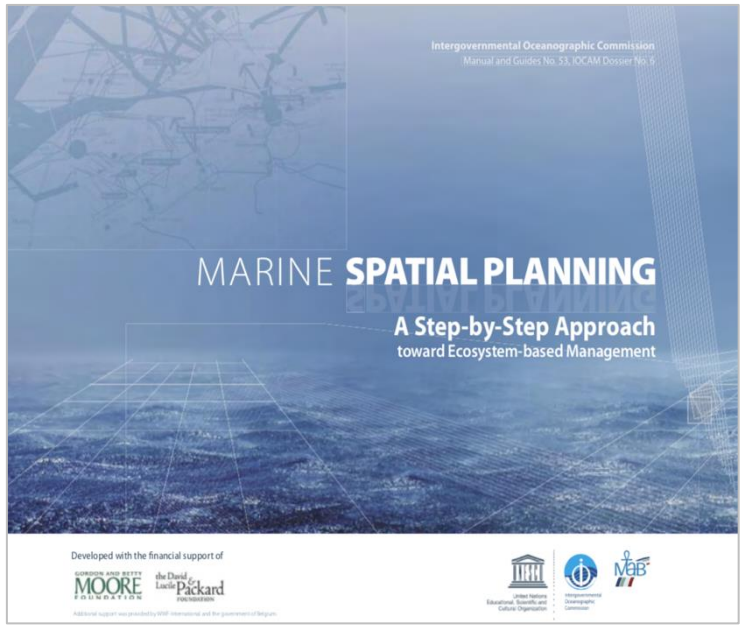
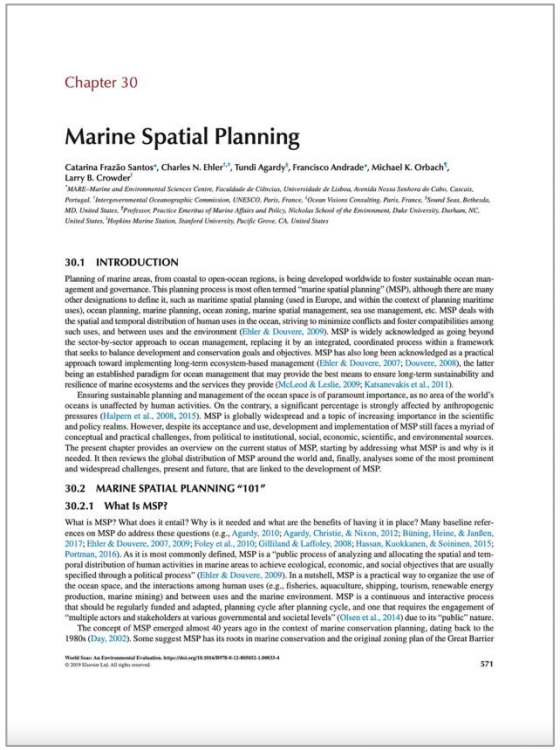
# Marine Spatial Planning *101*

## Exercise

# Exercise Until 12h00

- **Literature reading** (www.plantproject.eu/aaoem)



Chapter 30

## Marine Spatial Planning

Catarina Frazão Santos[a], Charles N. Ehler[1,3], Tundi Agardy[4], Francisco Andrade[a], Michael K. Orbach[5], Larry B. Crowder[2]

[a]MARE–Marine and Environmental Sciences Centre, Faculdade de Ciências, Universidade de Lisboa, Avenida Nossa Senhora do Cabo, Cascais, Portugal, [1]Intergovernmental Oceanographic Commission, UNESCO, Paris, France, [2]Ocean Visions Consulting, Paris, France, [3]Sound Seas, Bethesda, MD, United States, [4]Professor, Practice Emeritus of Marine Affairs and Policy, Nicholas School of the Environment, Duke University, Durham, NC, United States, [5]Hopkins Marine Station, Stanford University, Pacific Grove, CA, United States

### 30.1 INTRODUCTION

Planning of marine areas, from coastal to open-ocean regions, is being developed worldwide to foster sustainable ocean management and governance. This planning process is most often termed "marine spatial planning" (MSP), although there are many other designations to define it, such as maritime spatial planning (used in Europe, and within the context of planning maritime uses), ocean planning, marine planning, ocean zoning, marine spatial management, sea use management, etc. MSP deals with the spatial and temporal distribution of human uses in the ocean, striving to minimize conflicts and foster compatibilities among such uses, and between uses and the environment (Ehler & Douvere, 2009). MSP is widely acknowledged as going beyond the sector-by-sector approach to ocean management, replacing it by an integrated, coordinated process within a framework that seeks to balance development and conservation goals and objectives. MSP has also long been acknowledged as a practical approach toward implementing long-term ecosystem-based management (Ehler & Douvere, 2007; Douvere, 2008), the latter being an established paradigm for ocean management that may provide the best means to ensure long-term sustainability and resilience of marine ecosystems and the services they provide (McLeod & Leslie, 2009; Katsanevakis et al., 2011).

Ensuring sustainable planning and management of the ocean space is of paramount importance, as no area of the world's oceans is unaffected by human activities. On the contrary, a significant percentage is strongly affected by anthropogenic pressures (Halpern et al., 2008, 2015). MSP is globally widespread and a topic of increasing importance in the scientific and policy realms. However, despite its acceptance and use, development and implementation of MSP still faces a myriad of conceptual and practical challenges, from political to institutional, social, economic, scientific, and environmental sources. The present chapter provides an overview on the current status of MSP, starting by addressing what MSP is and why is it needed. It then reviews the global distribution of MSP around the world and, finally, analyses some of the most prominent and widespread challenges, present and future, that are linked to the development of MSP.

### 30.2 MARINE SPATIAL PLANNING "101"

#### 30.2.1 What Is MSP?

What is MSP? What does it entail? Why is it needed and what are the benefits of having it in place? Many baseline references on MSP do address these questions (e.g., Agardy, 2010; Agardy, Christie, & Nixon, 2012; Böning, Heine, & Janßen, 2017; Ehler & Douvere, 2007, 2009; Foley et al., 2010; Gilliland & Laffoley, 2008; Hassan, Kuokkanen, & Soininen, 2015; Portman, 2016). As it is most commonly defined, MSP is a "public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives that are usually specified through a political process" (Ehler & Douvere, 2009). In a nutshell, MSP is a practical way to organize the use of the ocean space, and the interactions among human uses (e.g., fisheries, aquaculture, shipping, tourism, renewable energy production, marine mining) and between uses and the marine environment. MSP is a continuous and interactive process that should be regularly funded and adapted, planning cycle after planning cycle, and one that requires the engagement of "multiple actors and stakeholders at various governmental and societal levels" (Olsen et al., 2014) due to its "public" nature.

The concept of MSP emerged almost 40 years ago in the context of marine conservation planning, dating back to the 1980s (Day, 2002). Some suggest MSP has its roots in marine conservation and the original zoning plan of the Great Barrier

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## Two decades of progress in Marine Spatial Planning

Charles N. Ehler

*Ocean Visions Consulting, 213B Boulevard Saint-Germain, 75005, Paris, France*

ABSTRACT

This paper reviews the key developments of ocean management leading up to and over the past decade, especially marine or maritime spatial planning and ecosystem-based management, with an emphasis on the former. From scattered seeds in a few marine places—from early marine spatial analysis and data atlases to the EU Marine Spatial Directive in 2014—MSP has grown to a world-wide movement by governments at various levels to manage comprehensively marine resources in space and time. Early efforts to apply systems thinking to marine planning, especially in oWestern/Northern Europe, have developed an extensive knowledge base of what works and doesn't work based not only on academic theory, but now on practical experience. From a few pioneering examples of the implementation of MSP by 2005, today over 75 countries are experimenting with MSP as a practical approach toward ecosystem-based marine management. The paper begins with a summary of early attempts to map the geography of the sea and to define how planning at sea began to some of the first applications of MSP from 1980 to 2005. Real-world efforts to apply MSP, especially in Western/Northern Europe and North America are identified and described. A few key milestones of MSP—the first international workshop on MSP (2006), the early work of the EC in funding pilot MSP projects in Europe, the EU MSP Directive of 2014, and the second international workshop on MSP in 2017 are noted. Current MSP activities in world regions are summarised and characterised. Finally, a target for MSP outcomes by 2030 and future challenges for MSP are identified.

### 1. Introduction

Societal demand for marine goods and services, such as food, energy, and habitats, is rising and often exceeds the capacity of marine areas to meet all demands simultaneously. In many cases, users have free access to marine resources, including ocean space, that often leads to over use, conflicts, and eventual degradation of marine resources including habitats. Since many marine goods and services are not priced in the market, e.g., ecosystem services such as climate regulation and storm protection, conflicts often cannot be resolved and trade-offs made through economic benefit/cost analysis. Another public process must be used to decide what mix of outputs, or goods and services, from the marine area should be produced over time and space—that process is marine spatial planning or MSP [1].

Over the past two decades marine spatial planning (MSP) has matured from a concept to a practical approach to moving toward sustainable development of the ocean, and more recently toward a "blue economy". Initially started in Australia, then China, Germany, The Netherlands, Belgium, and England, MSP has now spread to over 75 nations—half of the 150 countries of the world with marine waters [2]. It has become the planning process of choice to determine what, where, and when human activities should take place in marine areas.

This paper defines MSP, reviews some of the historical roots of MSP, identifies the need for MSP, reviews key attempts to implement MSP in most regions of the world, summariness the current status of MSP in 2019, and outlines some challenges for the future evolution of MSP.

### 2. Marine spatial planning defined

Marine spatial planning has been defined most succinctly as "ecosystem-based management at sea" [3]. While not everyone would accept this definition, it does have the appeal of simplicity. Other more full definitions exist. The most widely-used one is MSP is "… a public process of analysing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process" [4]. MSP is a process, not a tool. It is integrated and multi-objective, not focused on a single economic sector, e.g., fishing or offshore renewable energy—or marine conservation. It is inclusive, transparent, and public, not exclusive, opaque and private, It is future-oriented, continuing and adaptive—not a one-off "master plan" or "blueprint". MSP is never "done"; it is a commitment to continue planning into the future. After all, planning can only deal with the future.

The MSP process has also been called maritime spatial planning (mostly in countries of the European Union), marine planning, ocean planning, marine spatial management, integrated ocean management, sea use management, marine zoning, ocean zoning, and a few other similar terms. Several authors have pointed out the confusion of all of the different names and acronyms [5]. However, a search of the "Web of Knowledge" of the Institute for Scientific Information—data collected by

*E-mail addresses:* charles.ehler@mac.com, charles.ehler@mac.com.
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# Exercise Until 12h00

- **Literature reading** (www.plantproject.eu/aaoem)

- **Preparing a short presentation (2 slides):**

  **What is MSP**

  show the changes from your original definition (1 slide)

  **Main benefits**

  list the main benefits developing MSP (1 slide)

- **Share findings with the class**

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# Literature

Chapter 30

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## Up to the end of section 30.2.3

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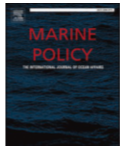


## Two decades of progress in Marine Spatial Planning

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Up to the end of section 4

# Literature

**Part I: pages 17 to 24**