EGU26-8921, updated on 11 Nov 2026
https://doi.org/10.5194/egusphere-egu26-8921
EGU General Assembly 2026
© Author(s) 2026. This work is distributed under
the Creative Commons Attribution 4.0 License.

Assessment of Coastal Disaster Policies in South Korea: Achievements, Limitations, and Future Challenges

jiho jung
Korea Maritime Institute, Korea, Republic of (jhjung@kmi.re.kr)

South Korea is geographically vulnerable to coastal disasters due to its extensive coastline and frequent exposure to natural hazards such as typhoons and storm surges. Recently, these risks have intensified as the local rate of sea-level rise exceeds the global average, leading to recurring coastal flooding and erosion.

To mitigate these threats, the South Korean government has implemented various policies rooted in the *Coastal Management Act*. Key initiatives include "Coastal Improvement Projects" for restoring damaged shorelines and the designation of "Coastal Erosion Management Zones" to prevent future risks. Additionally, long-term coastal monitoring and R&D programs have been established to support scientific decision-making.

Despite these efforts, coastal damage persists, revealing limitations in the current approach. The primary challenges include the inability to effectively restrict development in high-risk areas and an over-reliance on "grey infrastructure" (artificial structures). Furthermore, spatial management strategies, such as managed retreat, are difficult to implement due to a lack of social consensus and resistance from local communities.

This study argues that effective disaster response requires a paradigm shift beyond traditional engineering. We propose: (1) the active adoption of Green Infrastructure and Nature-based Solutions (NbS); (2) stronger integration of coastal management with urban planning to strictly limit development in vulnerable zones; and (3) enhanced governance mechanisms to encourage community participation and consensus building.