

Exploring Data Gaps in Blue and Circular Economy Implementation in Mediterranean Tourism Destinations: Insights from the RECIRCLE MED Blueprint

Keywords: Data Gaps, Tourism Governance, Sustainability, Blue economy, Circular Economy

Extended Abstract

Tourism development in the Mediterranean basin has historically followed linear, mass-tourism models, concentrating visitors in environmentally sensitive coastal areas and relying heavily on intensive resource use. This trajectory has exacerbated environmental degradation, increased pressure on coastal ecosystems and heightened the vulnerability of tourism-dependent regions to climate and economic instabilities (UNEP/MAP, 2020; Plan Bleu, 2017). While tourism remains a major economic pillar, its long-term sustainability increasingly depends not only on policy ambition but also on destinations' capacity to monitor, evaluate and adapt interventions (Torres-Delgado et al., 2021). Research in sustainability governance emphasizes that implementation failures often arise not from a lack of policies but from insufficient information systems capable of supporting adaptive decision-making (Crotts et al., 2022; Sun & Higham, 2021).

In tourism destinations, where multiple actors operate across sectors and governance levels, information gaps are amplified by fragmented responsibilities, inconsistent reporting practices and uneven technical capacities. These challenges constrain the effectiveness of sustainability initiatives and the integration of cross-sectoral data systems (Bramwell & Lane, 2011). Such gaps hinder the ability to combine environmental monitoring, resource-use tracking and socio-economic indicators into coherent governance strategies, limiting the capacity to anticipate and respond to emerging pressures such as climate change, biodiversity loss and seasonal over-tourism (Becken et al., 2020).

Effective sustainability frameworks require not only comprehensive strategies but also robust evidence infrastructures that link policy measures to measurable outcomes (Geissdoerfer et al., 2017). The presence of a policy or strategy alone does not ensure implementation or signify progress. Decision-makers need to have access to reliable, timely and accessible data to track progress, evaluate effectiveness, allocate resources efficiently and adapt strategies to changing environmental and socio-economic conditions. In this context, identifying and addressing data gaps becomes a core component of implementation capacity, enabling evidence-based governance, stakeholder coordination and adaptive management (Scuttari et al., 2023; Szromek & Bugdol, 2025).

Data availability, quality and accessibility are therefore not merely technical concerns but key determinants of policy credibility, institutional learning and stakeholder trust. Recognizing data as a critical territorial resource positions it alongside natural, cultural and economic assets in supporting sustainable tourism development, informing strategic planning and enhancing resilience in destinations facing complex socio-ecological challenges (Reinhold et al., 2023; Rehman et al., 2024; Celdrán-Bernabéu et al., 2026). Furthermore, systematic evidence infrastructures enable not only monitoring and evaluation but also facilitate iterative learning among stakeholders, supporting participatory governance and collaborative decision-making (Neely et al., 2021; Ordóñez-Martínez et al., 2023). By making data transparent and accessible, destinations can foster stronger engagement among public authorities, private operators

and local communities, ensuring that interventions are both socially acceptable and ecologically effective (Blanco-Gregory et al., 2025; Kalvet et al., 2020). Understanding where informational resources are lacking helps identify priority areas for capacity-building, targeted investment and inter-institutional coordination, thereby enhancing resilience and the ability of destinations to adapt tourism strategies to evolving environmental, social and economic conditions (Cash et al., 2003).

In response to these challenges, the RECIRCLE MED project, funded by the Interreg Euro-MED Programme, aims to integrate blue and circular economy principles into coastal tourism, by conceptualizing tourism as a regenerative socio-ecological system in which activities protect ecosystems, optimize resource use, foster local value creation, and align visitor flows with ecological capacities. To support destinations in transitioning from linear tourism models toward restorative, place-based development, the project conducted a structured assessment across four destinations that highlighted both the availability of information required for informed decision-making and the data gaps that may constrain it. The assessment evaluates whether relevant policies, strategies or actions exist within a territory and whether sufficient information is available to assess them. It covers seven thematic pillars—water, energy, waste, mobility, environment, heritage and governance—using specific measures that capture key actions, strategies and policy instruments to evaluate how tourism policies and strategies integrate circular and blue economy principles. Measures are evaluated based on their presence and the availability of supporting information. This paper focuses specifically on cases in which measures are formally present but lack accessible data. Such cases reveal hidden implementation constraints: although institutional action exists in principle, the absence of usable information limits verification, comparison, monitoring and learning. By isolating this category, the analysis shifts attention from policy design to data infrastructure as a critical factor in informed decision-making and implementation capacity.

Methodologically, the analysis draws on evidence from four Mediterranean case-study destinations—Cefalù (Italy), Bar (Montenegro), Ohrid (North Macedonia) and Pomorie (Bulgaria)—where the structured assessment was applied. These destinations represent diverse territorial contexts in terms of governance structures, institutional capacity, tourism intensity and data management systems, allowing for comparative analysis across heterogeneous regional conditions. The evaluation produces standardized information on the presence of measures across the seven pillars and identifies cases where measures exist but lack supporting evidence. In parallel, a targeted survey was conducted to capture stakeholders' perceptions of data availability challenges associated with these domains. Cross-referencing the assessment-identified data gaps with stakeholder perceptions provides a detailed understanding of how institutional evidence availability aligns with stakeholder experience.

More analytically, the analysis is structured across three complementary dimensions. First, it examines the distribution of measures lacking accessible information across the seven pillars to identify domains where data gaps are most evident. Second, it compares patterns across destinations to reveal territorial differences in data readiness. Third, it contrasts assessment-identified gaps with stakeholder perceptions of data gaps. These dimensions help frame data availability as a key feature of territorial governance, providing insights into its influence on monitoring capacity and policy implementation.

Preliminary results from the structured assessment across the four Mediterranean case-study destinations reveal that a notable proportion of the measures fall into the category of existing but lacking accessible data. While the policies, strategies and actions related to key thematic areas such as mobility, waste and governance are in place, a significant gap remains in terms of accessible and usable data to evaluate their effectiveness. This lack of data makes it challenging to assess the actual implementation or impact of these measures. These findings are corroborated by the stakeholder survey, which highlighted similar concerns about the availability of data on existing policies and strategies. Respondents identified issues such as fragmented data collection systems, inconsistent reporting and insufficient technical capacity as key obstacles to gathering the necessary information. This underscores the need to strengthen data infrastructure to enhance the transparency, effectiveness and adaptability of sustainability initiatives.

Focusing on measures that exist but lack accessible information reframes the interpretation of policy presence. Conventional assessments often treat the mere existence of strategies as evidence of progress, but such measures require separate consideration as they may reflect weak monitoring systems, limited transparency, insufficient documentation or fragmented institutional coordination. By diagnosing these gaps, the framework enables comparison across destinations, alignment with stakeholder perceptions, and identification of implementation bottlenecks that would be overlooked in traditional evaluations of policy presence. In doing so, it provides a structured diagnostic of territorial data readiness and highlights the need for stronger monitoring systems, data collection processes, and institutional coordination. Overall, the study emphasizes that data availability is a critical territorial resource, alongside natural, cultural and economic assets. Policies cannot be effectively implemented, monitored or improved without reliable data infrastructure and recognizing where informational gaps exist provides key guidance for designing effective and adaptive pathways toward sustainable tourism development.

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