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REFLECTION OF EO DATA IN BLUE ECONOMY: SUSTAINABLE GROWTH

Abstract

There is a reason that earth is called the Blue Planet. About 71% of the globe is covered by water which holds roughly 80% of the total life forms. More than 1/3 of the global population lives within 100 km of the sea, more than 3 billion people rely on water bodies for a living, and waterways carry out more than 78% of international trade in goods which creates the value of the ocean economy around 3 trillion USD annually. Along with transportation and tourism, new activities such as offshore wind energy, growing aquaculture and marine biotechnologies are accelerating the growth of the Blue economy. Globally, approximately 350 million jobs are linked to the oceans through aquaculture, fishing, coastal and marine research & tourism and activities. However, these activities are growing without sufficient consideration for sustainability and are often affected by climate change, ocean pollution and overfishing. These facts certainly bring much attention to the fact that thinking and acting blue is the future for our planet.

The concept of the Blue Economy was introduced in 2010. Since then, it has been gaining popularity throughout the globe as we live in the 21st century where data is the new oil and becoming more and more important across multiple industries and at UN Climate Change Conference COP26 the ocean also became the fundamental part. Similarly, Earth Observation (EO) data became an essential source of information for the monitoring and modelling of oceanic, atmospheric and terrestrial processes. EO has the potential to support the Blue economy and address a wide range of issues, including disaster risk management, biodiversity conservation, climate change mitigation and adaptation, coastal water safety and security, and short and long term planning challenges.

This paper unfolds the opportunities for Earth Observation Data to provide innovative solutions to develop and secure Blue Growth and meet global sustainable development goals (SDGs) challenges. There is a long list of potential applications of EO in the maritime sector to increase information management, decision-making planning for coastal and marine resources management. The majority of these applications positively impact human activities on the earth. Also, this paper emphasises the global market trends of emerging sectors in the blue economy and how EO data is revolutionising them by efficient operations (using Artificial Intelligence, Machine Learning and Deep learning technologies) and ease of decision making.