Moving Mitigation Forward: The Building Resilient Infrastructure and Communities (BRIC) Program
Rise in Disaster Impacts
### Needed Annual Flood Hazard Mitigation

<table>
<thead>
<tr>
<th>Period</th>
<th>Hurricane Impacts</th>
<th>Riverine Impacts</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-2016</td>
<td>$142B</td>
<td>$22B</td>
<td>$164B, or $16.4B/year</td>
</tr>
<tr>
<td>2009-2019</td>
<td>$371B</td>
<td>$22B</td>
<td>$393B, or $39.3B/year</td>
</tr>
</tbody>
</table>

With a 6:1 mitigation value, annual flood hazard mitigation investment needed ranges from:

- **2006-2016**: $2.5B/year
- **2009-2019**: $6.5B/year

*Image: Floodwaters from Hurricane Matthew, 2016 – FEMA/ Jocelyn Augustino*
In FY 2018, more than $1.3B in pre- and post-disaster Hazard Mitigation Assistance Grants was delivered to states, tribes, and territories, resulting in mitigation actions that will reduce risk.

**FY 2018 data**

- **Flood Mitigation Assistance Grant Program**: 7% ($88.2M)
- **Pre-Disaster Mitigation Grant Program**: 4% ($57.7M)
- **406 Mitigation Funding**: 30% ($400M)

*This figure includes legacy PDM program funding*
Disaster Recovery Reform Act (DRRA)

- The most significant opportunity in decades to focus on investing in mitigation measures that will reduce losses from future disaster events
- Establishes nearly 50 new authorities and requirements across FEMA
- Designed to address the rising costs of disasters and reform Federal disaster programs
Building Resilient Infrastructure & Communities

**BRIC Guiding Principles**

- Support communities through capability & capacity building
- Encourage and enable innovation
- Promote partnerships
- Enable large projects
- Maintain flexibility
- Provide consistency

**Mitigating Community Lifelines: 1989-Present**

*Draft Data – Not Yet Final*
FEMA does not endorse any non-government entities, organizations, or services.
Commonly Supported Ideas

Generally, stakeholders expressed support for:

- Increased funding for technical assistance and capability and capacity-building activities
- Evaluation and performance monitoring of BRIC-funded projects
- Adoption and enforcement of recent building codes while allowing for flexibility
- Lesson sharing of successful projects at various scales
- Collaboration with other agencies and organizations to develop and support BRIC-related activities
- Large and small mitigation activities
- Simplifying the process for shifts to budgets, processes, and work schedules that result in no changes to scope of work – especially necessary for large projects
- Expansion of pre-calculated benefits
- Consistency across pre-existing mitigation programs
Coastal Mitigation Job Aid

Commonly used bioengineered shoreline stabilization measures generally focus on:

- Reducing wave impacts
- Mitigating storm surge risk
- Minimizing erosion
- Improving slope stability
- Creating/improving coastal habitat

Bioengineering strategies for shoreline stabilization via a “Living Shorelines” approach (Source: http://www.habitat.noaa.gov/restoration/techniques/lshimplentation.html)
6-acre underground resiliency park in NJ offers outdoor public recreation amenities such as a natural oasis, athletic fields, play areas, fitness stations, and event space:

- Lowered basketball court provides green stormwater storage
- Rain gardens for capture and filtration
- Provides significant mitigation of fluvial and flash flooding for multi-story residential, commercial, and industrial properties
- Reduces economic, environmental, and social impacts

<table>
<thead>
<tr>
<th>Drainage areas</th>
<th>Landscape types</th>
<th>Gallons of stormwater storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>7</td>
<td>1.75M</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FED SHARE</th>
<th>MATCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10M</td>
<td>$47M</td>
</tr>
</tbody>
</table>
Ecosystem Services and the BCA

All HMA projects must demonstrate that they reduce risk and are cost effective

- Typically demonstrated with a Benefit Cost Analysis (BCA)
- Some potential benefits for coastal nature-based design may come from attenuating storm surge and wave action to reduce risk from flood and erosion

Benefits applicable for any HMA projects in which land and ecosystem services are provided, especially:

- Flood reduction, wave attenuation
- Shore stabilization, erosion control
- Drainage projects that incorporate natural systems

75% of benefits must derive from demonstration of “traditional” risk reduction benefits before ecosystem services can be applied

- Ecosystem services are beneficial goods and services provided by nature for people and may be used for projects that are implemented using green infrastructure or nature based design methods
Pre-Disaster Mitigation (PDM) and BRIC: Path Forward

**PDM FY18**
- Total amount available: $249,200,000
- Resilient Infrastructure: New competitive funding project type with a maximum Federal share of $10,000,000

**PDM FY19**
- Total amount available: $250,000,000
- Follows same application timeline as FY18
- Resilient Infrastructure competitive funding will continue

**BRIC FY20**
- Total amount available: TBD
- Target application period is September 2020 – January 2021

**BRIC FY21 & beyond**
- Will ensure continuous improvement as the program evolves
- FEMA will communicate annual changes through the NOFO and program implementation documents

* Timing is estimated as of March 2020 and subject to change.
BRIC & DRRA Support FEMA’s Priorities

Build a culture of preparedness

Prepare the nation for catastrophic disasters

Reduce complexities
Thank you!

Questions?