

Mixing FINANCE with science

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Presentation to The Foundation for Science and Technology
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Science and Insurance

- Strange bedfellows...
- But similarities
- Need to work in partnership
 - Eg. Mobile 'phone revolution
 - Foundation for Science and Technology
 - Technology Strategy Board
 - Lloyd's Tercentenary Foundation
- Insurance – Business and Science
 - Underwriting unusual risks

Lloyd's of... unusual risks

Best known, least understood insurance brand

- Write £16bn premium annually
- Natural Catastrophes
- Terrorism
- Space Insurance
- Nanotechnology Hazards
- Body Parts
- Marine and Aviation

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Insurance “supermodels”

- Modelling of “known” risks
 - Hurricane activity
 - Earthquakes
 - Realistic Disaster Scenarios
 - Impact of flooding

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Florida Windstorm RDS

- 2005 - USD 70bn
- 2006 - USD 100bn
 - Scientific data (Emanuel, Webster et al, Elsner)
 - economic/demographic trends
- 2007 - USD 108bn
2008 - USD 119bn
 - Pielke et al



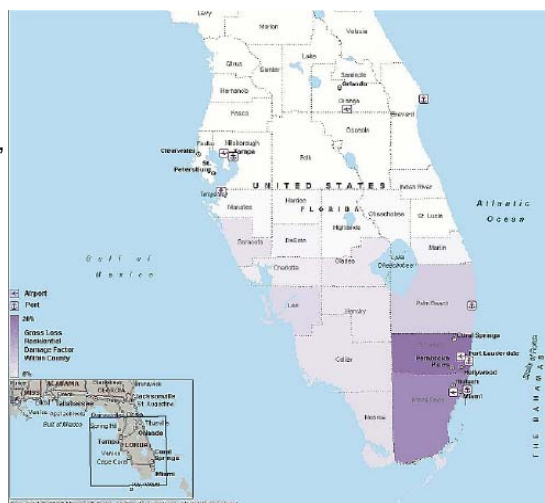
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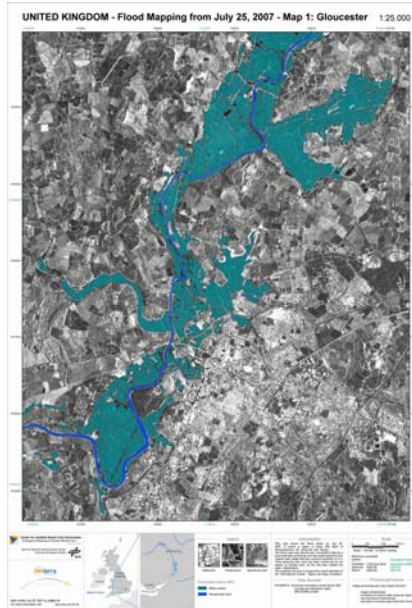
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Flood risk

- Initial contact through Lighthill Risk Network
- Worked with infoterra...
 - Provided a flood extent map using LIDAR
 - Quickly after the summer floods in 2007
 - Enabled claims validation



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Risks of tomorrow

- Research into new risks - Emerging Risks Team
 - Nanotechnology
 - Climate change
- Caribbean Catastrophe Risk Insurance Facility

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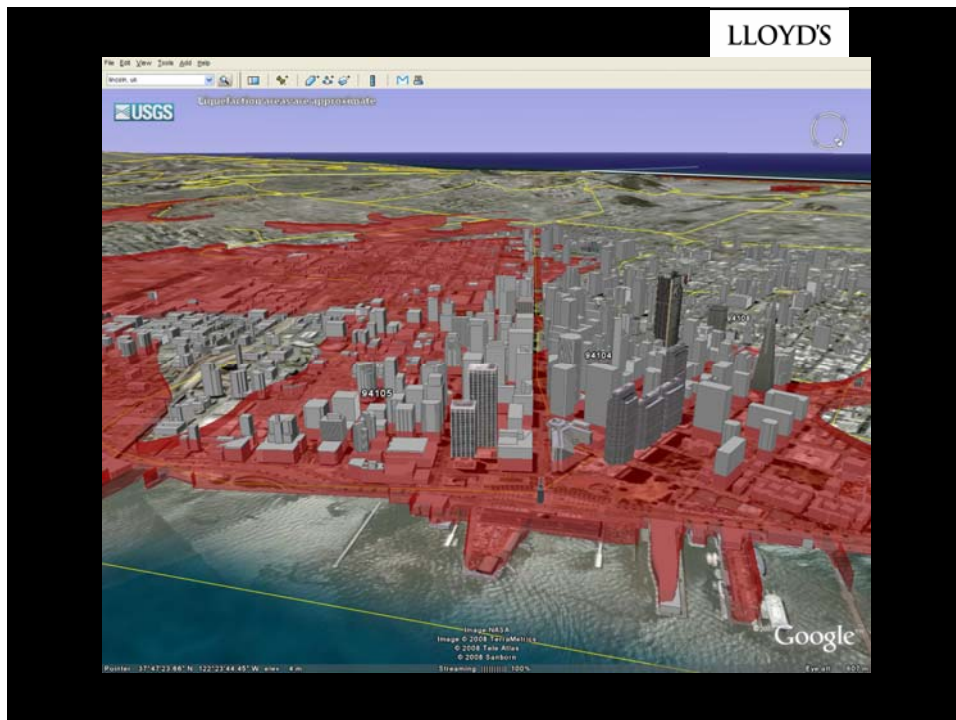
Information flows

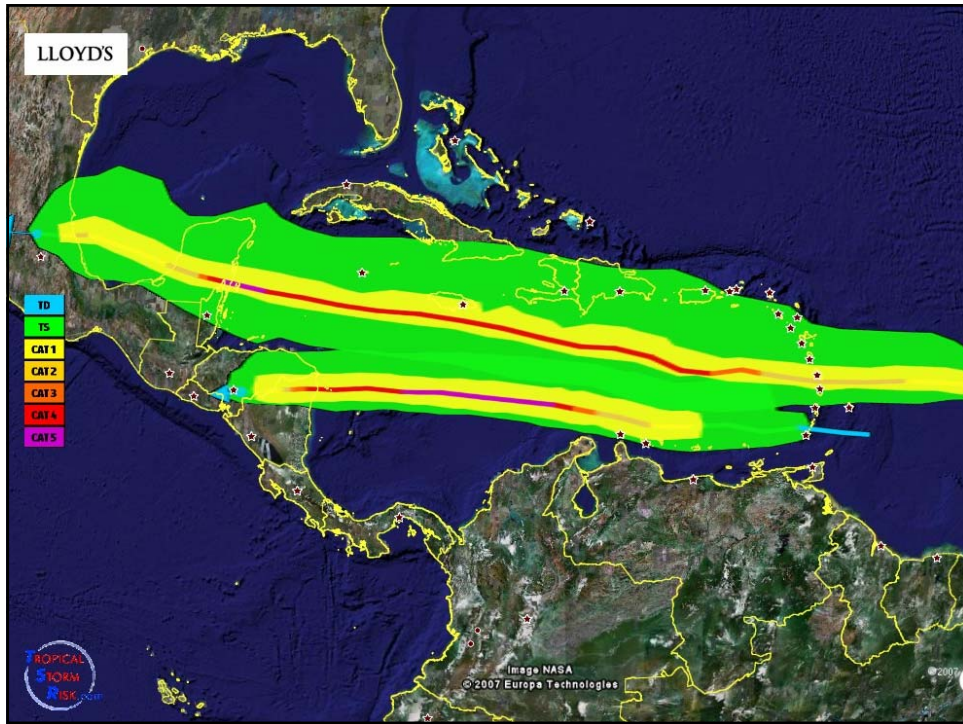
- Open architecture software
 - Google earth
 - 'R'
- Data mashing

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Knowledge sharing

- Knowledge Sharing
 - Lighthill Risk Network
 - Technology Strategy Board
- Open Data Policy
 - Improves models
 - Met Office, Research Councils and TSB on data pricing

Conclusion

- Insurance is highly complex and sophisticated
- Need input from
 - Scientists, mathematicians, technologists, engineers
- Rapidly changing world
 - Eg. Nanotechnology, climate change
- Work in partnership

