

FOCUS

CONTROL

FLEXIBILITY

RESULTS



Property Market: Update on the Impact of Natural Disasters in the U.S.

Texas PRIMA—17th Annual Conference
November 8-10, 2006

BENEFITS ADMINISTRATION AND RISK MANAGEMENT SOLUTIONS

Goals and Objectives

- Discuss the global insurance industry landscape
- Review large U.S. natural disasters with a concentration on hurricanes
- Impact of natural disasters on the insurance market
- Discuss what should you be doing now given the current market
- Given the increase in recent disasters, discuss what you can expect in the future
- Things to consider in your current property program

Global Industry

- Limited new investment money coming into the marketplace compared to after 9/11
- Insurance capacity continues to decrease in 2006
- Rating agencies are wanting twice as much capital to affirm a carrier's original financial rating
- Pre-May 2006 catastrophe rating models severely discounted by rating agencies

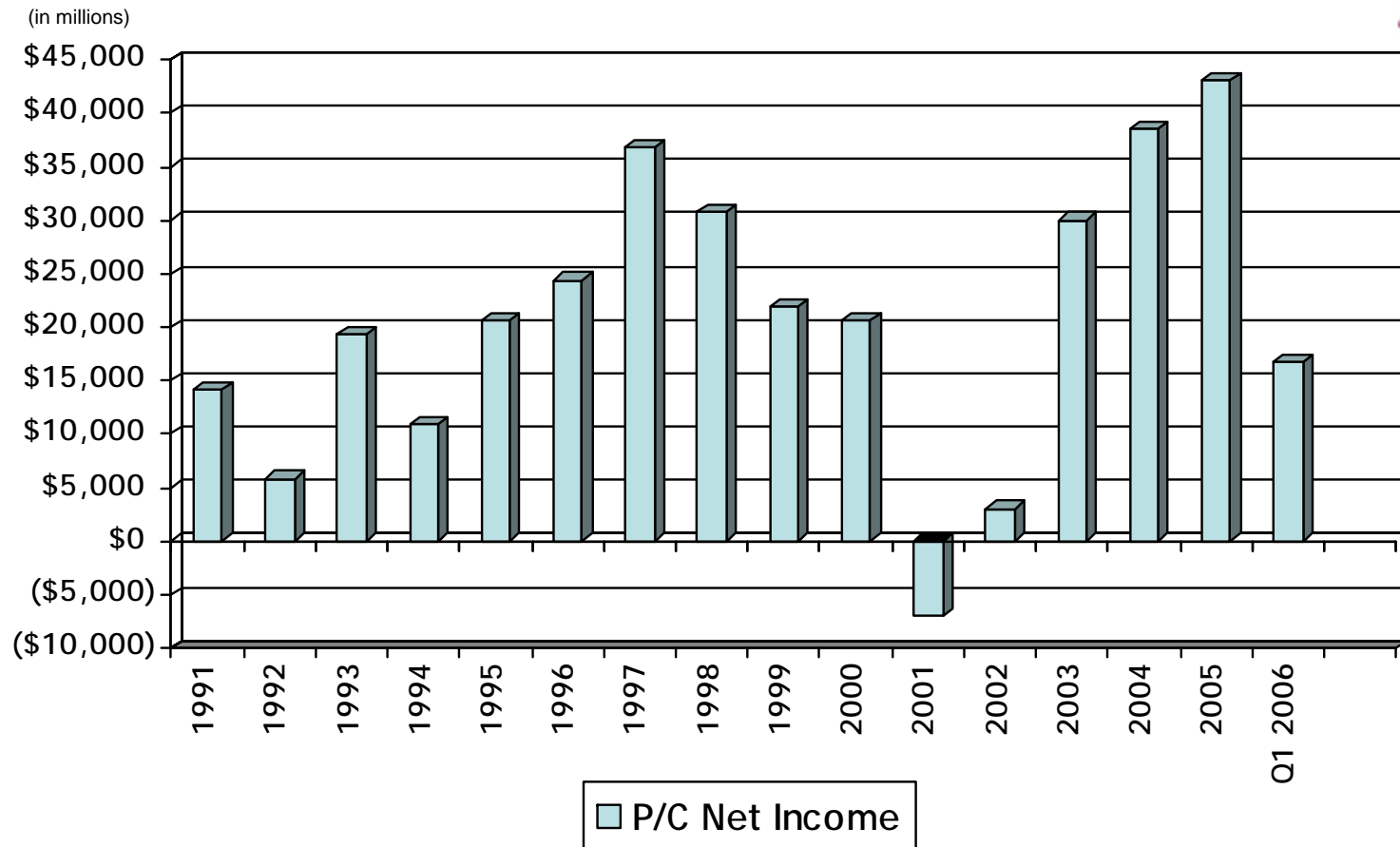
Global Industry (cont'd)

- Reinsurers/Insurers are further diversifying their books of business to non-U.S. exposures
- According to a 9/7/06 BestWire report, catastrophe reinsurance rates are up
 - 32% globally
 - 76% in the U.S.
 - 129% in Mexico
 - 2% in non-U.S. and Mexico territories

Global Industry (cont'd)

- Non-U.S. (excluding Mexico) property market is soft
 - European market seeing property rate reductions ranging from 10% to 20%
 - Reductions in property rates as high as 30% in Spain
- According to Swiss Re *sigma* reports, natural catastrophe's reached an all time record of 149 in 2005.
 - 395% increase over those in 1970

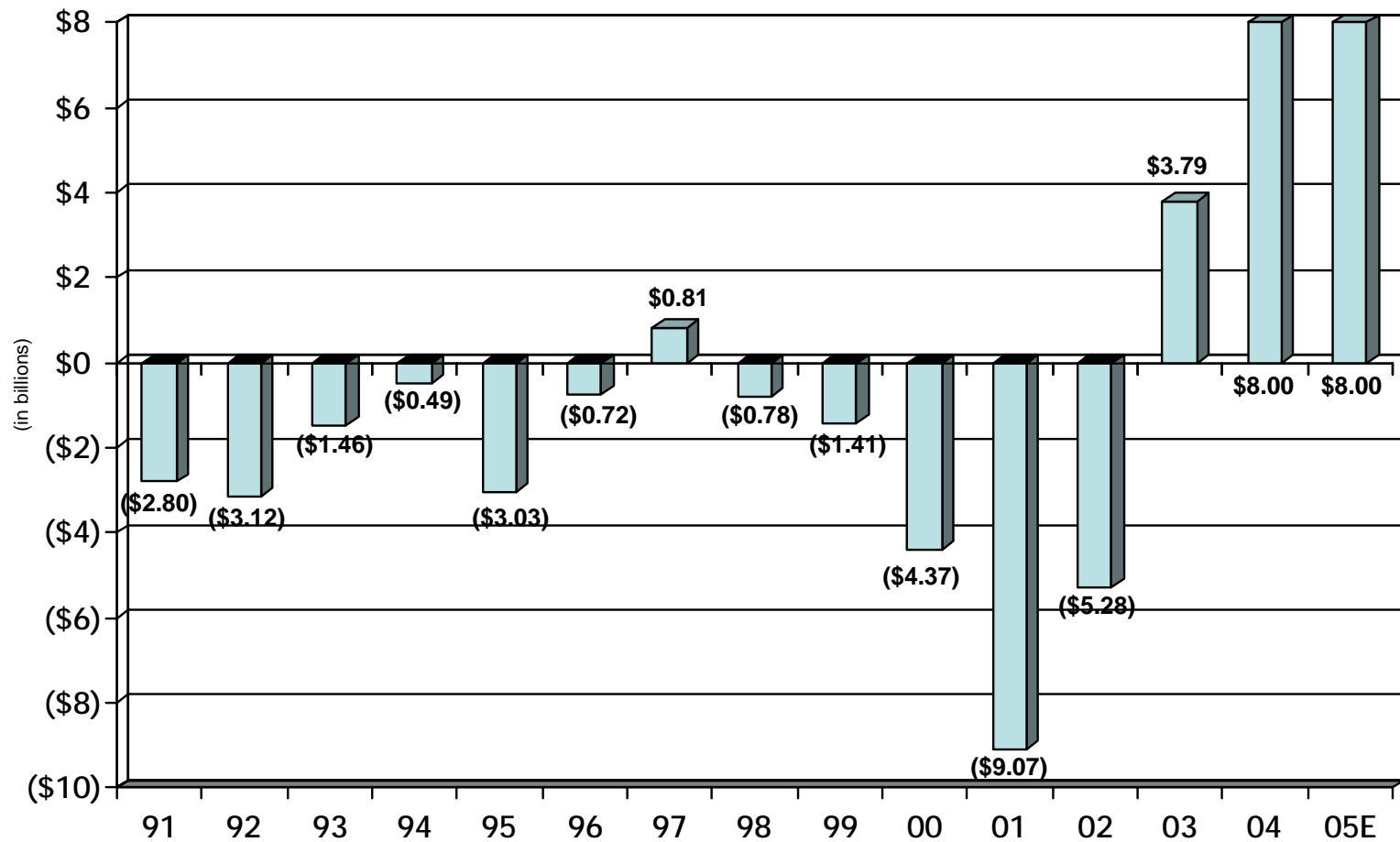
Profit/Loss History for Industry



Source: "Messing with Texas: Catastrophic Risk in the Lone Star State" Hartwig, Robert P, Ph.D., CPCU, Insurance Information Institute July 13, 2006



Texas P/C All Lines Underwriting (Loss)/Gain

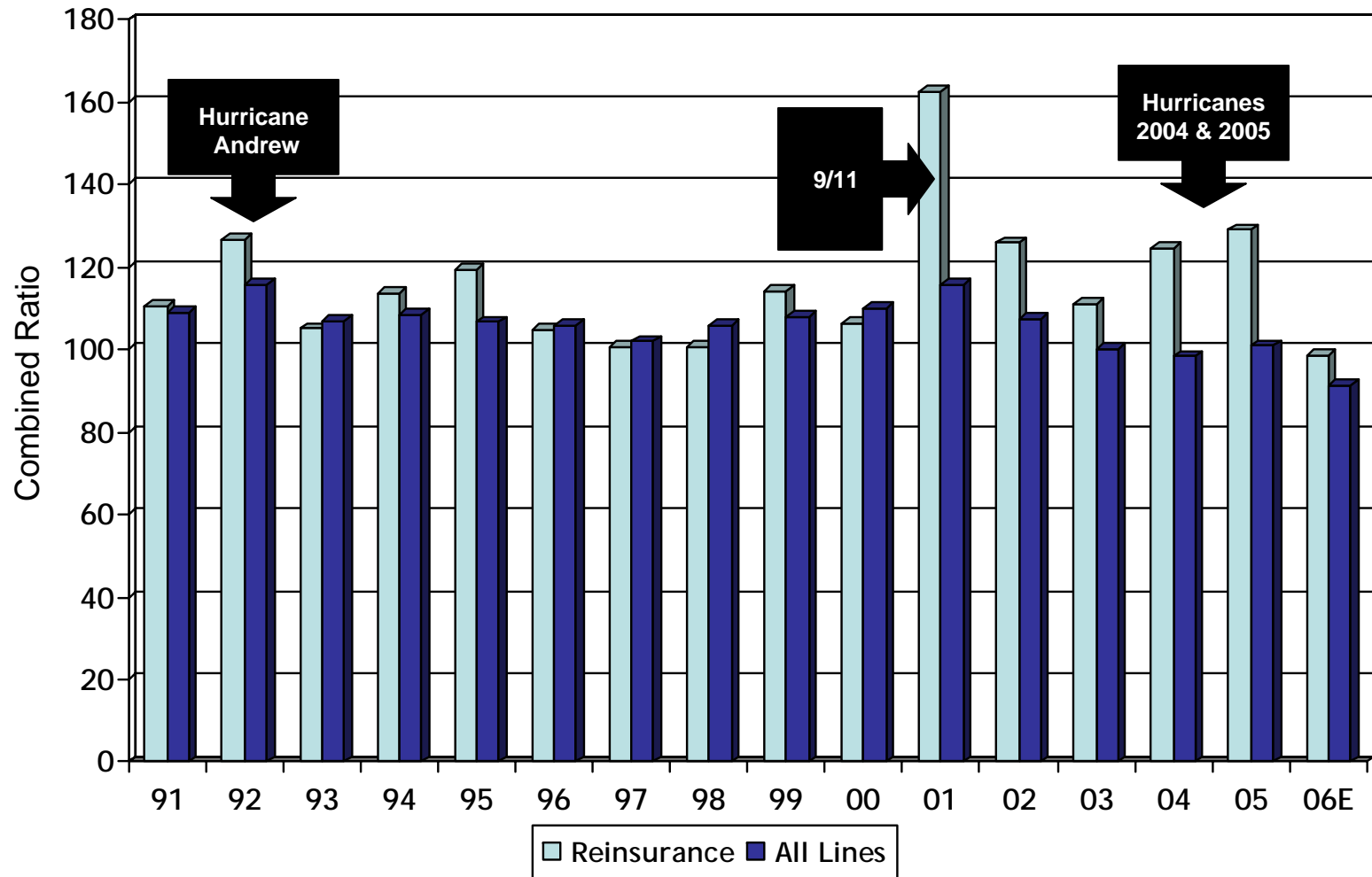


Based on a Calendar Year. This is also calculated on DPE and Direct Premium Written

Source: "Messing with Texas: Catastrophic Risk in the Lone Star State" Hartwig, Robert P, Ph.D., CPCU, Insurance Information Institute July 13, 2006



CR: Reinsurance vs. P/C Industry



Source: "Messing with Texas: Catastrophic Risk in the Lone Star State" Hartwig, Robert P, Ph.D., CPCU, Insurance Information Institute July 13, 2006



NATURAL DISASTERS





Major Texas Natural Disasters w/in Past 50 Years

<u>Date</u>	<u>Type</u>	<u>Deaths</u>	<u>Injuries</u>	<u>Pr Dmg</u>
5-11-70	Tornado	26	500	\$250.0M
4-10-79	Tornado	54	1809	\$277.8M
8-10-80	Tornado	0	27	\$329.6M
11-21-92	Tornado	0	34	\$356.9M
4-29-95	Hail	0	0	\$241.0M
5-28-95	Flood	0	82	\$118.8M
4-19-96	Hail	0	8	\$201.5M
9-7-98	Trop Storm	3	0	\$287.2M
10-18-98	Flood	1	1521	\$44.7M
5-4-99	Tornado	1	35	\$151.3M
6-5-01	Trop Storm	22	0	\$5.2B
9-23-05	Hurricane	4	3	\$2.2B





Natural Disasters: Hurricane Cycle Years & Science Behind it

Three Theories

1. Global Warming

- Increased levels of greenhouse gases
 - Countries (China, India) becoming more industrialized
 - Temperature increase in sea surfaces
 - Hurricanes will be stronger
 - Severe rainfall increases

Source: "Global Warming and Hurricanes" Geophysical Fluid Dynamics Laboratory
www.gfdl.noaa.gov/~tk/glob_warm_hurr.html





Natural Disasters: Hurricane Cycle Years & Science Behind it (cont'd)

Three Theories (cont'd)

2. Normal Patterns

- # of 4 & 5 Cat storms almost doubled in last 30 years
 - 70's about 10 (4&5 CAT storms) annually-90's 18 annually
- Coastal populations have grown tremendously since last cycle (40's and 50's)
 - Damage is more severe and costly

Source: "Global Warming and Hurricanes" Geophysical Fluid Dynamics Laboratory
www.gfdl.noaa.gov/~tk/glob_warm_hurr.html





Natural Disasters: Hurricane Cycle Years & Science Behind it (cont'd)

Three Theories (cont'd)

3. Atlantic Thermohaline Circulation

- Reference the movie "The Day After Tomorrow"
- North Atlantic sea temperatures pendulum every 30-40 years
 - Estimation of 10 years into cycle (20-25 years left)

Sources: Epatko, Larisa "Hurricanes Mark Unusual Spike in Already Active Storm Cycle" PBS Online NewsHour
September 23, 2005

Boyle, Alan "Hectic Hurricane Season Hints at Things to Come" September 10, 2004 www.msnbc.msn.com/id/5931596





Natural Disasters: Hurricane Cycle Years & Science Behind it (cont'd)

Three Theories (cont'd)

3. Atlantic Thermohaline Circulation (cont'd)

- Florida

- From 1926-1965, 14 major land hitting storms
- Since 1965, less than 10
- Past decade had a low pressure trough, pulled hurricanes away from mainland

Sources: Epatko, Larisa "Hurricanes Mark Unusual Spike in Already Active Storm Cycle" PBS Online NewsHour
September 23, 2005

Boyle, Alan "Hectic Hurricane Season Hints at Things to Come" September 10, 2004 www.msnbc.msn.com/id/5931596





Probability of Major Hurricane Landfall (CAT 3, 4, 5) in 2006

	Average	2006F
Entire US Coast	52%	82%
US East Coast Including Florida Peninsula	31%	69%
Gulf Coast from FL Panhandle to Brownsville, TX	30%	38%

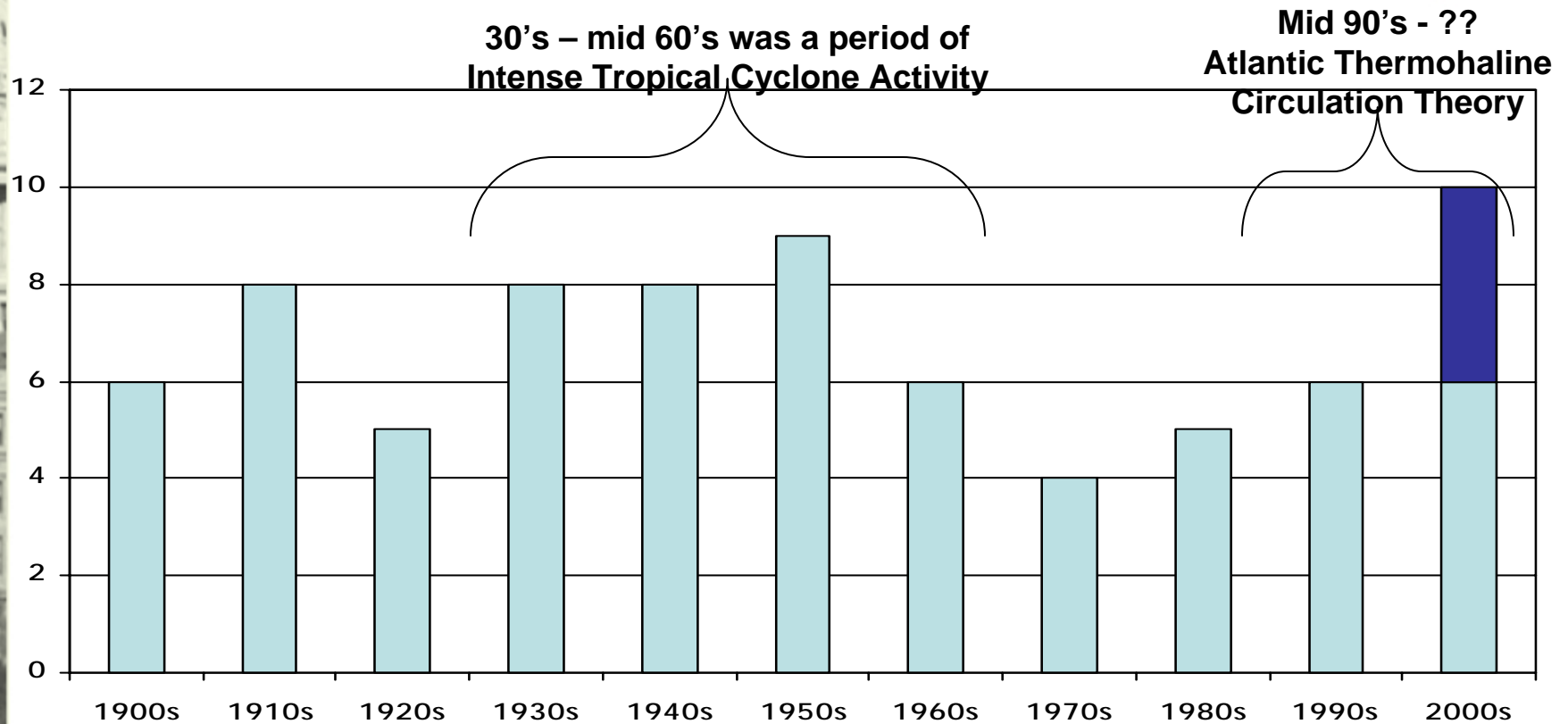
The data above includes category 3, 4, and 5 hurricanes. There is also a forecast of above-average major hurricane landfall risk in the Caribbean for 2006.

*Average is over past century.

Source: "Messing with Texas: Catastrophic Risk in the Lone Star State" Hartwig, Robert P, Ph.D., CPCU, Insurance Information Institute July 13, 2006



Number of CAT 3-5 Hurricanes Hitting U.S.

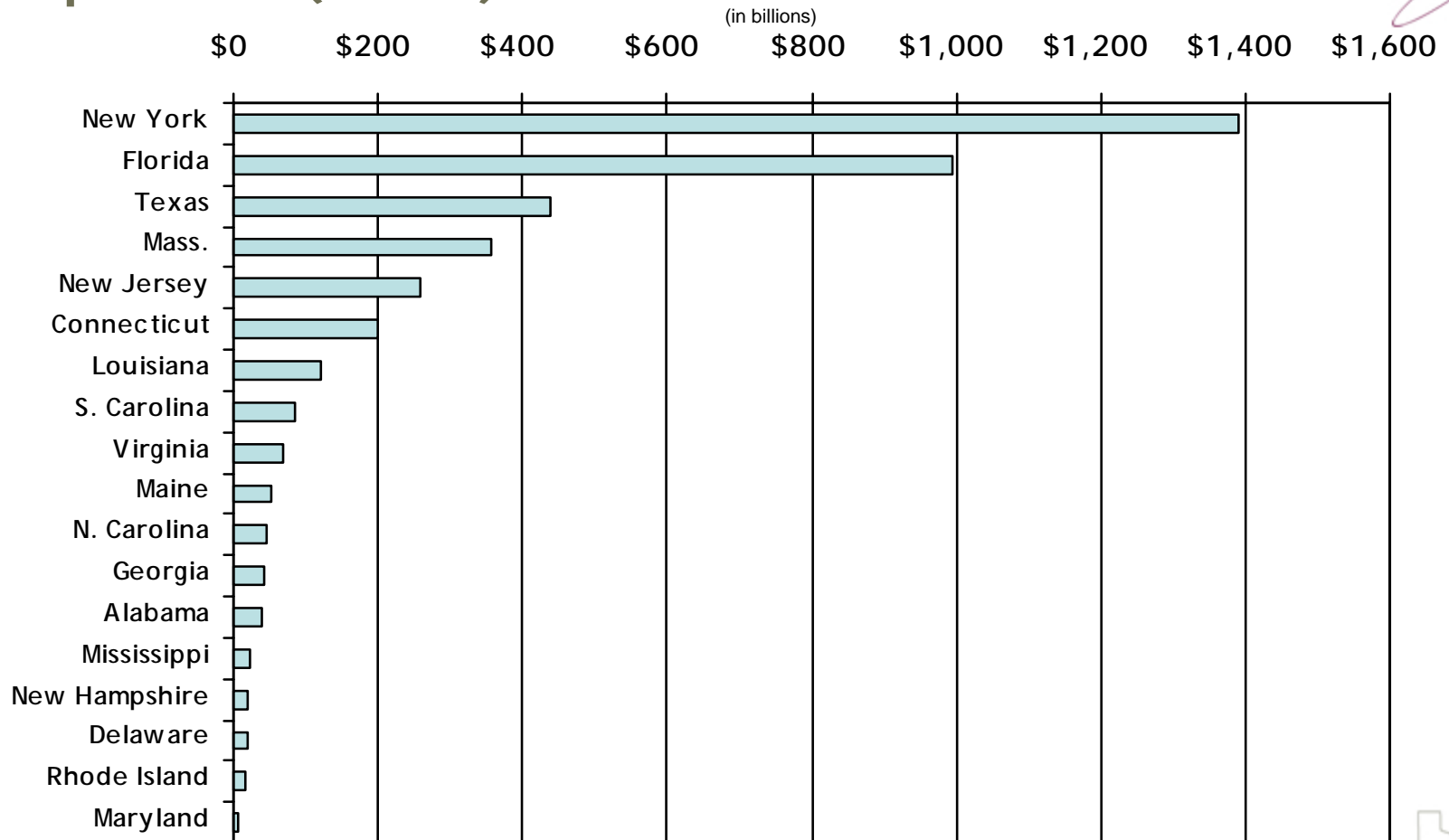


For 2000s, data is from 2000-2005. Charley '04, Ivan '04, Jeanne '04, Katrina '05, Rita '05, & Wilma '05 make up the 6 major hurricanes occurring in 2000s.

Source: "Messing with Texas: Catastrophic Risk in the Lone Star State" Hartwig, Robert P, Ph.D., CPCU, Insurance Information Institute July 13, 2006



Value of Insured Commercial Coastal Exposure (2004)



Source: "Hurricane Risk in NY City & Long Island" Valverde Jr, Dr. L. James, February 27, 2006





10 Strongest Hurricanes (at landfall)

<u>Name</u>	<u>Year</u>	<u>Category</u>	<u>Max Winds</u>
Florida Keys	1935	5	160 mph
Camille	1969	5	190 mph
Katrina	2005	4	175 mph
Andrew	1992	5	175 mph
Texas (Indianola)	1886	4	155 mph
Florida Keys	1919	4	140 mph
Lake Okeechobee, FL	1928	4	160 mph
Donna	1960	4	160 mph
New Orleans	1915	4	135 mph
Carla	1961	4	175 mph

Note: Rankings are based on millibars of pressure

Source: "Top 10 Most Intense Hurricanes at Landfall", <http://www.mthurricane.com/Information.htm>





10 Costliest Hurricanes

<u>Name</u>	<u>Year</u>	<u>Category</u>	<u>Damage</u>
Katrina	2005	4	\$80.0 Billion
Andrew	1992	5	\$26.5 Billion
Charley	2004	4	\$15. Billion
Wilma	2005	3	\$14.4 Billion
Ivan	2004	3	\$14.2 Billion
Rita	2005	5	\$10.0 Billion
Frances	2004	2	\$8.9 Billion
Hugo	1989	4	\$7.0 Billion
Jeanne	2004	3	\$6.9 Billion
Tropical Storm Allison	2001	T.S	\$5.0 Billion

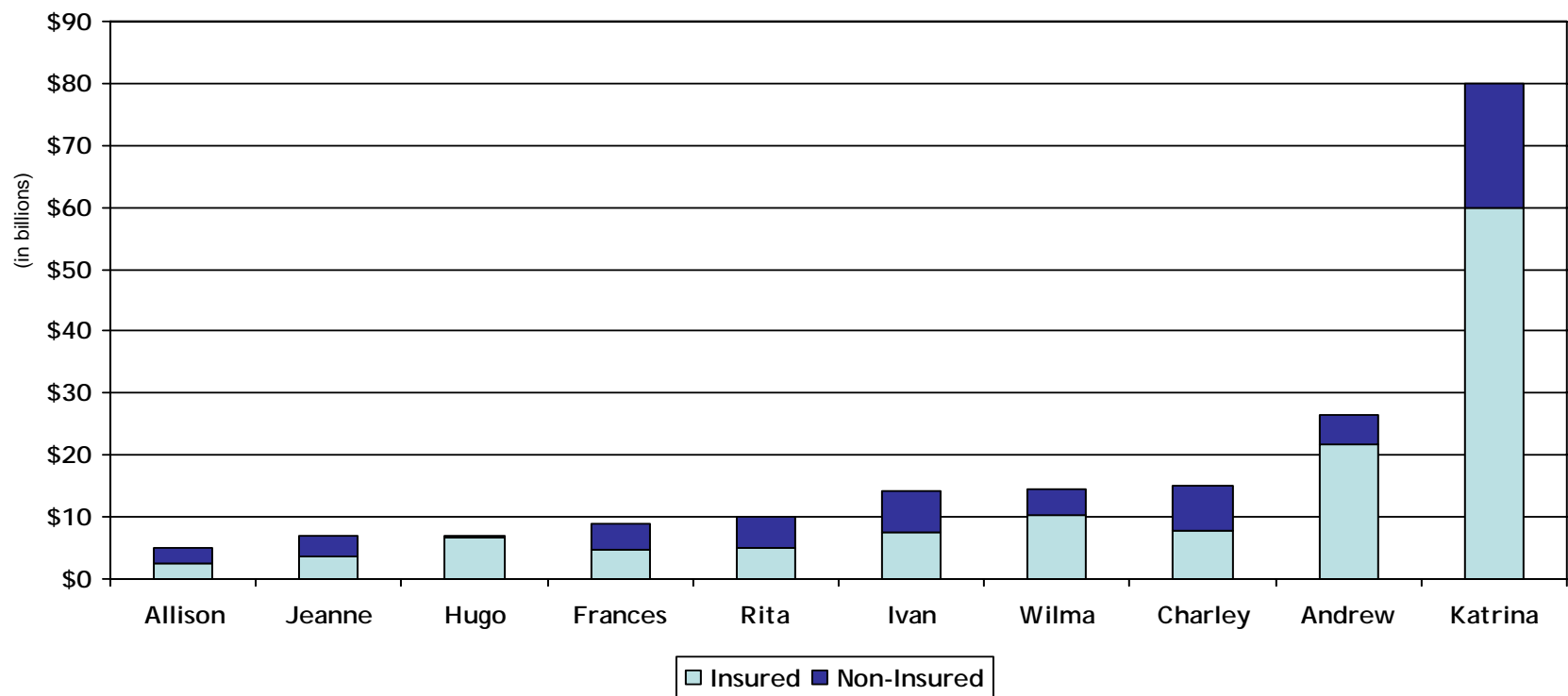
Source: "Most Expensive Hurricanes (Atlantic)", <http://www.mthurricane.com/Information.htm>

Figures are not adjusted for inflation.



10 Costliest Hurricanes

Costs: Insured vs. Non-Insured



Source: "Most Expensive Hurricanes (Atlantic)", <http://www.mthurricane.com/Information.htm>

Figures are not adjusted for inflation.

"Tropical Storm Allison, June 2001" 2001, RMS Event Reporter





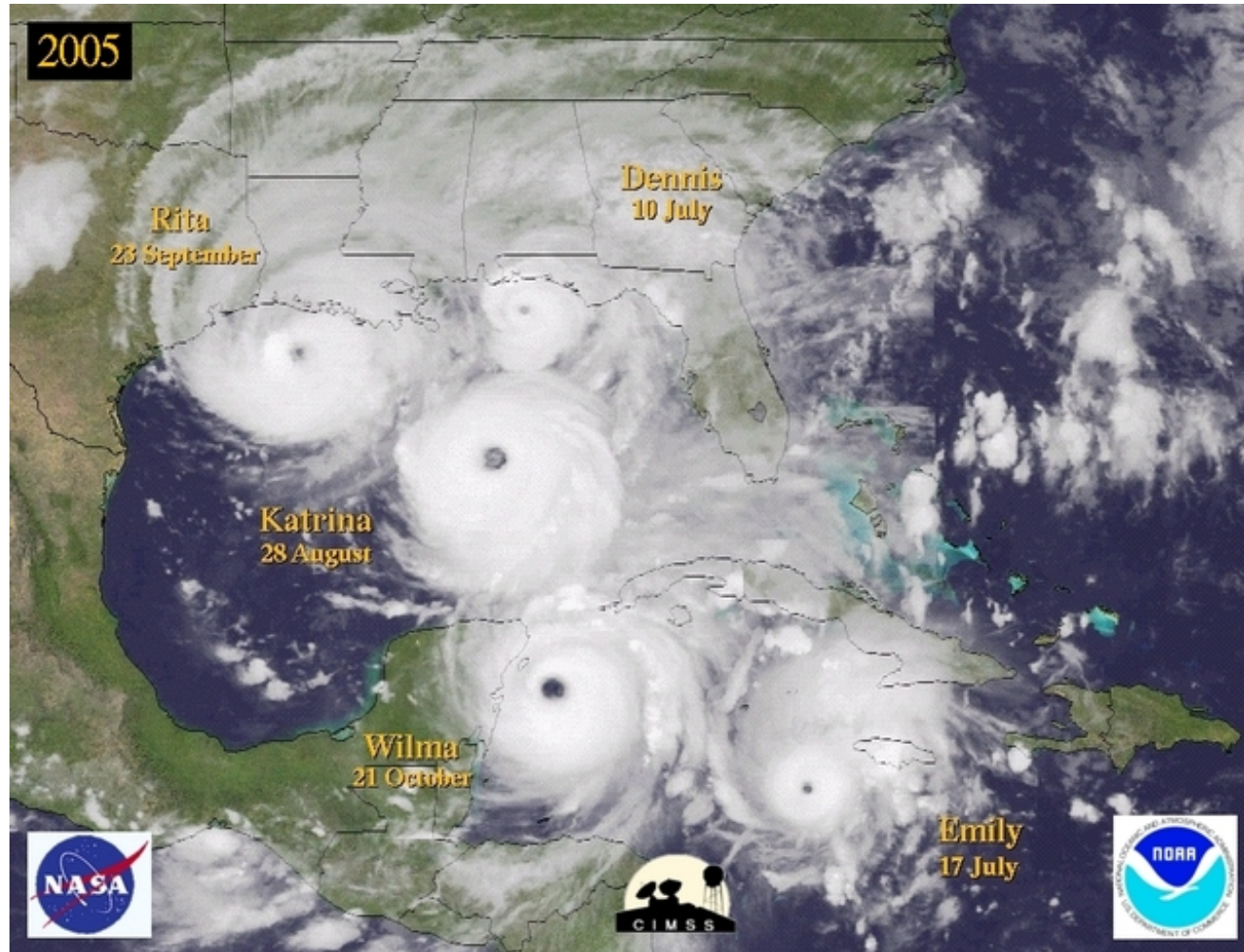
10 Deadliest Hurricanes

<u>Name</u>	<u>Year</u>	<u>Category</u>	<u>Deaths</u>
Texas (Galveston)	1900	4	8,000
Florida (Lake Okeechobee)	1928	4	1,836
Hurricane Katrina	2005	4	1,336+
Florida Keys	1919	4	600
New England	1938	3	600
Florida Keys (Labor Day)	1935	5	408
Audrey	1957	4	390
NE United States	1944	3	390
Louisiana (Grand Isle)	1909	4	350
Louisiana (New Orleans)	1915	4	275

Source: "Top 10 Deadliest Hurricanes", <http://www.mthurricane.com/Information.htm>



July - October 2005 was a busy time for the Gulf of Mexico...





Katrina, Rita, Wilma Hurricane Stats



	<u>Katrina</u>	<u>Rita</u>	<u>Wilma</u>
	Aug 23 - 30	Sept 17 - 24	Oct 15 - 25
Greatest Width Across	460 miles	410 miles	860 miles
Highest Wind Speed Achieved	175 mph	170 mph	145 mph
Damage in \$	\$80.0B	\$10.0B	\$14.4B

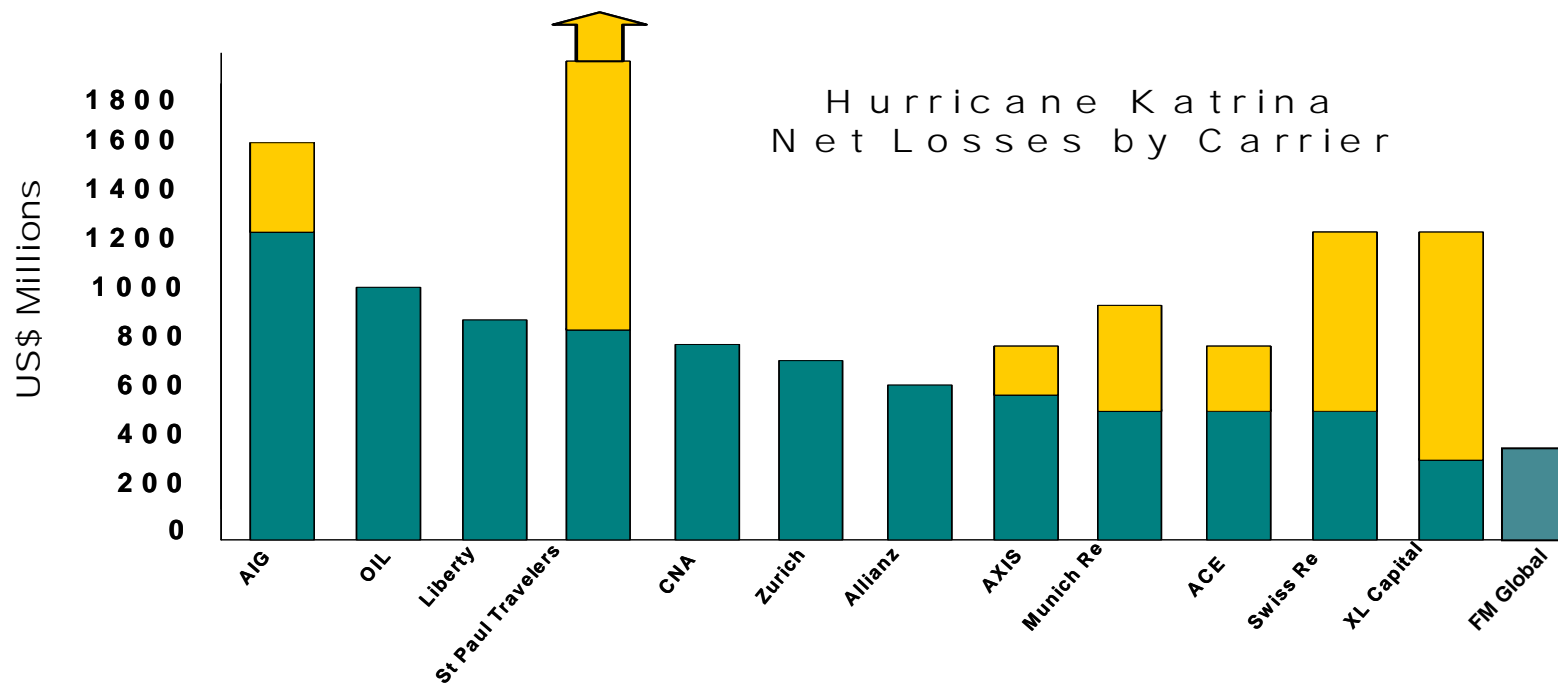
Source: "Most Expensive Hurricanes (Atlantic)" & Top 10 Most Intense Hurricanes at Landfall", <http://www.mthurricane.com/Information.htm>
"Atlantic Hurricane Archive", <http://weather.terrapin.com/hurricane>



Natural Disasters: A look at Katrina

- Sept 2005 loss estimates from various catastrophe modeling agencies
 - AIR-Worldwide: \$61B - \$69B
 - EQECat: \$26B - \$43B
 - RMS: \$40B - \$60B
- Current estimates are \$80B (~\$60B insured)

Katrina - Net Losses by Carrier



Blue-Green Bar = Original declared net loss (~1Q after event)

Yellow Bar = Subsequent revision (~2Qs after event)



This Year's Chosen Hurricane Names

Alberto

Helene

Oscar

Beryl

Isaac

Patty

Chris

Joyce

Rafael

Debby

Kirk

Sandy

Ernesto

Leslie

Tony

Florence

Michael

Valerie

Gordon

Nadine

William

NOTE: The hurricane names in italics have been used as of 9/18/06.





Hurricane Forecast for 2006

	Issue Date April 4	Full Season Fcst Adjusted August 3	Observed Activity Thru Aug.	Updated Sept only Fcst	Updated Oct only Fcst
Named Storms	17	15	5	5	2
Named Storm Days	85	75	17.50	20	10
Hurricanes	9	7	1	3	1
Hurricane Days	45	35	.25	10	3
Intense Hurricanes	5	3	0	2	0
Intense Hurricane Days	13	8	0	4	0
Net Tropical Cyclone Activity	195	140	18	59	12

Source: "Forecast of Atlantic Hurricane Activity for September and October 2006 and Seasonal Update Through August" Klotzback, Philip J & Gray, William M.

"Extended Range Forecast of Atlantic Seasonal Hurricane Activity and U.S. Landfall Strike Probability for 2006" Klotzback, Philip J. & Gray, William M.





Disaster Impact on the Insurance Market



Disaster Impact: General Economic Impact

- Current shortage of construction labor in the disaster areas
- Increase in cost of materials, supplies, etc.
- Increase in replacement cost of real property
- Loss of market share/revenue by the insured, especially in heavy tourist areas
- Increase in unemployment
- Lower tax revenues



Disaster Impact: Modeling / Forecasting

- Rating agencies questioning the adequacy of insurer and insurance company surpluses as a result of model deficiencies
- New catastrophe models came out in May 2006





Disaster Impact: Modeling / Forecasting

(cont'd)

- New modeling ultra conservative
 - Based on shorter outlook—5 years
 - Includes new information regarding “demand surge”
 - Demand surge is the increased cost of materials and labor that results when a catastrophe affects widespread areas
 - Includes factors for New Madrid Earthquake and storm surge
- Catastrophe models have been recalibrated resulting in a 40% increase in loss estimates



Disaster Impact: Reinsurers

- According to A.M. Best, reinsurers absorbed 60% of the record insured property losses resulting from Katrina, Rita, and Wilma
- A.M. Best also reports that since the 2005 hurricane season, the financial strength ratings of 13 U.S. and Bermuda reinsurers have been downgraded or withdrawn after being downgraded

Disaster Impact: Reinsurers (cont'd)

- Reduction in available capacity, regardless of cost
 - \$1B as of 1/1/06
 - \$750M as of 4/1/06
 - \$500M and lower as of 7/1/06
- Premium in natural catastrophe areas determined by assuming a full limit loss every 4 to 5 years (*e.g.*, \$2M limit equates to a \$400K to \$500K annual cost)

Disaster Impact: Reinsurers (cont'd)

- Diversifying writings/capital redeployment
 - Focus on growth in non-U.S. (excluding Mexico) territories—perception of lower exposure to natural catastrophe losses
 - Moving capacity from property to casualty insurance



Disaster Impact: U.S. Insurance Companies

- Rating agencies now want twice as much capital to reaffirm their original financial rating
- Directly impacted by their reinsurance treaties
 - Cost
 - Capacity





Disaster Impact: U.S. Insurance Companies (cont'd)

- Assuming more risk because reinsurance either isn't available or is cost prohibitive
- Rates softening in non-natural catastrophe areas
- Hardest market is in the natural catastrophe areas (wind, flood, and earthquake prone areas), especially for those insureds who have had recent loss activity





Disaster Impact: U.S. Insurance Companies (cont'd)

- Diversifying writings/capital redeployment
 - Focus on growth in non-natural catastrophe areas
 - Reduction of existing natural catastrophe areas
 - Eliminating offering of insurance in natural catastrophe areas





Disaster Impact: Market Deterioration

- Most reinsurance treaties renew either January 1st or July 1st
- Treaties renewing 1/1/06, were based on the Katrina and other 2005 hurricane losses known at that point in time
- July 1, 2006 treaty renewals reflect larger premium increases and reductions in capacity, as a result of continued loss development





Disaster Impact: Market Deterioration (cont'd)

- According to a July 2006 Business Wire report, agents have reported coastal property premium increases between 300% and 500%
- The same Business Wire article reported that earthquake premiums have increased 50% to 100%
- Desired limits are not always available, regardless of cost
- IBNR estimates continue to grow from 2005 storms; majority of adjustments relate to Time Element exposures





What should you be doing now?





What should you be doing now?

- Evaluate the contract insurance requirements imposed on your organization? Are you in compliance with their requirements?
- Evaluate the contract insurance requirements you require of your vendors. Are they reasonable? Can they realistically comply?
- Is your organization building or buying new properties? What does lender expect? Will the current carrier insure the exposure?





What should you be doing now? (cont'd)

- Assess values and determine if they are adequate—do you need an appraisal?
- It is recommended that you have your carrier inspect the property before taking ownership to help identify any exposures you need to consider in your negotiations.
- Ideally one would have their carrier review design specifications before construction begins or gets too far along in order to improve the insurability of the property.





What should you be doing now? (cont'd)

- Proactively walk through a claim scenario with your property carrier to see how it plays out...is it what you expected?
- What is your real deductible if it is a percentage of TIV? Did you include real property, personal property (property not part of the structure), and business income values in your calculations?





What should you be doing now? (cont'd)

- Do you have contracts in place for post loss cleanup? Has everyone contracted with the same vendor? If so, where does your organization fall in the priority list? Can you count on them?
- What documentation does your insurance carrier require in order to satisfy their proof of loss? Is this documentation readily available in the event of a loss?





What should you be doing now? (cont'd)

Percentage of TIV Loss/Deductible Examples

Property Coverages	Values
Building	\$80,000,000
Personal Property	\$5,000,000
Yard Storage	\$3,000,000
Business Interruption	\$12,000,000
Total Insured Values	\$100,000,000

Combined Wind Deductible **5% of TIV**

Calculated Deductible **\$ 5,000,000**
(TIV x 5%)

NOTE: The percent deductible is applied to the *Total Insured Values*.

Loss Scenario #1	Loss Amount
Property damage	\$3,000,000
Business Interruption	\$2,000,000
Total sustained loss	\$5,000,000
Less Deductible	\$5,000,000
Net Recovery from Carrier	\$0

Loss Scenario #2	Loss Amount
Property damage	\$6,000,000
Personal property	\$500,000
Business Interruption	\$250,000
Total sustained loss	\$6,750,000
Less Deductible	\$ 5,000,000
Net Recovery from Carrier	\$1,750,000





What should you be doing now? (cont'd)

- In the event of a natural catastrophe, will you and your employees be able to access your facility?
- How would you get past the National Guard if they are restricting access to the area where your facility is located?
- Consider having photo identification cards for your employees to solve this issue.





What should you be doing now? (cont'd)

- What is your plan for resuming operations in the event your facility isn't accessible or is destroyed?
 - Where do you setup operations?
 - What do you need to operate?
 - Computer systems
 - Consider having a contract in place with a trucking/shipping company to transport your critical systems to another location.
 - Do you have sufficient access to fuel?
 - Consider contracting with a fuel supplier to have a tanker onsite following the disaster





What should you be doing now? (cont'd)

- Physical protection considerations
 - Is the equipment on the roof adequately secured? For example, are all of the designated securing areas bolted appropriately on the A/C unit?
 - Are there any “flying missiles” on your property?
 - Consider installing shutters versus plywood
 - Consider “wind netting” to protect windows from flying objects
 - Consider available water barrier alternatives
 - What does your insurance carrier recommend?



What should you be doing now? (cont'd)

- Securing equipment on the roof



What should you be doing now? (cont'd)

- Securing equipment on the roof (cont'd)



Roof top equipment missing screws



Inadequate attachment provided

What should you be doing now? (cont'd)

- Securing equipment on the roof (cont'd)

d) Equipment Strength

Loss investigations have revealed that cable tie-downs have been effective in securing fan cowlings when a sufficiently strong cable and anchor details were used. For fan cowlings less than 4 feet in diameter, use 1/8-inch diameter stainless steel cables.

For larger cowlings, use 3/16-inch diameter cables. When the basic wind speed is 120 mph or less, specify two cables. Where the basic wind speed is greater than 120 mph, specify four cables. (As an alternative to cables, heavy stainless steel straps could be screwed to the cowling and curb.) To minimize leakage potential at the anchor point, anchor the cables to the equipment curb (rather than the roof deck).

Estimated Cost To Complete: US\$3.00 per fastener installed.



Heavy stainless steel straps attached to the curb with No. 14 screws.

What should you be doing now? (cont'd)

- Possible window shutters



Hurricane Accordion Panels



Hurricane Bahama Panels

What should you be doing now? (cont'd)

- Wind netting protection for windows



What should you be doing now? (cont'd)

- Wind netting protection for windows (cont'd)



What should you be doing now? (cont'd)

- Alternative water barrier system



What should you be doing now? (cont'd)

- Alternative water barrier system (cont'd)



**Water-Inflated Property Protector
deployed in actual flood conditions...**

What should you be doing now? (cont'd)

- Alternative water barrier system (cont'd)



What should you be doing now? (cont'd)

- Alternative water barrier system (cont'd)



What can you expect in the future?



What can you expect in the future?

- Catastrophe areas
 - Increased rates
 - Reduced limits
 - Some markets are now treating Houston as if it were located in Tier 1
- Non-catastrophe areas
 - Flat or reduced rates
- Non-renewal notices
- Fewer markets - fewer options



What can you expect in the future? (cont'd)

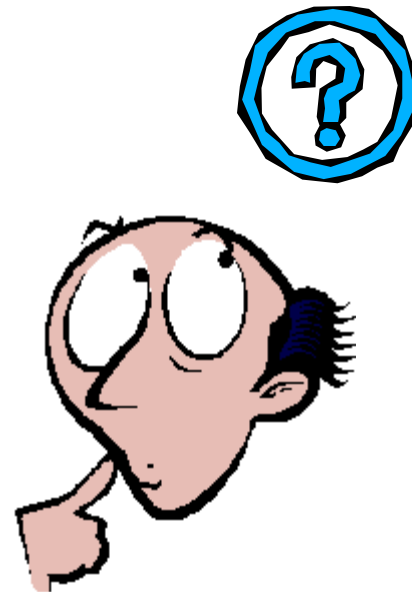
- Limitation of coverage that ties the amount paid to value reported. This can appear in various forms:
 - Margin clause
 - Coinsurance clause
- Exclusions expanded to include flood losses associated with named storm wind losses
- Named storm wind deductibles and limits have been expanded to include associated flood



What can you expect in the future? (cont'd)

- Wind deductible increases in standard non-catastrophe areas - reinsurance driven (*e.g.*, tornado prone areas)
- More carriers/reinsurers needed to get the same limits previously held (shared/layered programs)
 - Increased cost
 - Increased coverage complexity
 - Increased complexity in claims administration

Things to consider about your property program





Things to consider...

- Change effective date - get away from hurricane season
- Renew early - lock in terms and conditions
- Are any of your service fees tied to your property premiums? If so, is it appropriate for them to increase/decrease at the same rate with your property premiums?
- How soon do you have your policy after effective date? What if a loss occurs before the policy is issued?





Things to consider...(cont'd)

- How financially stable is your carrier? Longevity? What is their plan for handling disaster claims?
- What is the history of your carrier's approach to paying claims? Timely? Are they looking to find an exclusion at all costs or find coverage?
- Are you getting rates and limits that follow the actual exposure (*i.e.*, if you have made risk improvements to your properties are you getting credit)?





Things to consider...(cont'd)

T.W.I.A. - Tier 1

- Limits available

- Buildings & Contents (As of Jan 2006)

- Governmental: \$2,192,000 (up to \$5.0M with Excess Wind)
- Commercial: \$1,907,000 (up to \$5.0M with Excess Wind)
- Residential: \$1,500,000 (up to \$3.0M with Excess Wind)

- Buildings & Contents (As of June 2006)

- Governmental: \$3,000,000 (No Excess offered)
- Commercial: \$3,000,000 (No Excess offered)
- Residential: \$1,500,000 (No Excess offered)





Things to consider...(cont'd)

T.W.I.A. - Tier 1 (cont'd)

- Business Interruption coverage
 - Available to those properties covered under T.W.I.A.
 - Up to \$1,000 per day per building
 - Up to 365 days of coverage
 - Maximum limit is \$100,000
 - Waiting period of 7 days after the loss
 - BI includes \$10,000 of "Extra Expense" coverage





Things to consider...(cont'd)

T.W.I.A. - Tier 1 (cont'd)

- No waiting period after completed application and premium are received (exception of hurricane being named is in the Gulf of Mexico)





Things to consider...(cont'd)

NFIP

- Limits available—Commercial
 - Building: \$500,000
 - Up to \$1.0M w/Excess Flood if built before Dec. 1974
 - Up to \$2.5M w/Excess Flood if built after Dec. 1974
 - Contents: \$500,000
 - No Excess Flood available





Things to consider...(cont'd)

NFIP (cont'd)

- Limits available—Residential
 - Building: \$250,000
 - Up to \$1.0M w/excess flood if built before Dec. 1974
 - Up to \$2.5M w/excess flood if built after Dec. 1974
 - Contents: \$100,000
 - Of the \$1.0M in excess flood for Building, \$100,000 can be for contents if built before Dec. 1974
 - Of the \$2.5M w/ excess flood for Building, \$500,000 can be for contents if built after Dec. 1974





Things to consider...(cont'd)

NFIP (cont'd)

- No Business Interruption coverage
- 30-day waiting period after application and premium are received





Things to consider...(cont'd)

Who/What qualified for the FEMA Public Assistant Program after the 2005 Hurricanes?

- Eligible Applicants

- State, local governments
- Indian tribes
- Certain Private Non-Profit (PNP) organizations

- Eligible Work

- Emergency work (ex. Debris from public roads)
- Permanent work (ex. Public parks, buildings)



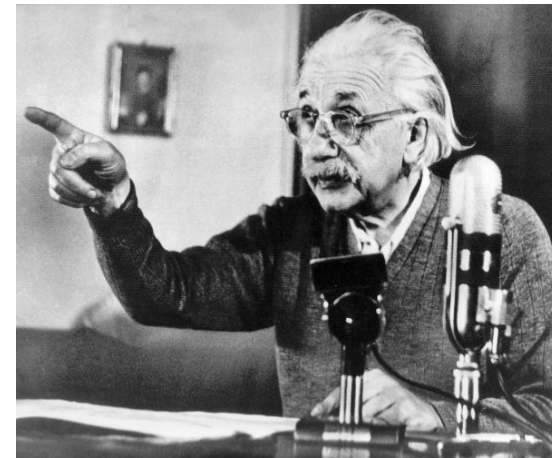


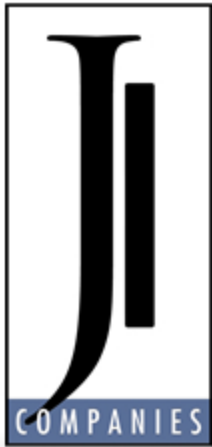
Review Goals and Objectives

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- Review large U.S. natural disasters with a concentration on hurricanes
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Questions?





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BENEFITS ADMINISTRATION AND RISK MANAGEMENT SOLUTIONS