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THE ROLE OF SPACE FOR CLIMATE RESILIENCE: A FOCUS ON THE MEDITERRANEAN REGION

Abstract

For the first time in 2023, the Intergovernmental Panel on Climate Change (IPCC) addressed the specific impact of our changing climate on the Mediterranean Basin. According to the IPCC, this geographical area shows a unique (historical and) environmental identity, including physiographic and ecological features. Specifically, the Mediterranean region faces regional climate change-induced risks, surpassing the global average and accentuated by the area's heightened vulnerability, not limited to the environmental aspects.

In this context, the natural ecosystem is confronted to a growing array of challenges from diverse nature: wildfires, floods, desertification. The repercussions extend beyond environmental concerns, directly jeopardizing national and regional security, and generating a cascade of economic, social, and political effects.

Space-based technologies play a significant role in addressing the challenges of climate resilience, as evidenced by the on-going implementation of over one hundred projects already using space solutions in Mediterranean countries. Ranging from the development of fully-fledged systems to smaller-scale local initiatives, these projects are aimed at addressing several of the above-mentioned challenges, depending on available resources and policy priorities.

Beyond providing insights on the plethora of space-based solutions currently used and planned to address climate resilience challenges, this paper will provide:

- An overview of how these projects are aligned with climate resilience challenges as identified and prioritised by Mediterranean countries in their climate policies. These encompass a spectrum of general and sectorial mitigation and adaptation strategies addressing climate-related concerns, complemented by security and disaster risk management policies.
- A gap analysis highlighting climate resilience challenges where space-based solutions still hold untapped potential.
- A series of policy recommendations to maximise the positive impact of space on climate resilience in the Mediterranean region, built on the outcomes of the research and elaborated together with representatives of relevant actors based in the selected countries.