



Implementation challenges of maritime spatial planning (MSP) in Greece under a place-based approach

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Abstract

In the era of blue growth, maritime spatial planning (MSP)—especially MSP using a place-based approach—is absolutely essential if the sustainable management of oceans and seas is to be achieved. This paper therefore presents relevant lessons learnt from a study of a pilot marine area of Greece (the Inner Ionian Sea—Corinthian Gulf region). The study showed that, in order to develop and perform efficient place-based MSP in Greece, it is necessary to strengthen cross-border cooperation among countries that share the eastern Mediterranean Sea, to effectively engage the maritime regime and stakeholders in governance schemes, to collect and manage marine geospatial data, and to have a good grasp of the tools and methodologies that can be used in MSP. Moreover, the present paper identifies suitable criteria for defining appropriate MSP management units, considering ecosystem boundaries, management boundaries, geopolitical boundaries, socioeconomic and cultural characteristics, and land–sea interactions. The process of identifying the optimal MSP management units is underway in Greece; this step is crucial to performing place-based MSP and, ultimately, MSP utilizing the ecosystem-based approach.

Keywords Maritime spatial planning · Place-based approach · Inner Ionian Sea—Corinthian Gulf · Greece

Introduction

Marine regions have always been a focus for human activities such as fishing and navigation. However, in recent times, not only have these activities grown in popularity, but new activities have also emerged, such as mineral extraction, aquaculture, and offshore renewable energy farming. As a result, it has become necessary to accommodate these new activities in the management and planning of marine spaces.

Considering these needs, the European Union finalized and adopted the EU Integrated Maritime Policy in 2007.

Within this framework, two directives have been adopted so far: (a) the Maritime Strategy Framework Directive (MSFD) in 2008 and (b) the Maritime Spatial Planning (MSP) Directive in 2014. Two key aspects of these directives are that all member states must take the necessary steps (by 2020) to ensure that their marine waters achieve good environmental status (GES) and that member states must elaborate and adopt spatial plans for their marine regions before March 2021.

Since it is a member state of the EU (and a country characterized by an extended coastline and a large number of islands), Greece passed a law harmonizing the EU MSFD Directive (law 3983) in 2011 and a law harmonizing the EU MSP Directive (law 4546) in 2018. Since then, the competent authority for spatial planning in Greece (the Hellenic Ministry of the Environment and Energy, YPEN) has been accelerating towards the adoption of the first maritime spatial plans for the country. This acceleration has largely been made possible by the participation of YPEN in a set of research projects cofunded by the EU, such as SUPREME (which is analyzed in this paper).

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In this context, the present paper provides some key information on the SUPREME project and on the analysis performed in one of the pilot areas (the Inner Ionian Sea—Corinthian Gulf region) chosen in the framework of this project (see Fig. 1). The key lessons learnt from this case study are presented in the “Lessons learnt” section; they relate to (Beriatos et al. 2019) cross-border and international cooperation, stakeholder involvement and governance issues, geospatial data management issues, and tools that are appropriate to use for MSP in Greece. The added value of this paper is outlined in the section entitled “The added value of the project: criteria for identifying MSP management units,” where the basic criteria are discussed and tested; this allows appropriate MSP management units to be defined, which is a very important task of when implementing maritime spatial planning using a place-based approach.

The ecosystem approach and the need to adapt to place-based MSP

The ecosystem approach (EcAp) has been a well-known concept among marine biologists since the 1980s. According to the International Council for the Exploration of the Sea (ICES), this approach is “the comprehensive integrated management of human activities based on the best available scientific knowledge about the ecosystem and its dynamics, in order to identify and take action on influences which are critical to the health of marine ecosystems, thereby achieving sustainable use of goods and services and maintenance of ecosystem integrity” (ICES 2003).

Ecosystem-based maritime spatial planning (EB-MSP) has been developed as it is potentially able to promote or even ensure good marine ecosystem quality in conjunction with sustainable human economic growth (Foley et al. 2010; Ansong et al. 2017). The EcAp has been widely promoted and adopted by most UN and EU documents relating to the marine space and MSP (e.g., the UN ICZM Protocol and the EU MSP Directive). This is due to recent environmental



Fig. 1 The study areas considered in the SUPREME project (eastern Mediterranean Sea)

concerns and the need to adapt to the dynamic and trans-boundary nature of the sea, which crosses administrative and national boundaries and calls for planning initiatives at a wider regional or sea-basin scale (Gilliland and Laffoley 2008).

However, it is not an easy and straightforward task to adopt the ecosystem approach in MSP. A step in this direction was made by the EU when it adopted the MSF Directive in 2008. The key goal of this directive is to ensure the good environmental status (GES) of marine ecosystems and waters. Eleven environmental descriptors were listed for this purpose, whilst the framework of the directive suggested the extension of the existing network of marine protected areas (MPAs), given their critical role in the preservation of valuable natural ecosystems (Beriatis et al. 2019).

However, in terms of adapting the MSP process to the EcAp, even more useful than the measures mentioned above would be the adoption of a place-based approach when planning in marine space (Beriatis et al. 2019). Indeed, given that marine-based human activities are constantly growing in both volume and number (Kyvelou and Ierapetritis 2019; Crowder et al. 2006; Maes 2008; Foley et al. 2010), the sectoral approach to marine spatial planning that has prevailed up to now needs to be challenged and replaced by a more place-based approach (Papageorgiou and Kyvelou 2017). In this place-based approach, instead of performing planning in marine space by sector or economic activity (e.g., navigation, fisheries, aquaculture, etc.), it is performed on a marine-region-specific basis (i.e., it considers ecosystem boundaries), so that all of the uses of the sea and the natural environment can be managed more wisely (Douvere 2008; Beriatis 2013; Papageorgiou 2016).

It is evident that in a place-based approach, it is of paramount importance to identify the appropriate limits and size/scale of the marine management areas/units—in other words, to identify the geographical coverage of each marine plan and, by extension, the number of marine spatial plans that need to be elaborated in each country. This task is still pending for Greece, so this paper presents simple criteria and methodological steps (see the section “[The added value of the project: criteria for identifying MSP management units](#)”) for identifying the type and number of plans that should be elaborated in the marine regions of Greece.

The research framework

Key information about the SUPREME project

The SUPREME project, which is one of the EU initiatives that aim to assist with the implementation of the MSP Directive by member states, was undertaken by

four coastal neighboring countries in the Eastern Mediterranean (Greece, Italy, Croatia, and Slovenia) with the collaboration of UNEP/MAP–PAP/RAC. The project lasted two years and ended in December 2018. Within the project’s framework, five pilot areas were selected (one per country), with the exception of Greece, which undertook the study of two pilot areas (see Fig. 1): the Inner Ionian Sea—Corinthian Gulf and (b) the Myrtoon Pelagos—Passage of Kythera. The studies in the Greek pilot areas were supervised by the Hellenic Ministry for the Environment and Energy (YPEN) and carried out by three Greek universities: the National Technical University of Athens (NTUA), the University of Thessaly (UTH), and the National and Kapodistrian University of Athens (NKUA). The Department of Planning and Regional Development at the University of Thessaly studied the Inner Ionian Sea—Corinthian Gulf, whilst the School of Architecture at NTUA investigated the Myrtoon Sea (Passage of Kythera). The chemistry department of the NKUA collaborated with both the above two universities (NTUA and UTH) on issues relating to the environment and, more specifically, the incorporation of the EU MSF Directive guidelines into the MSP process.

The Inner Ionian Sea—Corinthian Gulf study area included part of the Ionian Sea (the islands of Zakynthos, Cephalonia, Ithaca, and Lefkada) and extended up to the Corinthian Gulf (which separates central continental Greece from the Peloponnese). This is a semiclosed marine area (which are common in Greece) that is currently under great pressure due to the intensities of certain activities (fishing, aquaculture, navigation, etc.), strong land–sea interactions, and ongoing natural phenomena and hazards (Papageorgiou et al. 2017).

The SUPREME project has proven valuable to both to the competent Greek authority for MSP (i.e., YPEN) and Greek academia. Specifically, the key outcomes for the Greek partners were: (a) the experience gained (especially by the competent authority for MSP) in relation to the implementation of the new national law for MSP (4546/2018) and by extension the EU MSP Directive, (b) the facilitation of the interaction and the flow of information among the related (sectoral) ministries, thus encouraging them to facilitate the implementation of MSP in Greece, (c) a familiarization with the methodologies and tools used in MSP, (d) the consolidation of communication channels among experts to ensure the flow of scientific knowledge among institutions at the national and Mediterranean levels, (e) the establishment of a stakeholders’ network (at national and regional levels) to utilize during MSP, (f) the raising of public awareness, and (g) heightened awareness of the decision makers regarding MSP affairs.

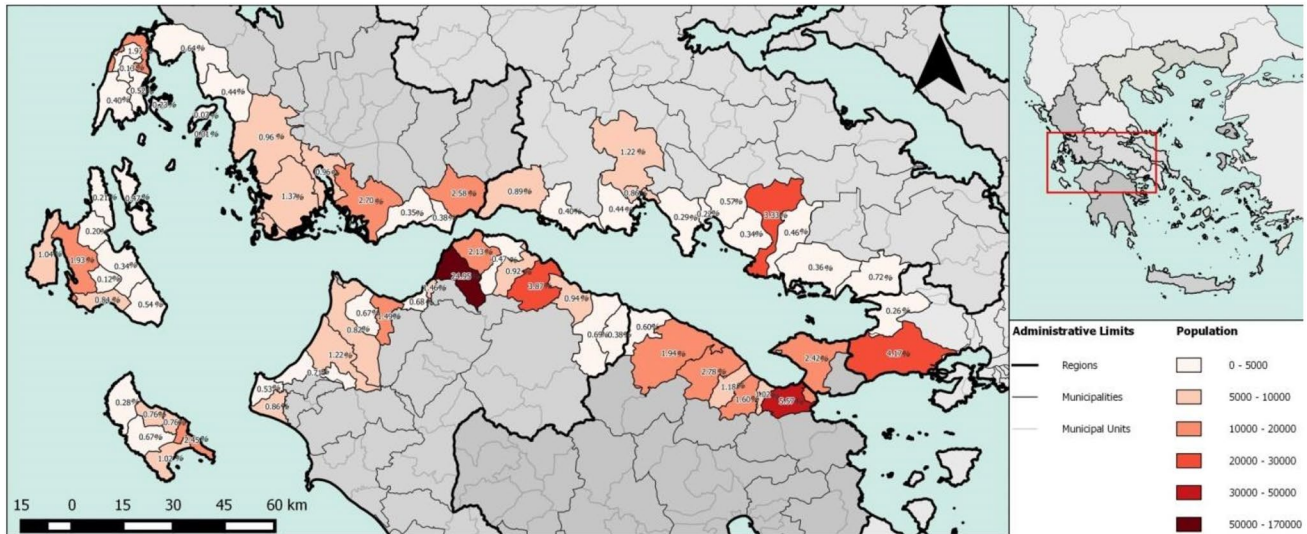
The tasks and the analysis performed

In the case of the Inner Ionian Sea—Corinthian Gulf region, the University of Thessaly (with all of its collaborators) under the supervision of YPEN (a) performed a thorough analysis of the study area (see Figs. 2, 3, 4) (Tzanatos 2010; Beriatos and Papageorgiou 2011; Kotzamanis and Duquenne 2012; Vagiona and Karanikolas 2012; Sakellariou et al. 2016; Karanika and Kallioras 2018; Beriatos et al. 2019; Pozoukidou 2008), (b) designed and tested a set of

methodologies and tools for MSP that utilize a place-based approach and the ecosystem approach, and (c) tested multilevel governance schemes (involving central government authorities, the local administration, the local stakeholders, as well as the public).

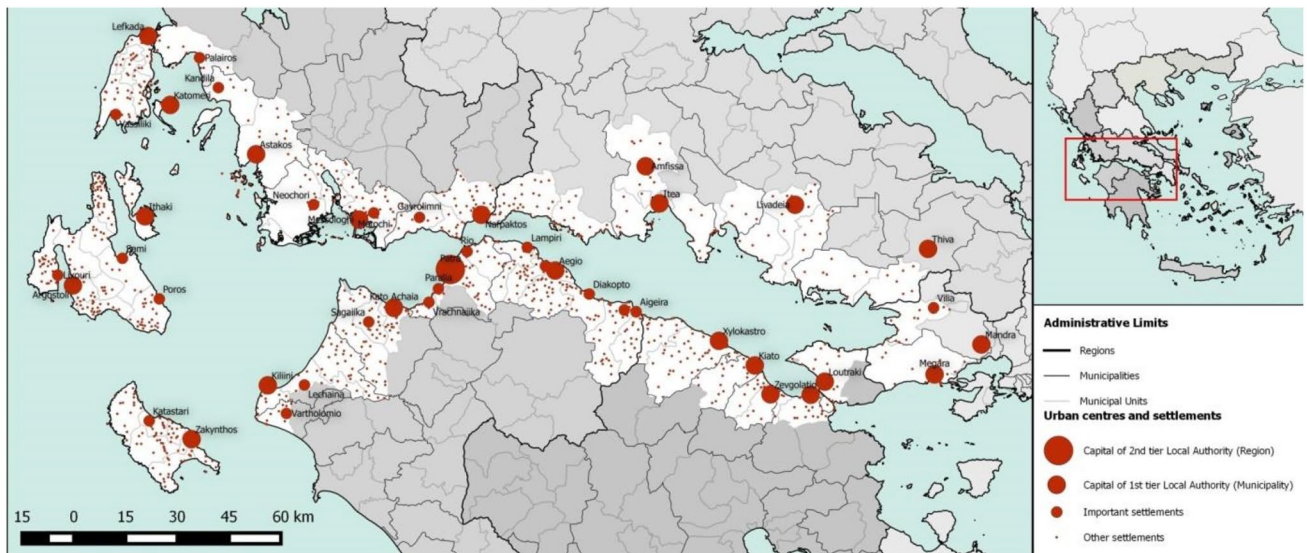
The steps taken in the analysis are described below:

Step 1: Recording of objectives and policies relating to the pilot area, as derived from: (a) international/European and regional documents and policies, and (b) national/regional/local spatial plans.



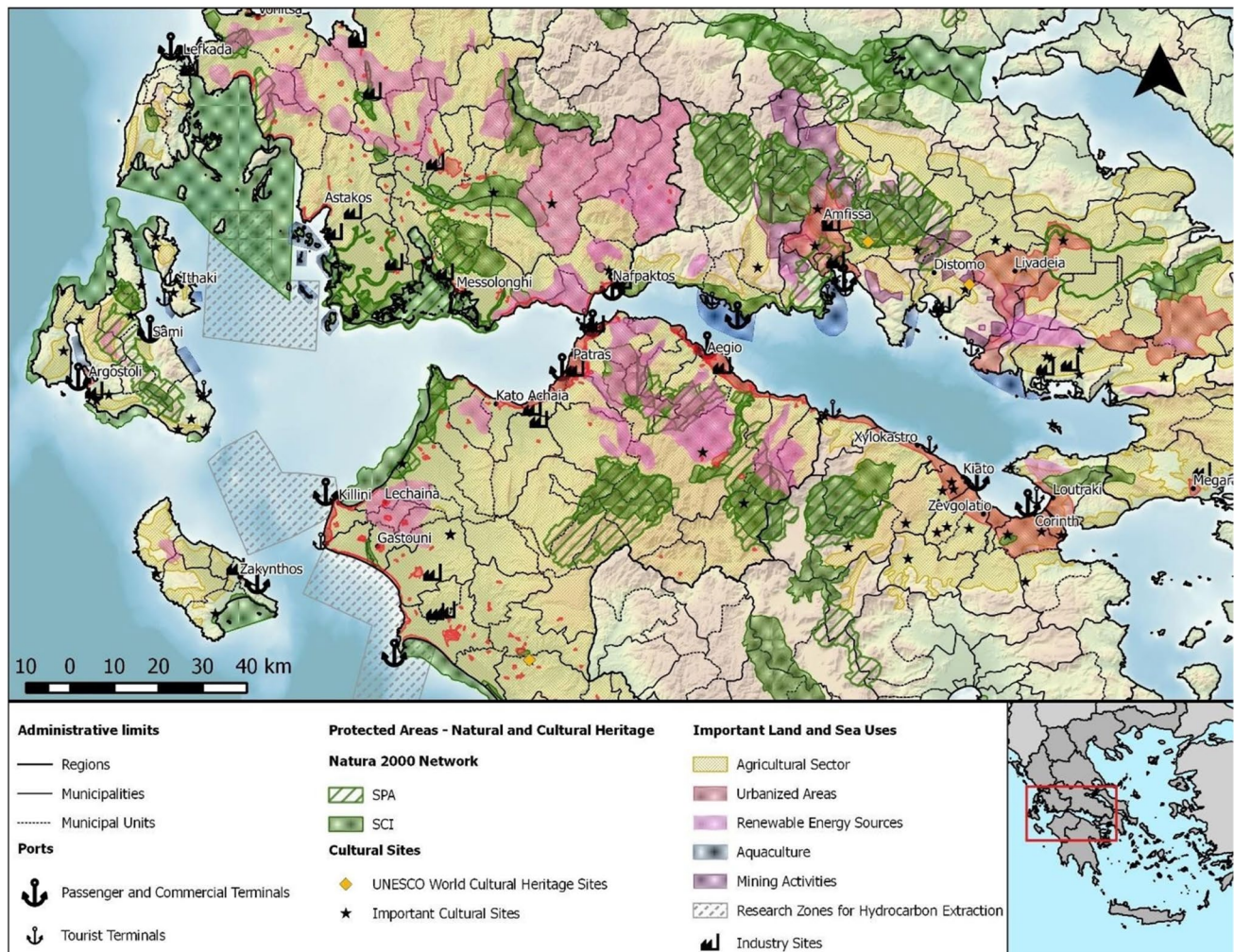
Source: processed by the authors

Fig. 2 The population distribution in the pilot area



Source: processed by the authors

Fig. 3 Important urban centers in the pilot area



Source: processed by the authors

Fig. 4 Key land and sea uses in the pilot area

Step 2: Analysis of the current situation. More specifically, this involved:

- Socioeconomic analysis.
- Analysis of the natural ecosystems, resources, and cultural capital.
- Marine use and infrastructure analysis.
- Coastal land-use analysis (interaction with the sea).
- Risk analysis (hazards and threats).

Step 3: Evaluation of the existing situation and the future threats and trends, which involved:

- Identifying user–user and user–environment synergies and conflicts, including those relating to the LSIs (land–sea interactions).

- Identifying transboundary considerations associated with (a) areas within the national waters and territory and (b) countries that share marine regions.
- Identifying issues relating to the effects of climate change.
- Identifying planning gaps, complementarities, and harmonization issues (a) between terrestrial and marine plans in the pilot area, (b) with plans in neighboring areas, and (c) among national, subnational, and local plans.

The management challenges and the key planning axis

Following the analysis performed in the pilot area, a set of issues that had to be considered during the MSP process were

identified. These issues were categorized into three types (Papageorgiou et al. 2017): those related to human activities; those related to the state of the natural ecosystem; and those related to the effects of climate change and natural hazards.

Regarding human activities, tourism was observed to be expanding rapidly in most parts of the study area—even in areas with a traditionally rural economy. Other human uses that required special management and planning regulation included fishing, coastal industries, maritime transportation, and coastal urban development. Regarding the state of the natural ecosystem, the pressure from certain land uses was found to be higher than the pressure from sea uses in the study area. However, this pressure was limited to specific spots around the gulf. Also, fish stocks are close to being exhausted, and there is a high risk of technological disasters (oils spills, etc.) that would have a great impact on both the natural and human environments in this area. In addition, the pilot area was identified as being highly vulnerable to the effects of climate change. In particular, ongoing coastal erosion along the Corinthian Gulf is threatening human settlements and other types of infrastructure.

To address the above issues and challenges in the pilot area, it was decided that planning proposals and guidelines would focus on the following topics:

- Marine habitat conservation.
- Underwater cultural heritage (UCH) conservation.
- Exploitation of living resources (commercial fisheries, recreational fisheries, fish and shellfish processing, marine plant harvesting, and hunting and collecting for other reasons).
- Cultivation of living resources (aquaculture, including infrastructure).
- Extraction of nonliving resources (oil, gas, minerals, salt, water, and aggregates).
- Physical restructuring of the coastline and seabed (land claims, coastal defense and flood protection, offshore structures, and restructuring of the seabed morphology, including dredging and depositing materials).
- Maritime transport (transport infrastructure, shipping, shipbuilding, and pollution).
- Tourism and leisure (coastal and marine tourism: beach-based tourism, sailing, and nautical activities).
- Energy production/networks (Renewable Energy Sources (RES), including infrastructure, and non-RES infrastructure, submarine cables, and pipelines).

Lessons learnt

The most important lessons learnt during the project are briefly presented in the following subsections. Progress in all of the topics presented below is considered to be of

paramount importance for achieving effective place-based MSP in Greece.

Cross-border and international cooperation

The sea is a liquid/fluid mass (the water column), meaning that material flows (including those of substances, species, and wastes) in the sea are unimpeded. These unimpeded flows lead to unpredictable dispersion and movement patterns of materials in the sea, which transcend administrative and national boundaries and necessitate planning initiatives and considerations at a wider regional or sea-basin scale (Gilliland and Laffoley 2008; Agardy 2010; Kyvelou 2016a). Given this transboundary nature of the sea, cooperation among neighboring states is needed to coordinate the use of shared marine regions and resources (that flow across national boundaries) in order to regulate this exploitation while ensuring ecosystem integrity (Brunner 2003; Mackelworth 2010; Kyvelou 2016b).

The need to establish cross-border cooperation and consider transboundary issues in MSP has been highlighted by many policy documents, including those deriving from the EU and the UN (such as the MSP Directive, the MSF Directive, and the Barcelona Convention and its protocols) (Fernandes et al. 2013).

According to the international literature, cross-border cooperation in MSP may be challenged and undermined for two reasons:

- *Institutional challenges*, which are due to fragmented responsibilities and the presence of different kinds of institutions, policies, and regulations at the marine regional level (Raakjaer 2014).
- *Conceptual challenges*, which are due to differences among countries in their approaches to MSP, which in turn depend on their planning culture and institutional context (Flanery et al. 2015; Van Tatenhove 2017).

However, in the SUPREME project (which focuses on the eastern Mediterranean Sea), it was recognized that an additional severe challenge to cross-border cooperation was the irregular geopolitical conditions in neighboring coastal countries that share marine regions.

Stakeholder involvement and governance

Based on the feedback from five stakeholder consultation meetings (at the national and regional levels) held during the Greek pilot studies, as well as the results of two types of questionnaire surveys (one involving the stakeholders and one involving decision makers), various conclusions were reached, as summarized below.

Stakeholder involvement

- Stakeholder involvement in participatory MSP procedures is still low for the following reasons: (a) low awareness of such matters, despite the importance of the coast and maritime issues in Greece; (b) a lack of motivation to get involved in marine affairs due to an absence of clear national marine policy; and (c) difficulties encountered by stakeholders from Greek islands in accessing the venues that hosted meetings via ferry.
- There is a need to adopt new techniques and tools (e.g., 3D GIS) that can help and encourage MSP actors and participators to get involved in a more meaningful way.

Governance and competencies

- Decision makers at all levels (central government and regional and local authorities) need to become more familiar with the complexity of marine region governance (and therefore build stronger cooperation networks).
- Decision making, competencies, and licensing relating to coastal management are efficiently distributed among local authorities and central government (public administration).
- Decision making, competencies, and licensing relating to marine management are handled in a top-down manner (the competencies belong to central government).
- Cooperation among first- and second-tier authorities that share the same marine region (the Corinthian Gulf and the Inner Ionian Sea in this case) is rather poor.
- The coordination of policies between ministries responsible for specific marine economic sectors (e.g., fisheries and maritime transport) and the Ministry for the Environment (the competent authority for MSP) is very low.

Geospatial data management

Given the fact that until recently the marine space was considered to be *terra incognita*, the collection and management of geospatial data for marine regions can be a rather challenging task. Digital geographical data that are suitable for MSP must comply with common standards for metadata, common vocabularies, data transport formats, quality control methods and flags, and access (University of Thessaly and PAP/RAC 2016). Therefore, it is important to ensure that all geographical data used for MSP in Greece comply with the INSPIRE (Infrastructure for Spatial Information in the European Community) Directive—such compliance is compulsory for Europe's Mediterranean countries. In general, as suggested in a recent report from the University of Thessaly and PAP/RAC (2016), the following questions should be asked when searching for datasets in the marine space:

- What is the data format?
- When were the data collected?
- What is the data resolution?
- What coordinate system is used?
- Do the data have the right attributes?
- Are the data freely accessible?

The sheer size of the marine space in Greece makes acquiring and managing the relevant geospatial data a challenging task; indeed, national marine geospatial databanks may never be fully comprehensive. Thus, especially for Greece, it is imperative to produce time series of key geospatial data, and for previous, ongoing, and future research projects to share marine geospatial data and ultimately update and enrich national databanks.

Planning methodologies and tools

Just as in terrestrial spatial planning (TSP), tools to assist with the analysis and decision making that must be performed during MSP can be categorized as follows:

- *Compatibility assessment tools*. These tools are employed to identify spatial interactions between human uses and other human uses or the environment. Using compatibility matrices, these interactions are categorized into synergies, conflicts, and neutral interactions (Gramolini et al. 2013).
- *Cumulative impact assessment tools*. These tools measure the combined impact of multiple pressures on the marine ecosystem across the marine space and over time (McDonald et al. 2007; Evans and Klinger 2008), assuming that human activities are independent of each other (Micheli et al. 2013). In this way, the sensitivity of the ecosystem can be estimated as a cumulative score.
- *Vulnerability analysis/assessment tools*. A key goal of this type of analysis is to quantify the different types of anthropogenic threats to the ecosystem as a whole and to certain components of it (Halpern et al. 2007). In other words, these tools use representative indicators to measure ecosystem responses (e.g., resilience) to human threats.
- *Feasibility analysis tools*. Using multicriterion analytical models and mapping, these tools can offer a clear picture of the geographical distribution of existing marine uses and infrastructure, and they can identify suitable sites for new marine uses and infrastructure.
- *Risk analysis tools*. These tools can evaluate the risk from the effects of climate change (such as sea level rises and coastal erosion) and the risk from natural and technological disasters (e.g., tsunamis and oil spills).

While the methodologies to use in this context can be based upon preexisting ones for terrestrial spatial planning (TSP) (Pozoukidou 2010), methods used for TSP cannot be simply transplanted to maritime spatial planning (Beriatos 2016; Papageorgiou 2017; Papageorgiou and Kyvelou 2018). Given the special nature of and the conditions in the sea, the methodologies to be used in MSP must also consider the transboundary nature of the sea, land–sea interactions, and the principles of the ecosystem-based approach, which is currently the key objective of the management of oceans and seas at an international level.

In Greece, although experience of existing planning methodologies and tools is valuable, they must be adapted to the peculiarities of the Greek marine space: an extended coastline; very narrow marine territories; large numbers of islands, and an unusually high number of neighboring coastal countries with which Greece must interact and achieve cross-border cooperation (Papageorgiou 2017).

The added value of the project: criteria for identifying MSP management units

The philosophy of the Greek MSP law

In Greece, a law relating to MSP (no. 4546) was passed in 2018. Given the EU MSP Directive, the Greek MSP law prioritizes the adoption of the ecosystem approach and, by extension, a place-based approach to maritime spatial planning. The law also highlights the need to account for land–sea interactions (LSI), and thus considers the land part of the coastal zone to be an integral part of any MSP management unit containing a coast. At the same time, this law stipulates that MSP should be addressed at two different levels in Greece: the national and the regional/subregional levels.

At the national level, Greece must articulate and provide spatial guidelines that consider and combine all sectoral policies related to the sea. These guidelines should define sectoral priorities, nature conservation priorities, and the means to achieve sustainable development and blue growth in the marine parts of the country. At the regional/subregional level, on the other hand, this law calls for the elaboration of plans of a more regulatory nature. However, the number and scale (geographical coverage) of these regulatory plans are yet to be defined by the Greek state. In fact, Greek law 4546 of 2018 regarding MSP gives no specific directions or criteria that must be considered except for a direction about their scale, which should vary from the subnational (interregional or regional) to the subregional (local) scale.

The selection of the two Greek pilot areas that were studied during the SUPREME project is considered to

be the main attempt by the Greek competent authority (YPEN) to identify management units for place-based MSP in order to comply with the ecosystem approach. The methodological criteria taken into consideration (especially in the case of the Inner Ionian Sea—Corinthian Gulf region) are presented in the following sections.

Criteria used to identify the scale and the seaward parts of the management unit

Given the nature and the goals of the SUPREME project, the two Greek pilots (and all other pilots in the project) had to focus on marine areas at the subnational level, i.e., portions of the national marine territory. According to the Greek MSP law, MSP management units at the subnational level can vary from the interregional to the regional to the subregional (local) scale.

In the case of the Inner Ionian Sea—Corinthian Gulf region, the interregional scale/level was chosen, whilst the criteria used to identify the size and limits of the study area were (a) the ecosystem boundaries, (b) sociocultural and economic criteria (commonality among the populations living in the area), (c) preestablished cooperation among administration units (especially in the Corinthian Gulf), and (d) geopolitical criteria.

As regards the first criterion, the Inner Ionian Sea is an ecosystem entity and the natural extension of the Corinthian Gulf. On the other hand, the Corinthian Gulf is a semiclosed sea (which are very common in Greece) with oceanic characteristics (depth: 900 m; length: 127 km). Regarding the second criterion, this area is known to have been a resource-rich marine and coastal space, which led to the formation of a common place identity and strong economic and cultural links among its inhabitants. Especially in the case of the Corinthian Gulf, this common identity resulted in the foundation in 1993 of a special body that promotes cooperation and networking among the first-tier administrative units surrounding the gulf. Finally, in relation to the fourth criterion, the entire pilot area falls completely under national jurisdiction and is close to other coastal countries with which there is preestablished cross-border cooperation (e.g., a treaty delimiting the continental shelf was agreed between Greece and Italy in 1978).

The management unit (Inner Ionian Sea—Corinthian Gulf) that was specified based on the above criteria encompasses a geographical area that falls under the jurisdiction of five regions (and 20 municipalities). This great complexity in the governance of a management unit is not uncommon, especially in Greece, given its geography and large number of islands.

Criteria used to identify the landward limit of the management unit

Since the Greek MSP law strongly prioritizes the appraisal of land–sea interactions (LSIs) and considers the land in the coastal zone to be an integral part of a MSP management unit, it was decided that the Inner Ionian Sea—Corinthian Gulf pilot area should also include on-land areas. The criteria used to identify the landward limit of the pilot area were the following:

- Geographical and ecosystem boundaries (e.g., habitat areas, river basin limits, and altitude limits).
- Management boundaries such as administrative units, river basin management units, and protected area management units, given that they are suitable for statistical and spatial analysis.
- Spatial characteristics such as land–sea interactions (LSIs).

Implementing the abovementioned criteria for the Inner Ionian Sea—Corinthian Gulf resulted in a geographical area with the landward limit shown in Fig. 5. This area includes all municipal units (subdivisions of first-tier administrative units) that have coasts facing the Inner Ionian Sea and the Corinthian Gulf, but excludes territories within these municipal units that are above the 600 m isocontour (as, according to national policies, these territories are in the mountainous zone).

It should be noted that to reach a final decision on the landward limit of the pilot area, other boundaries were also considered, including river basin limits, Natura site

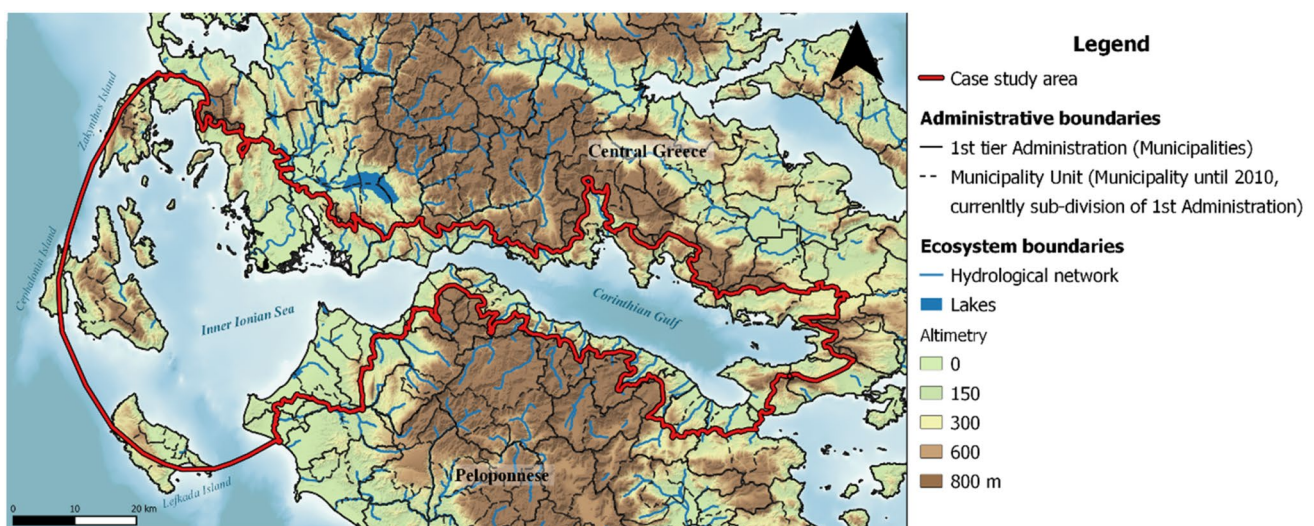
boundaries, and first-tier municipal limits. Those boundaries were, however, ultimately ignored when defining the landward limit, as a very large on-land surface in comparison to the marine area would have resulted otherwise.

The assessments performed for this pilot area revealed that the task of identifying the landward limits of marine spatial plans requires careful consideration in Greece and other coastal countries.

Conclusions and discussion

Situated in the eastern Mediterranean Basin, Greece is a country known for its large number of islands and thus its coastline. As a result, Greece has a long and interesting tradition of maritime planning utilizing a sectoral approach (fisheries, navigation networks, etc.), with the aim being to take full advantage of its coastal and marine morphology and resources. However, due to the recent introduction of the European Union Integrated Maritime Policy, Greece has recently (in 2018) adopted and harmonized the EU MSP Directive (2014/89), which calls for spatial planning to be extended from the land to the sea, and for this planning to be carried out using a place-based approach. Given the deadline stated by the directive, the Greek MSP law (no. 4546) also stipulates that the first maritime plans should be adopted before March 2021.

It should be noted that a maritime spatial plan is yet to be adopted in Greece, although YPEN (the competent authority for MSP in Greece) has undertaken a set of MSP-related initiatives (mainly through its participation in EU cofunded research projects). Participation in those research projects



Source: processed by the authors

Fig. 5 Geographical coverage of the pilot area (defined based on the criteria mentioned in the main text)

revealed that the key challenges that need to be addressed in order to accelerate MSP implementation in Greece are (a) governance and competency issues, along with aspects relating to stakeholder involvement, (b) geospatial data management and updating existing databanks, (c) cross-border and international cooperation among countries in the Eastern Mediterranean, and (d) familiarization with planning methodologies and tools, especially those that consider the transboundary nature of the sea, land–sea interactions, and the integration of the ecosystem approach.

In addition to the above, appropriate MSP management units are still to be identified (in other words, the number of marine spatial plans is still to be specified), and the acceleration of the process of defining a clear national policy for Greece's marine areas is awaited. This process involves identifying sectoral priorities and the thresholds for maintaining the optimal environmental conditions in national marine waters.

To conclude, although the first maritime plan is still to be adopted in Greece, efforts to achieve this aim do not need to start from scratch. Experience and lessons learnt from terrestrial spatial planning can be of great value to planners and decision makers. However, it is essential that marine spatial planning is practiced in Greece using a place-based approach, that this planning (MSP) is properly interlinked with terrestrial spatial planning, and that it is performed in conjunction with the sustainable management of the coastal zone (where marine and terrestrial spatial planning meet).

Compliance with ethical standards

Conflict of Interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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