



Coasts' Futures: The Challenge of Coastal Resilience in the Face of Global Change

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**Coasts' Futures: The Challenge of Coastal Resilience
in the Face of Global Change**

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Coastal systems increasingly experience erosion, flooding, soil and aquifer salinization, and induced damage and disruption to human activities, as a result of both climate change impacts (especially sea-level rise, increased wave height and accelerating ecosystem degradation) and the disturbances caused by local human activities. Yet, these systems concentrate major human and natural assets. Whereas some of them concentrate megacities, critical infrastructure and economic activities, others exhibit a diversity of ecosystems that provide multiple and critical ecosystem services to human societies. The increased exposure and vulnerability of these systems to global climate-ocean change and local anthropogenic pressures interrogates their capacity to persist and adapt.

This session will focus on this adaptation challenge through the spectrum of coastal resilience, defined as the ability of coastal systems to adjust through natural- and human-driven processes to global change. Natural systems have, at least to some extent, the capacity to adjust to anthropogenic climate change and local pressures through sediment reorganization and landward migration. Likewise, human societies deploy a large range of adaptation measures aimed at reducing coastal risks through taking action on hazards and/or vulnerability. Among other responses, ecosystem-based adaptation is increasingly considered to reduce risks.

This session firstly welcomes contributions addressing the observational and methodological challenges raised by the urgent need to better understand current and future changes affecting all types of coastal systems (from the poles to the equator), their dynamics and resulting risks to human societies at multiple spatial-temporal scales. Contributions presenting the resilience of coastal systems to extreme events and recent progress in physical modelling are particularly welcome. This session secondly welcomes contributions addressing the adaptation challenge through the presentation of risk management and adaptation practices and their major outcomes. The latter are diverse and include a large range of measures, from those that are community-based and embedded in indigenous and local knowledge to those that are technologically innovative. Along this spectrum, nature-based solutions and strategic and managed retreat are increasingly implemented along coastlines, which allows to draw lessons from the ground. Furthermore, the adaptation challenge interrogates the capacity of human societies to collectively design from now on and despite a large range of uncertainties (which relate in particular to the climate and socio-economic dimensions) context-specific and desirable adaptation pathways.

We encourage submissions from researchers, engineers, planners and policy-makers... contributing to coastal knowledge generation and/or coastal system management.

KEYWORDS

Coasts, Global Change, Coastal Risks, Coastal Resilience, Coastal Risk Reduction, Climate Change Adaptation.