Coastal Emergency Risks Assessment
Science Gateways Bootcamp

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Seahorse Coastal Consulting, LLC
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Connecting people and resources to accelerate discovery by empowering the science gateway community

Award Number
ACI-1547611
HSDRRS2014_MRGO_leveeupdate_fixSTC_MX.grd
Grand Isle
ADCIRC Internal Overflow Test Case
ParaView Visualization
XDMF Data
Portable/Scalable
Original Motivation: Interim Gated Structures
ASGS System Summary
Supply Creates Demand
CERA - Coastal Emergency Risks Assessment

See the Storm Surge Before It Happens

CERA - Interactive Real-Time Storm Surge and Wave Visualization Tool
CERA Access

CERA Home Page  cera.coastalrisk.live

Contact: Carola Kaiser, ckaiser@cct.lsu.edu
Select Model Layers

- water height
- inundation above ground
- wind speed
- significant wave height
- relative peak wave
Background Map, Zoom, Pan
Model Results at Each Point of Interest
Overlay Map Layers
Water Level Stations

USGS, NOAA, River Forecast Centers, USACE
Water Level Hydrographs
CERA Users

- National Weather Service Offices LA, NC
- U.S Coast Guard, NC
- Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP)
- Stephenson Disaster Management Institute, LSU
- River Forecast Centers, LA, TX, GA
- Department of Homeland Security
- Research community (UNC, MSU, USA, URI)
- Geological Survey
- National Hurricane Center
- NOAA’s Storm Surge Roadmap, Maryland
- CPRA
- SE LA Flood Protection Authority
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October 2017

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Value Proposition

Coastal Emergency Risks Assessment

WILL HELP Emergency Managers make time critical operational decisions

BY providing storm impact predictions on an intuitive-to-use web interface.
Current Market Landscape

• Emergency information incomplete or buried in noise
• Quick access to actionable information
• Official information sources lacking critical impacts
• Comprehensive yet tightly focused
Target Audience

• State Emergency Decision Makers
• What do you know about your target segments?
  • State Directors of Operations make purchasing decisions
  • Buy into technologies that produce better outcomes in operations
  • Years to establish credibility, months of negotiation
• Fourteen coastal states (Gulf + Atlantic)
• Early adopters: Department of Homeland Security, Texas Department of Transportation, US Coast Guard
• Secondary: Levee Districts, Risk Managers/Planners, Academic Disaster Research
Financial Model

- Agency specific product revenue: 20%
- Historical data sets: 20%
- Workshops: 10%
- Donations: 5%
- Advertising: 5%
- Research Grants: 40%
3 Month Goals

1. CERA re-branding strategy
2. Service request agreement with SGCI
3. Two year revenue/budget plan

6 Month Goals

1. Final negotiations with TXDOT
2. Confirmation of new funding from DHS
3. Initial funding from SDMI
Select a map layer

- When is a map section automatically opened in CERA and how can another layer be displayed?
- Why is the color bar for a layer not visible?
- What is the difference between radio buttons and check boxes?
- Why is the map legend ‘incomplete’?
- What is the difference between maximum layers and time series?
- Why do the animations not work?
Irma 2017: Rapid Damage Assessment for FEMA

Coastal Emergency Risks Assessment
ADCIRC Coastal Circulation and Storm Surge Model + SWAN Wave Model

Storm Surge and Wave Guidance for the Atlantic Coast

Maximum Significant Wave Height
09-Sep-2017, 8 AM - 14-Sep-2017, 8 AM EDT

Hurricane IRMA, Advisory 42
Track: National Hurricane Center official forecast
NHC advisory issued: Sat, 09-Sep-2017, 11 AM EDT

Map Tools

Significant Wave Height
Average height of the largest 1/3 of the waves, measured from trough to crest.

Maximum Wave Height
The highest significant wave height predicted during the model forecast.
ADCIRC for Decision Makers

http://adcirc2018.eventbrite.com

ADCIRC Week: April 9-13, 2018
At NOAA NCEP in College Park, MD