Opportunities within Transition

SDR Retreat

July 24, 2008

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outline

- **environmental scan**
- **move ahead on the six grand challenges**
- **articulate a *meta*(?)-challenge (running out of modifiers here…)**
- **success will require additional steps**
- **a proposal**

/(a poor man's) environmental scan

political disaster…

- **9/11 *et sequelae***
- **Indian Ocean tsunami**
- **Katrina**
- **corn ethanol**
- **housing bubble**
- **climate change**
- **“war on science”**

and opportunity

- **foreign policy**
- **recovery**
- **unified risk management**
- **adaptation**
- **strengthen OSTP**

transition step #1: survive

- **Emphasize word “reduction”**
- **Encompass “disasters” broadly**
- **Stress record of accomplishment**
- **Next steps & tie-in to national agenda**

an aside on adaptation*

mitigation	adaptation=mitigation
• Clearly defined	• Vague definition
• Clear objective	• No objective
• Standard measure	• No standard measure
• Baseline 1990 emissions	• No baseline
• Target +2^{0}C	• No target
• Global environmental benefits	• No G.E.B.
• Incremental costs calculated	• Not calculable
• Clear financial mechanism	• Multiple, inconsistent and insufficient funding

*from Burton, 2007

on the other hand…

mitigation

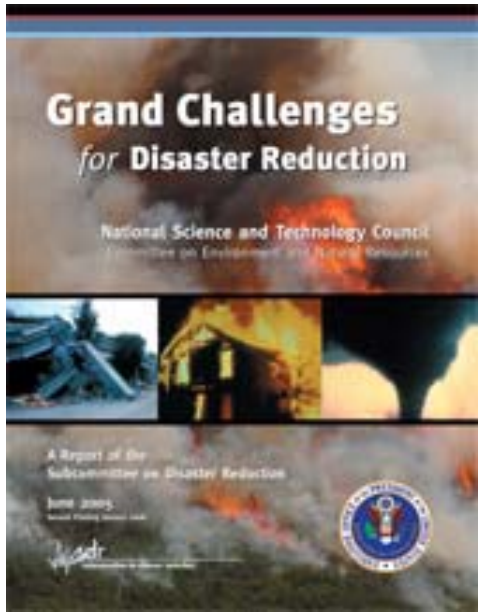
- **Requires consensus**
- **Uncertain, distant payoff**
- **Up-front costs**
- **Little opportunity to learn (top down)**
- **Polarizing?**

adaptation=mitigation

- **Requires entrepreneurs**
- **Stream of benefits**
- **Pay as you go**
- **Learn as you go (emergent)**
- **Could encourage cooperation?**

push ahead with the grand challenges

- hazard/disaster information
- understand natural processes
- develop mitigation capacity
- reduce infrastructure vulnerability
- assess resilience
- promote risk-wise behavior



But articulate an overarching one…

…reduce actual losses


Economic losses (2005 values)
Insured losses (2005 values)
Trend Economic losses
Trend insured losses
US$ bn
200
180
160
140
120
100
80
60
40
20
0
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
Why, despite the fact that we know so much more about the natural and social causes of disasters, do losses continue to mount?

White, Kates, and Burton 2001*

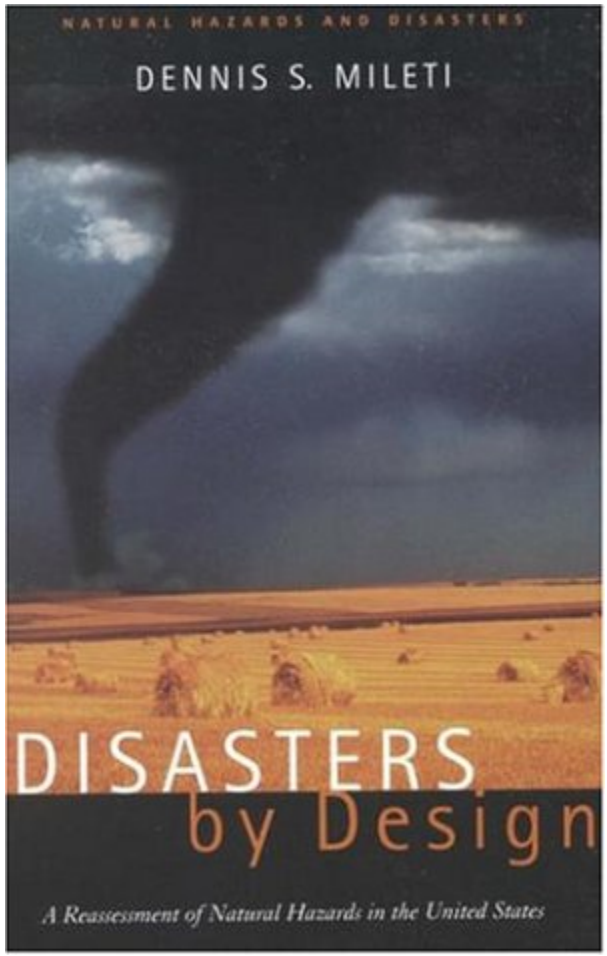
- **we haven't learned as much as we think**
- **knowledge is available but unused**
- **knowledge is used ineffectively, and/or**
- **growth in costs may reflect a time lag between the acquisition of new understanding and when it can be put into practice.**

***White, GF, et al. (2001), 'Knowing better and losing even more: the use of knowledge in hazards management,' *Environmental Hazards*, (3). 81-92.**

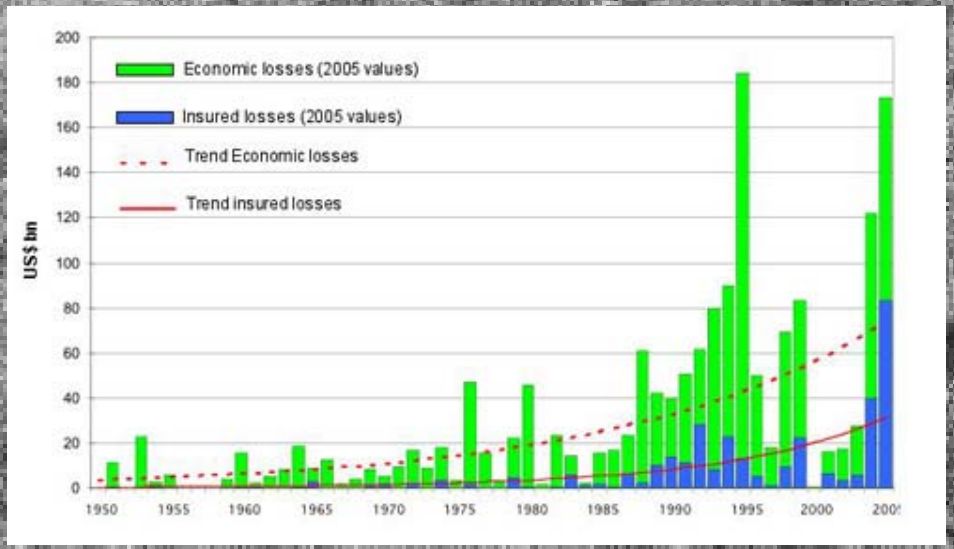
Keys to *reducing* risk?

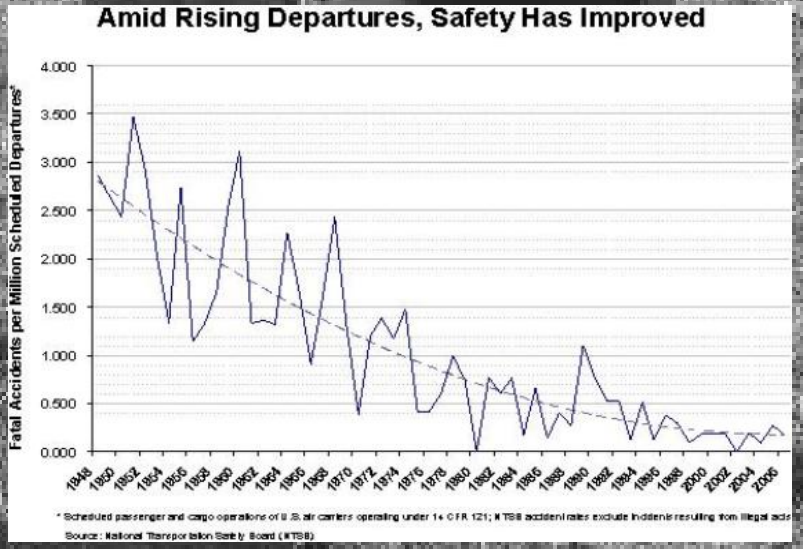
- **Responsibility** at all levels

- **Learning** from experience



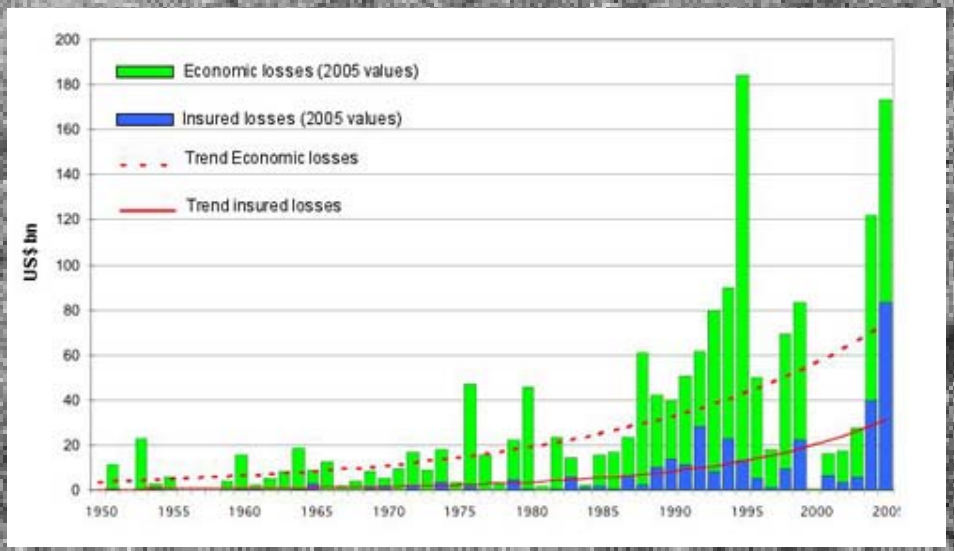
…learning from experience

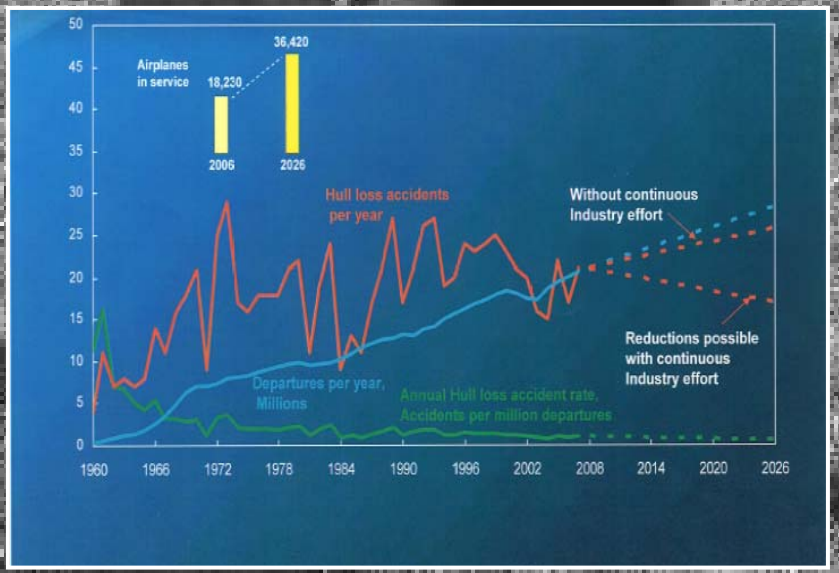




Learning from experience…

…continued





To reduce actual losses will require

- more attention to social science
- tie-in to practitioners
- tie-in to the private sector
- fleshing out the international piece
- progress on policy

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Private sector role?

- Victim
- Vector
- Critical infrastructure provider
- Emergency responder
- Recovery
- Strategic planning partner?
- Marketer?

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emerging ICSU* thrust

- **Integrated Research on Disaster Reduction (IRDR)**
  - **issues interesting in their own right**
  - **often helpful in seeking U.S. funding for domestic research initiatives to tie research to larger international efforts**
  - **this proposal would help the U.S. make a truly meaningful contribution to the international efforts, and**
  - **international and domestic goals are closely linked.**
- **IRDR emphasizes:**
  - **pilot/demonstration projects, actively involving practitioners as well as scientists**
  - **“forensic” case studies, and**
  - **establishment of a natural hazards analog to the National Transportation Safety Board (NTSB)**

*** International Council for Science**

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Policy? some examples…

Responsibility

- **NAI**
- **Price insurance to actuarial risk**
- **Federal regulation of insurers**
- **Combine flooding, wind insurance**

Policy? some examples…

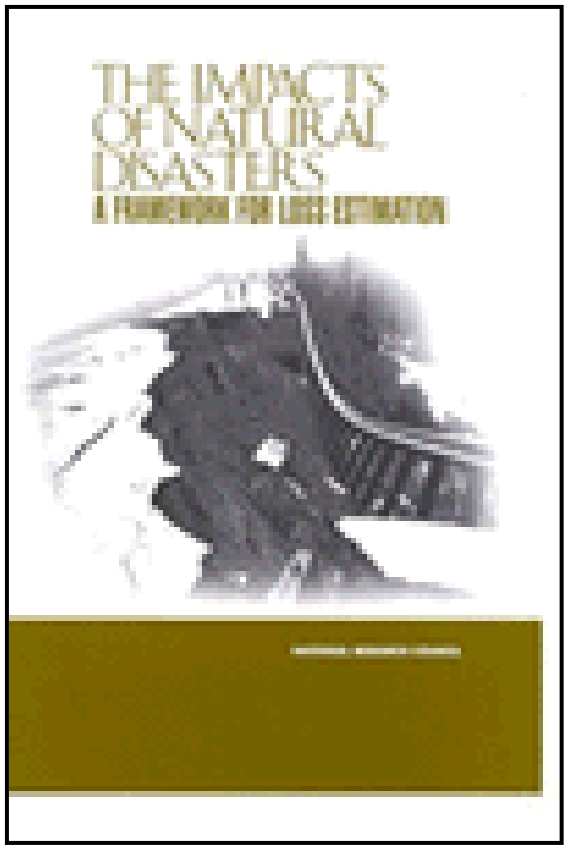
Learn from experience

- **An analogy to the NTSB**
  - **independent investigation**
  - **trained staff**
  - **broad scope**
  - **full stakeholder participation**
  - **recommendations, not regulations**
  - **public findings, broadly disseminated**

Policy? Some examples…

Measure Progress

- **community resiliency index**
- **disaster loss estimates are uncertain**
- **(NAS/NRC recommendation):**
  - **charge an executive branch agency to develop hazard loss figures**



Policy? some examples…

Cabinet-level Leadership

- **e.g., Department of Commerce**
- **business continuity portfolio**
  - **NOAA**
  - **EDA**
  - **NIST**
  - **CENSUS**
  - **…**

Policy? some examples…

- **Public-private partnership**
- **Action at the local/community level**
- **Resources/incentives at the national level**

so, drilling down…

- **What adjustments to policy frameworks at the international, national, state and local level would foster resilience with respect to hazards and reduce vulnerability?**
- **What are incentives and barriers to such policy formulation and implementation?**
- **How might scientists, practitioners, and communities better work together to put what is known about the natural and social causes of disasters into actual practice?**
- **How might one measure the progress, success or value of such collaborative efforts among scientists, practitioners, and the public?**

Policy?

- **Difficult to address within the SDR *per se***
- **Best done collaboratively**
- **PPP-2010 (a reprise of PPP-2000, but…)**
  - **emphasize practice/reduction of actual losses**
  - **broader collaboration**
  - **more-focused agenda/aim**
  - **follow-up**

thank you