USACE Economic Analysis
Balancing Coastal Storm Damage Reduction and Project Construction Costs

USACE uses a set of effect categories to evaluate and compare the impacts and effects of planning alternatives. The categories under consideration in the New Jersey Back Bays Feasibility study include: National Economic Development, Regional Economic Development, Environmental Quality, and Other Social Effects. Proposed construction projects must maximize National Economic Benefits. and Costs are evaluated for all relevant measures (Perimeter, Storm Surge Barrier, Nonstructural) over a projected 50-year period of analysis to find the NED plan.

NED Benefit Categories:
- Structural Damage Reduction
- Content Damage Reduction
- Infrastructure Damage Reduction
- Vehicle Damage Reduction
- Land Value Loss Reduction
- Income Loss Reduction
- Emergency Cost Reduction
  - Temporary Emergency Evacuation
  - Flood Fighting Efforts
  - Public Clean-up Costs
  - Emergency Erosion Control
  - Miscellaneous Costs
- Transportation Delay Cost Reduction
- Recreation Loss Reduction
- Benefits During Construction

NED Cost Categories:
- Project Costs
  - Construction
  - Real Estate
  - Environmental Mitigation
- OMRR&R
  - Operation
  - Maintenance
  - Repair
  - Replacement
  - Rehabilitation
- Interest During Construction
- Additional Associated Costs

Benefit Cost Ratio = \( \frac{\text{NED Average Annual Benefits}}{\text{NED Average Annual Costs}} \)