

Coastal Flood Resilience Project

WHITE PAPER

Implementation of the Water Resources Development Act of 2020

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The Coastal Flood Resilience Project is a coalition of organizations working for stronger programs to prepare for coastal storm flooding and rising sea level in the United States. This White Paper provides background information and suggestions for the Army Corps of Engineers to consider as it develops guidance for the implementation of the Water Resources Development Act of 2020.

Problem Statement

Coastal storms are a major risk to life and property and a warming climate is causing an increase in the number of the strongest storms. These storms bring more extensive coastal flooding, higher storm surges, and increased rainfall. Research indicates that intense storms are [slowing down and thus](#) raining on a given place for longer. Even as storms move more slowly, they [intensifying more rapidly](#), making their landfall harder to predict and more likely to result in major damage and loss of life.

Sea level rise around the globe is likely to be [3 to 4 feet by 2100](#) but may be as high as 6 to 8 feet if efforts to control emissions of greenhouse gases falter. Sea level rise along parts of the American coast will be as much as [30 percent greater](#) than the global average due to factors such as ocean currents and land subsidence. In the short term, this will result in more [“sunny day flooding”](#) during high tides and larger surges and greater flooding during storms. In the long term, sea level rise will lead to permanent inundation of significant portions of the American coast.

Suggestions for Implementation Guidance

Given the significant risks posed by more severe storms and sea level rise, we recommend that the Corps work closely with stakeholders and other federal agencies to assure that policies and programs to implement WRDA 2020 fully recognize these risks to coastal water resources, communities, infrastructure, and ecosystems. More specific recommendations are provided below.

- 1) Implementing Principles and Requirements:** Section 110 provides for issuing, within 180 days of enactment, agency guidelines for implementing the Water Resources Principles and Requirements and supporting interagency guidelines.

Updating Corps procedures to be consistent with current guidelines and project planning and evaluation procedures is a response to changing conditions and new directions established by WRDA 2020.

For example, Corps procedures need to reflect the most current guidance on expected future conditions, including storm intensity and sea level rise. Greater consideration needs to be given to the operational and maintenance costs of structural projects compared to nature-based approaches that often have lower long-term costs. Updated procedures also need to recognize the benefits of non-structural projects that remove people from high-risk areas, thereby saving lives. Benefit-cost analysis should also address the useful life of a project, rather than just the shorter design life, and consider the likely changes in conditions (e.g., increased rainfall, sea level rise) projected over that period. Finally, it is essential that procedures and benefit-cost analysis methods be updated to better remove inequities in which higher ratios of benefits to cost are found for high value property of wealthy people rather than lower value property of middle and lower-income people.

- 2) Support for Disadvantaged Communities:** Several provisions of the bill call for greater attention to the needs of disadvantaged communities.

Section 111 directs the Corps to prioritize resiliency planning assistance to economically disadvantaged communities and communities subject to repetitive flooding. Section 112 provides for updating Corps policies on environmental justice considerations and strengthening strengthen its Tribal consultation requirements.

Corps implementation guidance concerning this work should address the need to correct underestimation of benefits for disadvantaged communities in benefit-cost analysis methods, identify improved mechanisms for outreach to disadvantaged communities, and identify criteria for recognizing the needs of minority communities with challenges related to social and environmental justice.

Section 118 establishes pilot programs for ten studies and projects to reduce flood and storm risks for economically disadvantaged and rural communities. The Corps should clarify in implementing guidance that flood risk includes the risks posed by rising sea level in addition to flooding resulting from rainfall and storm surges. Feasibility studies should include analysis of the increase in storm surge extent due to sea level rise over the life of the project and should consider the consequences of permanent inundation as a result of

rising sea level in the selection of alternatives. Implementation guidance should also clarify public engagement expectations related to this section and provide for evaluation of the projects and recommendations for improving support for disadvantaged communities in the future.

Finally, Section 160 calls on the Corps to define the term “economically-disadvantaged community” for purposes of WRDA2020. Corps implementing guidance should include both economic metrics and metrics recognizing minorities and indigenous people and communities that face challenges related to social and environmental justice that may not be fully reflected in common economic metrics.

- 3) Updating Sea Level Rise Planning Guidance:** Section 113 directs the Corps to update existing planning guidance related to sea level rise and increased inland flooding and better account for these climate related changes in project planning within 180 days of the date of enactment.

In implementing Section 113, the Corps should work closely with other federal agencies, including the National Oceanic and Atmospheric Administration, to develop guidance that is fully consistent with sea level rise projections developed on an interagency basis. For example, Corps guidance should be consistent with the 2017 [sea level rise scenarios report](#) and any subsequent iterations of that report, including an updated report expected in the middle of 2021.

- 4) Relocation Alternatives for Small Flood Projects:** Section 115 describes considerations for design of small flood control projects.

In considering relocation alternatives under Section 115, it is important that the Corps establish in implementing guidance that the Corps evaluate both short- and long- term flood risk and permanent inundation risk as a result of rising sea levels. For locations where both coastal storm flooding and sea level rise are risks, the interim nature of some alternatives, such as building elevation, should be identified and the likelihood of eventual relocation described.

Implementing guidance for this section should highlight the opportunity to acquire floodplain land for recreational, fish and wildlife and other public purposes. This authority can be a critical tool for facilitating the migration of existing saltwater wetlands inland as sea levels rise and preserving ecosystem functions. The guidance should also strongly encourage the use of nonstructural, natural, and nature-based features.

- 5) Nonstructural, Natural, and Nature-Based Features:** Section 116 directs the Corps to document the consideration of natural and nature-based alternatives in the study of flood risk management and hurricane and storm damage reduction projects, including estimates of long-term costs and benefits of such alternatives.

Corps implementing guidance should highlight the critical role that nonstructural, natural, and nature-based solutions can play in improving water management in both inland and coastal locations. The guidance should provide for full recognition of the diverse benefits that these designs have for sustaining ecosystem services. Guidance should also indicate that, in coastal environments subject to sea level rise, these designs can reduce both initial implementation costs as well as life-cycle costs because costs of removing structures overtaken by rising sea level are avoided.

- 6) Coastal Mapping:** Section 148 provides for the Secretary of the Army to develop and carry out a plan for the recurring mapping of coastlines that are experiencing rapid change.

Although timely mapping of changes to the nation's coastline is of critical importance, the Corps implementation guidance should provide that both planning for mapping and map production be coordinated with the Interagency Working Group on Ocean and Coastal Mapping (IWG-OCM) and that existing agency responsibilities for mapping of mean high-water lines (e.g., official coastlines) around the country by the National Oceanic and Atmospheric Administration are not disrupted.

- 7) Assistance to Communities Subject to Repetitive Flooding:** Section 119 authorizes a new program for the Corps to study, design, and construct water resources projects for communities that have experienced repetitive flooding events and have received emergency flood fighting assistance.

Corps guidance for implementing this section should provide that repetitive flooding includes both seasonal flooding and periodic flooding as a result of major storms and storm surges. Guidance should highlight the value of nature-based approaches to reducing flood risk. Guidance should also provide that in design of projects to "provide flood and coastal storm risk management to affected communities" the Corps will consider the implications of climate change and projected future conditions with respect to more severe storms and storm surges, increased extent of temporary storm flooding due to higher sea level, and areas expected to be inundated permanently by rising sea level.

8) Reuse of Dredged Material: Section 125 encourages the reuse of dredge material increases the number of reuse project authorizations and calls for five-year regional dredge material management plans.

Corps guidance implementing this section should identify both environmental benefits and harms resulting from reuse projects, including potential impacts of contaminants and the impacts on marine life at dredge material application sites. Guidance should also provide that regional plans describe the projected lifespan of reuse projects and the financial implications of any projected repeated application of reused material. Finally, guidance should provide for development of a public database of projects and supporting information.

9) Restoration in the Louisiana Coastal Area: Section 212 calls for a report to Congress within one year of the date of enactment that includes strategies and projects for addressing conservation, protection, restoration, and maintenance of the coastal Louisiana ecosystem.

Corps implementation guidance should identify the need for mapping of both existing ecosystems and the land areas where these ecosystems will migrate to as sea levels rise. Guidance should also identify the important of developing strategies that facilitate the migration of existing ecosystems to upland areas.

10) Studies of Coastal Flood Risk to North and South Atlantic Coasts: Sections 207 and 208 provide for continued work related to studies of measures to reduce risks related to coastal storms in communities along the north and south Atlantic coast.

Corps implementation guidance should address the critical need to consider future conditions projected for these areas as a result of climate change, including more extensive storm flooding as a result of both more severe storm surges and higher sea level. For areas expected to be permanently inundated by rising sea levels, implementation guidance should call for consideration of limitations of response strategies focused primarily on temporary flooding due to storm surges.

The *Coastal Flood Resilience Project* is a coalition of organizations working for stronger programs to prepare for coastal storm flooding and rising sea level in the United States. The views expressed in this White Paper are those of the contributors and do not represent the views or endorsements of their organizations.

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