



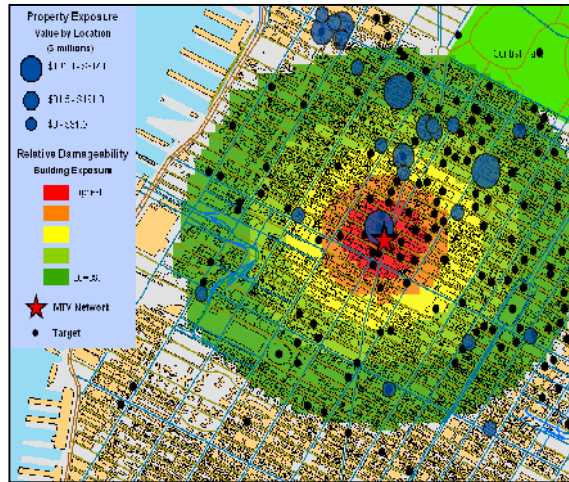
Does Casualty History Repeat Itself? Emerging Risks and Casualty Insurance

Casualty Actuaries of New England
September 27, 2010

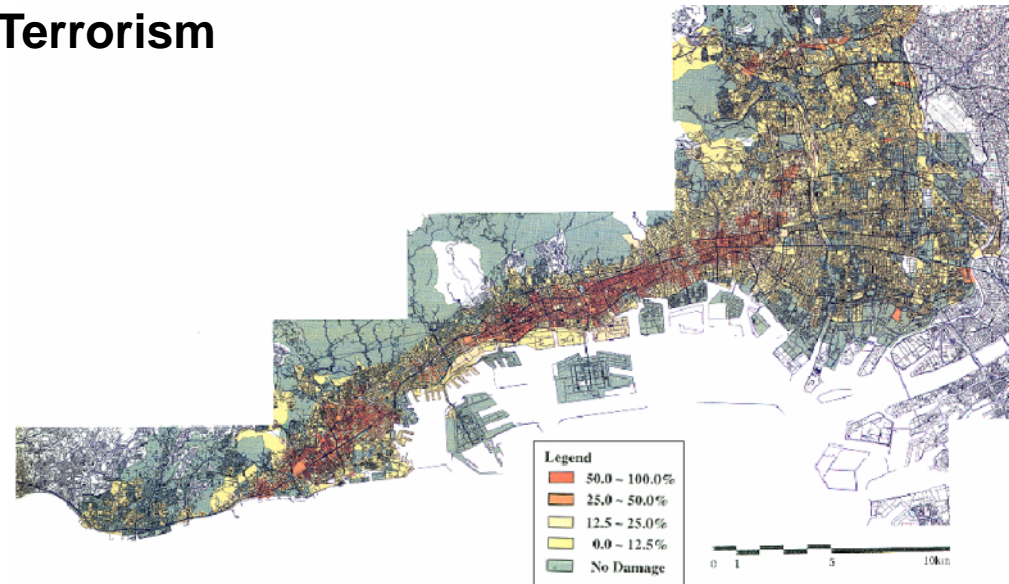
Robert T. Reville
RAND Corporation



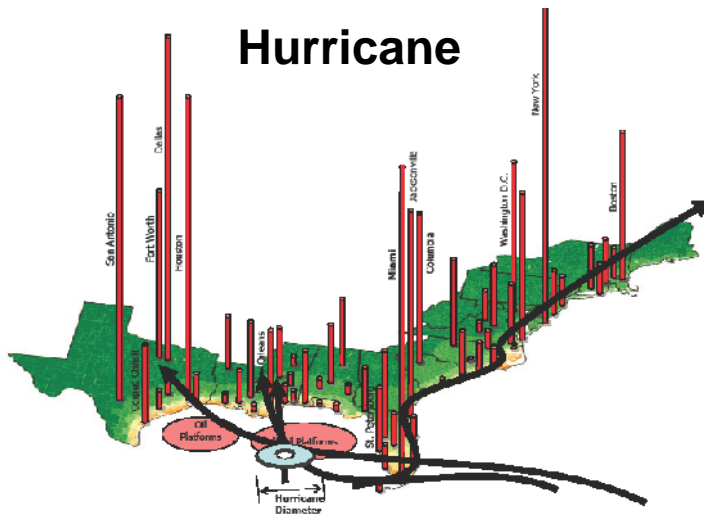
The Drivers of Property Cats Are Well Understood



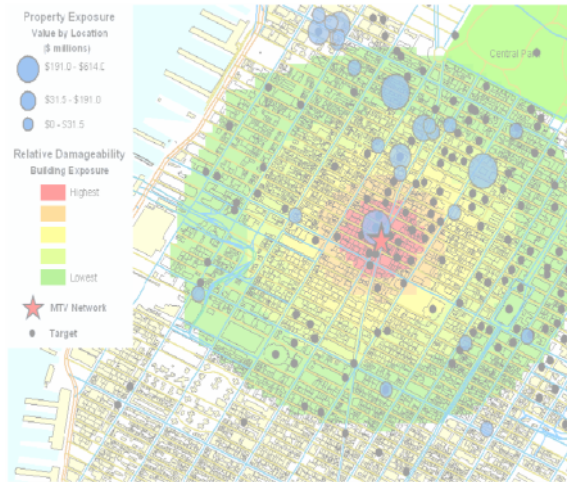
Terrorism



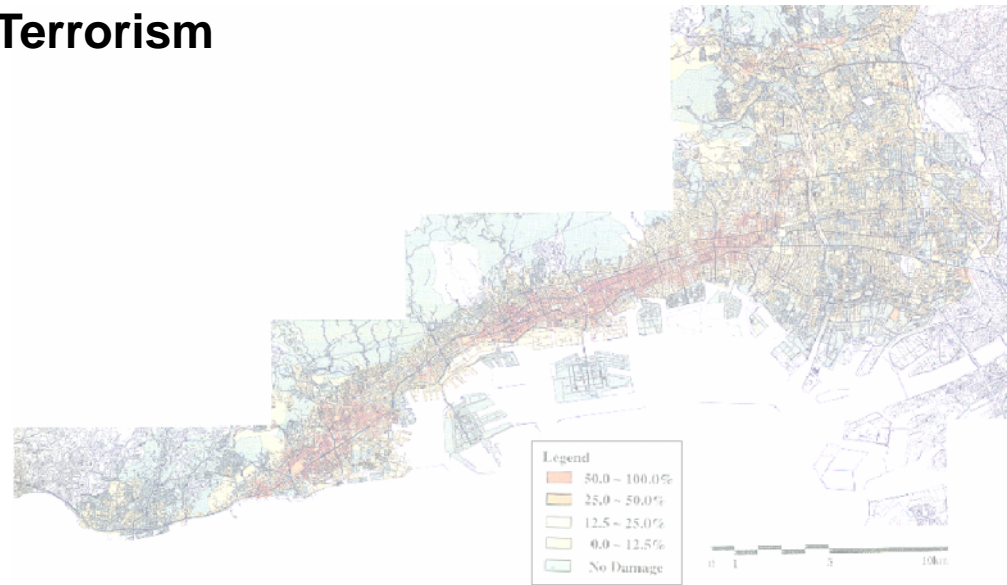
Earthquake



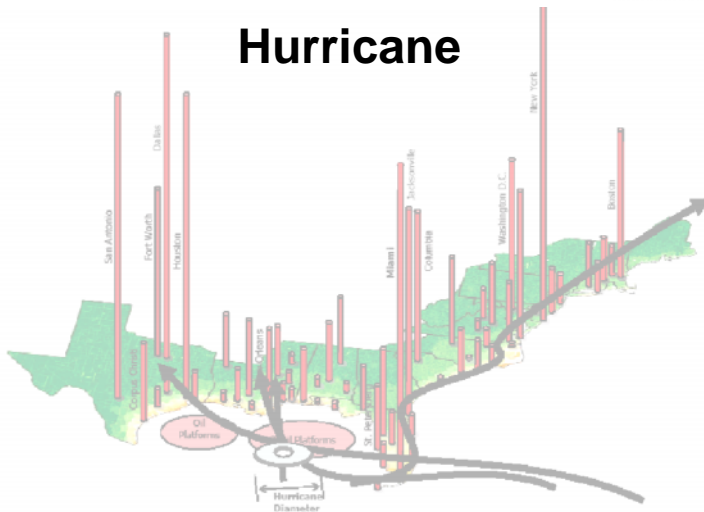
But Not Liability Cats



Terrorism



Hurricane



Earthquake



Liability Cat

Leading Companies Have Developed Emerging Risk Committees

- Often located in Claims
- Multidisciplinary
 - Claims, Loss Control, Underwriting, Public Policy
- Identify emerging risks using multiple sources of information
 - Claims, Loss Control, newspapers, blogs, industry sources
- Develop an emerging risk list
 - Conduct or contract research
 - Advise Underwriting



Critiques from Senior Management and Industry Observers

- Many committee-identified emerging risk items do not lend themselves to action
 - No clear definition of “emerging” or “risk”
 - No consistent methods for identification
 - No rigorous taxonomy of emerging risks to interpret output
- Warning is not early enough
- Challenging to estimate (or even define) exposure
- Evolution of risk makes analyses obsolete before they are completed
- While emerging risk committees represent great progress, they cannot be the foundation of a systematic approach to casualty risk management

An Emerging Risk List: Smart -- but So What?

- Nanotechnology
- Litigation finance
- N-Propyl Bromide
- Toxicogenomics
- Bisphenol A
- Workers' compensation and aging
- Innovator liability (Conte vs. Wyeth, Inc.)

Step 1: Develop a Taxonomy of Emerging Risks



Chemicals, Substances,
Products



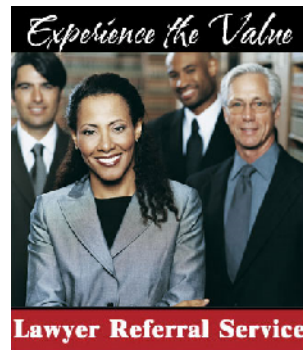
Public Policy



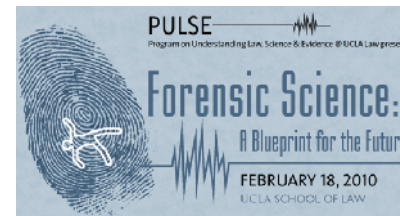
Pathways



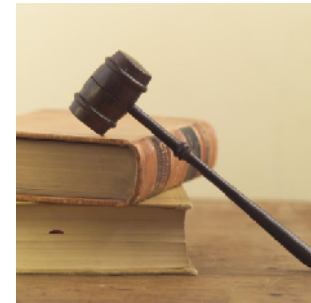
Sociodemographics



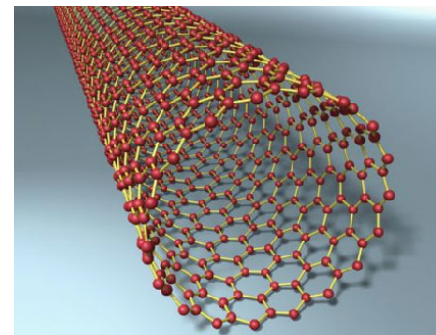
Litiginomics



Evidentiary Science



Legal Principles



New Technologies

Step 2: Within a Class of Emerging Risk, Develop Methods of Identification and Metrics of Exposure



Chemicals, Substances,
Products



N-Propyl Bromide

Litagion™ Agent:
Material, substance,
process, practice or
phenomenon that is the
common denominator in a
mass litigation episode
(e.g., asbestos)



Bisphenol A

Information About Litagion™ Agents is Actionable

- Early identification is critical
 - Particularly for occurrence trigger policies
- Our approach searches academic literatures for litagion agents
- We have developed algorithms to identify emerging hypotheses of bodily injury (“salient”)
- We track the literatures as they evolve
- We analyze the industrial exposure to these litagion agents



N-Propyl Bromide



Bisphenol A

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N-Propyl Bromide



Bisphenol A

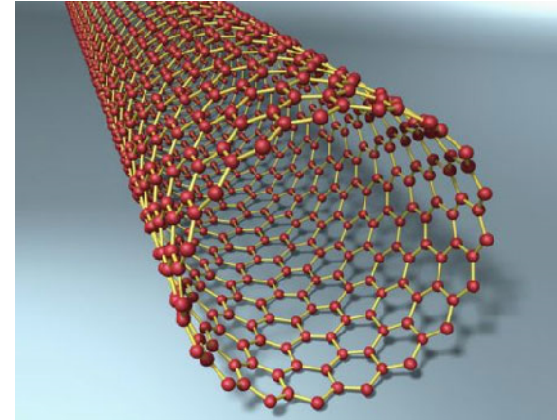
Once a Structure is Developed, Different Risk Types Can be Combined and Treated Alike

- Nanotechnology
- Litigation finance
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Nanotechnology can be analyzed as Litagion™ Agents



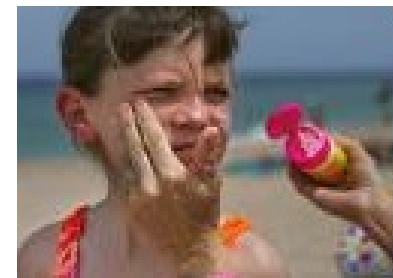
Carbon black



Carbon nanotubes



Nanosilver

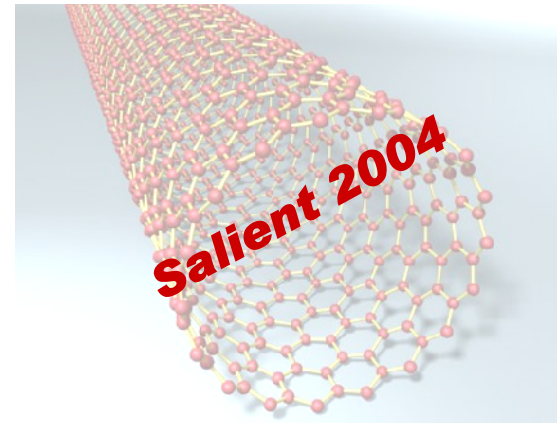


Nano Titanium Dioxide

Nanotechnology can be analyzed as Litagion™ Agents



Carbon black



Carbon nanotubes



Nanosilver



Nano Titanium Dioxide

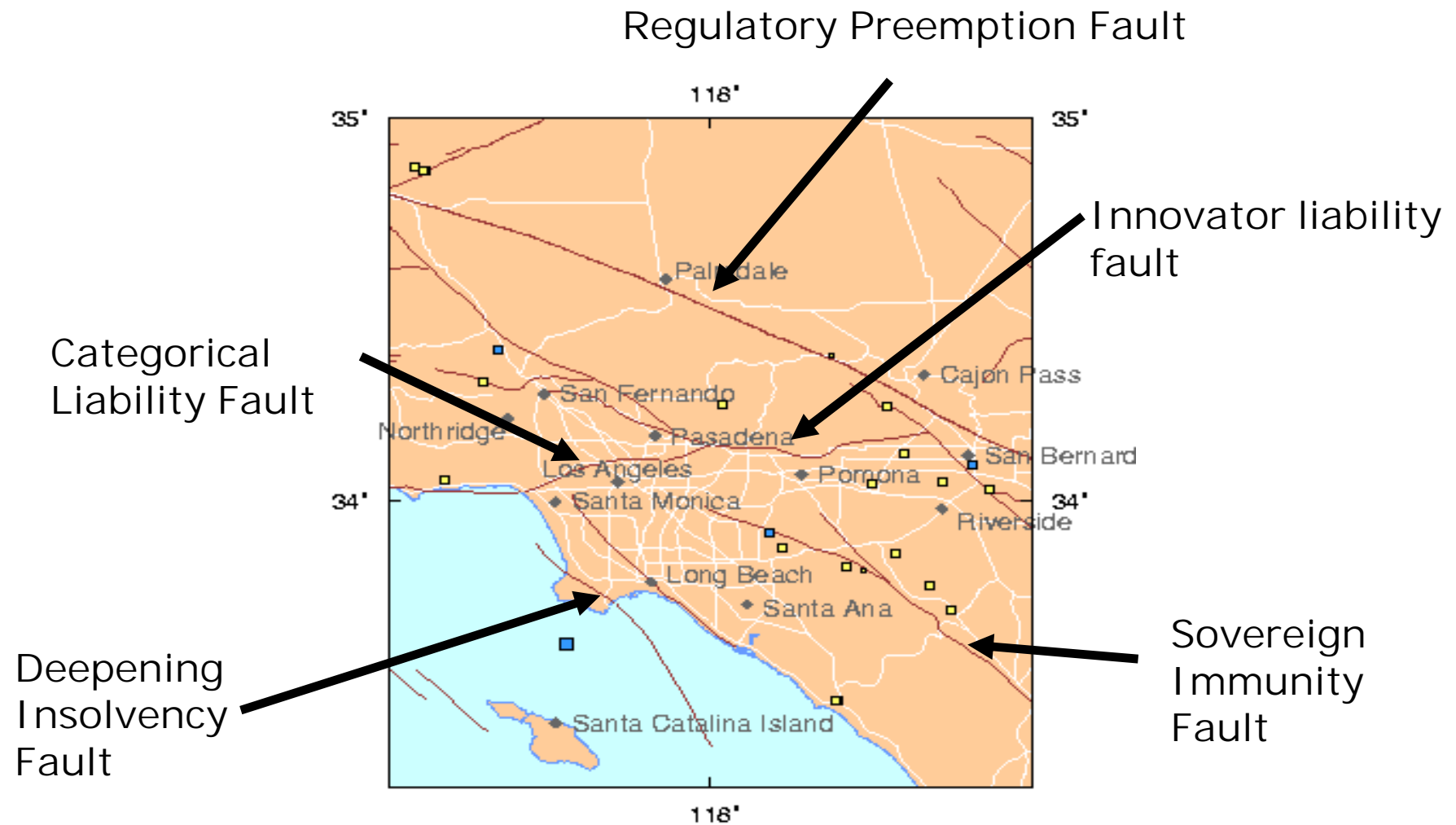
Step 3. Develop Risk Management Methods That Key off the Measurable Characteristics of the Risk

- How large is the industrial exposure?
- How many plaintiffs might emerge?
- How credible is the science?
- How serious is the liability risk?
- What are the characteristics of the bodily injury involved?

What About Other Types of Risk?

- Nanotechnology
- Litigation finance
- N-Propyl Bromide
- Toxicogenomics
- Bisphenol A
- Workers' compensation and aging
- Innovator liability (Conte vs. Wyeth, Inc.)

In Principle, Legal Principles Could Be Modeled and Managed



Summary and Conclusions

- Careful definition of emerging risks is needed to define appropriate actions
- Early warning is critical
- Developments in the identification and modeling of emerging risks promise to improve casualty risk management
 - Scalable approaches will need to be developed

Thank You



PROPRIETARY

