

Interagency Performance Evaluation Task Force (IPET)

Strategic Overview and Status



***For
NRC Committee on New Orleans Regional
Hurricane Protection Projects***



<https://ipet.wes.army.mil>

Detailed Wave Hydrodynamics – New Orleans East Levees



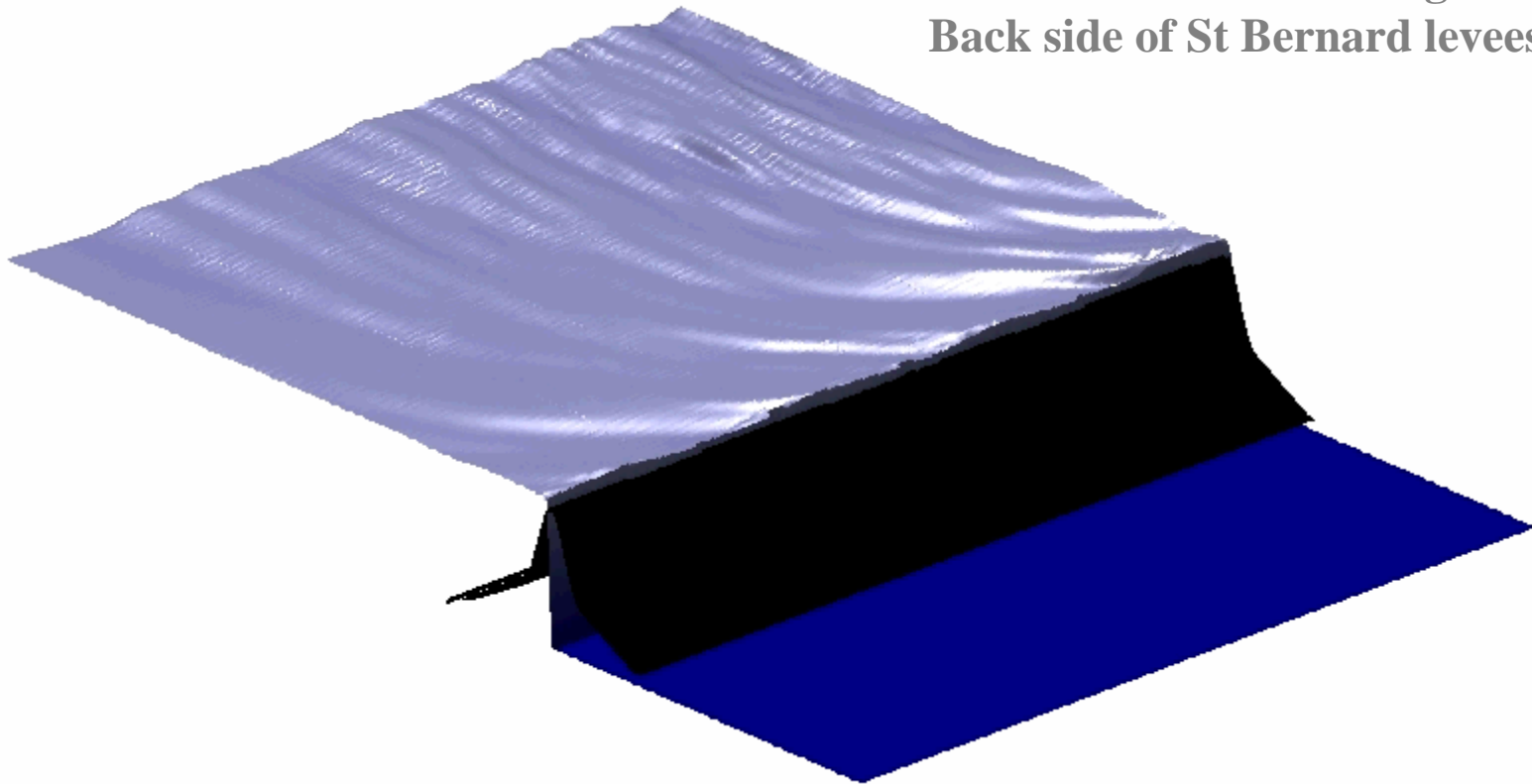
Crest Elevation: 13.6 ft NAVD88 2004.65

Surge: 13.1 ft NAVD88 2004.65 @ 1230 UTC

Waves: 3.5 ft @ 1230 UTC

Modeled instantaneous velocities along the levee
backside ~ 3-5 ft/s

**Note: these velocities are about
1/2 of the velocities coming down
Back side of St Bernard levees**



IPET Final Report:

Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System

Schedule

3-5 May – Final review meeting with ASCE External Review Panel

15 May - Final Meeting with NRC Committee

18 May – Initial draft of all volumes to ERP and IRT

24 May – Complete revisions based on IRT and ERP comments

25 May - IPET Leaders Comprehensive Review; Submit for final editing.

26 May – Submit for Public Release Authority

1 June - Release Draft Final Report to Web Site, ERP, NRC, Media

Sep 06 - Incorporate ERP and NRC comments and release final report

IPET Final Report:

Performance Evaluation of the New Orleans and Southeast Louisiana Hurricane Protection System

Outline

Volume 1: Executive Summary and Overview

Volume 2: Geodetic Vertical and Water Level Datum

Volume 3: The Hurricane Protection System

Volume 4: The Storm

Volume 5: Levee and Floodwall Performance

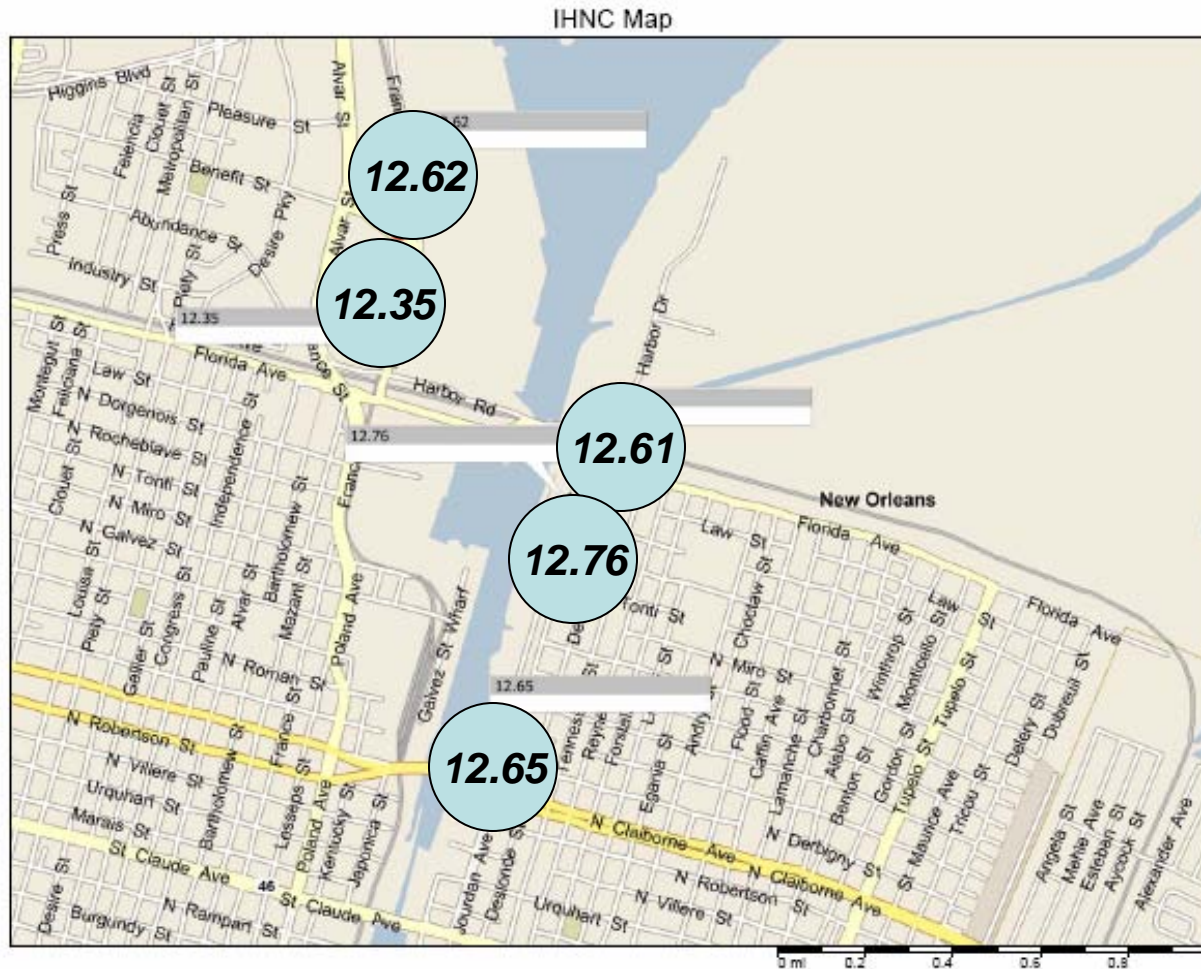
Volume 6: Interior Drainage and Pumping Performance

Volume 7: Consequences

Volume 8: Risk and Reliability

Volume 9: General Appendices

Geodetic Vertical and Water Level Datum



Accurate determination of current elevations referenced to LMSL

Storm - Regional - Surge

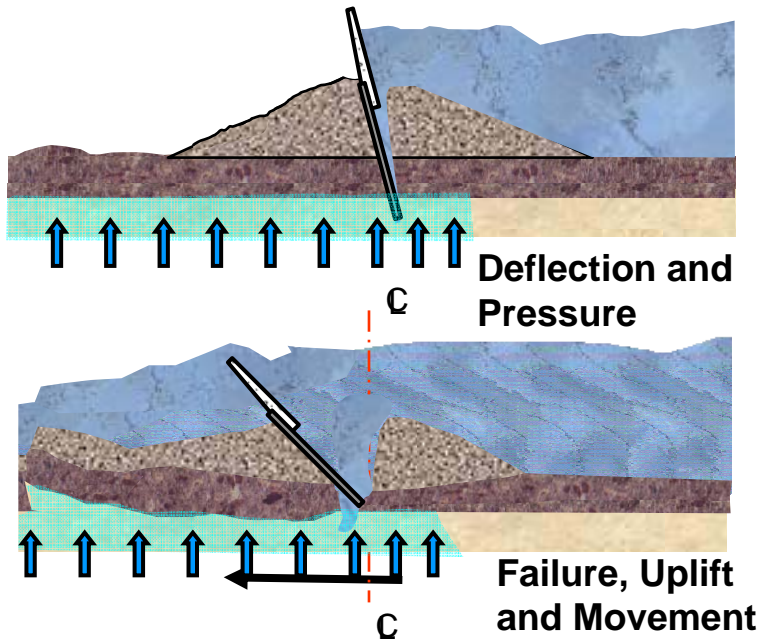


Storm - Regional - Waves



Performance

London Avenue Canal Breach Analysis



Confirmation in Centrifuge

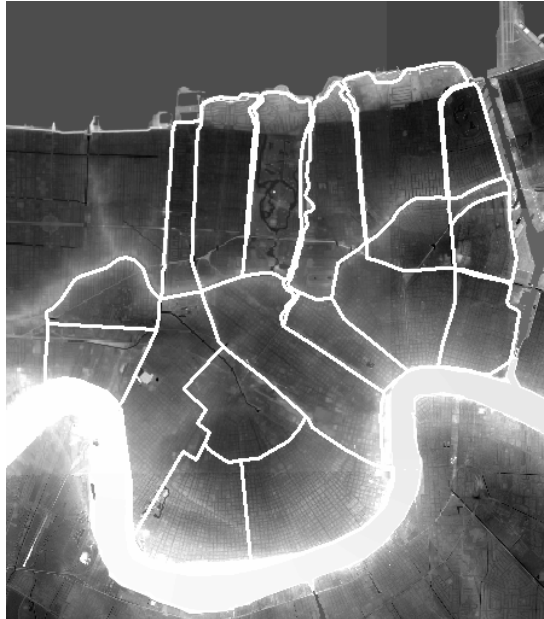


London North

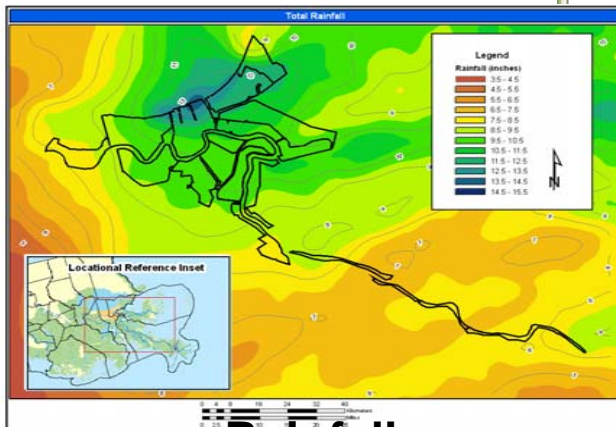


London South

Interior drainage and Pump Station Performance



Storage Areas

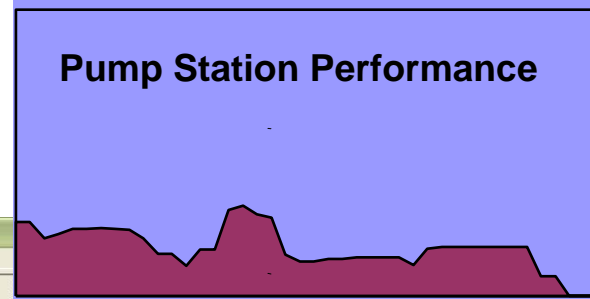


Rainfall

Pumping

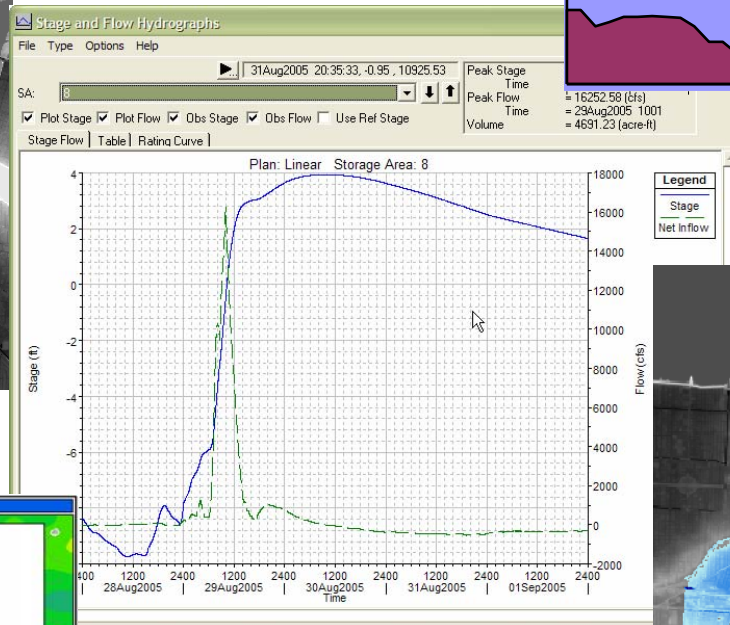
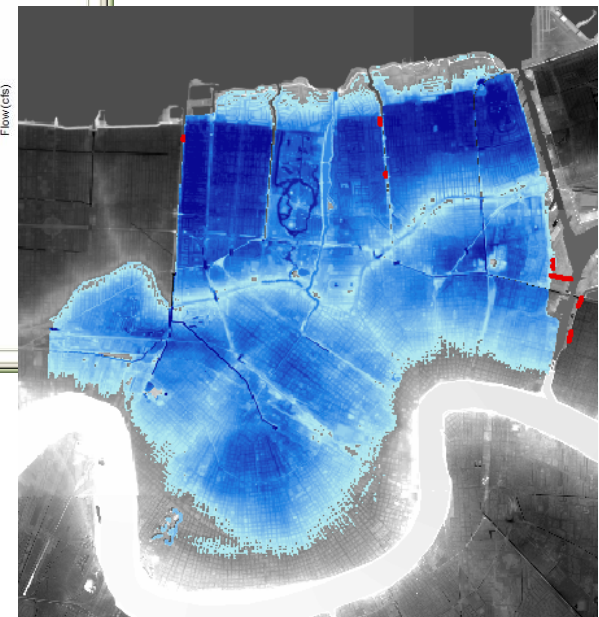
Capacity

Pump Station Performance



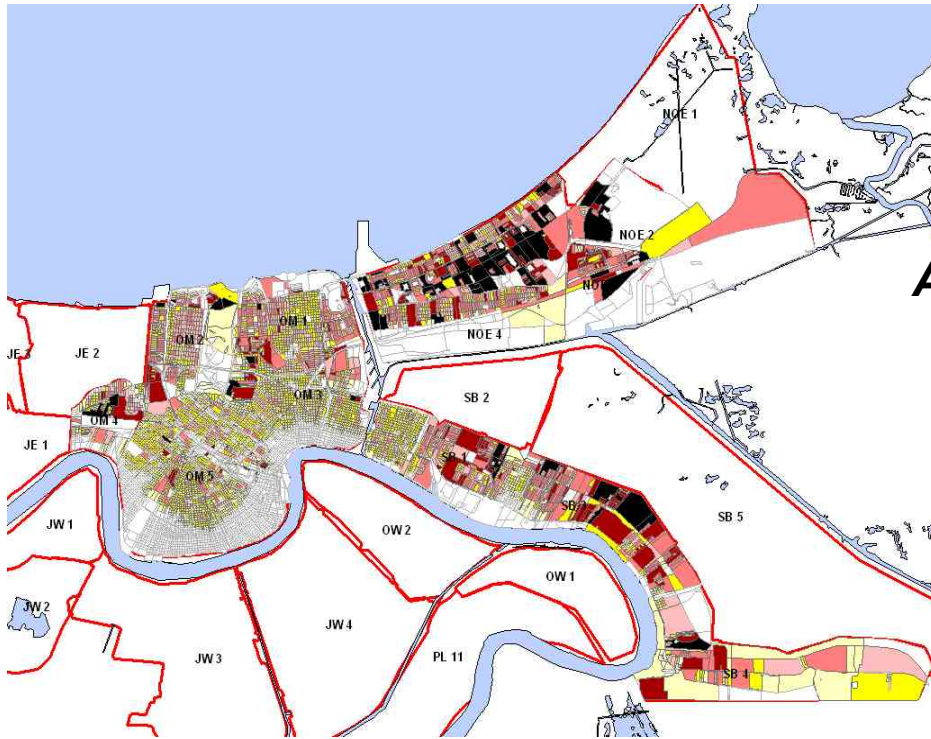
Time

Flooding



Breach Hydrographs

Consequences



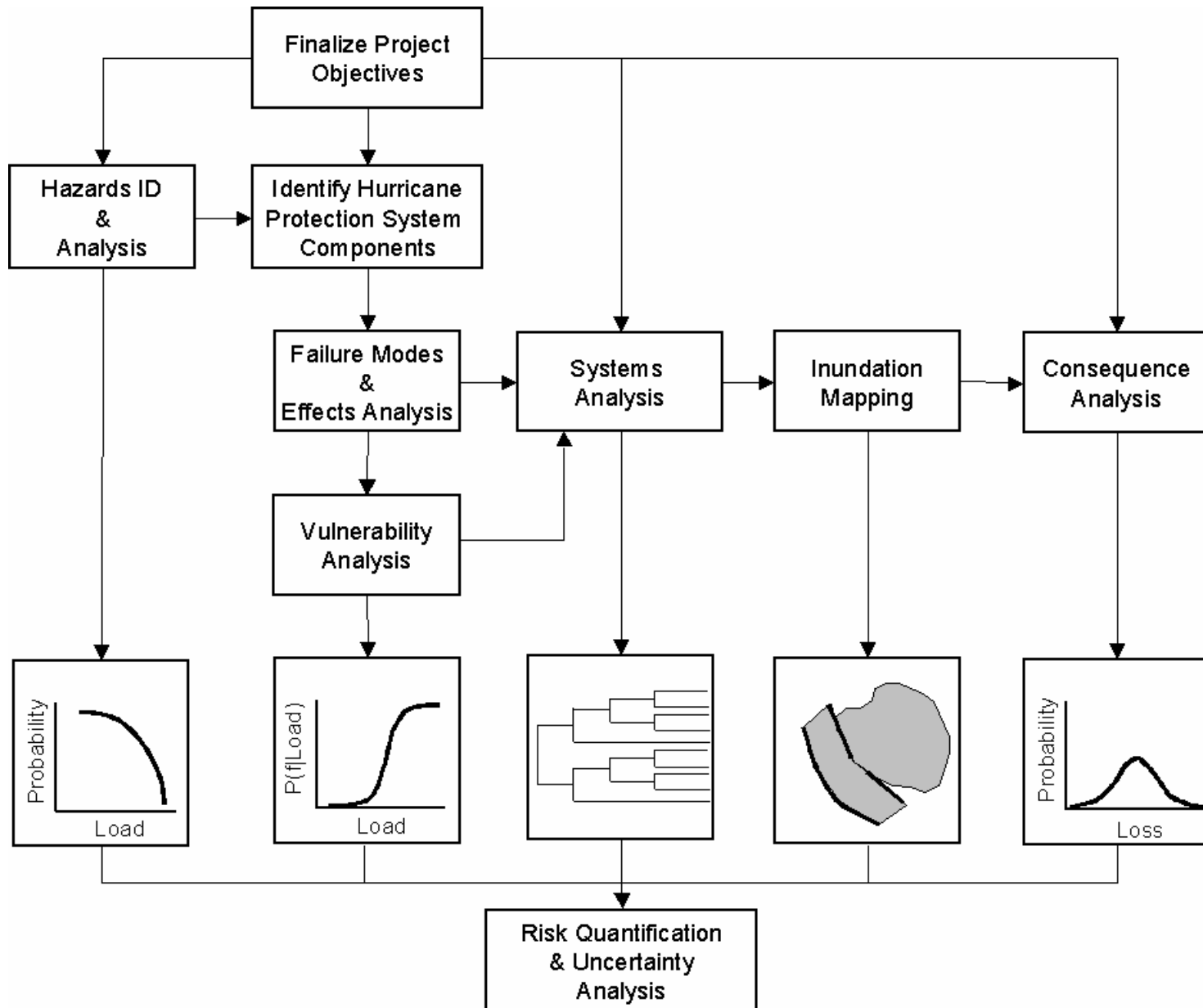
Direct Economic Damages at Census Block Resolution

Economic
Human Health and Safety
Cultural / Historical
Environment

Aggregated Damages by Sub-basins

Polder Name	Polder Map Legend	Katrina	
		Mean Flood Elevation (NAVD88, 2004.65)	Estimated Damage (\$ mil.)
New Orleans East 1	NOE1	3.3	10
New Orleans East 2	NOE2	0.8	120
New Orleans East 3	NOE3	0.4	406
New Orleans East 4	NOE4	7.3	57
New Orleans East 5	NOE5	-1.4	4,409
Orleans Metro 1	OM1	2.5	2,110
Orleans Metro 2	OM2	3.2	1,596
Orleans Metro 3	OM3	3.6	1,902
Orleans Metro 4	OM4	2.5	364
Orleans Metro 5	OM5	2.5	3,291
St. Bernard 1	SB1	9.4	2,505
St. Bernard 3	SB3	10.3	2,327
St. Bernard 4	SB4	10.6	481
Total			19,577

Risk Methodology



Transition Strategy

- Data Repository: Transfer to District Server, includes vertical and water level datum, DEM, characterization of HPS, surge and wave information, GIS etc.
- Datum: Corps, FEMA, NOAA, USGS discussions on Datum management
- Storm: Surge and wave models and IPET team currently supporting LaCPR. Corps NOAA collaboration on surge and wave modeling technology development.
- Levee and Floodwall Performance: Failure mechanisms and performance criteria transferred to TFG for repairs and assessment of undamaged reaches.
- Drainage and Pumping Performance: Performance information and modeling capability resident in MVN and MVK. Application planned for LaCPR.
- Consequences: Information and products in repository, input to risk assessment, MVN involved in IPET development of products.
- Risk and Reliability: IPET team working with LaCPR team to evaluate and evolve R&R model for LaCPR application. Close coordination with FEMA for flood maps and with Corps HQ to support National Levee Assessment initiative.
- Personnel: IPET external experts staying “connected” through release of final report and any necessary follow-on work.
- Practice and Policy: IPET detailed findings and lessons learned being transferred to Corps team for examination of policy and practice implications nationwide.
- Follow-on Analysis: Additional work focused on extending 1 JUN results outlined by IPET and CECW. Focus on 1) Validation of products, 2) Completing areas not covered in IPET work, and 3) Extending applicability of models and methods
- IPET Transition Team: Transition team being established in USACE.