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IAF EARTH OBSERVATION SYMPOSIUM (B1)
International Cooperation in Earth Observations (1)

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OCEANS, RESOURCES, AND CLIMATE APPLICATIONS FROM SPACE: INTERNATIONAL GOVERNANCE AND DATA SHARING MODEL FOR EARTH OBSERVATION CONSTELLATION

Abstract

The Earth, as viewed from space, is an overwhelmingly blue planet, with oceans covering over 70% of the Earth's surface. Around 40% of humanity lives within 100 kilometres of the coast and more than 90% of global trade routes across the seas. Oceans help regulate greenhouse gas emissions, control global temperature, and hold the key to addressing global challenges: food security, climate change, and natural resource management. This paper introduces a governance model for an Earth observation satellite constellation with international partners, ensuring flexibility and adaptability for current and future stakeholders.

This work then reflects on the best way to ensure the commercial value of the constellations data while ensuring the best possible use of the data for public need. This includes suggestions on balancing publicly accessible 'free' data and privately accessed data – higher level data, with higher spatial and temporal resolution – and multinational downstream networks to best use the data from this Earth observation constellation.

The final aspect of this work addresses a specific example of a constellation with international cooperation at its heart and applies the proposed governance model to it. This case study also highlights the need for the constellation governance structure to consider downstream components, providing direction to best facilitate the development of innovative space-based and space-enabled applications to tackle the global and local needs of coastal users and their communities in line with the SDGs and the Space2030 Agenda.