
Preface

Data are everywhere: big data, artificial intelligence (AI), cloud computing – including marine science – and open science. Having access to a wide audience makes it mandatory to expound open data with tangible examples, which is the goal of this book.

There are many general or circumscribed data platforms. Our purpose is to analyze environmental data that give rise to an open scientific platform, precisely on the quality of marine water, and specifically on port quality and inter-port analogy.

Outstandingly, our topics concern the types of data that should be established and delivered online, and also, above all, who should be able to access it, by which path and for what scope.

We underline the sovereignty aspect of the port state in this domain, because understanding data concerning its own space is itself sovereignty, and thus paves the way for who can access it as well as for what purpose. We remark that sovereignty at geographical points is of strategic importance for a state, because it concerns its ports. In our book, this is the ports on the east Atlantic Ocean coast of Pertuis Charentais and the ports in the north Mediterranean of High Corsica.

This book is organized into three types of chapters: those in which researchers provide scientific data from their projects (Chapters 1–3 and 6); one that pushes data toward the WIBE (Water Interdisciplinary Biology and Ecology) platform (Chapter 4); and finally a chapter which pulls data for end-users according to the FAIR (Findable, Accessible, Interoperable, Reusable) principle (Chapter 5). Chapter 6 is notable in that it studies potential heavy metal pollution of cathodic protection on ships and infrastructures in the laboratory.

The following chapters study the health status of several sentinel species called biomonitoring, and address both seasonal variations and discrepancies with reference values in preserved sites:

- Chapter 1, *M. edulis*, *C. gigas* in Pertuis Charentais.
- Chapter 2, *Patella* sp., *M. galloprovincialis* in High Corsica.
- Chapter 3, *P. lividus* in Corsica.
- Chapter 6, *M. varia* in the laboratory.

End-users or stakeholders could complain about the superposition of objectives between individual and collective members, natural parks, port industries and fishermen, with an increasing demand for public debates similar to that during the initiation of wind farms.

Port investments for the future, as well as marine cultures and fishing sectors, will follow most societal challenges, reindustrialization, numerical, energy and ecological transitions, biodiversity conservation and decarbonization.

Being FAIR (Findable, Accessible, Interoperable, Reusable) toward ecotoxicological open data on the health status of sentinel marine species, as in the open platform WIBE IS, will help us make enlightened choices and decisions for the short and long term on small and large scales.

Here, we provide the multidisciplinary research that has allowed for high-quality data sharing (biomarkers, pollutants, parameters) through a fulfillment platform for a wide public in accidental and chronic pollution, marine environment conservation and the sustainable development of ports.

Frédéric MUTTIN
Hélène THOMAS
May 2024