Convention was compiled, the field of study has included various areas, so the interdisciplinary approach became a strategic orientation for territorial policies: the Convention recognizes a significant 'aesthetic' interest in sites and landscapes expressing multiple 'values', including cultural, social and economic.

Therefore, the safeguard action is to concern natural environments such as landscapes and contexts characterized by a continuous relationship with the human use, over time.

Regarding the Italian regulation, the Cultural Heritage Code compiled in 2004, further enriched this definition, analysis, evaluation, and enhancement tools, definitively overcoming the 'punctual' approach the former law, 1089/1939; similarly, with special regard to natural and landscape assets, the law 1047/1939 was superseded by the so-called Galasso law, passed in 1985, introducing a systemic vision of the territorial resources.

The Lazio Coast

The state of the art recounts a wide framework of research and insights, nevertheless the studies are often sectorial and limited to individual episodes, therefore the topic requires a careful and well-founded critical review.

In this frame, the Lazio coast area is still scarcely investigated, considering the complexity of the aggregations characterizing the territory, in order to carry on a reading of the transformation 'signs' and of the factors determining the historical stratifications occurred over time, constituting a continuous chain of events, needs, emergencies.

The described frame reveals that the field of study requires to combine specialist research and studies considering various doctrinal, disciplinary and application sectors, conjointly. It's a fact that to consider the whole is needed, as the area includes complex systems, in which each element recalls the others, in an inseparable and continuous relationship, in a dialectical and dynamic system, involving different pre-existences.

Figure 4. The Fiumicino Channel and the Isola Sacra; on the left the Trajan port.

Figure 5. The Roman countryside and the Tiber near the Dragona farmhouse.



Lazio region coast is full of ancient, medieval, and modern settlements and testimonies representing an exceptional archive regarding the reconstruction of the main phases characterizing the history, the human and wild environment, over the time. Actually, this precious whole can be considered as a heritage that belongs both to History and Landscape.

The mentioned goal must include a strategic approach, characterized by coherent and organic interventions, aimed at protecting and enhancing both architecture, and environmental and landscape contexts; this process must be based on a cognitive deepening and on the increasing of cultural, archaeological, architectural tourism, of course sustainable and compatible.

A coastal recovery intended as a cultural and landscape attraction, to be experienced following itineraries and visit routes – improved by an improved accessibility –, realizing the conservation and enhancement of the architectural structures, often left in bad conditions of abandonment or decay.

Therefore, the programme aims at enhancing the cultural and historical value of the coastal system, rich in structures constituting part of the territorial structure, by the recognition of its potential and its values, as well as of the local and regional possibilities of development (Gallico, Turco 2018).

The area, whose heritage – including both human and wild environmental context – is unique, today requires a new attention: the main goal is to give a cultural identity to this territorial context, through study and in-depth actions; the undertaking will be based on guidelines, aimed at achieving the recognition and the maintenance of the places characteristics and the related values, also intangible ones.

The Ostiense Coastal System

The Ostiense coast is rich in ancient, medieval and modern settlements and evidence, and represents an archive of exceptional significance regarding the reconstruction of the main phases, characterizing the history of wild and built environment, during ages.

In accordance with the guide principles of the restoration project – aimed at identifying, preserving and enhancing the “historical pattern” imprinted by human actions and natural events – the research aims at acquiring knowledge to describe and understand places, punctual anthropic systems (ports and towers systems), archaeological-architectural elements and their ‘singular’

Figure 6. The landscape and naturalistic oasis of the Port of Trajan.

Figure 7. The archaeological park of Ostia Antica, Domus of Cupid and Psyche, 4th century AD.



constructive story (execution, transformations, decay-instability, restoration).

The research aims at deepening the knowledge regarding the transformation processes, involving the coast of the former Papal State over the centuries, through the reading of historical, iconographic and photographic documentation, identifying its peculiarities and interruptions.

The Ostiense area is particularly rich and complex, made up of archaeological, landscape and naturalistic layers, whose constitution and modification are still today partly legible.

Main role has the Tevere river, and its modifications – advancing or retreating phases of the coast over time – determining the formation of ponds and marshes; this process continued until the end of the nineteenth century, when land reclamation works led to a further phase. More signs characterizing the area are: Roman origin road, Roman harbor systems vestiges, as Port of Claudio and Port of Traiano (Chiavoni, Cerutti Fusco, Esposito, Impiglia 2017), salt pans, remains of the cities of Ostia and Portus, and the rare anthropic systems of the Roman countryside – Campagna – such as villas and farmhouses.

Starting from the Renaissance, cartographers were studying the territory, describing – scarcely at the beginning – the few archaeological fragments emerging in Ostia Antica, not buried by

the ground and still partially visible; these fragments are 'remains' of a past.

The research also investigates the complex relationship established between the ancient city of Ostia and the surrounding area; this relationship has been characterized by both the river and the sea; the context is today modified and difficult to read.

Because of this peculiar position, the area has always been inhabited – even if not continuously –, as evidenced by a sort of 'historicized' road system, prior to the Roman settlement.

The study intends deepen these relationships and links, through the interpretation of the territory and architecture, verifying how the first settlement of the *castrum* was superimposed on a complex environmental context; the goal is to verify if this process took place through a strong operation, breaking the continuity of the pre-existing paths, or by a sequential fusion that keeps use. In this regard, the research aims at understanding if a relationship existed between the pre-existing paths structuring the territory – such as Via Laurentina and Via Salaria (later Ostiense) – and the main road net catheterizing the urban expansion.

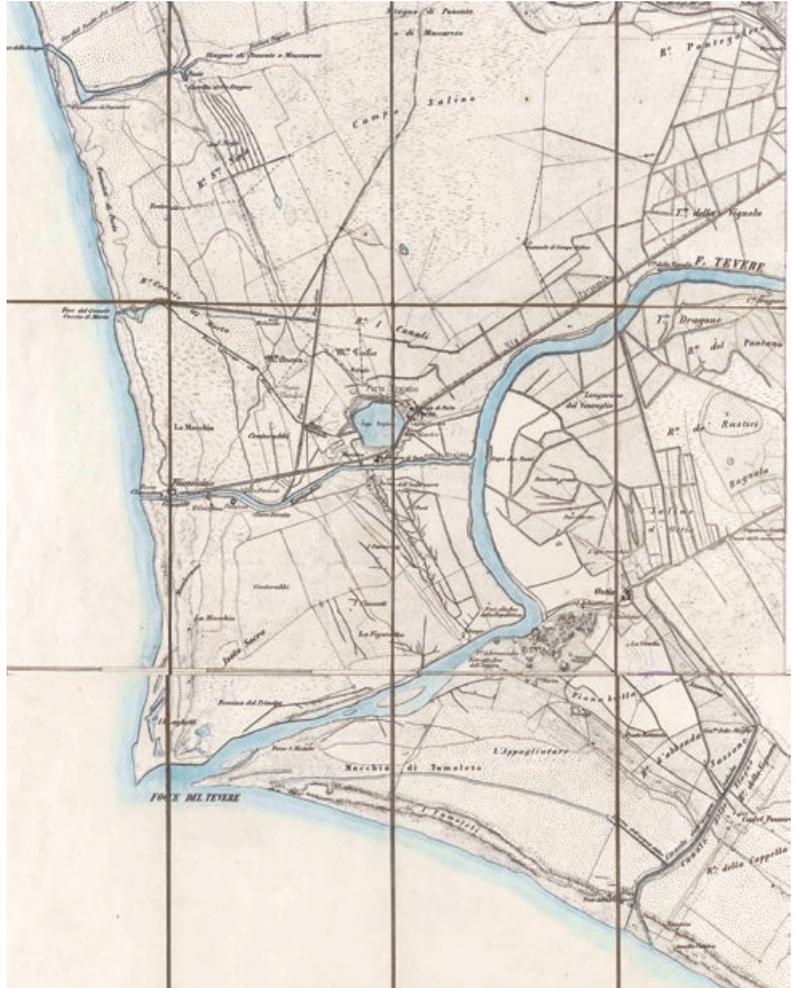
The study could also deepen the Ostia-Tiber-sea complex ancient system, starting from a critical reading the historical cartography, illustrating the few archaeological remains still evident, starting from the nineteenth century, calling the attention of scholars and antiquaries who, since the pontificate of Pope Pius VII (1742-1823), were undertaking excavation campaigns, from 1801.

Since the end of the 19th century, starting from the reclamation interventions, the landscape has been deeply modified, and numerous urban centers – mainly summer residences (Ladispoli, Fiumicino, Ostia, Torvaianica) – including communication routes and the construction of the airport intercontinental of Fiumicino, in the fifties-sixties of the last century, structure destined to be further expanded, were created (Antonucci 2012; *Roma. Visioni* 2013).

Shortly, the research goal primarily needs to investigate how the landscape is today; how the ancient landscape was; how the inhabitants perceived their landscape in ancient times; how today inhabitants and visitors perceive their past.

The program also includes historic harbors complexes on the coast, today managed by various Port Authorities (Gabriele 1963; Fonti 2010). Moreover, the historical defensive system, characterized by a compact set of coastal towers, which for

Figure 8. Map of the Ostiense coast before the urban settlement called "Roma Marittima" (1916), Istituto Geografico Militare, Foglio 149 della Carta d'Italia, II N.O./S.O., Fiumicino/Ostia, scala 1:100.000, Florence 1877. Photo: Cartoteca, Dipartimento di Pianificazione Territoriale e Urbanistica, Sapienza Università di Roma.



centuries – from the 9th to the 18th century – constituted the defense against raids from the sea, has a main significance.

These architectures, dismantled during the second half of the nineteenth century, still represent important historical, architectural and constructive events. Actually, along the Lazio coast, from North to South, there are about 30 towers: some still intact, others in a state of ruins.

Today, many structures are included in Natural Reserves – such as Torre Caldara, Area of Community Interest (since 1988), such as the neighbouring area of the solfataras and ditches, Site of Community Interest according to the EEC directive – or defined as “Natural Monuments” – such as Torre Flavia and the “Secche di Torre Flavia”.



Furthermore, some areas in Fiumicino Municipality – Isola Sacra, Macchia Grande di Focene and Macchia dello Stagneto, Traiano Lake – and in Municipality X – Castel Porziano presidential estate – “Site of Community interest or SIC” and “Special protection areas or SPAs”. The mentioned areas, due to their biological richness, are included in Natura 2000 Network for protection and conservation of habitats and animal and plant species.

The extremely diversified and complex green heritage is also included in the considered environmental system, consisting of agricultural areas, nature reserves, historic villas, parks and urban green areas (Gallico, Sette, Turco 2017); these elements constitute the main objectives of habitat protection, recovery and defense. Currently, about half of the surface is occupied

by protected greenery, included in the State Natural Reserve of the Roman Coast; the areas of Decima-Malafede and Laurentino-Acqua Acetosa are neighboring. Peculiar significance has Castelfusano pine forest, a large park in Rome since 1932 (1,100 hectares), whose plant dates back to the early eighteenth century, completed at the end of the nineteenth century when the pine forest, created by the Marquis Sacchetti, in the previous century, was extended to the sea in 1870.

Conclusions

After a period of decline of interest by architects to set up extensive and systematic studies on the subject, the study aims at enhancing knowledge and directing the issue of architectural, urban and landscape reality. In essence, to identify all the initiatives that can facilitate the understanding of the coastal territories, with attention to the manners in which the dialectic between various existing elements was conceived and addressed.

Moreover, even in the areas, despite the complexity of the historical stratifications and the damage caused by bad operations – carried out without specific programs and adequate projects – carrying out actions strictly connected to the historical culture of restoration, aimed at improving the state of places, is still greatly possible.

This process can clarify the evolution of intervention methods, attempting to provide new solutions to the problem. For the area identified, the programme will indicate the guidelines aimed at improving the relationship between the natural and built components, aiming at creating a methodology of analysis, planning and intervention useful to support local communities resolutions.

In recent decades, the re-consideration of the environment – no more intended as a set of separate and incongruent parts – and the evolution of information sciences – increasing the managing and the integration of an infinite amount of information of the most various types and origin – provided even more accurate and detailed methods of reconstruction of the territory history.

Regarding this, the program aims at enhancing cultural and historical values of the coastal system, rich in structures constituting the territorial structure, by the recognition of the potentials and values representing a possible development for local and regional territories.

Figure 9. Torre Boacciana, 1956. Photo: Bibliotheca Hertziana-Max-Planck-Institut für Kunstgeschichte, Rom, Photo U.PI. D. 34434.

Figure 10. The Tiber River and the docking point in the Archaeological Park of Ostia Antica.

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Waterfront Dialectics.
Rome and its Region Facing Climate Change Impacts
Edited by: Pedro Ressano Garcia, Claudia Mattogno,
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One of the most complex discussions concerning climate emergency is the sustainable water management. How to deal with the risks generated by climate change where the presence of cultural and environmental assets is highly stratified over time?

How to manage large densely populated areas rich in environmental and human resources, ensuring their protection and development? It's now time to integrate the connections between the different territorial scales and to ensure the balance between public and private interests in a framework of sustainable strategies.

SOS Climate Waterfront is an interdisciplinary project that aims to explore waterfronts in Europe that are facing climate change. The volume presents the results of the workshop held in Rome in spring 2022.

