



NISAC

NATIONAL INFRASTRUCTURE SIMULATION & ANALYSIS CENTER

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# NISAC Chemical Infrastructure Analysis

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Sue Downes, Sandia National Laboratories



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000





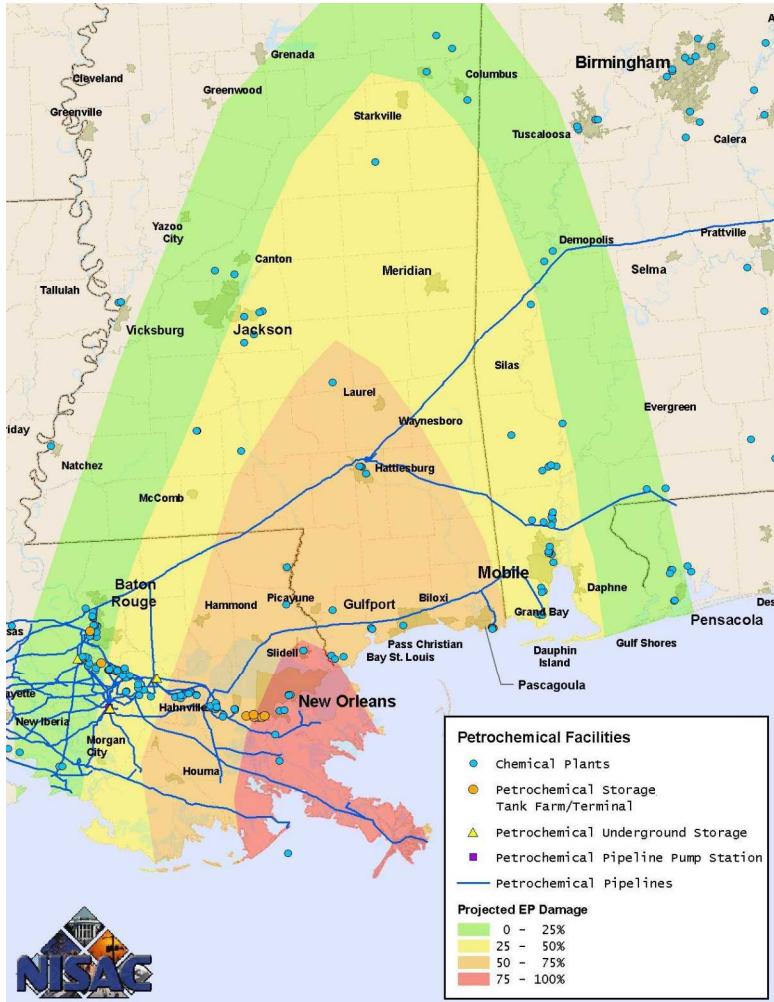
# Chemical Infrastructure Analysis Capability

NISAC is developing chemical infrastructure analysis to assist DHS with

- Asset Prioritization
  - Provide definition of economically critical for the chemical sector
- Consequence Analysis
  - Provide capability for consequence analysis from national, regional, and facility perspectives from disruptions of the chemical sector and/or interdependent infrastructures
- Policy Analysis
  - Provide capability to analyze consequences of policy decisions at the sector and sub-sector level.



# Consequence Analysis

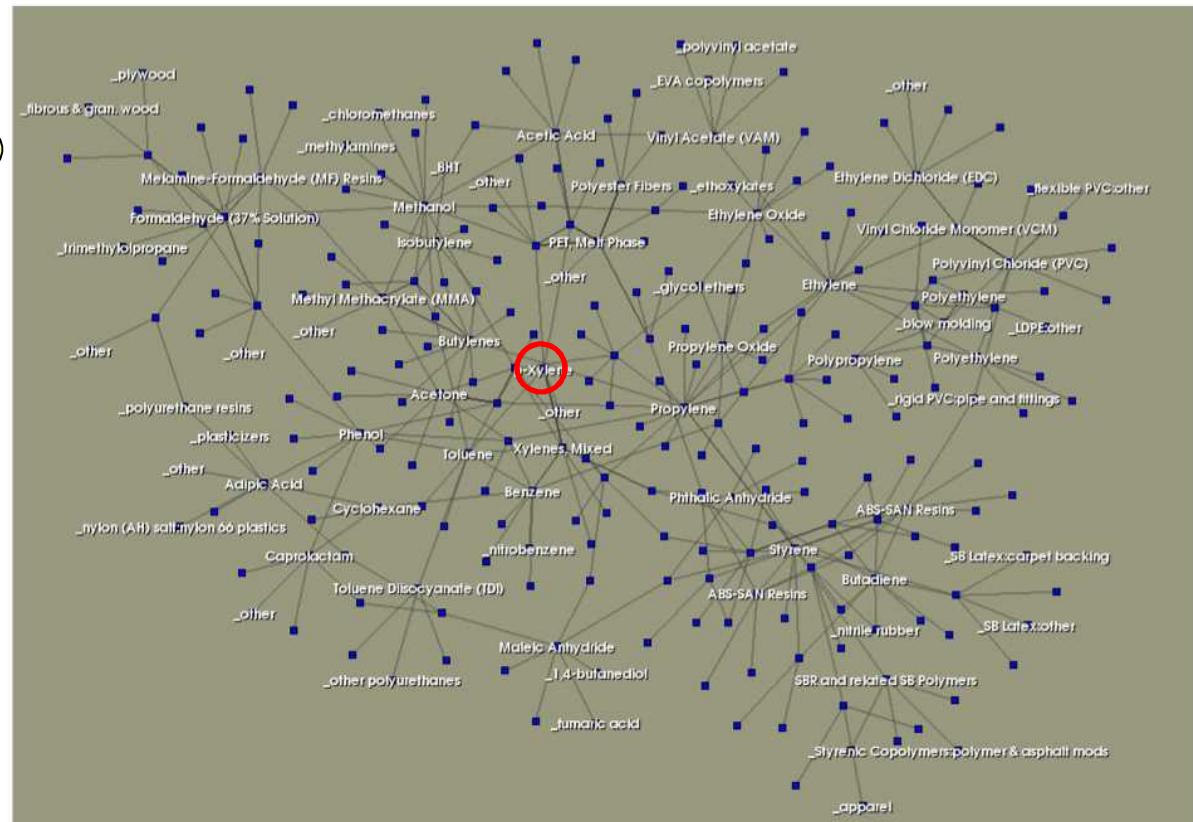
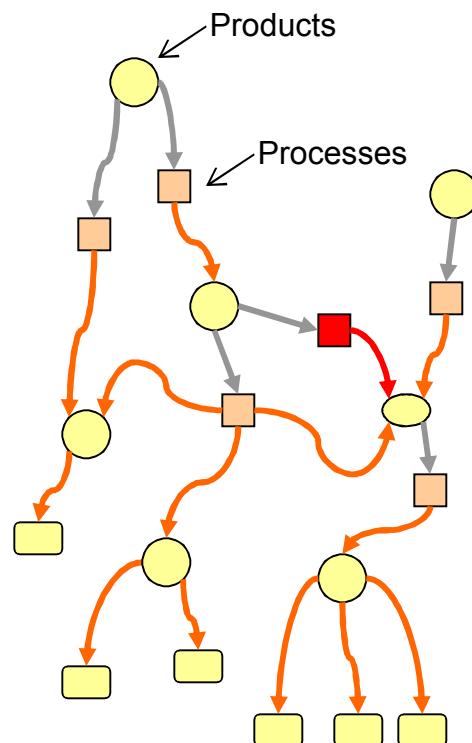


Q: How far does a hurricane reach?

A: Depends on the reach of the supply chain



# The Network View

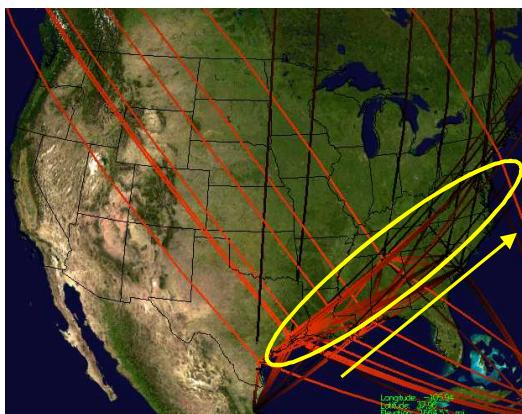


## Multiple network representations: Products to Products, Processes to Processes, Combined

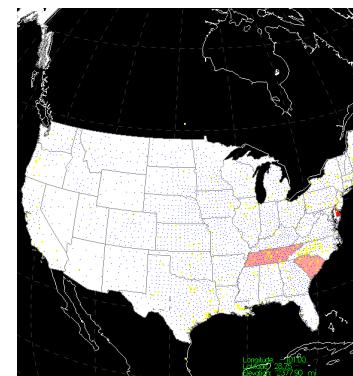


# The Supply Chain Implications

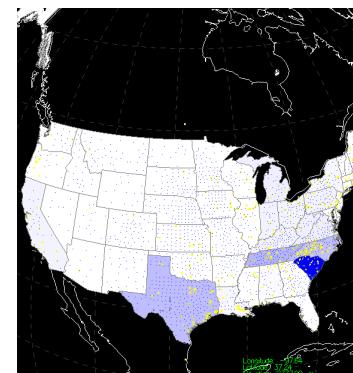
- Chemicals depend on chemicals
  - p-xylene → DMT → polyethylene resins → packaging materials



p-xylene market



DMT supply



DMT demand



# The Results

