

Topics (T)

Space Technology for Climate Adaptation and Mitigation [1] (6A)

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THE LAUNCH OF SWOT AND ITS IMPACT ON THE INTERNATIONAL REGULATORY FRAMEWORK FOR SEA LEVEL RISE

Abstract

Sea Level Rise is unanimously recognized as one of the fundamental indicators of global climate change and provides insights into Earth's climate sensitivity. In fact, ice melting and thermal expansion of sea water account for more than ninety percent of the overall increase of water levels.

From an international law perspective, SLR is particularly relevant along two directions: the reduction of territory that it produces, and the impact on human rights (i.e., forced migrations, right to food, water, health) caused by saltwater intrusions. Nevertheless, the international legal framework for the adaptation to SLR appears still embryonic, in contrast with some actions taken at national level (e.g., the 2022 decision of the Indonesian Parliament to move the capital from the “sinking” Jakarta to Nusantara). In particular, the Montego Bay Convention on law of the sea is “unprepared” to address SLR issues and its coordination with the UNFCCC appears to be stagnant.

On its end, space-based ocean altimetry has had a crucial role in the measurement of SLR since 1992. Nonetheless, the recent launch of SWOT and its ten times higher resolution represent a game changer, allowing to measure sea levels in coastal regions and with an increased elevation accuracy. The newly available space-based data will thus improve the measurability and predictability of SLR, with a direct impact on the above-mentioned regulatory framework, going beyond the provision of the necessary scientific base for its implementation.

Therefore, this paper aims at providing an overview of the legal implications of the increased foreseeability of future sea levels. Although an amendment of both the Montego Bay or UNFCCC Conventions is very unlikely, an evolution of the regulatory framework is expected along (at least one of) the following lines:

- The evolutionary interpretation of the Montego Bay Convention, which would in fact allow the application of some of its articles to the specific case of SLR, as a result of the measurability of SLR in coastal areas.
- An *ad hoc* integration of maritime and climate international law for the regulation of SLR, potentially in the form of annexes to the Conventions, building on the enhanced measurability of both global and regional SLR.
- The elimination of one of the blocking points for the application of the international environmental responsibility regime to the case of SLR (i.e., the required predictability of the damage to prove the breach of the principle of *due diligence*).