

Call for Papers: Impacts of Nature-based Solutions (NbS) and Culture-based Solutions (CbS) on Health and Climate Resilience in the Mediterranean Region

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ABOUT PLAN BLEU

In 1976, Mediterranean countries and the European Community adopted the Barcelona Convention to protect the marine and coastal environment, placing sustainability at the heart of regional cooperation. Established in 1977 by France, Plan Bleu is one of the Regional Activity Centres of the United Nations Environment Programme / Mediterranean Action Plan (UNEP/MAP), operating under the framework of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean. Plan Bleu supports Mediterranean countries in advancing sustainable development through foresight studies, policy-oriented research, scenario building, and strategic recommendations addressing major environmental, social, and economic challenges across the region.

As part of its mission to promote evidence-based policymaking and regional cooperation, Plan Bleu regularly launches Calls for Papers on key sustainability issues affecting the Mediterranean. These initiatives aim to foster innovative thinking, strengthen scientific-policy dialogue, and support the development of actionable solutions adapted to Mediterranean contexts.

This Call for Papers focuses on the role of **Nature-based Solutions (NbS) and Culture-based Solutions (CbS) in improving human health and strengthening climate resilience** across Mediterranean territories. It seeks to mobilize **researchers, practitioners, and experts working at the intersection of climate adaptation, public health, urban and territorial planning, ecosystem restoration, and environmental governance**.

A total of **11 papers** will be selected and financially supported under this Call (including 2 specifically dedicated to the financing of urban NbS and CbS through blended finance mechanisms).

INTRODUCTION

The Mediterranean region is recognized as one of the world's most vulnerable climate hotspots, warming 20% faster than the rest of the world. Rising temperatures, prolonged droughts, compound extreme weather events, flash floods, water scarcity, biodiversity degradation, wildfires, and increasing urban pressures are already affecting ecosystems, economies, and human well-being across the basin (IPCC, 2022).

This vulnerability is deeply tied to the **region's demographic dynamics: urbanization rates** in the Mediterranean surpass the global average, with nearly 150 million people—representing **two-thirds** of the total coastal population—currently living in rapidly growing coastal urban centers. Fast-growing coastal metropolises on the southern shore, such as Alexandria, which houses 6.5 million inhabitants and has seen unregulated urban expansion surge by nearly 47% over the past two decades, perfectly illustrate these compounding demographic and environmental risks. **Mediterranean cities are therefore particularly vulnerable** due to their high population density, compactness, and aging populations. These impacts are expected to intensify over the coming decades, with

disproportionate consequences for vulnerable populations, coastal areas threatened by sea-level rise and coastal erosion, and densely populated urban regions. In particular, the **Urban Heat Island (UHI) effect** poses severe health risks, exacerbating heat-related mortality and morbidity during increasingly frequent warm spells and heatwaves. Recent health impact assessments in European and Mediterranean cities show that urban warming significantly increases summer preventable deaths, and that increasing **urban tree canopy and Blue-Green Infrastructure (BGI)** could substantially cool urban environments and prevent premature **mortality**.

At the same time, growing evidence demonstrates that **Nature-based Solutions (NbS)** can play an important role in **addressing interconnected environmental, climatic, and public health challenges**. NbS are **systemic, resource-efficient interventions** that protect, restore, sustainably manage, and enhance natural and modified ecosystems while simultaneously generating multifunctional social, economic, and environmental benefits (Cohen-Shacham et al., 2016). These solutions are highly cost-effective compared to traditional engineered (gray) infrastructure, providing a **systemic approach to urban adaptation** that integrates natural processes into the built environment across **different scales** (from building envelopes to regional landscapes). NbS are increasingly recognized as effective approaches for **climate adaptation** and **urban resilience**, while also supporting **biodiversity** and **human well-being**.

Furthermore, alongside NbS, **urban architecture** and **Culture-based Solutions (CbS)** must be integrated to provide **holistic** and **culturally** appropriate climate adaptation. This is especially critical in the Mediterranean's southern shore, where extreme heat, prolonged droughts, and water scarcity significantly affect vegetation growth and the viability of purely green infrastructures. Here, integrating **Traditional Ecological Knowledge (TEK)** and **vernacular architecture** is crucial to ensure the viability of green infrastructures.

Specifically, in urban and territorial contexts, NbS include interventions such as urban forests, wetlands restoration, green roofs, permeable surfaces, bioswales, coastal ecosystem restoration, urban agriculture, green corridors, and blue-green infrastructure systems. These approaches can contribute to climate adaptation and mitigation while also improving air quality, reducing urban heat island effects, strengthening biodiversity, enhancing mental and physical health, supporting social cohesion, and increasing resilience to climate-related risks (Kabisch et al., 2016; Frantzeskaki, 2019).

Recent research highlights that NbS generate **multiple co-benefits** that go beyond environmental performance alone. They can foster social inclusion, improve public spaces, support community well-being, strengthen local governance, and contribute to **more resilient** and **livable territories** (Frantzeskaki, 2019; Kabisch et al., 2017). However, despite growing political attention and increasing implementation across Mediterranean cities and regions, important **knowledge gaps** remain regarding:

1. the **long-term** health impacts and biopsychosocial resilience of NbS;
2. **methodologies** to assess **synergies** and **trade-offs** between climate mitigation and adaptation co-benefits;
3. governance, **financing mechanisms**, and comparative **cost-benefit analyses** against gray infrastructure;
4. **social equity, environmental justice**, and accessibility dimensions;

5. long-term maintenance, irrigation requirements in dry climates, and **monitoring**;

6. the scalability of **successful interventions** across diverse Mediterranean contexts.

Moreover, Mediterranean territories present highly **differentiated climatic, ecological, socio-economic, and institutional conditions**, ranging from arid and semi-arid areas to coastal cities, mountain regions, wetlands, islands, and delta systems. This diversity makes the region a particularly relevant laboratory for studying how NbS can support climate resilience and public health under varying environmental and governance conditions. Recent studies further emphasize the importance of **participatory governance, social perceptions, and equity dimensions** in the implementation of NbS across Mediterranean urban contexts (Noblega-Carriquiry et al., 2023; Johnson et al., 2022).

Against this background, Plan Bleu launches this Call for Papers to encourage **rigorous, policy-relevant, and interdisciplinary research** exploring the role of Nature-based Solutions and Culture-based Solutions in promoting healthier and more climate-resilient Mediterranean societies.

OBJECTIVES OF THE CALL

The objective of this Call for Papers is to support high-quality research and policy analysis examining how Nature-based Solutions and Culture-based Solutions can contribute to improving health outcomes and strengthening climate resilience in Mediterranean cities. A key priority of this Call is to bridge current geographical knowledge gaps by strongly encouraging **research focused on the Southern and Eastern Mediterranean shores**, as well as **cross-regional comparative analyses** (e.g., North-South or East-West perspectives) to ensure a comprehensive **basin-wide understanding**.

These selected papers will directly feed into a broader Plan Bleu initiative, which comprises:

- A **Plan Bleu/UNEP/MAP Edited Volume** gathering the knowledge produced on the impact of urban green infrastructure (NbS) and urban architecture (CbS) on health and climate resilience in Mediterranean cities.
- An **online Regional workshop to present and discuss the technical study** with national experts, and to explore possible strategies for implementing climate-resilient and health-promoting urban green infrastructure.

More specifically, the Call aims to 1. Identify and assess the health, environmental, social, and economic **co-benefits of NbS**; 2. Analyze how NbS contribute to climate adaptation and resilience; 3. Explore governance, **financing**, and **implementation** challenges; 4. Document **successful practices** and **lessons learned** across Mediterranean contexts; 5. Support evidence-based **policymaking** and **territorial planning**; 6. Foster **regional dialogue** and **knowledge exchange** among researchers, practitioners, and decision-makers.

THEMATIC PRIORITIES

This Call for Papers invites researchers to explore **new approaches and insights**. All papers should present **evidence-based analyses** and offer **pragmatic policy recommendations**. Papers with different focuses are welcome, including **Regional (Multi-Country) Analyses, Comparative Perspectives, and Local Case Studies**. Submissions may address, but are not limited to, the following thematic areas:

1. Nature-based Solutions and Public Health

The advantages of NbS and its impact on health are increasingly appreciated in our societies, such as in urban adaptations with the greening of streets and parks; where these changes cause an improvement in the health of citizens (Castelo et al., 2023).

For this reason, papers may explore the impacts of **NbS on physical and mental health; heat stress** reduction and mitigation of **the Urban Heat Island (UHI) effect, air quality** improvement (e.g., through the absorption of airborne particulate matter like PM₁₀, PM_{2.5}, NO₂, and SO₂) which exacerbate respiratory and cardiovascular diseases, and **access to green and blue spaces** for people. We highly encourage papers exploring how nature contact builds **'biopsychosocial resilience'** (biological, psychological, and social adaptive capacities) to help individuals cope with acute and chronic environmental stressors. Papers evaluating dynamic **thermal comfort** using high-resolution spatial metrics, such as the **Physiological Equivalent Temperature (PET)**, in dense urban environments are particularly encouraged to demonstrate the **direct health benefits of NbS**.

2. Nature-based Solutions and Climate Resilience

Contributions under this thematic area may explore how NbS can strengthen climate adaptation and resilience across Mediterranean cities facing increasing environmental and climatic pressures. Papers may examine the role of NbS in addressing **extreme heat, droughts and water scarcity, floods and stormwater** management (including Sustainable Drainage Systems (SuDS), permeable pavements, and 'Sponge City' concepts), **wildfires**, biodiversity degradation, and other climate-related risks affecting urban, coastal, and peri-urban areas. Research should therefore also consider **coastal ecosystem restoration** (e.g., salt marshes, wetlands, and dunes) for wave attenuation and protection against sea-level rise.

Comparative perspectives on the effectiveness of NbS in **diverse Mediterranean contexts** are particularly encouraged. In the same way, research on **'hybrid NbS'** that combine engineered (gray) and natural (green) elements, as well as **building-scale interventions** (e.g., green roofs and living walls) for densely urbanized areas, is highly relevant.

Submissions may further analyze how NbS contribute to reducing vulnerability, enhancing ecosystem services, improving adaptive capacity, and supporting long-term territorial resilience under changing climate conditions. **Comparative perspectives, integrated approaches, and evidence-based assessments** of the effectiveness of NbS in diverse Mediterranean contexts are particularly encouraged.

3. Governance, Participation, and Social Equity

This thematic area focuses on the governance, social, and institutional dimensions of Nature-based Solutions (NbS), with particular attention to **participation, inclusiveness, and equity in Mediterranean contexts**. Contributions may examine how governance frameworks, institutional arrangements, and participatory processes influence the **planning, implementation, management, and long-term sustainability** of NbS initiatives.

Nowadays, due to the territorial, social, and ecological complexities of the Mediterranean region, it is essential to address NbS governance through **transdisciplinary approaches** and **'mosaic governance' models**. This is why it is essential to address the **governance of nature-based solutions** from interdisciplinary points of view, involving citizens, scientists and decision-making points jointly (Dell'Ovo et al., 2025).

Papers may therefore explore **participatory governance models**, **community engagement** and **co-creation processes**, **institutional coordination mechanisms**, and **multi-level governance approaches** supporting climate adaptation and resilient territorial development. Contributions addressing environmental justice, social inclusion, accessibility to green and blue infrastructure, and inequalities in the distribution of environmental benefits and risks are particularly encouraged. Submissions should address the **risks of land speculation**, **greenwashing**, and **'green gentrification'**, ensuring that NbS do not lead to nature-enabled dispossession for vulnerable communities. Furthermore, the role of **'Urban Living Labs'** and **transdisciplinary approaches** to co-create and co-monitor solutions with citizens should be highlighted as a tool for inclusive stewardship.

Submissions may also analyze **social perceptions**, **acceptance**, and **appropriation of NbS** by local communities and stakeholders, including the role of cultural, socio-economic, and territorial factors in shaping public support and participation. Particular interest will be given to studies examining how NbS can contribute to more equitable, inclusive, and socially resilient Mediterranean cities.

4. Evaluation Methods, Indicators, and Monitoring

Contributions may focus on **methodologies** for assessing health and climate impacts related with NbS and monitoring frameworks, on **ecosystem service valuation**, **cost-benefit analysis** or **spatial and GIS-based analysis**. Assessments incorporating spatially explicit microclimate modeling (e.g., ENVI-met), quantitative Health Impact Assessments (HIA), and holistic cost-benefit analyses (CBA) or Life Cycle Assessments (LCA) demonstrating the **economic viability of NbS** in comparison to conventional grey technologies are strongly encouraged. There is a critical need for **longitudinal studies** that monitor NbS over extended periods, accounting for seasonal variations, aging effects, and long-term vegetation dynamics.

5. Mediterranean Case Studies and Comparative Perspectives

Submissions may include local or regional case studies in the mediterranean region, **comparative analyses across countries, cities, villages or communities**, **connecting urban, coastal, rural, mountain, or island contexts**. As well, the submissions could include **transferable lessons** and **best practices**; and preferably they should be **cross-Mediterranean cooperation initiatives**. We particularly encourage case studies located in the southern shore of the Mediterranean, where climate change and aridity significantly affect vegetation, exploring the impact of **combining urban green infrastructure (NbS) with urban architecture (Culture-based Solutions - CbS)**. This specifically includes investigating the integration of traditional ecological knowledge and **'biophilic design'** found in Mediterranean **vernacular** architecture (such as Kasbahs and

Ksour), which inherently promote thermal regulation, biodiversity, and sustainable resource management without relying on energy-intensive technologies.

6. Financing Urban Nature and Culture-based Solutions: The Role of Blended Finance

(Note: Exactly 2 of the 11 selected papers will specifically focus on this sub-theme).

Obtaining **public and/or private finance for upscaling urban NbS and CbS** is a key barrier for reaching urban sustainability goals, as municipal budgets are often constrained. While NbS are recognized for their cost-effectiveness, their high sunk costs and the difficulty in monetizing their long-term social and health co-benefits often hinder their implementation. Therefore, these 2 papers should specifically address **how "blended finance"**—the strategic use of public or philanthropic capital to de-risk and catalyze private investment—can be **applied to urban green/blue infrastructure and culture-based adaptation in the Mediterranean**.

Submissions under this category should analyze **alternative financing (AF) models** designed to support **resilient urban environments**. Topics of interest include the development of **"Green Public-Private Partnerships" (green PPPs)**, **green bonds**, **environmental impact bonds**, and **crowdfunding** platforms that align private sector incentives—such as Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG) criteria—with **public health** and **climate resilience objectives**. Papers may also examine how these financial tools navigate the **"double externality problem" of eco-innovation**, overcome **valuation barriers**, and avoid **social risks** such as greenwashing and **green gentrification in Mediterranean cities**. Contributions should explore how addressing the **lack of standardized economic valuation of non-monetary and intangible benefits** (e.g., mental health, social cohesion, and aesthetic value) can help develop a **stronger business case to attract private investments** and overcome institutional fragmentation.

EXPECTED TYPES OF CONTRIBUTIONS

Plan Bleu welcomes a broad range of contributions combining **scientific rigor, policy relevance, and practical applicability**. Submissions may include **academic research papers, policy-oriented analyses, interdisciplinary studies, comparative regional assessments, territorial and city-level case studies**, as well as **applied research and implementation experiences** related to Nature-based Solutions, health, and climate resilience in the Mediterranean region.

Contributions may address theoretical, methodological, governance, financial, environmental, social, or operational dimensions of Nature-based Solutions across different Mediterranean contexts. Both **qualitative and quantitative approaches** are encouraged, including **mixed-methods research, spatial analysis, participatory research, modelling approaches, impact assessments, and evidence-based policy evaluations**.

Particular interest will be given to contributions that provide **actionable recommendations, transferable lessons, innovative methodologies, or comparative insights** relevant to policymakers, local authorities, practitioners, and regional stakeholders working on climate adaptation, public health, urban resilience, and sustainable territorial development.

ELIGIBILITY

The Call is open to **researchers, academics, practitioners, consultants, public institutions, civil society organizations, and experts** working on issues related to Nature-based Solutions, climate resilience, public health, sustainable urban development, environmental governance, and ecosystem restoration in Mediterranean countries that are Contracting Parties to the Mediterranean Action Plan of the United Nations Environment Programme (UNEP/MAP).

This includes : Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syrian Arab Republic, Tunisia, Türkiye.

Interdisciplinary and multi-author submissions are encouraged. Researchers from the **Southern and Eastern Mediterranean**, including **women** and **PhD graduates**, are particularly encouraged to participate. If pre-selected, candidates must demonstrate their **legal capacity to sign contracts** and issue **invoices** according to the legislation of their country.

DELIVERABLES

Selected authors will be required to submit:

1. A **first draft** of the research paper (about 15-20 pages);
2. A **revised and final version** of the research paper which incorporates feedback received during the review process;
3. A **short policy brief** summarizing key findings and recommendations.

Final papers should be written in English and should be policy-oriented, scientifically rigorous, and accessible to a broad audience of policymakers and practitioners.

REMUNERATION

A total of **11 papers** will be selected under this Call. Each Paper will be awarded with **€2,000 gross**. A first (advance) payment (30%) will be provided upon signature of the contract (the exact payment date will depend on the timing of UNEP/MAP fund disbursement). A second payment (30%) will be provided upon receipt of the first draft of the paper. A third (final) payment (40%) will be provided after the final draft is submitted, provided that the peer review is positive and that the Paper meets the established quality standards. Payment will be made upon satisfactory submission and validation of the final paper by Plan Bleu.

SELECTION CRITERIA

A total of **11 proposals** will be selected by Plan Bleu under this Call for Papers. Proposals will be evaluated by Plan Bleu based on objective criteria, including:

- the **clarity, coherence, and structure** of the proposal, including a concise presentation of the research objectives, methodology, and expected contribution of the paper;
- the **relevance** of the proposed topic to the objectives and thematic priorities of the Call for Papers;

- the **scientific quality, originality, and interdisciplinary dimension** of the proposed research;
- the **policy relevance** and **practical applicability** of the expected findings and recommendations;
- the **relevance** of the proposal to Mediterranean environmental, climate, health, and territorial **challenges**;
- the **feasibility** of the proposed approach, including the adequacy of the methodology and expected outputs;
- and the inclusion of an indicative **bibliography** and relevant **references**.

Particular attention will be given to proposals addressing **cross-cutting dimensions** such as climate resilience, public health, governance, social equity, ecosystem restoration, and urban or territorial sustainability through Nature-based Solutions.

Final selection may also be subject to adjustments in order to ensure geographical, thematic, and gender balance among selected contributions. Previously published papers, or papers already accepted for publication, will not be accepted. All submitted drafts may undergo a **plagiarism-checking process**. No single author may submit more than two proposals, whether independently or jointly with other authors. Draft papers must be submitted in English.

Submissions that do not comply with the present guidelines or fall outside the scope of the Call will not be considered.

SUBMISSION PROCESS

Interested researchers are invited to submit by September 11th 2026, the following documents: **And detailed concept note for the research paper (5 to 7 pages) including:**

A cover page (1 page) with:

- a. The summary of the paper stating:
 - the objective of the paper
 - the knowledge gap and the value added of the paper
 - methodology/approach
 - expected results and regional policy implications
- b. Presentation of the author(s) and the topic of the research as follows:
 - Name of the author(s)
 - Their Affiliation(s)
 - Contact details (including email)
 - Address, city and country
 - Which of the stated topics of the research they will be addressing.

The remaining pages of the concept note should include the following:

- **Statement of research** stating the problem addressed, brief review of the literature, the knowledge gaps the paper will address and a preliminary outline.
- **Research methodology** stating the research question, the hypothesis to be tested, the methodology (e.g. case studies, empirical evidence, econometric analysis, comparative policy analysis, etc.) and the rationale for using the selected methodology.

- **Expected results and policy implications:** how will the outputs and results of the research translate into policy recommendations. Recommendations must be linked to the analysis, be specific and operational.

2. The CVs of the author(s) including list of publications

3. For experts/consultants based in France:

- a document certifying their registration with the Registre du Commerce et des Sociétés (Commercial and Companies Register), or their professional ID card proving registration with the Répertoire des Métiers (Trades Register), or their certificate of registration with URSSAF.
- In addition, a certificate of compliance (“attestation de vigilance”) from the Social Security for the Self-Employed (Sécurité sociale des indépendants), if they are not affiliated with the general Social Security scheme.

For experts based outside France, they will be required to provide a sworn statement certifying that they are up to date with their tax and social security obligations in their country of residence.

SUMMARY AND TIMELINE FOR THE CALL FOR PAPERS

- **11 September 2026:** Deadline for submission of concept notes
- **Mid-September 2026:** Evaluation and selection process
- **Late September 2026:** Announcement of selected projects
- **11 December 2026:** Submission of the first draft
- **December 2026:** Regional online workshop
- **26 March 2027:** Submission of the final version
- **Summer 2027:** Publication in the Plan Bleu edited volume.

USE OF ARTIFICIAL INTELLIGENCE

Clause 1 - Controlled use of artificial intelligence

The service provider is authorized to use generative artificial intelligence (AI) tools, provided that their use is strictly limited to support functions: assistance with structuring, brainstorming, document exploration, or editorial optimization. The use of AI may under no circumstances replace the analytical work, source verification, or expert writing expected within the scope of the assignment. Artificial intelligence must under no circumstances replace human expertise or rigorous scientific methods. In particular, it may not be used to produce numerical estimates or to generate modeling results (economic, econometric, mathematical, or other), which must be based on validated, documented approaches implemented by the service provider. Any reference to a study, article, numerical data, or

academic source must be rigorously traceable and verifiable through precise references (title, author, publication, date, or link).

Clause 2 - Responsibility for content and transparency

The service provider remains fully responsible for the quality, accuracy, reliability, and consistency of the deliverable, including in the case of partial use of artificial intelligence tools. All information, data, or quotations appearing in the final deliverable must have been verified by the Consultant, regardless of the method of production. In the event of a clear breach (fictitious sources, fabricated quotations, inconsistent data), Plan Bleu reserves the right to request a revision at no additional cost, or even to terminate the contract and cancel all or part of the payment in the event of failure to meet deadlines. The Consultant is obligated to explicitly declare any use of AI tools in the preparation of deliverables. The Consultant must transparently indicate the parts of the work that were carried out with the assistance of an AI tool and may be asked to provide the methodology or queries (prompts) used.

Clause 3 - Quality responsibility

The Consultant remains solely responsible for the accuracy, originality, verification, and professional quality of deliverables, including those produced or assisted by AI. The use of AI tools cannot, under any circumstances, justify factual errors, plagiarism, bias, or breaches of confidentiality.

Clause 4 - Non-compliance and consequences

In the event of non-compliance with this clause, the client may request the Consultant to:

- revise the deliverables at no additional costs
- or, in the event of serious or repeated breach, to apply the contractual provisions relating to non-conformity or termination.

CONTACT

For any inquiries related to this Call for Papers, please contact Éloïse LEGUÉRINEL (Nature-based Solutions (NbS), Resilient Cities, and Territorial foresight Project Manager) eleguerinel@planbleu.org, and Pilar Montaner Pastor (Intern on NbS) pmontaner@planbleu.org with the following subject line in all correspondence: **“Plan Bleu Call for Papers – Nature-based Solutions, Health and Climate Resilience”**.