



Chapter 12

Climate Change and the Ocean Economy: A Review on OECD's Ocean Economy

Seda Yildirim

 <https://orcid.org/0000-0003-4367-6652>
Tekirdag Namik Kemal University, Turkey

Merve Kaplan

 <https://orcid.org/0000-0001-5096-5546>
Canakkale Onsekiz Mart University, Turkey

Durmus Cagri Yildirim

Tekirdag Namik Kemal University, Turkey

ABSTRACT

The ocean economy is directly linked to the biodiversity of the ocean. Biodiversity is under great threat as a result of the effects of climate change and global warming. Therefore, the ocean economy and the marine economy are among the economies that will be most affected by the effects of climate change. Each change in ocean and sea levels causes changes in biodiversity. Considering its importance in terms of food health, economic and social development, the sustainability of the marine economy is an important issue. The aim of this study is to present indicators of ocean economy among OECD countries and show the importance of ocean and marine economy in the long term.

INTRODUCTION

Climate change and global warming change the ecological structure of our planet and affect the continuity of natural life. With the acceptance of the reality of climate change, discussions on the continuity of humanity have increased. World leaders have begun to feel the effects of climate change and global warming in recent years, Although climate change is essentially a natural weather phenomenon, it has

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become a major problem in the years that started with the industrial revolution due to human-induced effects (NASA Global Climate Change, n.d.; European Commission, n.d.; Turrentine, 2022; Yıldırım and Yıldırım, 2022). As a result of fossil fuels used for industry and production, excessive use of natural resources, inefficient use of water resources and neglecting environmental pollution for a long time, world leaders have been faced with the problem of sustainability (Bostancı ve Yıldırım, 2021). The reality accepted today can be said to be the danger of the rapid end of life as a result of an increase in the temperature of the world by more than one and a half degrees. The physical and chemical properties of the oceans have changed as a result of climate change. In particular, warming caused by CO₂ and other greenhouse gases has also caused an increase in water temperatures in the oceans (Jiao et al., 2015). While scientists and researchers emphasize that climate change is a global problem, they also state that there should be global solutions to combat its effects (Koyuncu, 2021; Shukman, 2021).

The first affected factors as a result of climate change and global warming are ecosystem and biodiversity. Every change that occurs in the ecosystem also creates a change in the population and living conditions of the living things in the relevant environment (Lake et al., 2012). At this point, the most observable evidence can be considered changes in the oceans and seas. As a result of temperature differences in sea water, extinction problem arises in local species, and some invasive alien marine species are displaced, threatening local marine species and endangering the marine economy (Yildirim and Kaplan, 2022; Kaplan et al., 2022; Kaplan and Yildirim, 2023).

It is known that climate change and global warming affect economic activities based on natural resources such as “agriculture, livestock, fisheries, forestry etc.” therefore, the arrangements and measures to be taken regarding the continuity of these economies will also be of vital importance for the continuity of human life (Hoeden et al., 2007; Reid et al., 2008; Hossain et al., 2012; FAO, 2015; Ladrera and Cagasan, 2022;). Every country in the world has different sources of wealth. Although the countries with natural gas and oil seem lucky in terms of energy, the food and water crisis has also been among the prominent issues after the Ukraine-Russia war and the Covid-19 pandemic (Acer, 2022; Murphy, 2022; Bozkuş, 2022). With the year 2023, the food crisis is estimated to be the first issue that world leaders focus on. In this context, developed and developing countries will start to develop new prevention programs for food security. Fisheries, on the other hand, have an important position in many countries for the continuity of food security. In the studies, it is emphasized that the continuity of the marine economy is important for both food security, economic development and social welfare (Yildirim and Kaplan, 2020; Yıldırım and Yıldırım, 2021).

In recent years, the world has been faced with many risks, especially the global pandemic, the Russia-Ukraine war, and then the energy crisis, and the blue economy issue has begun to be reconsidered globally. Blue economy, which is perceived as the sustainable use and protection of ocean and marine resources at the point of establishment of economic growth; It is gaining increasing attention in the context of poverty reduction, food security and tackling the many risks facing our planet, including climate change. The blue economy is defined by the World Bank as the sustainable use of ocean resources for economic growth, better livelihoods and employment creation while maintaining the health of the ocean ecosystem. The European Commission has stated that all economic activities related to the oceans, seas and coasts can be considered within the scope of the blue economy (NTV, 2023).

“Blue economy” is a concept that also foresees sustainability within the framework of “blue” that gives life to the oceans. The blue economy creates economic opportunities and positively supports the revenues of the states (The Commonwealth, n.d.). The oceans should not be thought of only as a source of jobs and wealth. The continuity of the sea areas is essential for the continuity of the functioning of

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