

# New Orleans Hurricane Surge Risk Management



New Orleans Item  
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# About the Author

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- Raised in Metairie; family still lives in home they moved into in Aug 1965, 2 weeks before Betsy.
- Family experienced hurricanes Hilda, Betsy, Camille, Juan, Andrew, Katrina, Gustav, & Isaac.
- MSCE LSU; PE Environ. Engr; 35 yrs Southeast Louisiana.
- Last 12 yrs in HPC/High-Resolution Coastal Hydrodynamics:
  - Began working with authors of ADCIRC in 2004 & has attended last 9 ADCIRC User's Workshops.
  - Maurepas Diversion; Lake Pontchartrain Tidal Circulation.
  - Hurricane surge studies for MRGO (2006); Alliance Refinery (2007); LaCPR (2007); SC (2009); NEFL/GA (2010).
  - Independent surge consultant to SLFPA-E & CPRA since 2011. Author of 2013 SOP review & several major reports.
- 2013-14 President of ASCE Louisiana Section.





# Acknowledgements

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Some of the information presented in this Short Course was developed during projects performed over recent years for the Southeast Louisiana Flood Protection Authority—East and the State of Louisiana Coastal Protection and Restoration Authority.

During the last ten years I have had the privilege of working with Joe Suhayda PhD and Nate Dill PE, both of whom have enhanced many key surge insights.

However, this Short Course, “New Orleans Hurricane Surge Risk Management,” does not represent the opinions of any agency, association, or other person.



## 6 Parts

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- I. Pre-Katrina History
- II. Katrina's Surge Revisited
- III. Post-Katrina Advances in Surge Science
- IV. Post Katrina Surge Hazard Estimate
- V. Post Katrina Surge Risk Management
- VI. Lessons Learned



# Simple Lesson

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**All flood tragedies—and Katrina was not an exception—are due to:**

- a) underestimation of the hazard, and**
- b) failure to prioritize appropriate risk management measures,**

**with the former heavily influencing the latter.**

**The Supercomputing Era has produced—and will continue to produce—remarkable high-resolution surge forecasts, hindcasts, and hazard analysis.**

**HOWEVER,**  
**dramatic risk reductions—for loss of life and economic devastation—are only attainable if we pay very close attention to a) and b)!**



# Sustainable Surge Risk Management

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**Surge Protection Systems and additional risk reduction measures are to surge what fire departments are to fires—they are only complements to effective evacuation preparedness and property insurance.**