
Preface

Intention Imagine you walk along the coast, what do you see? Do you see open space for birds, animals and different types of plants? Do you see meadows and fertile land for crops and “energy plants”? Or do you see a green line at the horizon which protects people against storm surges? What about the ditches, canals and rivers? Are these for draining the land or for leisure ships or the backbone of the northern European water transport sector?

The way we are looking at the coast is strongly depending on our experiences, our awareness, our living and educational environment and many more stakes. The German philosopher Kant already stated that space (here, we understand “the coast” as part of the space of the earth) cannot entirely be grasped or described as “thing itself”, only by sensual perception and experiences. Consequently, there is no unique idea or description or perception of the coastal space possible.

Herein we can find two lessons to comprehend:

1. Different living and educational environments lead to different perceptions of the coastal zone. This is a matter of fact a coastal manager has to accept.
2. If we are trying to practice coastal zone management we have to *integrate* the different perceptions, different intentions and ideas in the coastal zone.

If coastal zone management is seen as an instrument for the sustainable development of the coastal zone (UN, 1992, chapter 17) it is only possible as an integrated approach.

This book builds on different classes and lessons I gave at the Carl-von-Ossietzky University Oldenburg (Germany) and the Rijksuniversiteit Groningen (The Netherlands). Students from different countries with a variety of previous knowledge but all interested in coastal issues motivated me to compile this educational book on Integrated Coastal Zone Management (ICZM).

Target Group This book is written for students who are studying in bachelor or master programs related to coastal issues. Although this book is concentrating on water management and not going into detail on different other sectors it provides a methodological part that can be ubiquitously applied. One has to consider the adaptation of the different tools and methods to his or her specific circumstances – as always.

Furthermore, this book intends to provide insights in, generally spoken, coastal water management and their interrelationships for policymakers and managers in coastal zones. Although the spatial focus of this book lies in the Southern North Sea Region, the examples and description should provide relevant information and basic findings on processes (either natural or human) and approaches that could be applied elsewhere.

Last but not least this book may also be read by people who gained long experiences in the coastal zone but would be challenged by a different view at the coast.

Structure This book is divided into eight chapters. It starts with a short description of the context of this book dealing with the coast. What is the coast and how men prepared the area to be able to live and work here. Afterwards, a brief overview about the historical development of ICZM is provided. Sometimes it is difficult to exactly determine a starting point because the idea of an integrated approach starts somewhere and emerges over time at different places. Here, the starting point for the integrated management approach of coasts is set in the developments around the San Francisco Bay in the USA and the first steps taken at the Port Phillip Bay in Australia near Melbourne.

In Chap. 3 basics of ICZM will be explained and discussed as there will be a list of selected definitions of the term ICZM. ICZM will have to be enlivened so basic principles need to be developed and discussed. The reflection will show that these principles are a combination of different relevant processes and approaches for integration.

Chapter 4 summarizes hydrological aspects which are important to know when dealing with the coast. It serves as knowledge base for the following chapters.

In Chap. 5 current challenges in the coastal zone of the Southern North Sea Region will be elaborated. The description is focused on water management, encompassing coastal defense (protection), drainage management and river management. The limitation to the water sector is a tribute to the amount of space of this book. To touch all different sectors and interests in the coastal zone would have been too ambitious. On the one hand, it is striven to elaborate the water chapters in a way that the basic idea of how to treat other sectors will be clear. On the other hand, the water sector is one of the important and basic sectors to enable life and work in the coastal zone (see Sects. 5.1 and 5.4).

Subsequently, existing approaches of integration in the water sector are shown in Chap. 6. Although promising starting points exist there is still a lot to do.

This chapter is followed by the description of a methodological toolbox to enable an integrated management approach (Chap. 7). Those sections should be understood as suggestions and references for the identification of available and adequate methods.

Chapter 8 comprises real-world case studies which could be used to apply the tools and methods touched in the previous chapters.

The book will hopefully stimulate and encourage the reader to further work on and support the integration of different sectors in coastal zone development. Eventually the basic idea of applying or implementing *ICZM* is the aspiration or even achievement of sustainable development of the coastal zone. At the end of each chapter or a respective subsection the exercise questions will motivate to derive a deeper insight of a specific theme.

What This Book Is About and Is Not About! This book will give a brief but as comprehend as possible overview on the item of *ICZM* exemplified for water management in a broader sense. It is neither the ambition to reflect the entire societal nor scientific discussions. It is the ambition to prepare the reader to roughly understand these discussions and hopefully to sort out and assess the different interests and needs behind the oral or written statements of the respective representatives of different sectors. Within this book it is striven for sufficient representation of each point of view. The reference lists provide further literature to deepen the insight of a specific item.

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Status, Challenges and Prospects

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