Catastrophe Modeling Update

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2008 CAS Spring Meeting
Québec, Canada, June 15-17, 2008

Outline of Presentation

- Presentation of EQECAT
- Recent Developments in Cat Modeling
- Demand Surge
- Conclusions

EQECAT AND THE ABS TEAM

ABS

Federally chartered Marine and Offshore Classification and Certification business

ABS Consulting

Risk management Engineering Firm

- Process Risk (Manufacturing, Oil and Petroleum)
- Government
- Catastrophic Risk
- Global Consultancy

EQECAT, Inc.

Risk quantification for financial markets

- Software
- Consulting

EQECAT
An ABS Group Company

The ABS Group Organization

- Wholly-owned (taxable income) subsidiary of the federally-chartered, not-for-profit American Bureau of Shipping (ABS)
- Worldwide leader in the full range of risk policy, assessment, management, communication, and program assessment/measurement
- Internationally recognized independent, third-party, trusted-agent assessment, verification, certification, and accreditation firm
- Staffing: ~1,200 (Group) & ~4,400 (Bureau)
- Annual Revenue: ~$160M (Group) & ~$450M (Bureau)

ABS Worldwide Corporate Risk Division

NOTE: EQECAT OFFICES

All-hazards, All-threats

Security Threats

Natural Hazard Threats

Major Accident Threats

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Definition of Demand Surge (DS)

Actuarial Standards Board - ASOP 39

A sudden and usually temporary increase in the cost of materials, services, and labor due to the increased demand for them following a catastrophe

Demand Surge (DS)

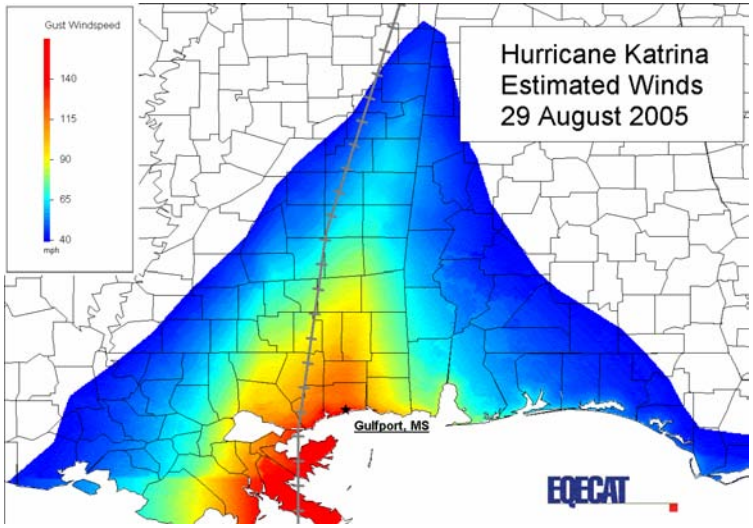
DS reflects higher demand on building material and labor which leads to:

- Added labor costs due to non-local workers influx (travel, hotels, car rentals, per-diem, etc.)
- Added building material costs due to higher shipping costs for faster delivery from further away locations

Historical Background

- DS reported following Hurricane Andrew in 1992, probably for the first time
- Then, following Northridge Earthquake in 1994
- DS was introduced into EQECAT models in 1996

2005 Storms – Katrina



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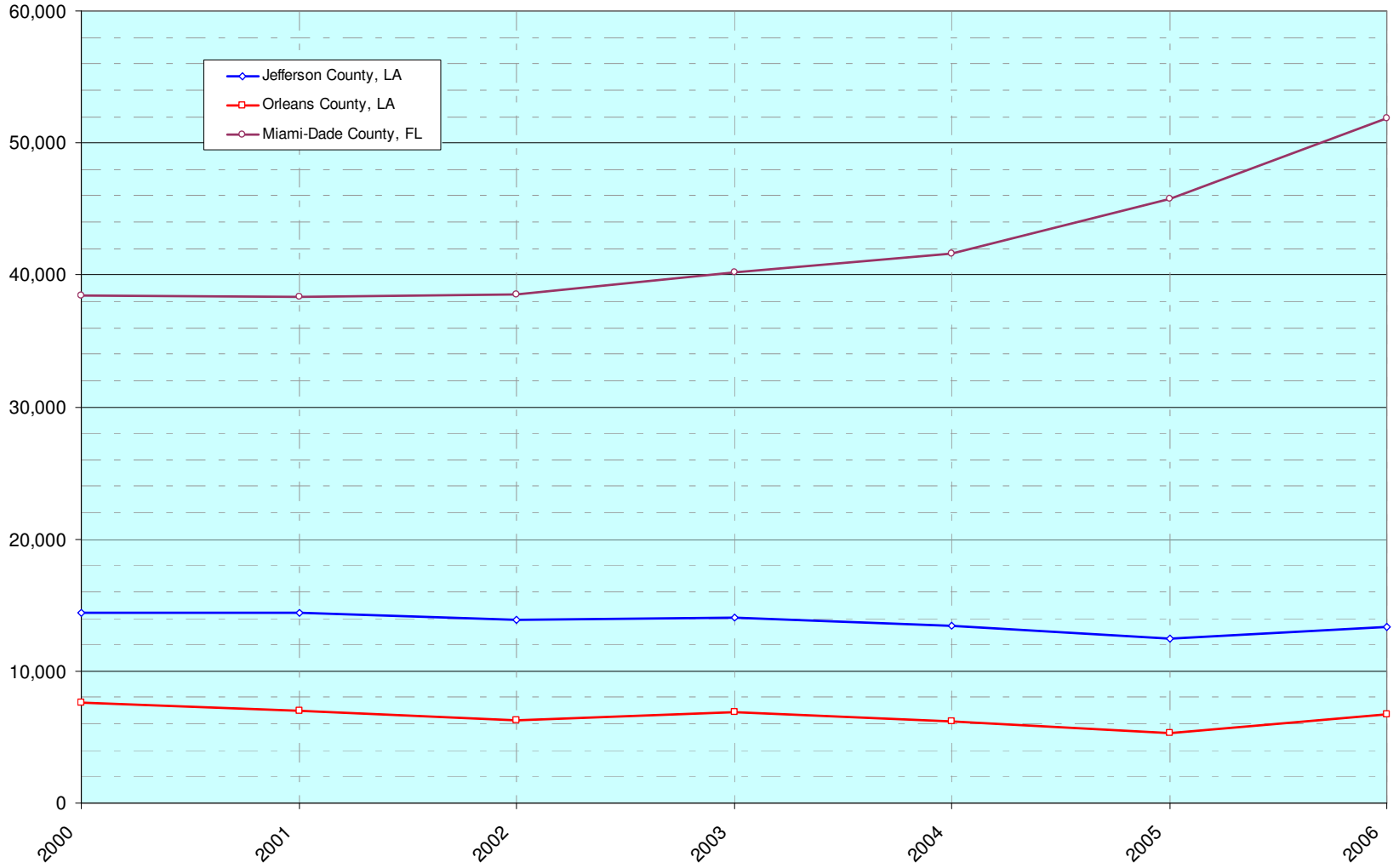
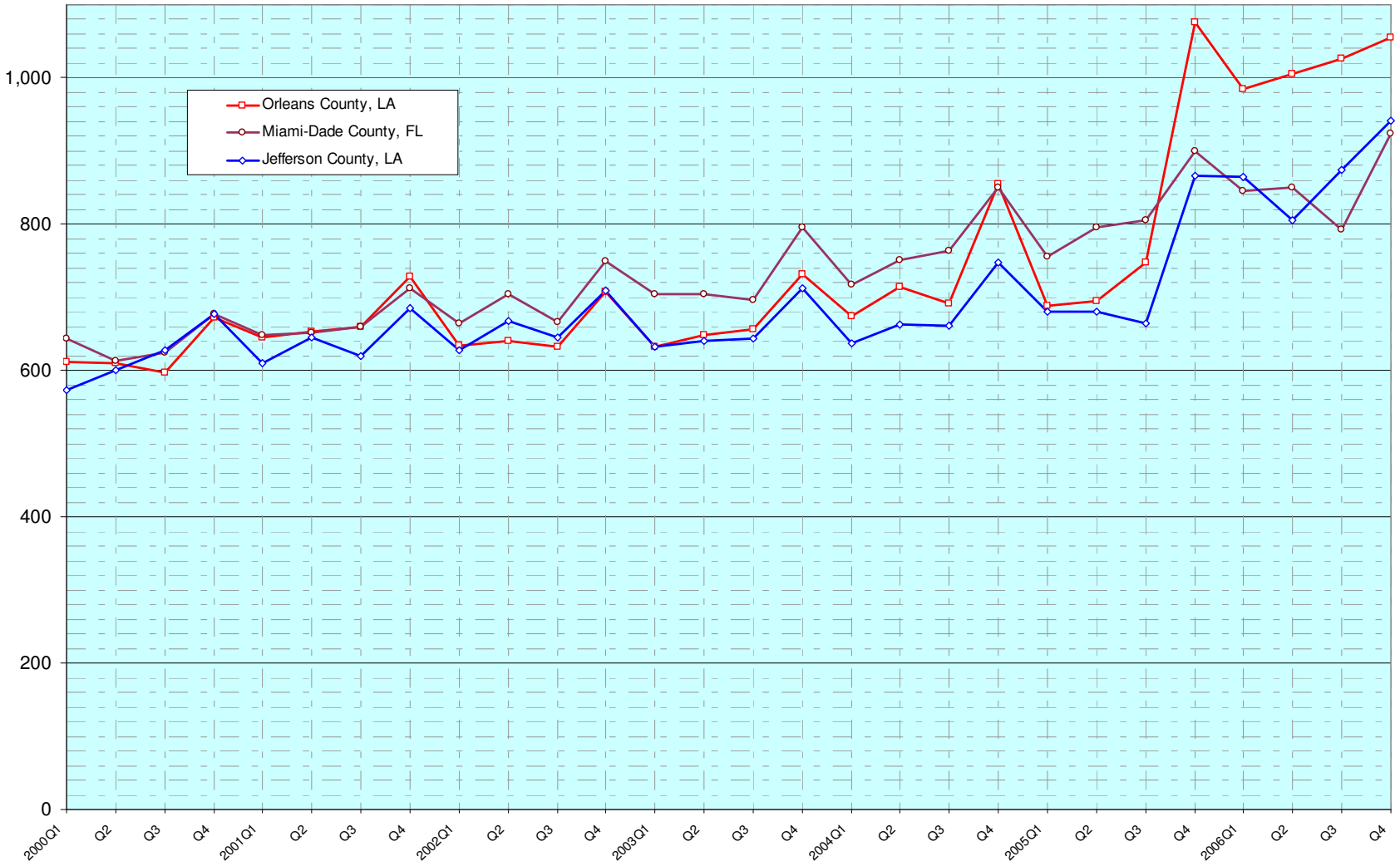
Katrina – Causes for Demand Surge

- Longer delays in repair increase damage due to flooding (molding becoming a factor)
- Higher demand on labor and supplies due to the size of the unprecedented devastation
- Decrease in size of local labor force due to the evacuation of about 1.5 million people from the region
- Increase in shipping costs due to higher demand for material
- Increase in travel cost of workers and shipping of supplies due to
  - longer commute to habitable/temporary housing
  - higher gas prices as a result of the major disruption to the O&G industry
- Older housing stock require rebuilding at higher cost due to new building code regulations coupled with delays to secure building permits
- Etc.

Average Annual Number of Employees



Contractors Average Weekly Wage in $



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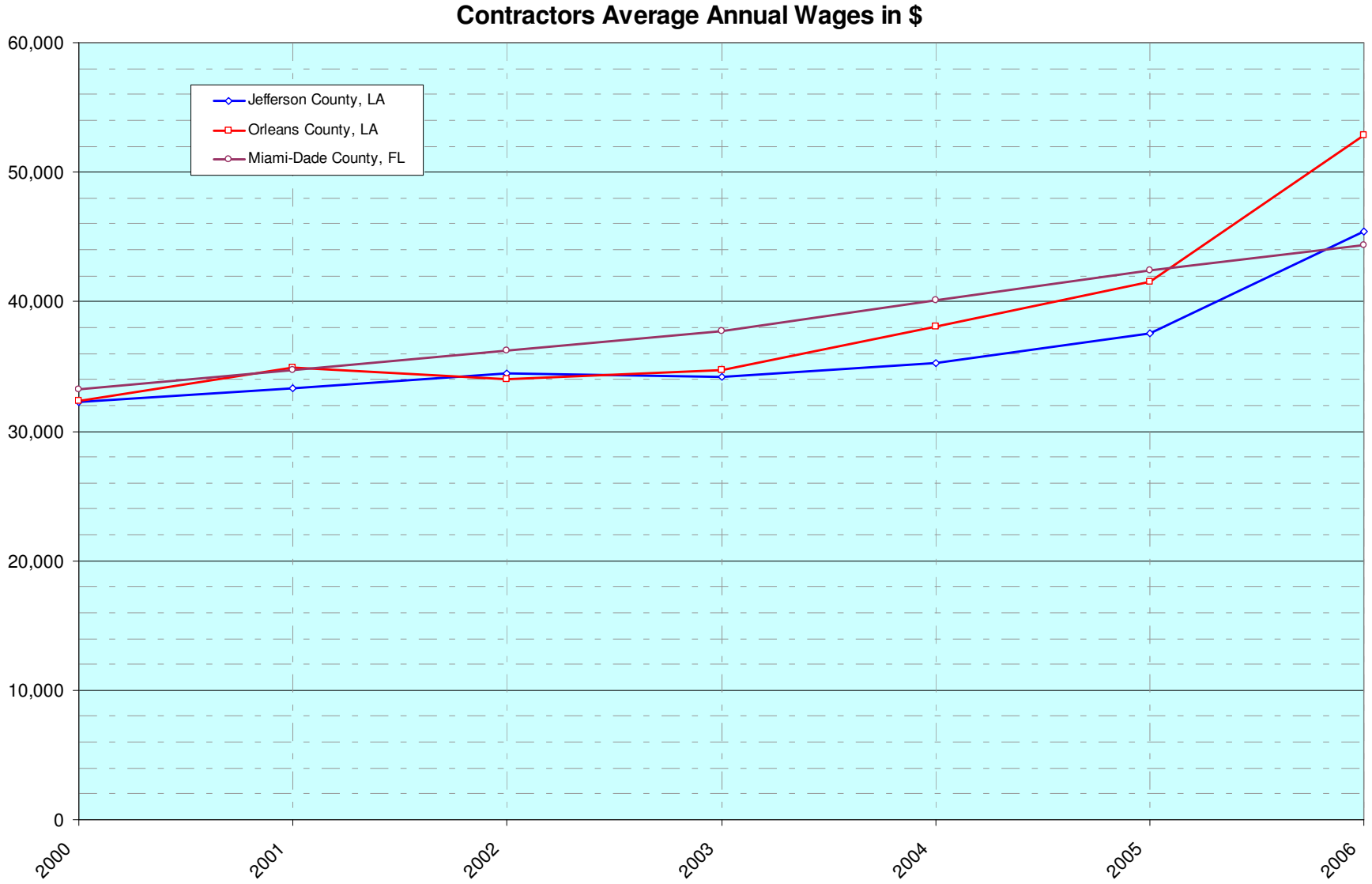

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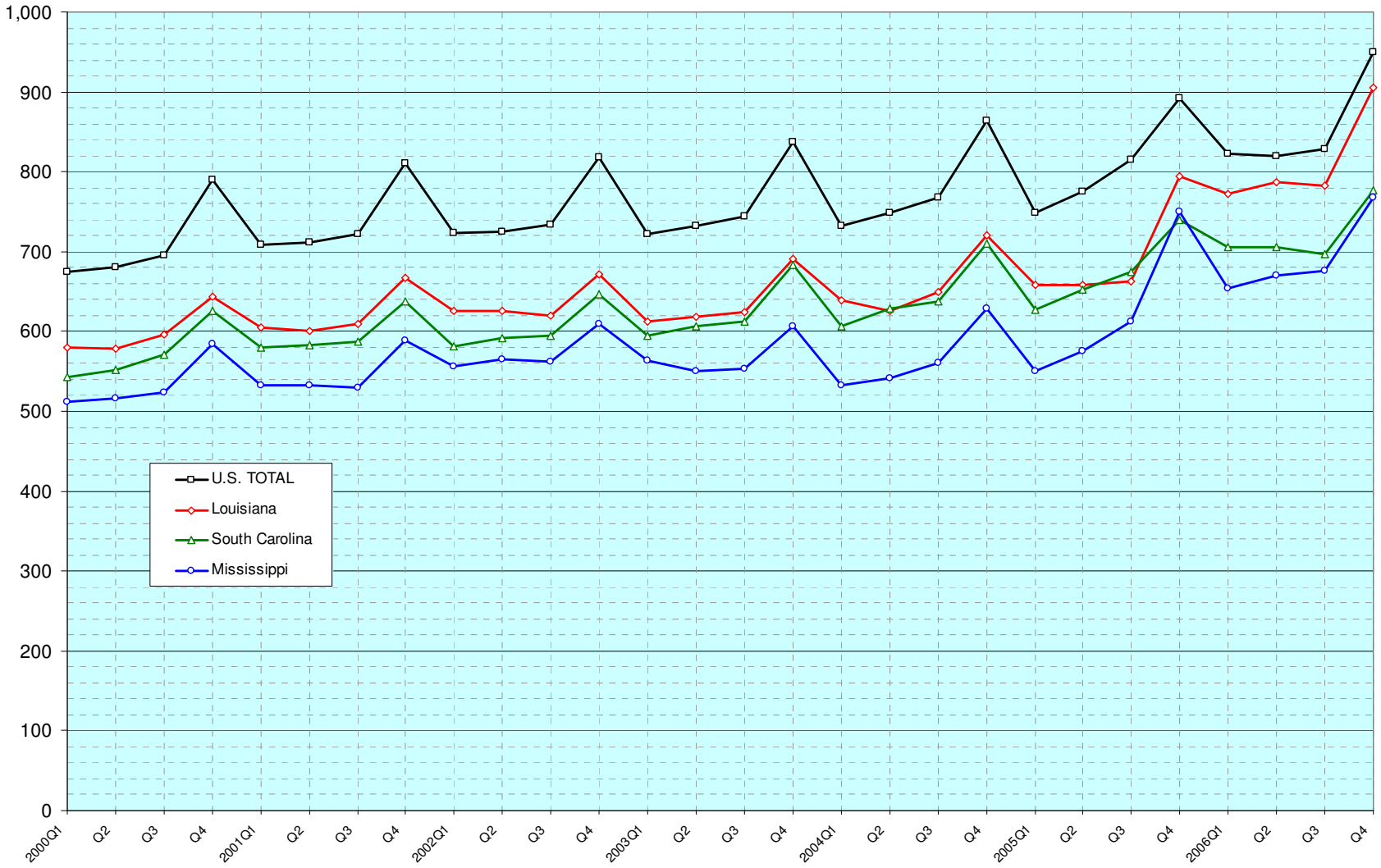
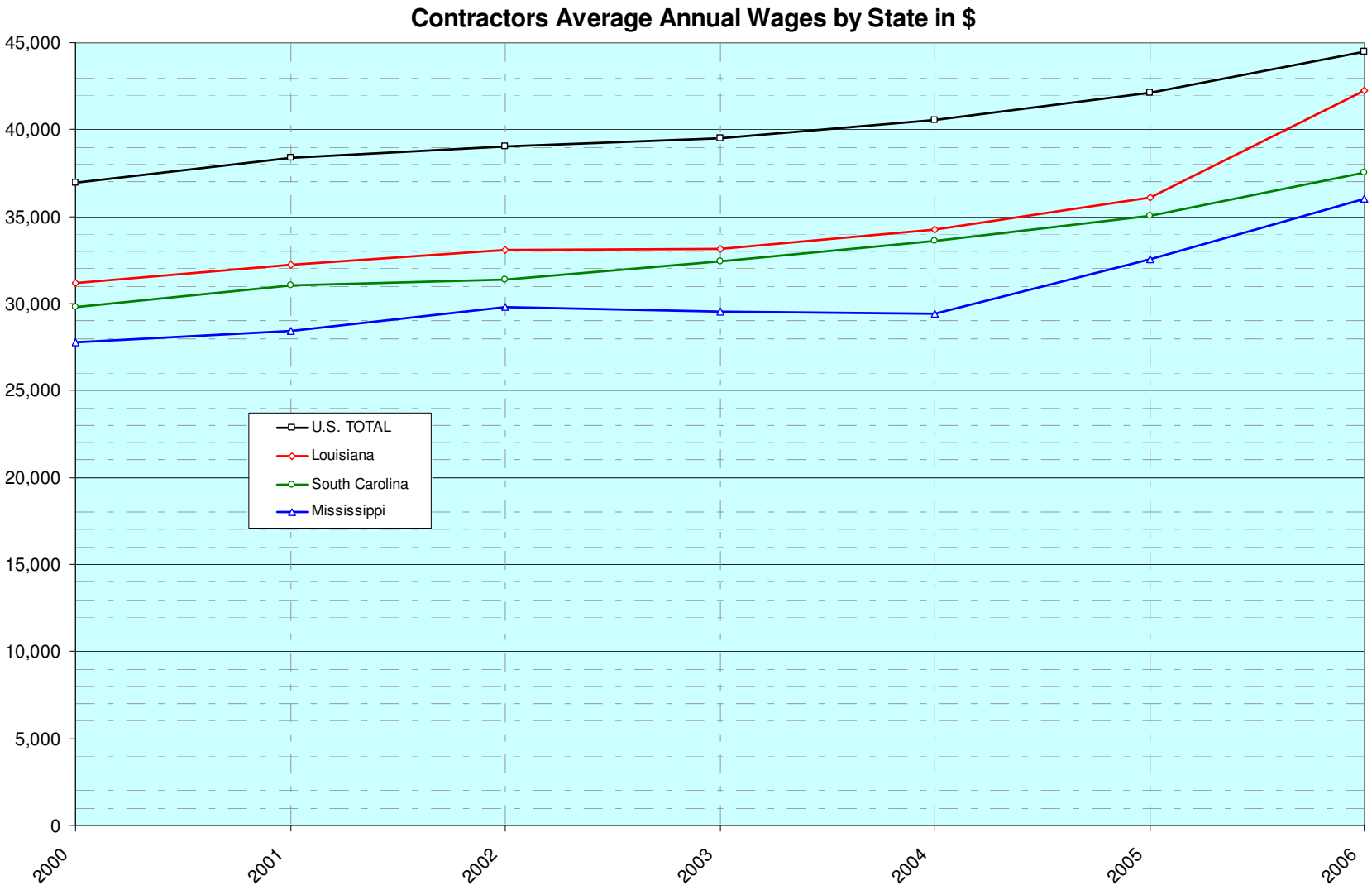
Contractors Average Weekly Wage by Quarter and by State in $




Contractors Average Annual Wages by State in $
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
2000
2001
2002
2003
2004
2005
2006
U.S. TOTAL
Louisiana
South Carolina
Mississippi

Conclusions

Cat Modeling is continuously evolving from new lessons learned, especially from events that exhibit different characteristics and consequences from what was observed prior. Katrina is a good example of such events.

Following Katrina EQECAT DS algorithm was enhanced to include “bathtub scenarios” where severe flooding may occur over a wide region and lasts for a long period of time.