

FACT

if the sea level were to rise just four metres due to climate change, almost every coastal city in the world would be inundated.

Population Reference Bureau, www.prb.org, 2006

From: Financial Risks of Climate Change, Association of British Insurers, June 2005

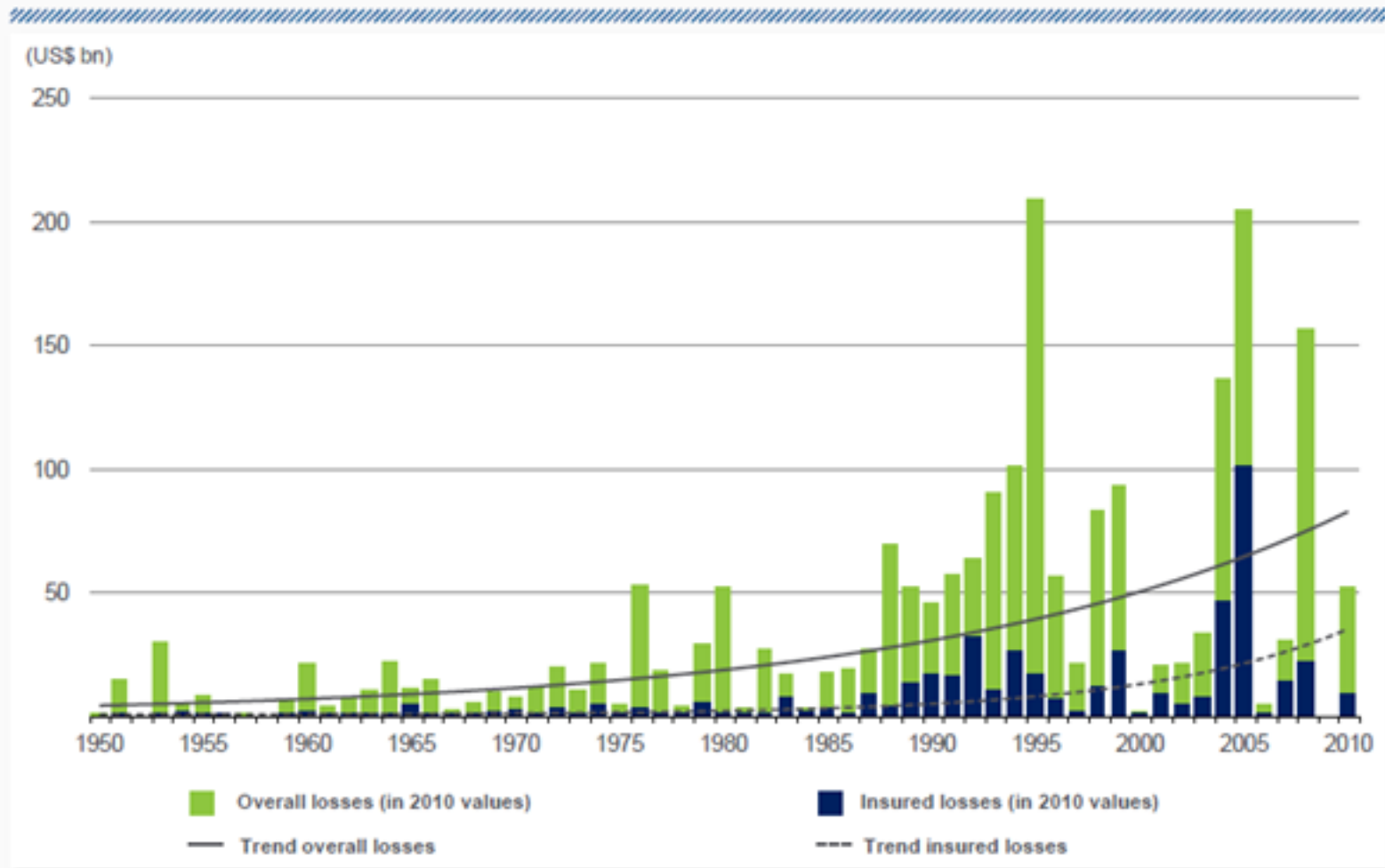
Cost of Great Weather Disasters 1950-2010

NatCatSERVICE

Great natural catastrophes worldwide 1950 – 2010



Overall and insured losses with trend



Building in the Right Place

From: Availability and Affordability of Insurance Under Climate Change – CERES 2006



Figure 12. Coastal inundation arising from increases in sea level. Includes only the effect of the thermal expansion of warming ocean waters. Excludes sea-level changes due to melting continental ice sheets.

Charleston, SC



Role of Adaptation

- **If no action is taken, losses from coastal flooding for high risk properties could double by 2030. Therefore, adaptation is vital**
- **With an effective adaptation strategy, future losses can be reduced to below present day levels**
 - The losses for high-risk properties could be reduced by 70% through using flood defences together with flood resilient and flood resistant measures.

Coastal communities and climate change: Maintaining future insurability
Lloyds and RMS, 2008

Adaptation Works

Homeowners in Florida could reduce losses from a severe hurricane by 61 percent, resulting in \$51 billion in savings, simply by building to strong construction codes.

Wharton Risk Management and Decision Processes Center, University of Pennsylvania.

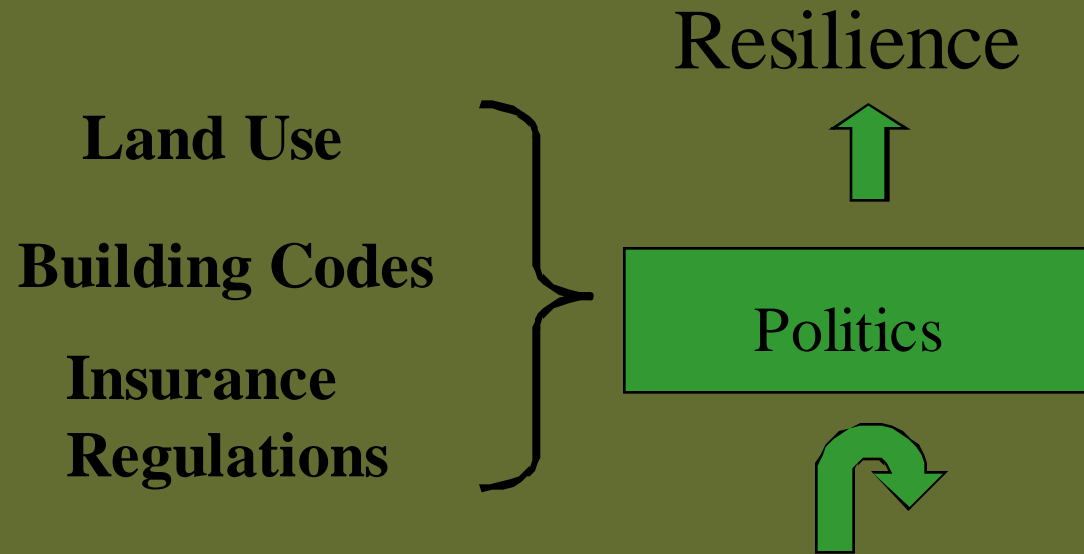
“Managing Large Scale Risks in a New Era of Catastrophe.” 2007

Adaptation: Case Example

FM Global Insurance Co. –

- 500 properties affected by Katrina
- Loss-prevention requirements in policies
- Experienced one-eighth the losses
- \$500 million avoided losses for only \$2.5 million invested

Coastal Status Quo



Prescription

- Better science and tools for risk assessment and mitigation
- Risk-based land use planning
- Risk-appropriate infrastructure and buildings
- Strengthened ecosystems
- Flexible adaptation
- Viable insurance market
- Climate-respectful investments and lending

Science and Tools

Accurate forecasts/less uncertainty



- Sea level rise/ice sheet breakdown
- Improved storm models/clarify uncertainties
- LIDAR/other data
- High-definition, digital flood and coastal maps



Risk-Based Land Use Planning

Protect development from coastal hazards



- Consider climate change
- No-build/no-rebuild zones
- Incentives to relinquish property or development rights

Infrastructure and Buildings

- Adaptable infrastructure plans
- New approaches (e.g., decentralized systems)
- Building standards reflect climate and other risks
- Low-income retrofit assistance



Strengthened Ecosystems



Make essential natural infrastructure part of any adaptation strategy

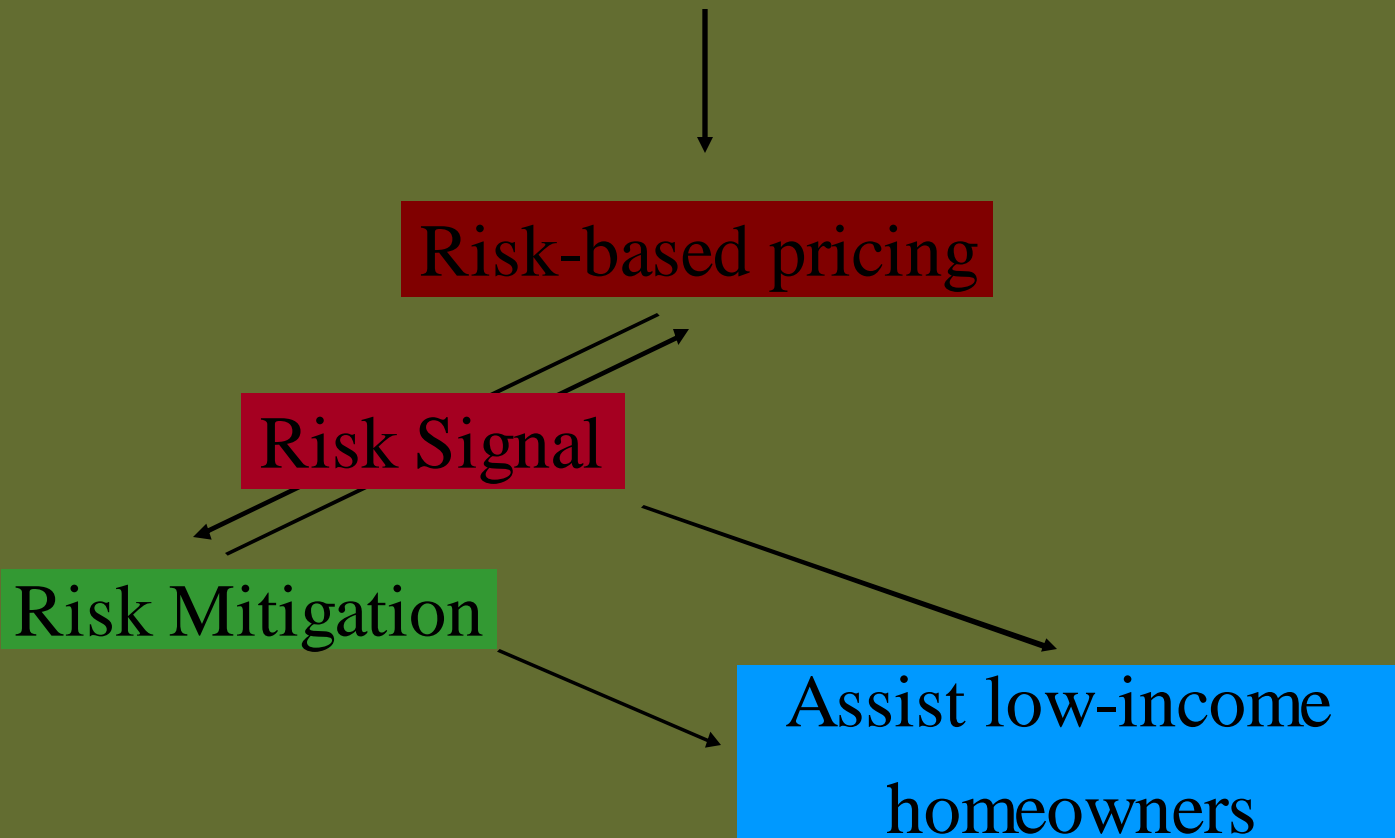
Protect and restore these features through adaptation funding, risk-based land use planning, and post-disaster rebuilding

Flexible Adaptation

Amend adaptation plans for higher levels of protection as climate change understanding grows



Viabile Insurance Market



Investments and Lending

Risk + Climate Awareness =



Resilience/Wise
Investment

Blueprint Endorsers

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Resilient Coasts Blueprint



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