

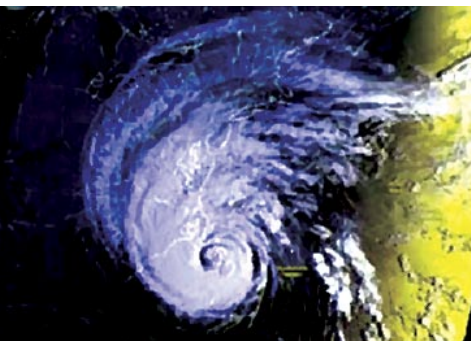
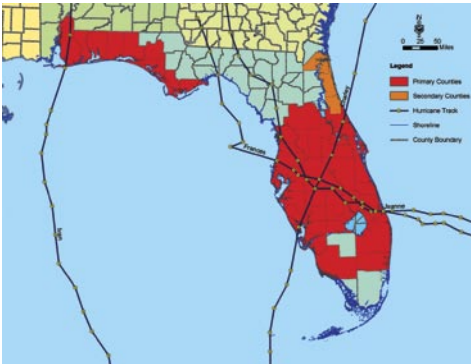
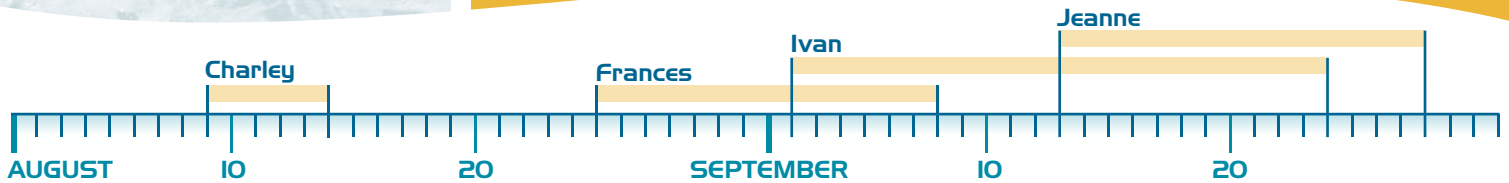
SHORE PROTECTION ASSESSMENT



What Have We Learned?

March 2007

Shore Protection Assessment is an initiative to evaluate how federal shore protection projects performed in the wake of hurricanes Charley, Frances, Ivan, and Jeanne in 2004. Shore Protection Assessment is a unique opportunity to assess shore protection project performance. The U.S. Army Corps of Engineers and others will use these findings to improve future projects by better predicting how storms move sediment, change shores, and cause damage.



Case Study Results — Martin County, Florida

- Cost of Federal project was \$19.8 M for initial construction and nourishment 1996-2004.
- In 2004 alone, damages of \$11.3 M were prevented.
- The dune feature was essential to preventing damages from flooding.
- \$9.5 M of emergency funds were saved by the implementation of a Federal project.
- Protecting roads is critical to community recovery. Roads north and south of project were badly damaged.
- State investments in emergency actions enhance Federal investments.
- Projects mature—operation of the project over time should reflect this—adaptive management.
- This is a resilient community—recovery from damage has been fairly rapid with minimal social disruption.
- Florida has many populations who are vulnerable due to age related health concerns.
- Storm related damage to turtle nesting does not negatively impact turtle populations.
- Beach nourishment project design parameters (e.g. timing, fill quality, beach profile) may be a negative or positive influence on turtle nesting and population levels.
- Appropriately designed beach nourishment projects can create valuable turtle and bird nesting habitat to help offset impacts from coastal development.
- State of Florida's proactive framework for shore protection provides a strong base for preventing damages.
- Impacts of storms extend throughout watershed, e.g., inland water quality impacts may reach the coast.

Shore Protection Assessment



What do we need to do?

- Develop estimate of annual coastal damages prevented—across the nation.
- Collect data, consistently and comprehensively after all storms—military model of standing teams.
- Identify gains that could be achieved in performance with reliable, on-time funding.*
- Employ efficiency and effectiveness gains from a systems approach.*
- Incorporate uncertainty into analysis in a meaningful way for better decisions.
- Clarify emergency fill procedures—factors that trigger; guidelines for replacement designs.
- Stabilize Federal-State partnerships for planning, monitoring, financing.
- Communicate performance, uncertainty and risk to a range of audiences.
- Use local, regional, State and Federal programs collaboratively to ensure wise decision making in coastal areas.
- Use design parameters to address a suite of uses—storm damage reduction, habitat, recreation.
- Confirm and expand information on physical damages.
- Clarify definition of project success—damage mechanisms.
- Perform incremental analysis thoughtfully—model input is only one item to be considered.
- Incorporate regional economic development into new project analysis.
- Embrace reality of human dimensions—resiliency, vulnerability—and relationship to projects.
- Establish criteria for adaptive management—economic, climate, environmental.
- Undertake monitoring—economic and physical—to ensure project full performance over time.
- Consider regional “commissions” for regional sediment management policies and priorities.
- Pursue science and policy—they inform each other. Both are needed for balance.

* Cited in National Academy of Public Administration, March 07 report



FOR MORE INFORMATION

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March 2007