

# **Sea Level Rise and Integrated Coastal Risk Assessment in the Context of Climate Change**

## **1. Title**

Sea Level Rise and Integrated Coastal Risk Assessment in the Context of Climate Change

## **2. Background and Description**

Since the 20th century, climate change has brought wide-spread impacts on global society and the natural environment. In recent years, global warming has caused sea level rise as well as frequent weather and climatic extreme events such as typhoons and storm surges, which results in adverse influences on the socio-economic and environmental systems of coastal areas. Sea level rise directly leads to the inundation of coastal lowlands, the degradation of coastal ecosystems and the reduction of coastal defense capacity. It will also result in the intensification of coastal disasters such as storm surges, coastal erosion and coastal city floods, threatening the socio-economic development of coastal areas. Further promoting the bilateral & multilateral joint research and exchanges as well as cooperation among coastal countries in response to sea level rise and climate change, and actively carrying out multi-disciplinary comprehensive risk assessment and mitigation & adaptation to the natural environment and socio-economic impacts, are of great significance for improving the capacity of marine disaster prevention and mitigation for all coastal countries.

## **3. The Outline of Recommendations**

Joint regional sea level and climate change analysis and projection, integrated risk assessment and nature-based solutions are of great importance for achieving the UN 2030 Agenda for Sustainable Development.

As one of the major countries which is populous at low altitudes coastal areas, China proposes to deepen cooperation and joint research among coastal countries in the areas of regional climate change, sea level rise and extreme events (strong typhoons, storm surges and huge waves) and promote a series of corresponding social-ecosystem impact surveys and risk assessments. It will benefit to reduce exposure and vulnerability of high-risk coastal areas, and to improve adaptability and resilience for sea level rise and climate change. At the same time, China appeals to normalizing the organization of special forums on climate change and coastal disaster mitigation, mainly focusing on topics including “comprehensive coastal risk assessment”, “climate change and sea level rise adaptation and mitigation”, “best practices on national and regional scale for disaster prevention and mitigation” and so on, which will provide good chances for communications and exchanges among coastal countries. It is also of great importance to enhance personnel exchanges, technical exchanges and training. At the same time, China recommends paying more attention to scientific discoveries and publicizing to the public and decision makers in timely and efficient manners.

#### **4. The use of natural systems to deal with climate change & future support**

China will recommend strengthening the investigation and risk assessment of the impacts of climate change and extreme events on socio-ecological systems, and promoting the reduction of exposure and vulnerability in high-risk areas. Meanwhile, China recommends developing and applying key technology such as marine carbon sequestration, renewable energy, and sea level and climate change assessment adaptation, and increasing greenhouse gas capture. On the other hand, it will be recommend to strengthen the development and application of coastal ecosystem protection and restoration technologies, thus to restore the diversity of coastal ecosystems and enhance ecosystem service functions, which will also improve climate change adaptability and resilience.

#### **5. Countries and organizations involved in the recommendations and implementation**

Participants in the recommendation include major global coastal countries and international organizations. The recommendation will be put in to effect among low-altitude island countries and coastal countries, and China calls on all parties to participate actively.

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