SAND2016-6956D

National Hurricane Program (NHP) Response Metrics

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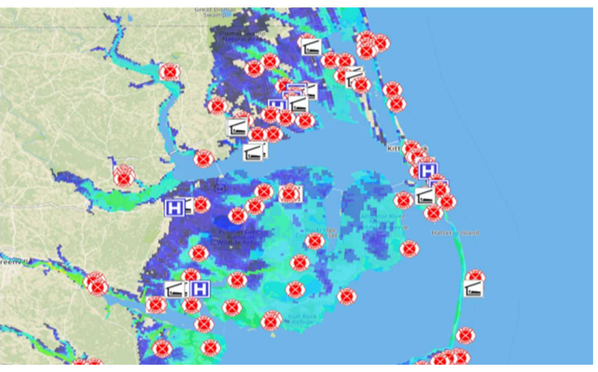

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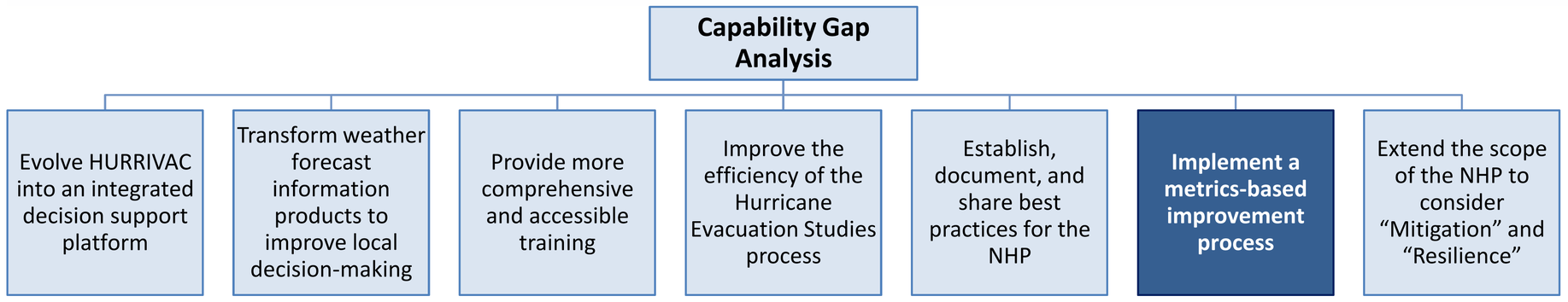
Goal of the NHP Technology Modernization Project

This project aims to modernize NHP operational capability and efficiency through decision aids, best practices, and simulation tools that enable end users at the State and local level to improve hurricane response.

Problem Statement

Seven NHP capability gaps were identified. My project focused on how to expand the current forecast-centric post-event evaluation to establish a formal feedback process to improve emergency management decision-making. Specifically, comparing NHP's current post-storm data collection to proposed **NHP Response Metrics.**



Need for Response Metrics

- Data collection and documentation in post-storm assessments (PSAs) lack uniformity.
- There is no nationwide method for assessing hurricane response.
- The detail, quality, and sources of response data differ greatly between different storms.

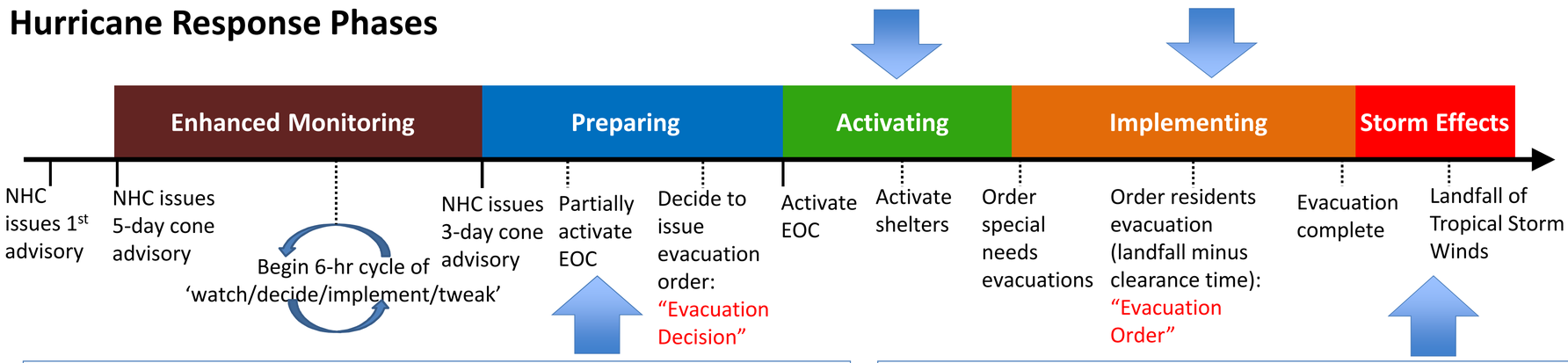
Post-Storm Assessment Review

- Hurricanes Andrew, Floyd, and Katrina have the comprehensive federal PSAs.
- No PSAs by any organization were available for Hurricane Rita.

Levels of Post-storm Data
*** Documentation from a federal PSA (e.g. USACE, FEMA)
** Documentation from a non-federal PSA (e.g. state or city)
* Documentation from a news, academic, or emergency manager source

Evacuation Metrics					
	Andrew	Floyd	Katrina	Rita	Sandy
Evacuation order given	***	***	***	*	*
Communication of evacuation order	***	***	***	*	*
Evacuation duration	***	***			
Evacuation participation rate	***	***	***	*	*
Unnecessary or shadow evacuations		***	N/A	*	N/A

Hurricane Response Phases



EOC, Supplies, and Shelter Metrics					
	Andrew	Floyd	Katrina	Rita	Sandy
Activation of EOC	***	***	***		**
Supplies Prepositioned			***		**
Shelters: Time opened	***	***	***		**
Shelters: # opened	***	***	***		**
Shelter: # of evacuees	***	***	***		**

Damages Metrics					
	Andrew	Floyd	Katrina	Rita	Sandy
Damage Cost	***		***		***
Buildings/homes damaged	***		***		**
Critical infrastructure damaged			***		**

- No federal PSAs for Hurricane Sandy provided data related to the proposed metrics; data was supplemented from a wide variety of sources.
- **"Training Participation"** and **"Delay from Optimal Evacuation Time"** are proposed metrics, but are not documented for any hurricane.

Conclusion

✓ ***Unbalanced data collection across the five hurricanes highlight the value of a uniform metric system.***
✓ ***A metric system presents opportunities for the NHP to improve function and mission engagement with state and local officials.***

References available upon request

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SAND No. 2011-XXXXP

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