



Research & Monitoring Centre
for Coastal & Maritime Tourism
in the Eastern Mediterranean

COASTAL & MARITIME TOURISM • EASTERN MEDITERRANEAN

Executive Summary

THE METHODOLOGICAL FRAMEWORK

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Independent, evidence-based research and monitoring to advance sustainable coastal and maritime tourism across the Eastern Mediterranean.

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HELLENIC REPUBLIC
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Executive Summary

The Methodological Framework

1. Introduction: Subject, Purpose and Context

This document is the executive summary of Deliverable D1.1 "Overview Study", prepared under Phase 1 — "Preparation and Development of the Methodological Standard" — of the project "Observatory for Coastal and Maritime Tourism in the Mediterranean" (Lot 1), commissioned by the Greek Ministry of Tourism and delivered by Knowledge AE, under the "Greece 2.0" National Recovery and Resilience Plan and co-funded by the European Union – NextGenerationEU.

The subject of the Deliverable is a systematic review of prior studies, academic research and programmes of Greek, European and international bodies concerning the measurement and monitoring of sustainable development in coastal and maritime tourism. Its aim is to capitalise on existing knowledge and experience so as to substantiate the methodological framework on which the design of indicators, the data architecture and the functions of the Observatory will be based in the subsequent deliverables of Phase 1.

Specifically, the study pursues three objectives: first, the systematic recording and analysis of international practices for measuring and monitoring coastal and maritime tourism through extensive desk research; second, the analytical mapping of the principal methodological frameworks, the indicators they propose and their data-collection methods; and third, the identification of convergences, divergences, gaps and limitations — principally regarding the availability, quality and comparability of data — so as to support the design of the Observatory.

2. The Need to Establish the Observatory

The coastal zone is among the most critical, yet also the most vulnerable, systems on the planet. According to Reimann, Vafeidis and Honsel (2023), it extends along more than 1.6 million kilometres of coastline and concerns approximately 85% of the world's countries, hosting more than one million marine and terrestrial species, while roughly one quarter of all marine species depend directly on coastal ecosystems. The same authors estimate that coasts today are home to approximately 2.4 billion people, i.e. roughly 40% of the global population, with settlement density around three times the global average, while 75% of the world's largest metropolitan areas are located in coastal zones. The Organisation for Economic Co-operation and Development (OECD, 2021) further estimates that the population living in Low Elevation Coastal Zones will reach 1.4 billion by 2060.

In this context, coastal and maritime tourism ranks among the principal pillars of the Blue Economy and constitutes a pivotal driver of economic development for the Mediterranean, and particularly for Greece, which ranks 2nd among EU member states in terms of the sector's contribution to employment and 5th in terms of Gross Value Added. At the same time, as recorded in the Plan Bleu (2020) report on the state of the environment and development in the Mediterranean, the basin is warming faster than the global average, while the over-concentration of population and tourism activity intensifies pressure on already vulnerable

coastal zones, with disparities in adaptive capacity between northern and southern countries compounding the region's overall vulnerability.

The need for the Observatory is grounded in the conclusions of the consultation held by the Ministry of Tourism in Corfu in 2022, captured in the report "Measuring and monitoring the sustainable development of coastal and maritime tourism" produced by the Directorate-General for Tourism Policy: the transition towards sustainable development of coastal and maritime tourism cannot rely on fragmented interventions lacking empirical grounding, since the absence of reliable, systematic and spatially sensitive data remains a fundamental obstacle to policymaking. Although data is already collected by numerous public and private bodies, it remains fragmented, disconnected and often unusable for strategic planning, with the result that policymaking is frequently based on incomplete knowledge.

The Observatory is not proposed as a narrowly technical or statistical mechanism, but as an institutional hub for the collection, analysis and dissemination of data, capable of supporting evidence-based policymaking, enabling the early identification of trends and risks, and bridging institutional gaps between the public and private sectors, while fostering a more participatory and place-based approach to tourism governance.

3. Methodology

The study was based on systematic desk research, conducted in two distinct stages. In the first stage, a systematic collection of sources was carried out — international and European methodological frameworks, studies by international organisations, results of prior research and operational programmes, and selected academic literature — on the basis of their relevance to coastal and maritime tourism, sustainable development and indicator-based monitoring. In the second stage, these sources were organised thematically and subjected to comparative evaluation with respect to existing methodological standards, the sustainability indicators proposed and the methods of data collection, processing and harmonisation, with the aim of identifying common features, divergences, strengths and limitations regarding their applicability to the monitoring of coastal and maritime tourism.

4. Conceptual Framework: Key Definitions

The study devotes particular attention to the conceptual delineation of the key terms underpinning the Observatory's subject matter, given that the absence of a universally accepted definition of the coastal zone and of coastal tourism does not reflect a theoretical weakness, but rather the multi-layered and complex nature of the phenomena themselves, which are shaped by the interaction of physical, social and economic factors.

4.1 The Coastal Zone

The coastal zone is described in the international literature as one of the most complex and theoretically demanding concepts in geography and environmental science, constituting a transitional space in which physical processes and human activities interact across multiple spatial and temporal scales (Carter, 1988). In geographical thought it is approached primarily as a zone of interface between land and sea, which cannot be defined as a linear boundary but rather as a broader spatial formation within which coastal processes

affect the terrestrial area and vice versa (Cicin-Sain & Knecht, 1998; EEA, 2006). A characteristic example of a functional definition is the Low Elevation Coastal Zone (LECZ), which comprises coastal areas at an elevation of less than 10 metres above mean sea level and is widely used in climate-vulnerability analyses (McGranahan, Balk & Anderson, 2007).

For statistical and comparative purposes, the European Commission and Eurostat have adopted administrative typologies based on Local Administrative Units (LAU) and regions (NUTS 3). Coastal Areas are defined as municipalities bordering the coastline or having at least 50% of their surface area within 10 kilometres of it (Eurostat, 2025). By contrast, in the context of Integrated Coastal Zone Management, the European Commission defines the coastal zone as a "functional space", the boundaries of which are determined case by case so as to encompass the essential land–sea interactions (European Commission, 2002; 2004).

For the purposes of this project, Eurostat's functional definition is adopted: the coastal zone is delineated at the level of coastal Local Administrative Units (LAU), as defined by the European Union, so as to ensure the comparability of data at national and Union level.

More specifically, coastal areas are considered to be municipalities bordering the coastline or having at least 50% of their surface area within a distance of up to ten kilometres from it. In this way, data can be linked to the LAU and NUTS administrative tiers and collected in a more systematic and comparable manner.

4.2 Coastal Tourism

A key reference point in the international literature for the definition of coastal tourism is the contribution of Hall (2001), who, in his study "Trends in ocean and coastal tourism: the end of the last frontier?", understands coastal tourism as the full range of tourism-related recreational activities that take place in the coastal zone and adjoining waters, distinguishing it conceptually — though not absolutely — from marine tourism:

"The concept of coastal tourism encompasses the full range of tourism and recreational activities that take place in the coastal zone and the offshore coastal waters. These include the development of coastal tourism (accommodation, restaurants, the food industry and second homes) and the infrastructure that supports coastal development (e.g. retail businesses, marinas and activity providers). Also included are tourism activities such as recreational boating, beach- and sea-based ecotourism, cruising, swimming, recreational fishing, snorkelling and diving" (Hall, 2001).

This definition, although it has been criticised for treating the coastal zone as a neutral "backdrop" for activities, without engaging with the dynamics of the socio-ecological systems that constitute it (Williams, 2011), remains functionally adequate for comparative studies and provides a starting point for the working definition adopted in this project.

For the purposes of this project, coastal tourism is defined as tourism comprising recreational, leisure and sporting activities carried out on land and along the shore — swimming, surfing, sunbathing and related activities — with proximity to the shore constituting a precondition for the supporting services and infrastructure.

4.3 The Problematics of Defining Coastal Tourism

Despite the volume of research on the coastal zone and coastal tourism, the study notes that its definition remains problematic for seven interrelated reasons. First, there is ambiguity and conceptual overlap between the terms "coastal" and "maritime" tourism, which are often used interchangeably even though they describe different fields of activity — the former concerning primarily land-based activities (e.g. swimming, sunbathing), the latter activities on the water (e.g. cruising, sailing) — resulting in significant difficulty for statistical classification. Second, there is an inability to achieve spatial specificity, as the coastal zone is defined with considerable variation at both research and institutional level, with measurements ranging from a distance of 100 metres from the shore to administrative municipal boundaries extending 10 to 60 kilometres (Hynes, Cawley, Deely & Norton, 2024).

Third, destination typologies and classifications remain subjective, as categories are frequently not mutually exclusive — a destination may be simultaneously urban and coastal — a fact that complicates statistical comparison (Buhalis & Constantoglou, 2022). Fourth, tourism does not constitute an autonomous sector within official statistical systems (e.g. the EU's NACE classification), but rather an aggregate of sub-sectors such as accommodation, food services and transport, which makes it difficult to distinguish its economic contribution from that of permanent residents (Hynes et al., 2024; Ifremer, 2009; UNWTO, 2023). Fifth, the lack of detailed data often leads to reliance on proxy indicators, such as overnight stays in coastal areas, which carry the risk of over- or under-estimating the sector's true value.

Sixth, demand-side definitions (from the tourist's perspective) are more realistic but lack spatial precision, whereas supply-side definitions (from the perspective of businesses) are more comparable but confined to activities strictly linked to the coastal space (European Union, 2014; Jolliffe, Jolly & Stevens, 2021). Seventh, the question of the spatial delineation of activities remains open, as there is no consensus on whether business travel, air transport to coastal destinations, or day visitors should be factored into the definition (Hynes et al., 2024).

The study also cites the definition of the World Tourism Organization (UNWTO, 2026), according to which "coastal tourism refers to tourism activities that take place on land, such as swimming, surfing, sunbathing and other coastal recreational, leisure and sporting activities that occur on sea, lake or river shores", while "maritime tourism refers to activities that take place at sea, such as cruising, sailing, boating and water sports". Building on this, the European Commission (European Union, 2014) clarifies that "from a geographical perspective, coastal areas are defined as those bordering the sea, or having at least half of their territory within 10 km of the coast." For an overall overview of the two concepts, the study proposes the following comparative assessment:

Dimension	Coastal Tourism	Maritime Tourism
Environment	Land–sea interface: beaches, coastal settlements, river estuaries	Marine and offshore environment
Main space of activity	On land, within the coastal zone	At sea or offshore
Core activities	Seaside recreation, sightseeing, cultural heritage, gastronomy	Sailing, cruising, diving, nautical sports
Infrastructure	Hotel units, coastal promenades, cultural attractions	Marinas, cruise ports, pleasure craft

Governance framework	Integrated Coastal Zone Management (ICZM)	Maritime Spatial Planning (MSP)
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In summary, the study concludes that, given the spatial ambiguity and the thematic overlap of terms such as coastal tourism, marine tourism and beach tourism, there is no single, internationally accepted definition of coastal tourism. Coastal tourism ultimately constitutes a dynamically evolving socio-economic phenomenon, the form, extent and resilience of which are determined by the limits of carrying capacity, governance structures and the adaptive capacity of coastal systems. For the purposes of this project, the commonly accepted UNWTO definition of coastal tourism is adopted, while for maritime tourism, cruise tourism and beach tourism the definitions of current Greek legislation are adopted.

4.4 Maritime Tourism

The definition of maritime tourism adopted in the Deliverable is based on current Greek legislation, specifically Law 4582/2018 (Government Gazette A' 208/11-12-2018) "Thematic tourism – Special forms of tourism – Provisions for modernising the institutional framework for tourism and tourism education – Support for tourism entrepreneurship and other provisions":

"Maritime tourism: the set of organised tourism services and recreational and leisure activities provided in the maritime area and along the shores of the tourism destination, constituting one of the most dynamically developing forms of tourism. Maritime tourism is distinguished in particular into cruise tourism, yachting tourism, maritime and coastal recreational activities, and recreational diving tourism" (Law 4582/2018).

4.5 Cruise Tourism

Likewise, cruise tourism is defined by the same law as follows:

"Cruise tourism: recreational sea travel with a scheduled itinerary and port calls, undertaken aboard cruise ships, during which visitor-tourists call at multiple and diverse destinations of tourism, cultural and historical interest over the course of a single voyage and may additionally select excursion packages and authentic experiences at the destination itself, so as to discover its distinctive cultural heritage, sights, historical sites, local customs and traditions, and to gain authentic experiences connected with gastronomy, entertainment, local markets, leisure and contemporary culture" (Law 4582/2018).

4.6 The Blue Economy and Integrated Coastal Zone Management (ICZM)

Coastal tourism forms part of the broader framework of the Blue Economy, which encompasses the full range of economic activities linked to seas and oceans and which contribute decisively to GDP and employment. At the same time, Integrated Coastal Zone Management (ICZM) constitutes an internationally recognised framework for coastal governance (Sorensen, 1993, 1997; Cicin-Sain & Knecht, 1998), which the European Union defines as follows:

"Integrated coastal zone management is a dynamic, continuous and iterative process designed to promote sustainable management of coastal zones. In the long term, it seeks to balance the benefits of economic development and human uses of the coastal zone, the benefits of minimising loss of life and property, and the benefits of public access to and enjoyment of the coastal zone, within the limits set by natural dynamics and carrying capacity" (European Commission, 1999).

ICZM is regarded as a theoretically more complete approach compared with administrative delineations, as it treats the coastal zone as a unified system; its implementation, however, requires a significantly larger volume of data, high-precision spatial analysis and institutional coordination across multiple bodies.

5. International and European Sustainable Tourism Indicator Frameworks

The review systematically examined the most significant international and European methodological frameworks for measuring tourism sustainability, summarised in the table below:

Framework / Body	Focus	Principal Contribution
Statistical Framework for Measuring the Sustainability of Tourism – SF-MST (UNWTO, 2018; 2024)	Statistical integration of tourism, environmental and economic accounts	Systematic linkage with SEEA/SNA and the SDGs; a highly comparable accounting structure
European Tourism Indicator System – ETIS (European Commission, 2016)	Destination management at local level	Seven-step implementation guide; core/optional indicators; participatory governance
Indicators of Sustainable Development for Tourism Destinations – A Guidebook (UNWTO, 2004)	Multidimensional coverage of economic, social and environmental issues	Establishment of a common "vocabulary" of destination issues and indicators
OECD Water Governance Indicator System (OECD, 2018)	Quality and effectiveness of water governance	Self-assessment based on 12 principles; a "traffic-light" system
UN-Water SDG6 Data Portal	Availability and sustainable management of water resources	A single international database for monitoring SDG 6
World Bank Water Data	Economic and infrastructure data on water resources	Broad longitudinal and cross-country data coverage

The comparative analysis of these frameworks shows a clear international convergence on the need to integrate economic, environmental, social and institutional dimensions into the measurement of tourism sustainability. Indicators are systematically organised into four core categories: economic (contribution to GDP, employment, investment), environmental (water and energy consumption, emissions, waste management, carrying capacity), social (quality of life, equity, participation of local communities), and institutional/governance (strategies, coordination mechanisms, data transparency). SF-MST introduces a systematic link between tourism statistics and environmental and economic accounts, drawing on the logic of national accounts; ETIS offers a widely applicable destination-management tool; the UNWTO (2004) guidebook established a comprehensive conceptual vocabulary; while the water-governance frameworks broaden the perspective towards the availability, access and sustainable management of natural resources — elements of particular importance for the Mediterranean.

6. Mediterranean and National Knowledge Capitalisation Initiatives

Beyond the horizontal international standards, the study examined in depth specialised Mediterranean frameworks, thematic indicators and applied initiatives directly relevant to the coastal and maritime domain.

Among those examined were: the Interreg Mediterranean "BEST MED" project (2020a, 2020b), which mapped the existing state of tourism data collection and management at Mediterranean level and proposed a standardised Big Data system, developing the prototype TIMS tool (Tourism Integration and Monitoring System) for the automated collection of data from the internet (web scraping); the European Union's Blue Economy Report (European Union, 2021); the Horizon 2020 Mediterranean Report (EEA-UNEP/MAP, 2014), which promotes shared environmental information systems in line with the principles of SEIS (Shared Environmental Information System); the proposed conceptual framework for coastal observation of the GEF MedProgramme (PAO/PAP-RAC, 2024), organised around natural, technical and institutional capital and aligned with the IMAP protocol of the Barcelona Convention; the 34 priority indicators of Plan Bleu (2006) for the Mediterranean Strategy for Sustainable Development; and the Plan Bleu/UNEP-MAP (2023) scoping study for a pilot system to measure the sustainability of the Mediterranean blue economy.

Also examined were: the Interreg Mediterranean (2019) report on monitoring sustainable tourism; the SCORE project (Horizon 2020, 2022–2025), which combined Multi-Criteria Analysis with Cost-Benefit Analysis, established the "Living Labs" model and employed Digital Twins to simulate climate risks across ten pilot European cities; the OECD (2025) study on alternative data sources, which documented cost reductions in data collection of up to 45% through the use of mobile-phone data; the OECD (2020) "How's Life?" wellbeing framework; the Eurostat (2020) report on progress on the Sustainable Development Goals in the EU; the minutes of the Ministry of Tourism's consultation in Corfu (2021) and the related report (2022); the UNWTO reports on pilot applications of SF-MST (2020; 2022; 2023); the European Commission's report on the challenges and opportunities of maritime and coastal tourism (2014); and the GSTC Destination Criteria v2.0 (2019) of the Global Sustainable Tourism Council.

The synthesis of findings in this chapter reveals five recurring indicator axes across the frameworks examined: tourism activity and pressure, the economic dimension, the environmental dimension, the social dimension, and governance, with governance emerging as the axis that coordinates and links the others. On this basis, it is proposed that the Observatory's measurement system be organised around four core axes — environment, society, economy, governance — with indicative indicators such as water and energy consumption per overnight stay, the tourism climate footprint, the ratio of tourists to permanent residents, perceived crowding, and the existence of local coastal-adaptation plans.

7. Synthesis of Review Findings

The synthesis of the overall review yields three critical levels of findings. First, a clear international convergence is observed regarding the core sustainability dimensions that must be monitored — economic, environmental, social — yet existing indicators remain largely generic and do not adequately capture the specific characteristics of coastal and island areas, such as seasonality and carrying capacity. The design of the Observatory cannot, therefore, rely on the simple adoption of existing indicator systems, but requires adaptation and prioritisation based on their functional usefulness for the coastal and maritime domain.

Second, the spatial frame of reference emerges as a critical yet simultaneously problematic issue: administrative approaches (LAU, NUTS) offer statistical comparability but fail to fully capture land–sea interactions, whereas the functional approaches of ICZM are theoretically more complete but data-intensive.

The conclusion is that the Observatory must combine multiple spatial levels of reference, allowing both comparison at national and international level and in-depth analysis of local coastal and island areas.

Third, the availability, quality and comparability of data emerge as the most decisive constraint. Despite the existence of numerous data sources, both public and private, data concerning coastal and maritime tourism remain fragmented, heterogeneous and often outdated, particularly at local level and at the level of the coastal zone. The use of alternative sources, such as big data, geospatial data and sensor data, constitutes a promising yet still developing practice, one that requires institutional organisation, clear protocols and enhanced interoperability among bodies.

8. Limitations of the Frameworks Examined

Beyond the overall synthesis, the study documented in detail the limitations of each individual framework, an element essential for substantiating the design choices of the Observatory.

- SF-MST (UNWTO, 2018; 2024) requires a high degree of institutional and statistical maturity, as it is based on an accounting logic and presupposes well-developed national statistical systems and administrative interoperability; it does not set sustainability thresholds, and its application is not mandatory, resulting in fragmented data development across countries.
- ETIS (European Commission, 2016) relies on voluntary self-assessment without an external verification mechanism, creating a risk of reporting bias and limiting comparability across destinations; its implementation depends heavily on the administrative capacity of local authorities.
- The UNWTO (2004) guidebook does not incorporate recent technological capabilities, such as big data and high-resolution geospatial analysis, while its extensive list of indicators, lacking clear prioritisation, may lead to fragmented application, particularly in resource-constrained destinations.
- The EU Blue Economy Report (European Union, 2021) places a one-dimensional emphasis on macroeconomic indicators (GVA, employment), without systematically incorporating social or ecosystem sustainability variables, while its broad spatial categorisation of "coastal tourism" may conceal intra-regional inequalities.
- Interreg Mediterranean (2019) acknowledges data gaps, but its proposals remain normative in character, without extensive empirical testing, a binding harmonisation protocol, or stable funding for long-term monitoring.
- The BEST MED project (Interreg Mediterranean, 2020a; 2020b) highlights the heterogeneity of national statistical systems and the difficulty of cross-country comparability; regarding the proposed Big Data system, issues are identified around representativeness, access to private data, GDPR compliance and the low geographical accuracy of mobile-phone data.
- The Plan Bleu (2023) study on the Mediterranean Blue Economy remains at a scoping level, without a specific quantitative evaluation system, exhibiting a lack of holistic indicators and excessive reliance on modelled rather than primary local data.
- The Horizon 2020 Mediterranean Report (EEA-UNEP/MAP, 2014) shows uneven data quality and completeness across countries and focuses mainly on environmental pressures, without a comprehensive analysis of tourism as a sustainability system.

- In the GSTC Destination Criteria v2.0 (2019), their normative nature, absent a single mandatory compliance mechanism, limits their effectiveness as a tool for systemic reform, since their application remains voluntary and dependent on certification mechanisms.

Overall, the frameworks examined display common structural challenges: an asymmetry between normative frameworks and operational implementation; dependence on data quality and availability; limited multi-scale integration (local–national–regional level); the short-lived nature of funded initiatives, which frequently "collapse" once funding ends; the inability to capture the informal sector of the economy; and a lack of specialised personnel within public administration for managing modern data sources.

9. Shortcomings of the Frameworks Examined

Beyond the individual methodological limitations, the study also identifies, in detail, the shortcomings in the implementation of the frameworks — that is, the points at which their theoretical ambition failed to translate into operational practice. SF-MST (UNWTO, 2018; 2024) fell short mainly in the field of operational implementation and scaling: although it aspires to integrate tourism into national statistical systems in a comparable and accounting-consistent manner, it did not secure uniform adoption, particularly in countries with limited statistical infrastructure, while at the local destination level it remains more of a normative than an operational tool. The UNWTO (2004) guidebook fell short mainly in terms of its ongoing updating and its conversion into a systematic implementation mechanism, as the absence of indicator prioritisation and of linkage with official statistical systems led to its selective use, often as a tool of sustainability rhetoric rather than substantive reform.

ETIS (European Commission, 2016) fell short in achieving broad and comparable adoption across European destinations, as its voluntary character and self-assessment logic led to uneven uptake, while in many cases its application was confined to a pilot level without long-term integration into administrative structures. The EU Blue Economy Report (European Union, 2021) fell short in substantively integrating the sustainability dimension beyond economic valuation, ultimately measuring "growth" without adequately assessing its impacts. Interreg Mediterranean (2019) fell short mainly in the institutional embedding of the proposed indicators, as it was not accompanied by a binding adoption mechanism on the part of member states or regions. The BEST MED project, while it highlighted existing data gaps, fell short of bridging them with a coherent data-governance model, and, with respect to its standardised Big Data system, fell short mainly in ensuring accessibility and institutional sustainability.

The Plan Bleu (2023) study fell short of converting its theoretical critique of linear growth into a measurable and applied evaluation system, remaining at an exploratory level. The Horizon 2020 Mediterranean Report fell short of integrating tourism as an autonomous sustainability system, confining it instead to a factor of environmental pressure, while the SF-MST pilot applications (UNWTO, 2022) fell short of demonstrating full generalisability of their results, owing to differences in institutional capacity and data availability across countries. Finally, the GSTC Destination Criteria v2.0 fell short of becoming a mandatory global standard, as their application remains voluntary and dependent on certification mechanisms.

These shortcomings can be systematised into three categories. First, shortcomings in the field of data and measurement: fragmentation and incompatibility of monitoring systems, with responsibilities dispersed across bodies; problems with big data, such as the low geographical accuracy of mobile-phone data and

difficulty of access to private data; excessive reliance on modelled rather than primary local data; and legal privacy constraints that impede the collection of granular data, particularly in sparsely populated areas. Second, structural and institutional shortcomings: the absence of specialised legislation for monitoring critical indicators in many countries; inadequate governance owing to a lack of coordination among ministries (e.g. Tourism, Shipping, Finance); the voluntary character of systems such as ETIS; and the short-term planning horizon of many reporting systems, which "survive" only for the duration of specific funded projects and collapse once funding ends. Third, economic and social challenges: the inability to capture the informal sector (the grey economy); the lack of specialised personnel within local authorities for data management and analysis; and tourism mono-dependence, which renders many areas vulnerable to external shocks, as demonstrated by the experience of the pandemic.

10. Good Practices Identified

Alongside the limitations and shortcomings, the review also identified significant good practices, which provide a useful foundation for the design of the Observatory. SF-MST succeeded in translating "sustainability" into the language of official statistics, strengthening comparability and the linkage of tourism to the Sustainable Development Goals and to environmental-economic accounts; for future application, it is recommended that an explicit "implementation pathway" be adopted according to each country's capacity level (tiered implementation), with a minimum core of indicators and clear interoperability specifications. The UNWTO (2020) policy synopsis succeeded in bridging the technical language of SF-MST with the needs of policymaking, while the pilot applications (UNWTO, 2022) demonstrated, with concrete examples, the feasibility of a stepwise and modular application of the framework. The UNWTO (2004) guidebook succeeded in establishing a comprehensive conceptual vocabulary, offering destination administrations a systematic way of translating policy concerns into measurable variables.

The central achievement of ETIS is that it provided an applicable "destination management tool" with practical implementation steps (a seven-step guide), a structure of core/supplementary indicators, and the integration of participatory governance; for future application, it is recommended that light-touch external assurance mechanisms and a "minimum mandatory set" of indicators be adopted. The Interreg Mediterranean (2019) policy report clearly documented the institutional and technical needs of the region, while Plan Bleu's (2006) standardised indicator "methodological fact-sheets", with clear definitions, units of measurement and practical notes, reduced ambiguity and strengthened harmonisation within the Mediterranean context. The BEST MED project mapped in depth the tourism "data ecosystem" and demonstrated the need for innovation through the prototype TIMS tool, while the OECD (2025) study succeeded in demonstrating a drastic reduction in data-collection costs — of up to 45% — through mobile-phone and banking-transaction data; for future application, it is recommended that a "statistical integration" standard be adopted, incorporating privacy rules and bias-correction techniques.

The Plan Bleu study on the Mediterranean Blue Economy succeeded in shifting the discussion from narrow economic aggregates towards a holistic understanding of sustainability, while the OECD's (2020) "How's Life?" framework offered a mature and multidimensional wellbeing framework capable of serving as a bridge for evaluating tourism beyond GDP. The SCORE project succeeded in providing a structured methodological framework for evaluating adaptation measures, combining Multi-Criteria Analysis with Cost-Benefit Analysis,

establishing the "Living Labs" model and employing digital twins for the detailed mapping of climate risks across ten pilot European cities. The Horizon 2020 Mediterranean Report highlighted the added value of applying SEIS principles, while the OECD (2018) water-governance framework succeeded in creating a self-assessment system based on twelve principles using a "traffic-light" system. Finally, the Coastal Observation Framework (PAO/PAP-RAC, 2024) succeeded in proposing a single, unified Mediterranean conceptual framework aligned with the IMAP protocol of the Barcelona Convention, with the use of open geoportals for real-time sensor data recommended as the next step.

11. Recommended Directions for Adoption

The synthesis of the international and European experience analysed above yields nine specific directions recommended for adoption in the design of the Observatory, which essentially constitutes a permanent capacity for collecting, harmonising, interpreting and disseminating data that supports decision-making at local, regional and transnational level.

11.1 Institutional Anchoring and Multi-Level Governance with Clear Roles

Formal institutional anchoring of the Observatory within a legitimised body (e.g. a regional organisation/DMO or a transnational scheme) is considered essential, so that monitoring does not depend on time-limited projects. Interreg Mediterranean (2019) underlines that, absent political commitment and systematic monitoring, indicator production remains fragmented, and it proposes horizontal cooperation among public bodies and a participatory approach engaging businesses, communities, academics and NGOs. In this context, it is proposed that a Scientific/Technical Committee be established, responsible for methodology, quality and data harmonisation; a Policy Users' Council, with representatives from municipalities, regions and ministries; and a Data Governance Contract defining rights, responsibilities, publication cycles and access levels.

11.2 A Governance Model as the Operational Core of the Observatory

Experience from the implementation of ETIS shows that success in destination-level measurement stems not from technical solutions but from the coordination of people. BEST MED identifies as critical practices the presence of a local coordinator, usually within a DMO; the establishment of a Stakeholder Working Group of around 15–20 members so as to remain functional; the allocation of data-collection roles; the use of a shared destination database; and a cycle of "collection – analysis – targets – continuous improvement". For a Mediterranean observatory, this practice can be institutionalised as a network of local nodes feeding into the central system, rather than as an over-centralised scheme.

11.3 A Common Methodological Framework

The common methodological framework must be based on existing international and European indicator systems, while also incorporating tailor-made indicators for the needs of Mediterranean coastal destinations, such as carbon footprint, carrying capacity, water and energy consumption, and marine ecosystems, as well as thresholds linking indicators to decisions rather than description alone. A three-tier structure is proposed: core indicators for comparability, indicators by dominant activity, and threat/risk and governance indicators (e.g. seasonality, resource pressure, climate risks), organised across four axes: Environment, Society & Culture, Economy, and Governance.

11.4 Data Architecture

An institutionally credible Observatory requires data from different sources and levels: primarily official sources, for reasons of reliability and impartiality, and secondarily surveys, big data and real-time monitoring, depending on capabilities and the institutional legitimacy of their use. The UNWTO texts on SF-MST pilot programmes confirm, as good practice, a stepwise and modular application, whereby different modules are implemented at different scales according to the priorities and infrastructure of each country — a point of critical importance for the Mediterranean, where heterogeneity in data-collection and processing capacity among countries is a given.

11.5 A Shared Digital Platform

A shared online platform (open IT platform) is required that hosts not only figures but also the Observatory's "institutional dictionary" — a glossary of definitions, guidelines, examples, thresholds and methodological notes — functioning as a mechanism to avoid duplication and overlap and to strengthen comparative oversight. The platform should be accompanied by a transparency policy that builds trust and the willingness of participating bodies to share data, making open and accessible data a core governance tool rather than merely a technical feature.

11.6 Harmonisation, Quality and Data Protection

In the Mediterranean, leveraging private and digital data without loss of legality and quality constitutes a critical step. Experience to date shows that big data remains limited, with issues of ownership, coordination and slow decision-making around security and transparency, requiring a data-governance policy framework. It is recommended that quality guidelines be adopted for the acquisition and use of big data, together with error documentation and clear cooperation agreements with data providers, within the framework of a permanent data-stewardship system that respects the GDPR (privacy by design), incorporates anonymisation protocols, and ensures that data publication does not permit the re-identification of individuals.

11.7 Networking of Observatories and the Role of Universities

The study found that existing observatories in the Mediterranean often do not participate in networks, whereas networking could reduce costs and enhance comparability at sub-regional level. Because many public authorities lack the specialised staff to manage big data, universities and research centres can act as valuable "capacity intermediators" providing technical maintenance and know-how. It is therefore proposed that a "triple-helix" cooperation scheme be established among public administration, the private sector, and universities/research centres, with clear service and support agreements.

11.8 Funding and Skills Development

One of the most significant conclusions of the study is that, without stable resources, monitoring collapses. Continuous funding, a shared budget, and investment in human resources and technology are critical factors for the Observatory's effectiveness. Good practices include multi-annual financial planning, integration of the Observatory into regular budgets, and explicit training programmes on statistical methodologies, data management and indicator interpretation.

11.9 Linking Indicators to Policy Questions

The Observatory must measure not only "what is happening" but also "what changes when we intervene". The Plan Bleu study on Blue Economy sustainability identifies as a gap the lack of indicators of policy and intervention effectiveness. For coastal tourism, this means that indicators must support policy evaluation — decongestion measures, water management, cruise regulations, ecosystem protection — rather than mere stocktaking.

In summary, the institutionalisation of a Coastal Tourism Monitoring Observatory in the Mediterranean is not merely a technical exercise in indicator measurement, but a strategic governance choice for sustainability, the success of which rests on institutional anchoring, transparent and multi-level data governance, clear methodological harmonisation, and the gradual integration of reliable sources of information.

12. Overall Conclusion

The institutionalisation of a Coastal and Maritime Tourism Monitoring Observatory in the Mediterranean does not constitute a technical exercise in indicator measurement, but a strategic governance choice for sustainability. The international experience captured in this overview study shows that the success of such an institution rests on institutional anchoring, transparent and multi-level data governance, clear methodological harmonisation, and the gradual integration of reliable sources of information. An effective Observatory must link measurement to decision-making, convert data into policy knowledge, and function as a mechanism of early warning and adaptive management within a particularly vulnerable and dynamic coastal system such as that of the Mediterranean.

Deliverable D1.1 provides the evidence base and methodological foundation on which the subsequent stages of Phase 1 will build — including the design of the Methodology Guide, the indicator architecture, and the organisation of data collection and processing — with the ultimate aim of a model of coastal and maritime tourism that combines economic resilience, social justice and respect for the ecological limits of the Mediterranean.

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