

Foreword of the Editors

The world is currently undergoing one of the most transformative periods of the past century, brought about by the social, economic, and political impacts of the COVID-19 crisis. Additionally, the effects of climate change and population growth and their impact are becoming more and more apparent. Although we have already seen significant effects, we do not yet fully understand the magnitude of the crisis. As we move forward, we are faced with the challenge of making critical public health, economic, governance, and ecological decisions with limited information, and reversing recently adopted policies, which may lead to significant disruptions in sustainability. In these unprecedented times, it is crucial to fully understand the Earth's system and transform our needs and how we meet them to ensure a sustainable future for all.

Human needs can be defined as the required goods and services necessary for human survival, such as food, clothing, shelter, and healthcare. Throughout history, humans have undergone various stages of evaluation regarding their needs, and it is vital to explore the interrelation between human needs and their evolution over time, as well as future prospects for a sustainable society. Scientific advice and evidence-based decision-making in all matters are essential to meet this goal.

By using Earth Observation, we nowadays have the possibility to observe, quantify and analyze for decades the ongoing changes of our world from space. To understand the current situation and to anticipate the interventions that are needed, we have to understand the impact of human behavior over time on the world in which we live today. Accordingly, we must take responsibility for making positive changes based on these findings and facts.

We hope this collection of scientific and experimental approaches utilizing Earth Observation data will contribute towards the goal of achieving a sustainable future for Earth, by comprehending the current situation and forecasting the needs for a more sustainable management of our world to meet the human needs.

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