

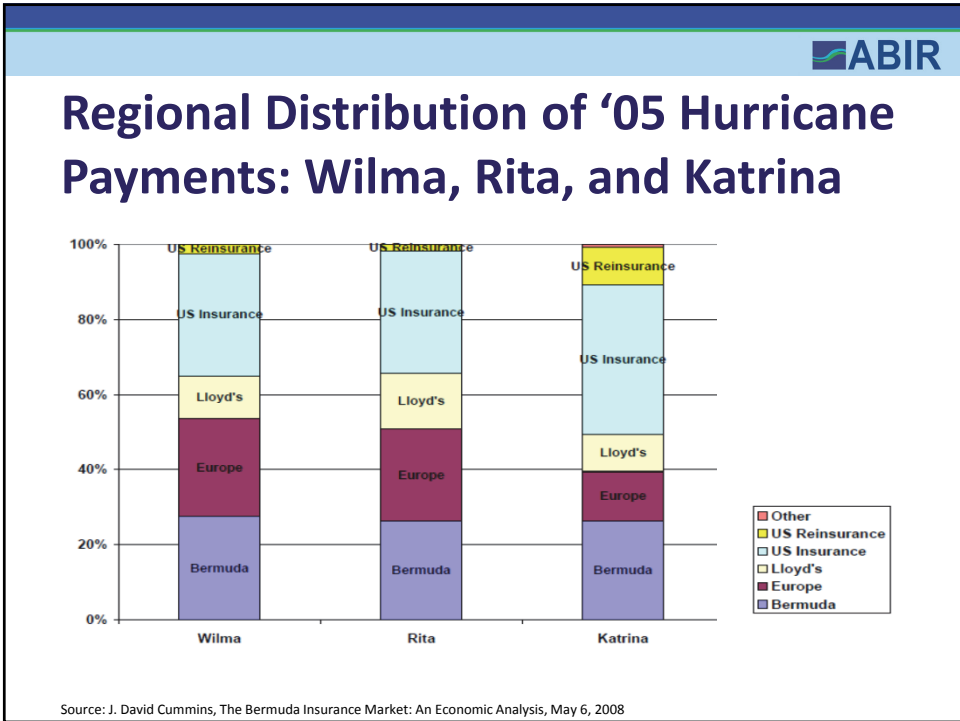
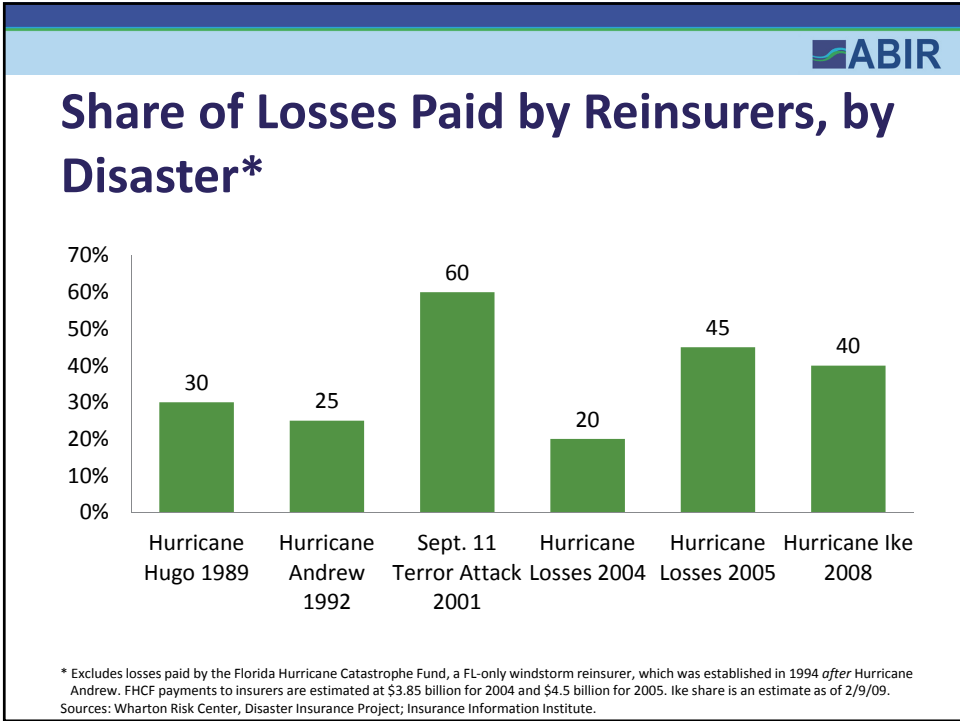
Just When You Needed Good News on Catastrophe Insurance – It's Here!

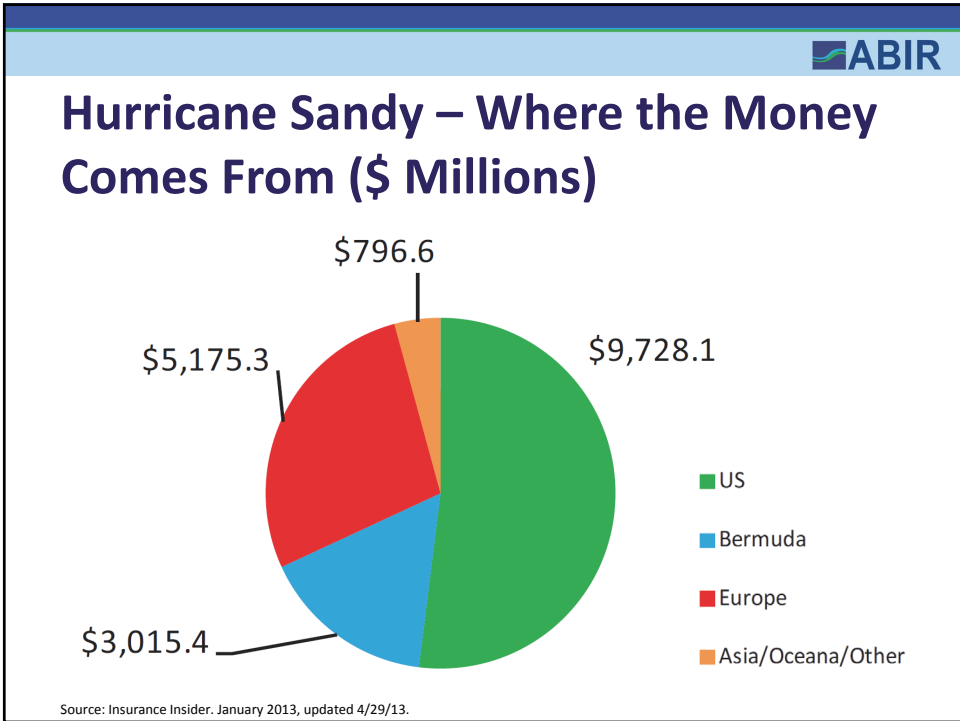
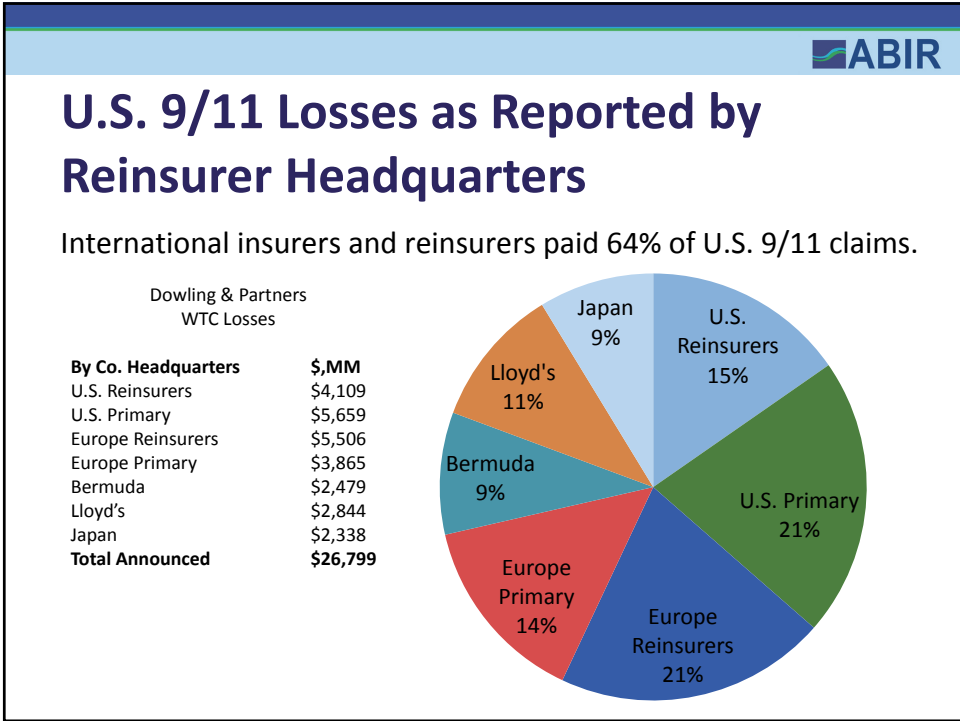
NAIC P/C Committee
Bradley Kading

August 2013

Summary

- Document role of reinsurance in cat events
- Document distribution of cat losses globally
 - and the benefits of that
- Document impact of new capital
- Focus on risk management opportunity
- Focus on public policy opportunity







Bermuda's \$35b U.S. Contribution

From 2001 to 2012, Bermuda's (re)insurers estimated contribution to U.S. catastrophe losses:

Disaster	Estimated Contribution
2001, Terrorism 9/11	\$ 2.5 B
2004, Florida Hurricane Quartet	\$ 3.5 B
2005, Katrina, Rita and Wilma	\$18.0 B
2008, Hurricanes Ike, Gustav	\$ 4.0 B
2010, BP Deepwater Horizon	\$ 1.0 B
2011, 2012, US Tornadoes + Irene	\$ 3.0 B
2012, Hurricane Sandy	\$ 3.0 B

Source: Cummins IDC Study, Dowling, Insurance Insider, Trade Press



Reinsurance Capital at Record Levels

Reinsurance capacity available to take on natural catastrophe risk is at record levels (2012) – Supply Exceeds Demand!

Aon Benfield calculates reinsurance capital at \$505 billion.

- The subset of 31 traditional reinsurers reported capital of \$313 billion.
- Guy Carpenter (a unit of Marsh) reported overall capacity \$312 billion (April 2013).
- Property catastrophe reinsurance is a subset of this reinsurance market.
 - Dowling and Partners, globally \$240 billion of limit (coverage) was written in 2012
 - The US accounted for one third (\$79 billion) of this limit.



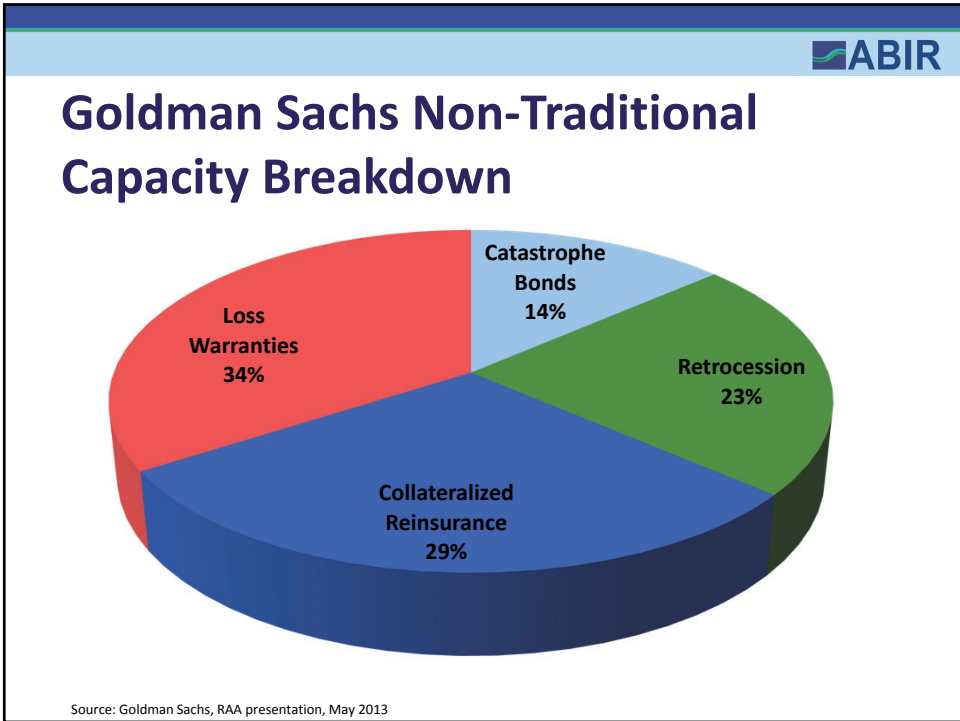
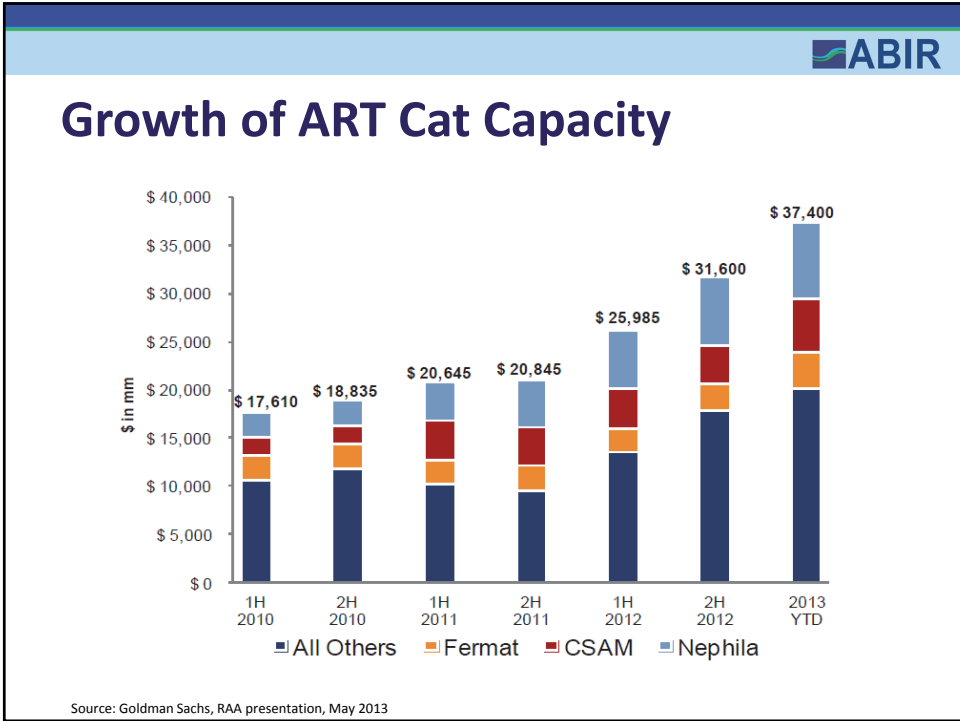
Benefits of Global Catastrophe Pooling

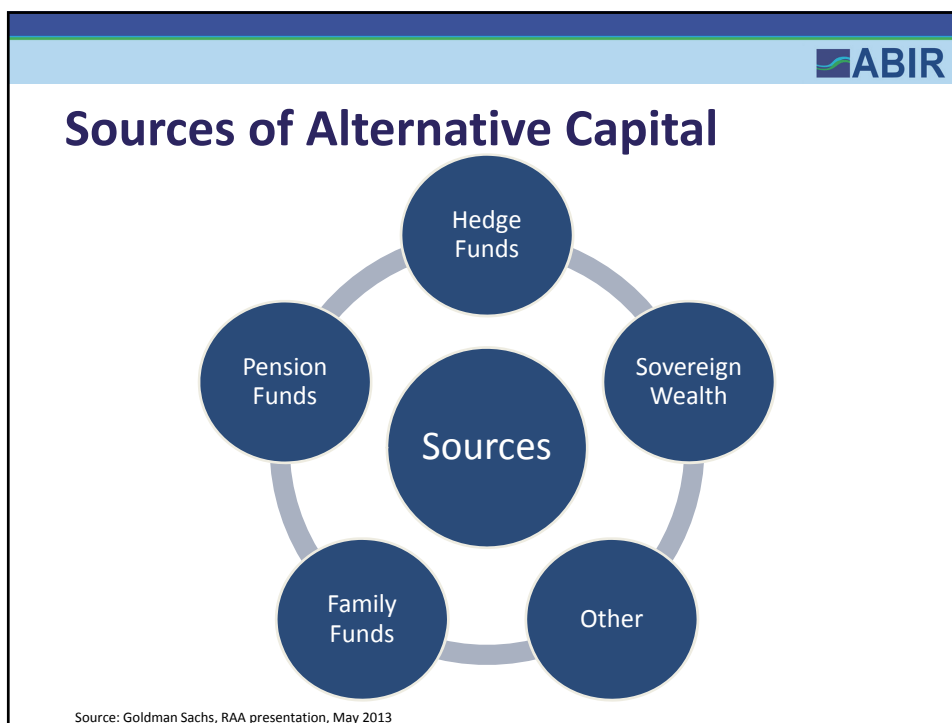
- Increased capacity for insurers:
 - Reinsurers can offer more coverage per client
- Reduced credit risk for cedents:
 - Fewer eggs in more baskets
- Diversification of reinsurers' risk:
 - Uncorrelated risk by peril, geography and time
 - Capital supports more capacity at lower prices
- External capital contribution to devastated local economy



Capital Markets 14% of Cat Capacity: Who Are They?

- Alternative markets supplied \$44 billion in property cat limits while traditional reinsurance supplied \$268 billion
- Guy Carpenter:
 - **“In general terms, it is safe to say that capacity from alternative markets has never been more competitive and in some cases it is clearly priced below the traditional market.”**





ABIR

Capital Markets and Reinsurance Markets Converge: What Does it Mean?

- ECON 101: Supply outstrips demand, prices fall
- Florida catastrophe reinsurance prices drop 15 to 20%
- Reinsurance prices decline generally July 1 renewals



More Capacity is Available! Use it!

- Based on current excess supply:
 - *Reinsurers have been reducing prices*
 - Increasing dividends to shareholders
 - Buying back stock
- Why not put capital to work taking on more risk?



What Could Change this Dynamic?

- Are capital providers weak-kneed after loss?
 - Tested over 20 years, committed for the long haul
- Paradigm shifting events:
 - Unexpected events can change the equation; but trend is to more capital/capacity
- Increase in interest rates/recovery to the norm:
 - Impact if market rates move up to 5%?
- Obama reinsurance tax:
 - Oppose the affiliate reinsurance tax, reduces reinsurance supply by 20%



State Policy Makers: What this Means for You

- Coastal residual markets:
 - Buy more reinsurance, transfer the risk and prevent bond debt/cross state subsidies
- Flood Insurance (NFIP):
 - Support Biggert/Waters, transfer risk to reinsurance markets
- Earthquake insurance:
 - Secondary mortgage market EQ requirements?
increase consumer take up of EQ cover



About ABIR

- 21 Companies
- Highly capitalized, distinct regulation
- \$66.4 billion gross written premiums, \$95.2 billion surplus
- Worldwide business enterprises
- Principal underwriting operations in Bermuda, Europe and the United States

2012 YE Data



ABIR Members

- ACE
- Allied World
- Alterra/Markel
- Arch
- Argo Group
- Aspen
- Assured Guaranty
- Axis
- Catlin
- Endurance
- Hiscox
- Lancashire
- Montpelier Re
- Partner Re
- Platinum Re
- Renaissance Re
- Third Point Re
- Tokio Millennium Re
- Torus
- Validus Re
- XL Group plc



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www.ABIR.bm

www.ReinsuranceBermuda.com

Bradley Kading
Association of Bermuda Insurers and Reinsurers





Climate Risk Analytics

Real-time Decision Making for the Public and Private Sectors

Pete Dailey, Ph.D.



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Agenda

- Understanding long-term climate trends and impacts on CAT risk
- Applying knowledge of climate impacts to short- and medium-term decisions
- Leveraging the state-of-the-science in real-time decision making

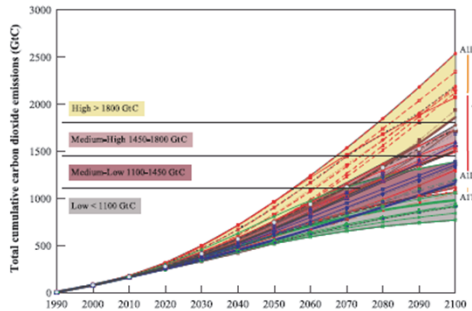


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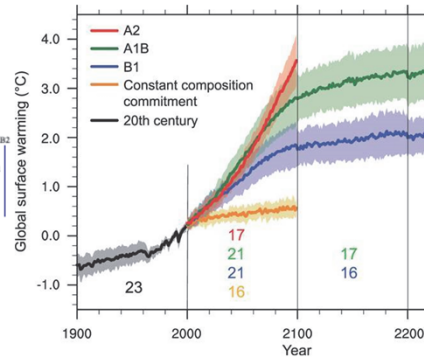
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IPCC “Emissions Scenarios” Provide Varying Perspectives on the Future

CO₂ concentration



Temperature rise

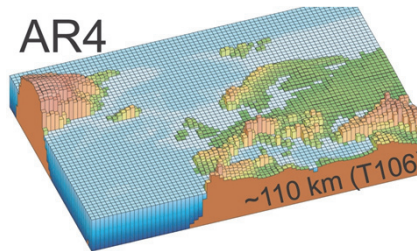
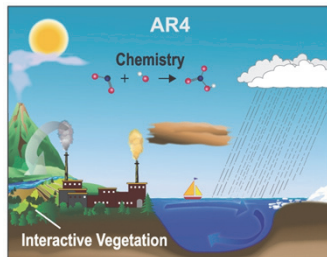


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Climate Models Are Computer Representations of the Climate System

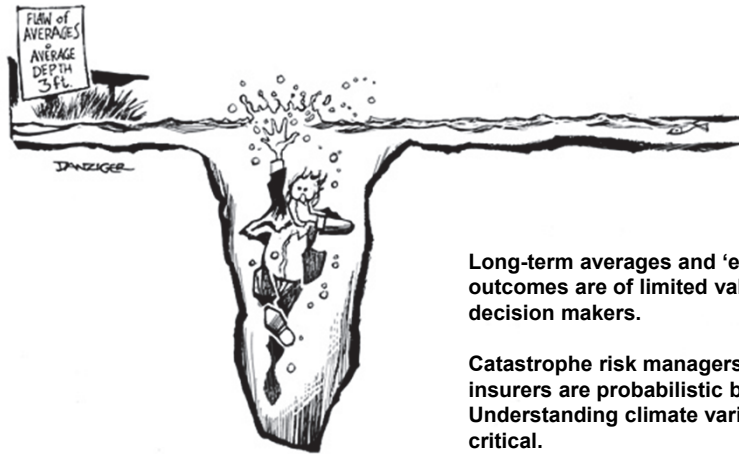
- Climate models are numerical/mathematical representations of physical properties and processes
- They are not used to simulate individual weather events, but provide information on the large scale environment
- For climate projections, an assumption is made that the models are “getting it right” based on their acceptable performance for simulating past and present climate and its variability



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Catastrophe Modeling Has Greatly Reduced Reliance on Short-Term Averages



Long-term averages and 'expected' outcomes are of limited value to decision makers.

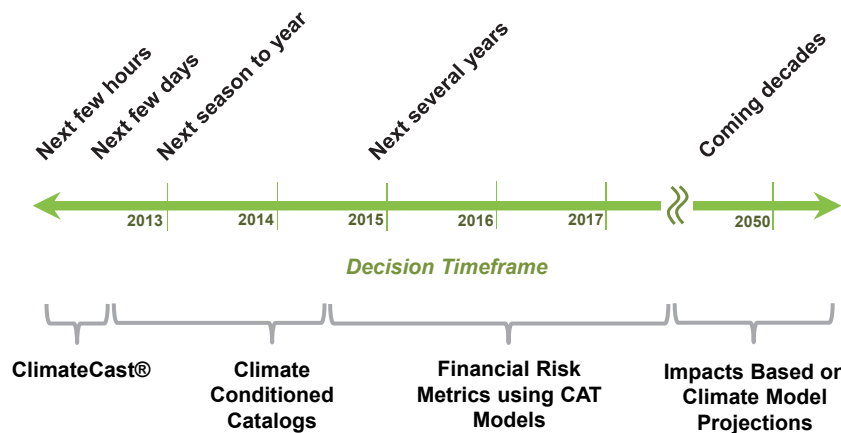
Catastrophe risk managers and P&C insurers are probabilistic by nature. Understanding climate variability is critical.



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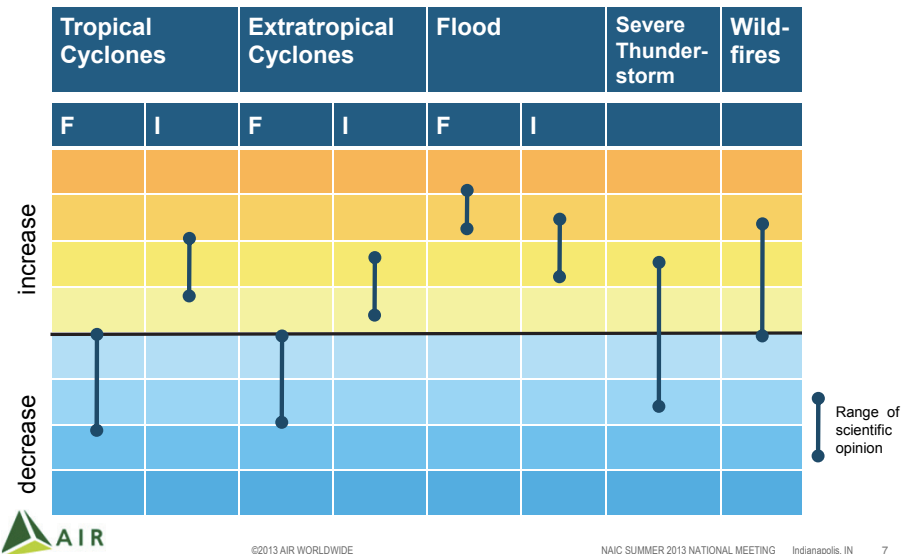
Decision Makers Deal with Full Temporal Spectrum from Real-Time to Seasonal to Long-Term Future



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Qualitative Comparison of the State of Research on the Financial Impact of Climate Change on Atmospheric Perils



Challenges Posed to Climate Scientists and Climate Models Should Not Inhibit Actionable Research

- Uncertainties are large, but can be used to gauge relative confidence in results
- Global results cannot necessarily be applied to individual regions or locations, and uncertainty grows with finer scales
- Even amongst experienced climate scientists, opinions vary regarding the potential future impacts of climate change
- Despite wide range of plausible climate scenarios, all credible climate models show continued trend in globally increasing temperatures
- Climate model results become less robust with finer spatial and temporal scales, but regional or “mesoscale” models can fill the knowledge gap



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ABI Results Released after Extensive Peer Review Throughout the Project



ABI RESEARCH PAPER NO 19, 2009

THE FINANCIAL RISKS CLIMATE CHANGE

Examining the financial implications of climate change using climate models and insurance catastrophe risk models

Report by AIR Worldwide Corp. and the Met Office
By Peter Dailey, Matt Huddleston, Simon Brown and Dennis Fasking

Source: <http://www.abi.org.uk>



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percentage changes for a temperature increase of 4°C.

Figure 1 Regional response of the 100-year flood loss for a 2, 4 and 6°C increase in temperature



Implications for insurers and policymakers

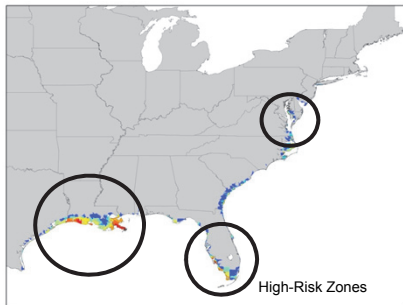
The loss estimates discussed above were derived by conditioning the results of fully probabilistic catastrophe models based on a range of climate scenarios. Further sensitivity analyses were conducted to explore possible implications for insurers and policymakers. Pricing and capital requirements, for example, were found to be sensitive to the assumed underlying climate scenarios and climate-conditioned event catalogues. It should be emphasised, however, that the projected impacts represent future possibilities only to the extent that the climate and modelled events actually occur as presented and that the industry responds as discussed in Section 4.

The loss estimates derived from the catastrophe models and presented in Section 3 isolate the effects of climate change by holding all other parameters constant. However, in practice, other parameters will not remain constant. Nevertheless, the findings highlight the benefits of adaptation and mitigation policies such as flood defences and changes in building codes, as well as other policies intended to reduce the impacts of a 4°C rise in global temperatures.

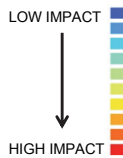
Economic growth

As an example, a conservative long-run estimate of annual GDP growth for the UK and

Experimental Framework is Used to Quantify the Impact of Projected Sea-Level Rise on U.S. Storm Surge Risk

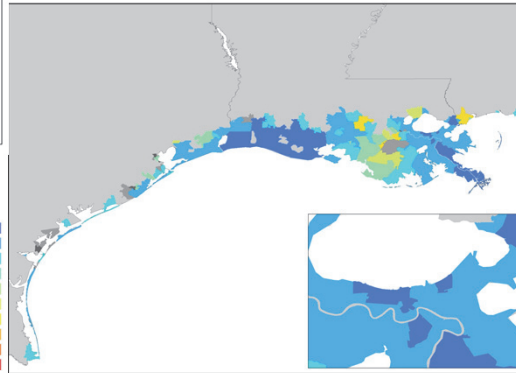


Baseline (Current Climate) Storm Surge Risk using AIR US Hurricane Model



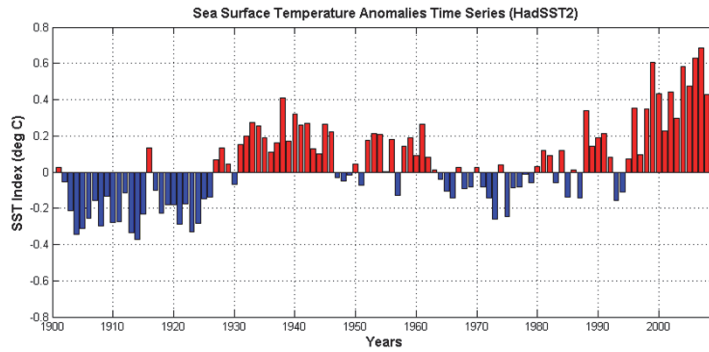
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Regional Sensitivity of Storm Surge Risk to Projected Sea-Level Rise



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Using North Atlantic SST Anomalies to Quantify Volatility in TC Activity

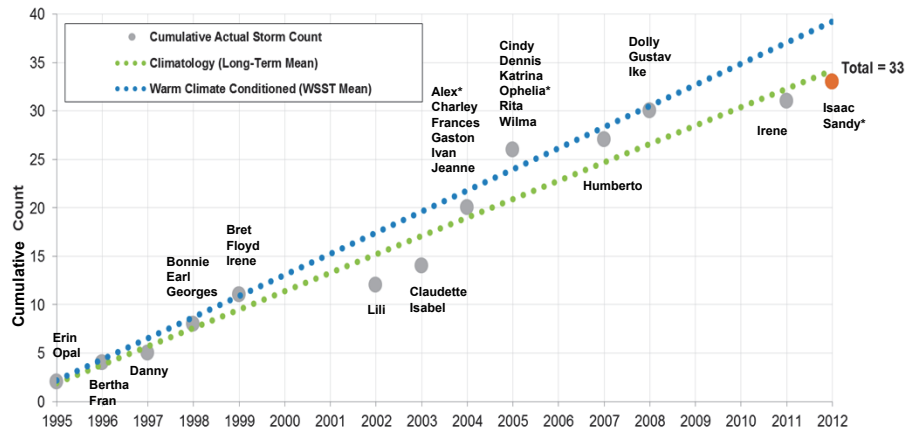


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AIR Models Already Account for Observed Trends which Affect Risk in the Current Climate

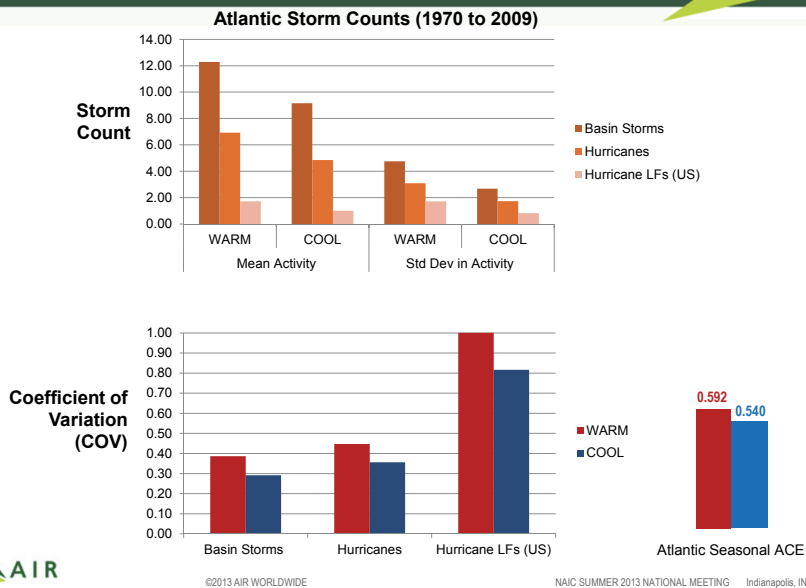
CUMULATIVE U.S. LOSS PRODUCING HURRICANES IN THE CURRENT WARM SST PERIOD FROM 1995-PRESENT



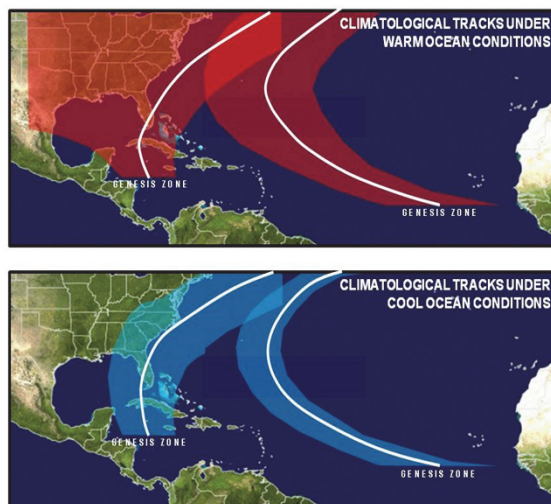
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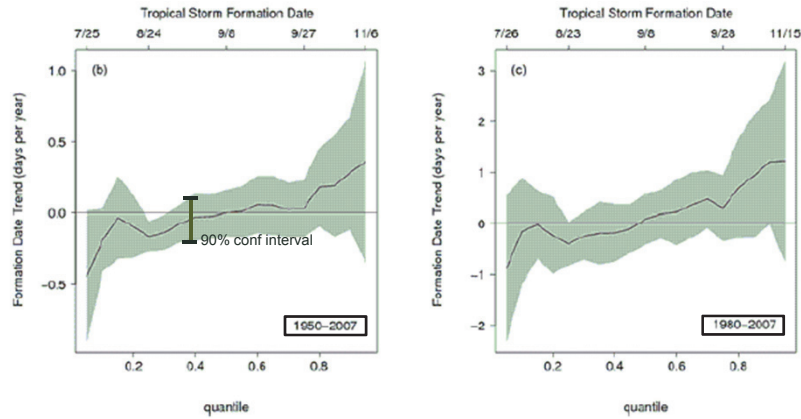
Volatility in Storm Counts



Tails of the Distribution are Important: Track Volatility is Influenced by Changing Ocean Conditions



Atlantic Hurricane Season Itself May Be Getting Longer, with More Notable Activity in the 'Tails' of the Season



Reference: Kossin, J., 2008, "Is the North Atlantic hurricane season getting longer?", Geophysical Research Letters, Vol. 35, L23705, doi:10.1029/2008GL036012, 2008.



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Climate Can Impact Expected (Average) Conditions as Well as the Volatility (Deviation from Average)

- Key climate ingredients for hurricane development
- Global tropical storm activity
- Storm counts in the Atlantic basin
- Frequency of landfalling hurricanes
- Total accumulated damaging wind energy (e.g., ACE)
- Storm tracks
- Rapid intensification
- Length of season (annual distribution of activity)

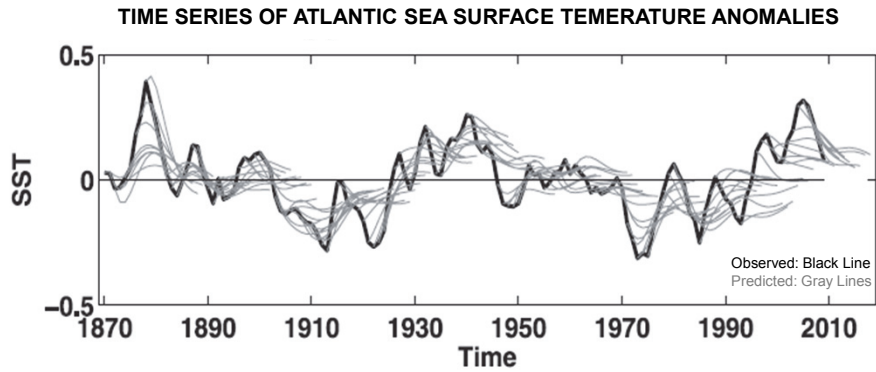
With increased volatility by storm and by season, decision makers are turning to state-of-the-science climate analytics and real-time decision tools



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Despite Persistence of Atlantic SSTs over Short Timescales, Multi-Year Predictions are Highly Uncertain



Source: ZANNA, L., 2012: Forecast Skill and Predictability of Observed Atlantic Sea Surface Temperatures, *Journal of Climate*, Vol. 25, pp. 5047-5056.

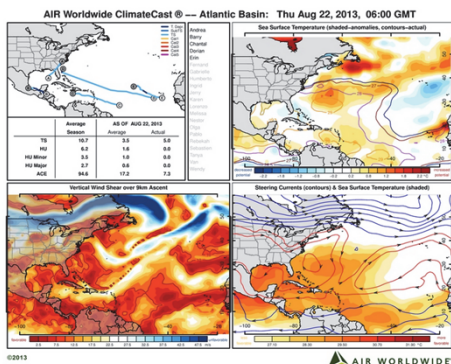


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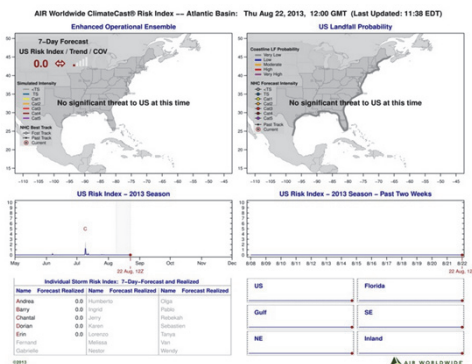
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ClimateCast Provides Current View of Atlantic Hurricane Risk, Tuned to the Meteorologist or the Quants

Meteorologist Dashboard



Risk Manager (Insurer) Dashboard

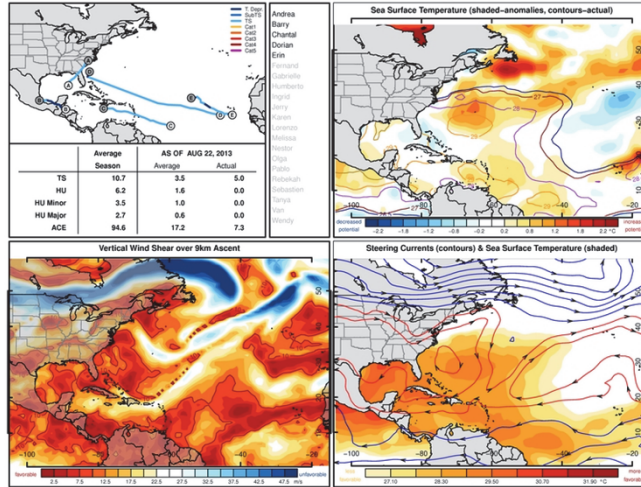


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Meteorological View of Risk

AIR Worldwide ClimateCast® -- Atlantic Basin: Thu Aug 22, 2013, 06:00 GMT



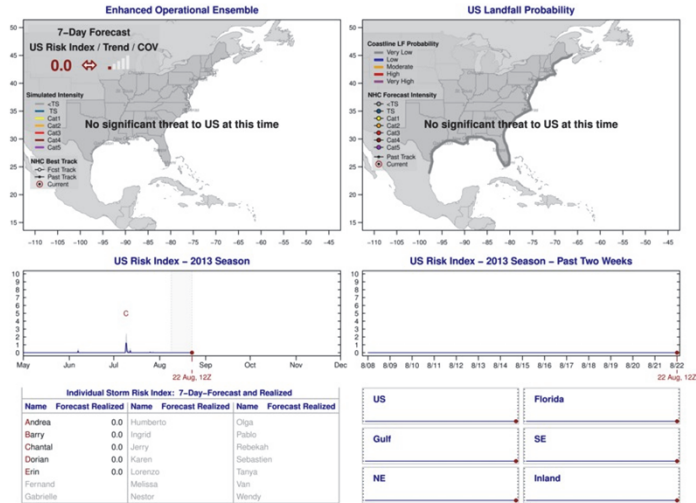
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Insurance View of Risk (Industry or Portfolio)

AIR Worldwide ClimateCast® Risk Index -- Atlantic Basin: Thu Aug 22, 2013, 12:00 GMT (Last Updated: 11:38 EDT)



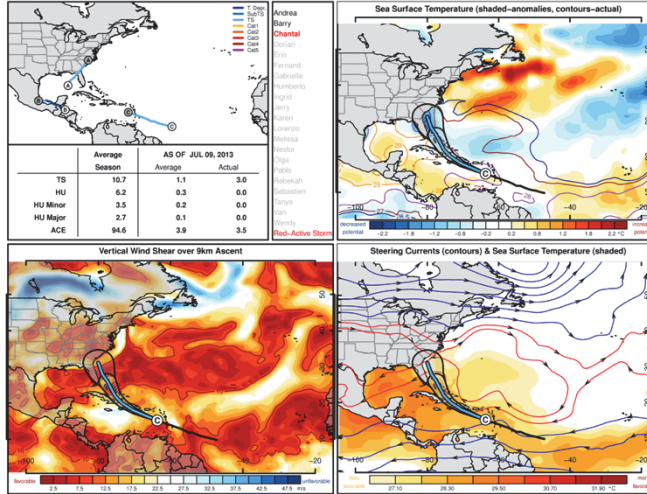
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Meteorological View of Risk During Tropical Storm Chantal (2013)

AIR Worldwide ClimateCast® -- Atlantic Basin: Tue Jul 09, 2013, 12:00 GMT



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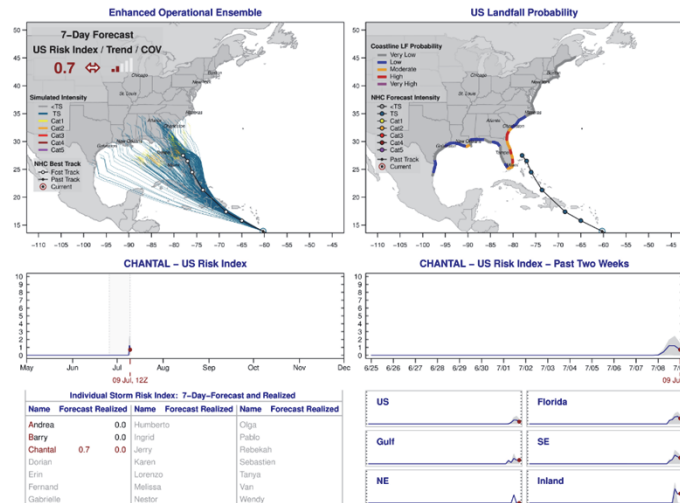
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Insurance View of Risk During Tropical Storm Chantal (2013)

AIR Worldwide ClimateCast® Risk Index -- Atlantic Basin: Tue Jul 09, 2013, 12:00 GMT (Last Updated: 11:51 EDT)

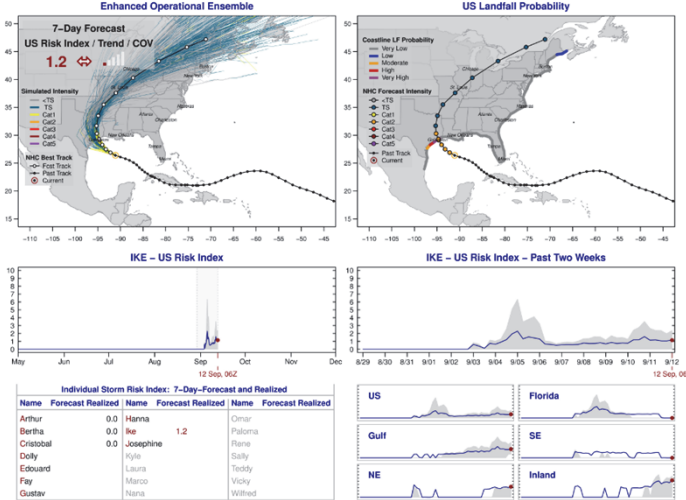


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Insurance View of Risk During Hurricane Ike (2008)

AIR Worldwide ClimateCast® Risk Index -- Atlantic Basin: Fri Sep 12, 2008, 06:00 GMT (Last Updated: 06:57 EST)

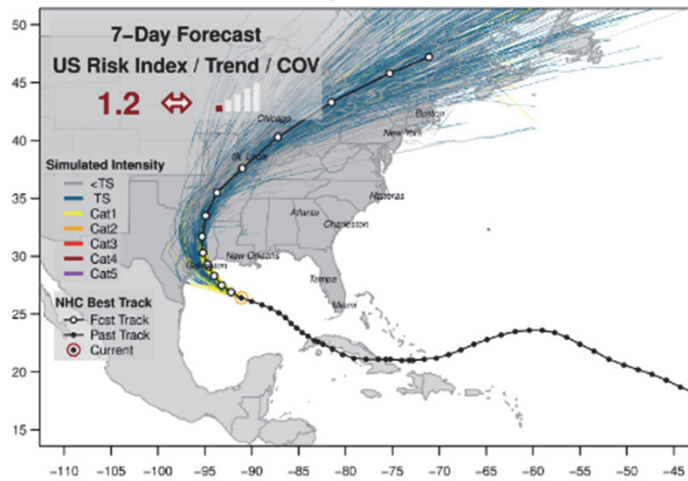


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ClimateCast Ensemble Forecast for Hurricane ike (2008) Shows Potential for Significant Inland Damage

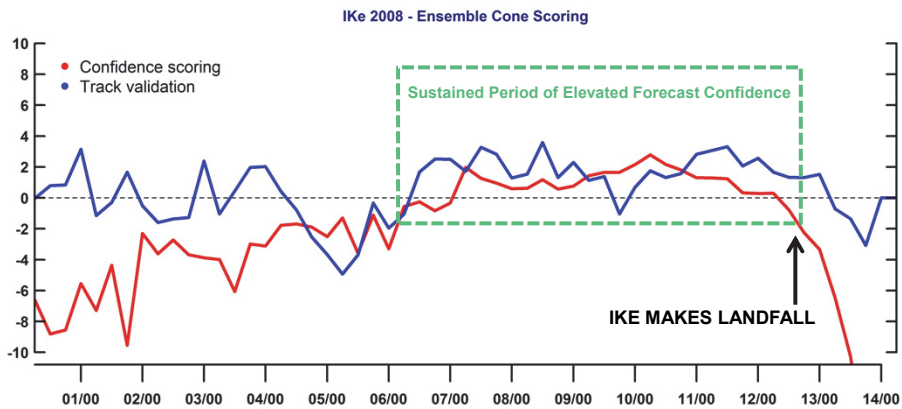
Enhanced Operational Ensemble



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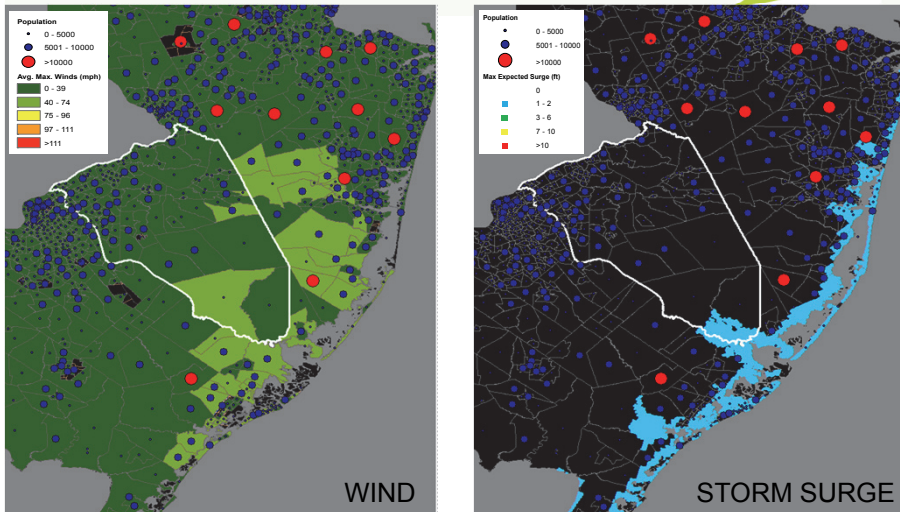
Ensemble Cone Scoring Adds Decision Value by Ranking the Confidence One Can Put in Each Forecast



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ClimateCast Data Readily Translate to Visual Decision Aids for Risk and Emergency Managers

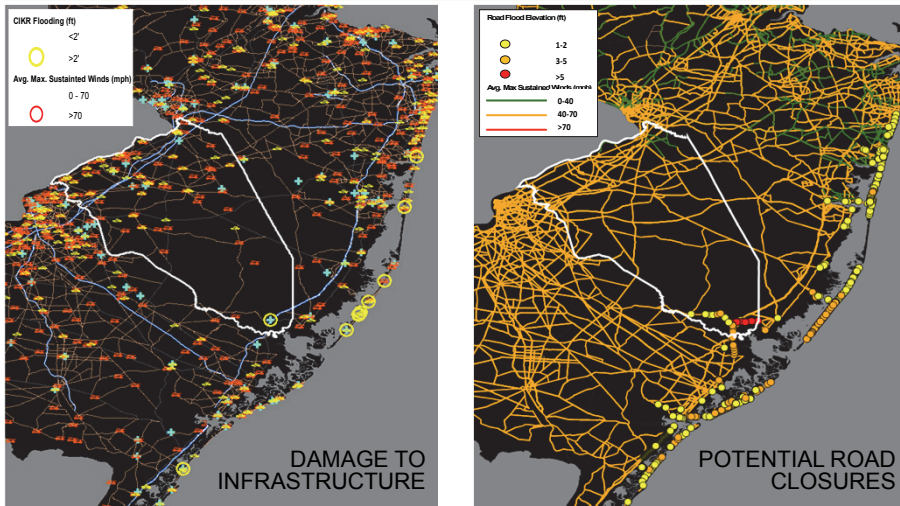


ClimateCast® forecast for Hurricane Sandy valid as of 29-Oct-2012 15:30h

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ClimateCast Data Readily Translate to Visual Decision Aids for Risk and Emergency Managers



ClimateCast® forecast for Hurricane Sandy valid as of 29-Oct-2012 15:30h

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Versatile Delivery Platform is Suited to Needs of Emergency Management

- Tree debris
- Displaced households
- Affected population
- Facility threshold wind speeds
- Storm surge height
- Potential for road closures
- Damage to public buildings/infrastructure
- Evacuation planning



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Some Key Takeaways

- What aspects of climate change should insurers and risk managers be most aware of?
 - 'Portfolio of Climate Risks' is unique to each stakeholder
 - Using an ensemble approach, catastrophe modelers can provide expectations and quantify uncertainties by region and peril
- How can catastrophe modeling firms help risk managers make better more informed decisions?
 - Framework for quantification and standardized decision metrics
 - Make clear distinction between current and future climate risks
- How much weight can risk managers assign to *future* climate projections in light of high levels of uncertainty?
 - Uncertainties must be properly quantified and reconciled
 - *Future* is a relative term; *most practical information* in real-time



NAIC Summer 2013 National Meeting: Mitigating Distraction – Saving Lives

Roger C. Lanctot,
Associate Director
Global Automotive Practice
Strategy Analytics
(On behalf of Global Mobile Alert)

August 2013



The Problem



3,000 annual distracted driving fatalities
9,000 annual intersection fatalities



Exhibit 3.1: Daily Phone and SMS Usage while Driving (US, 2010-2013)

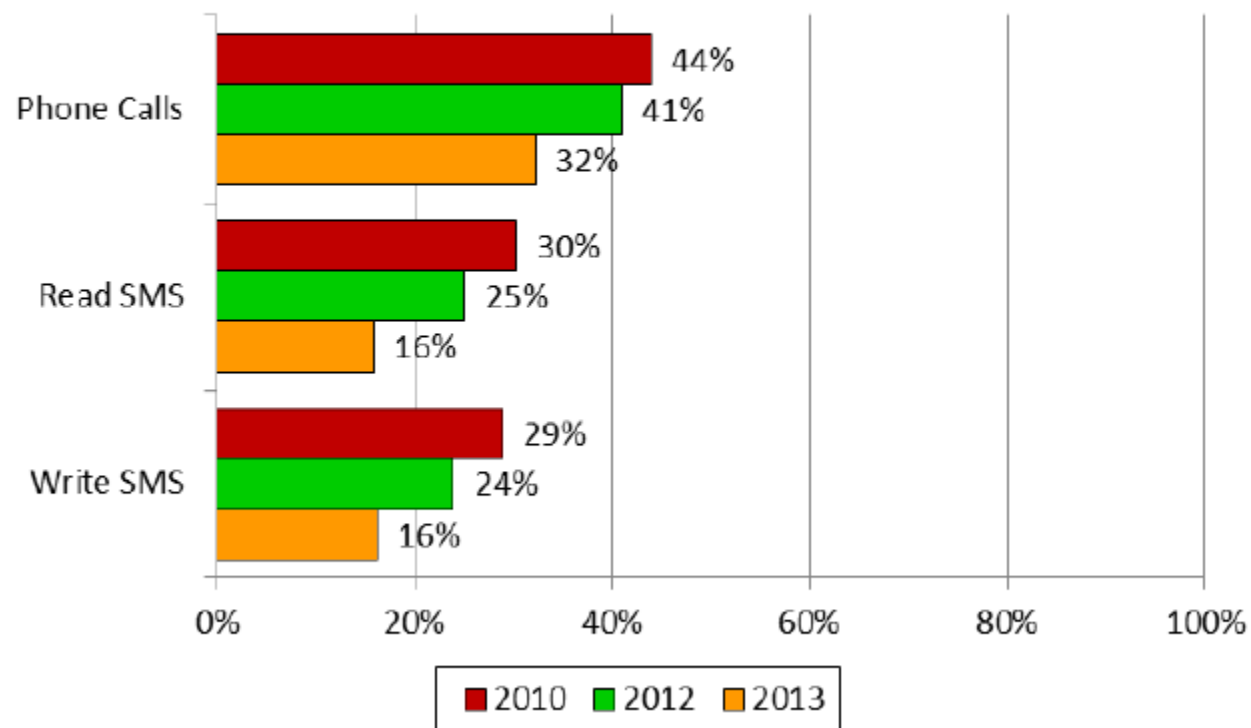




Exhibit 3.2: Daily Mobile Phone Use while Driving by Device Type

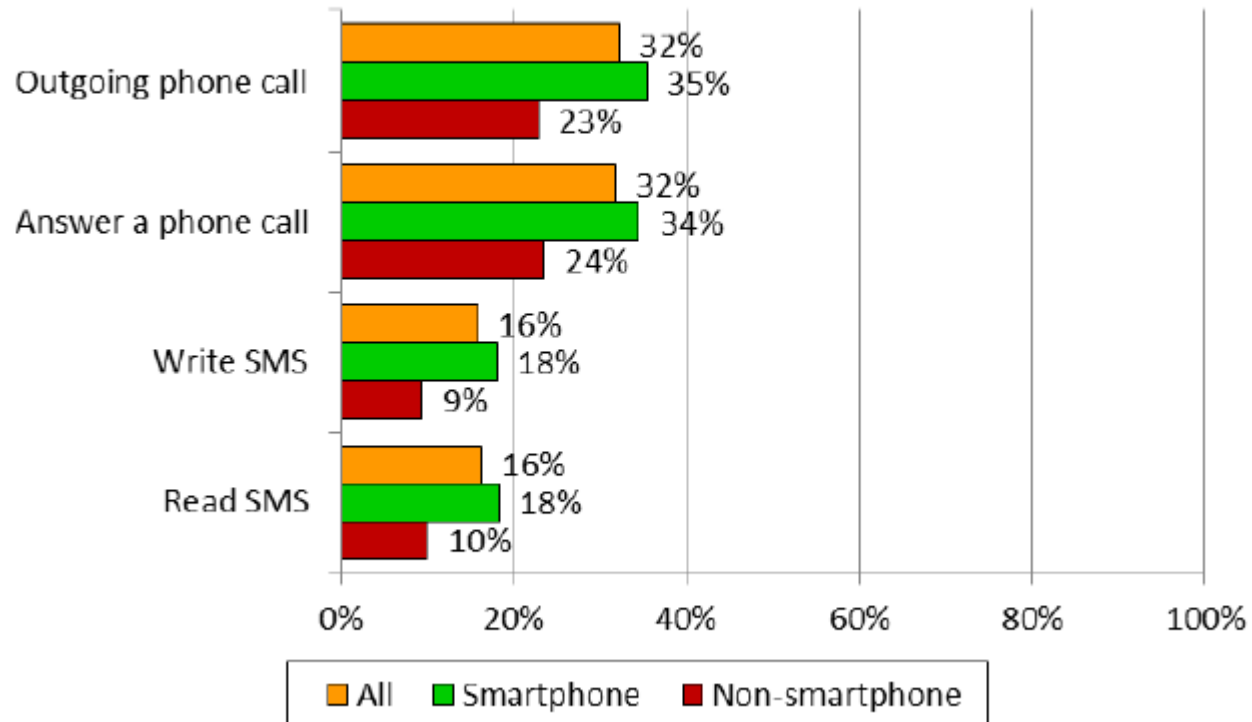




Exhibit 3.4: Daily Mobile Phone Use while Driving by Age (US)

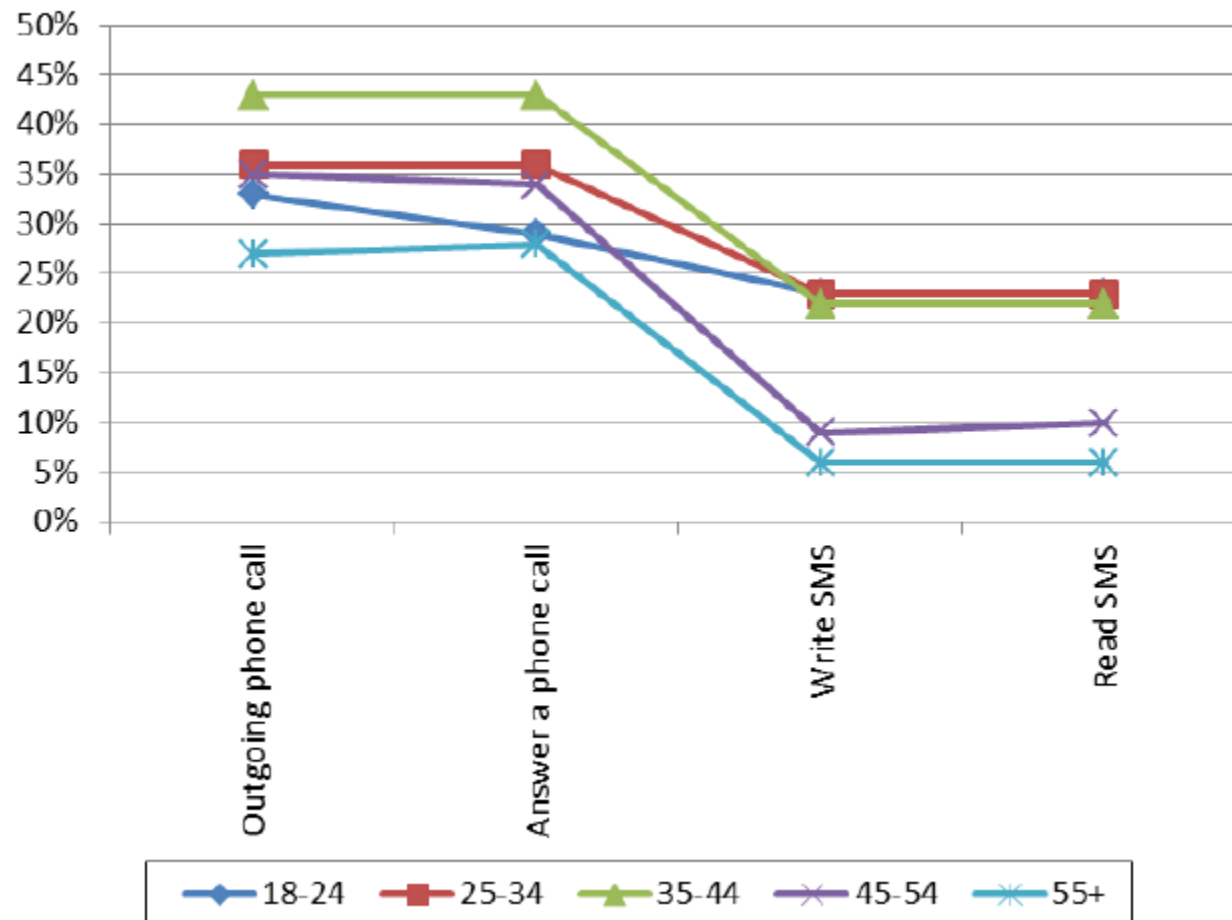




Exhibit 4.1: % Respondents who use Smartphone Applications While Driving (US)

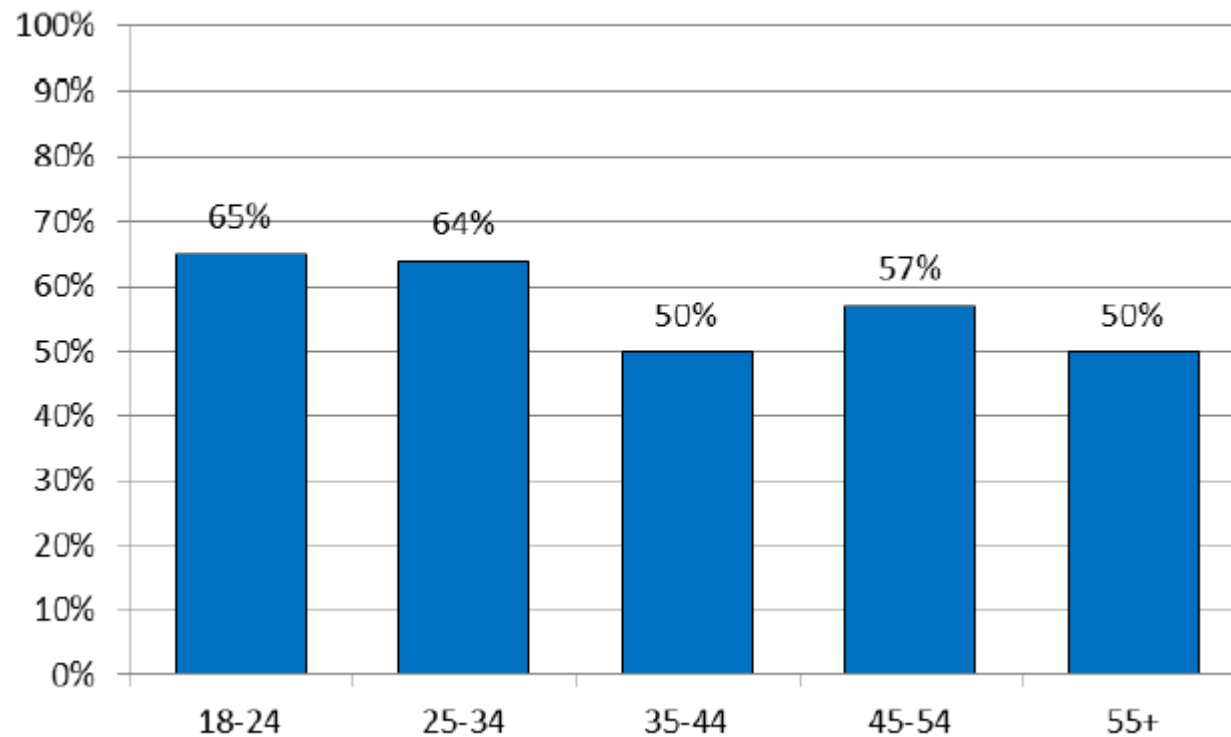
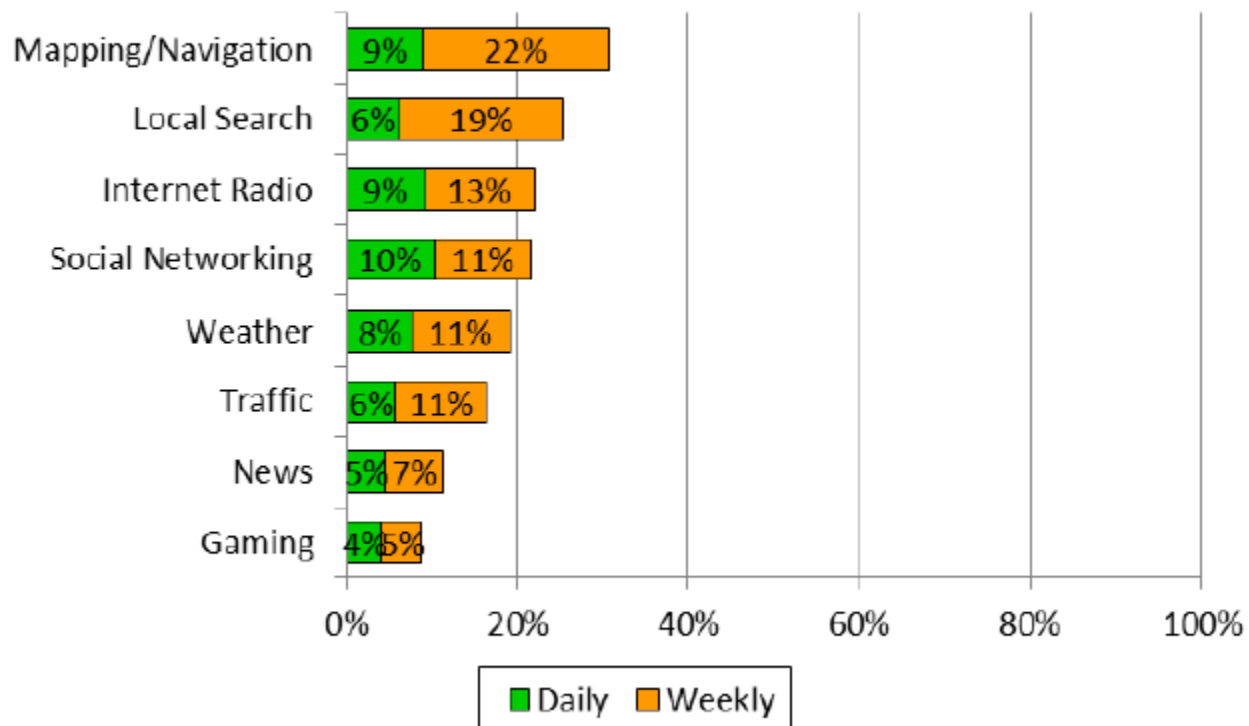




Exhibit 4.2: Daily and Weekly Usage of Smartphone Apps while Driving (US)





The Solution

Laws/Mandates/Guidelines
Technology/Innovation

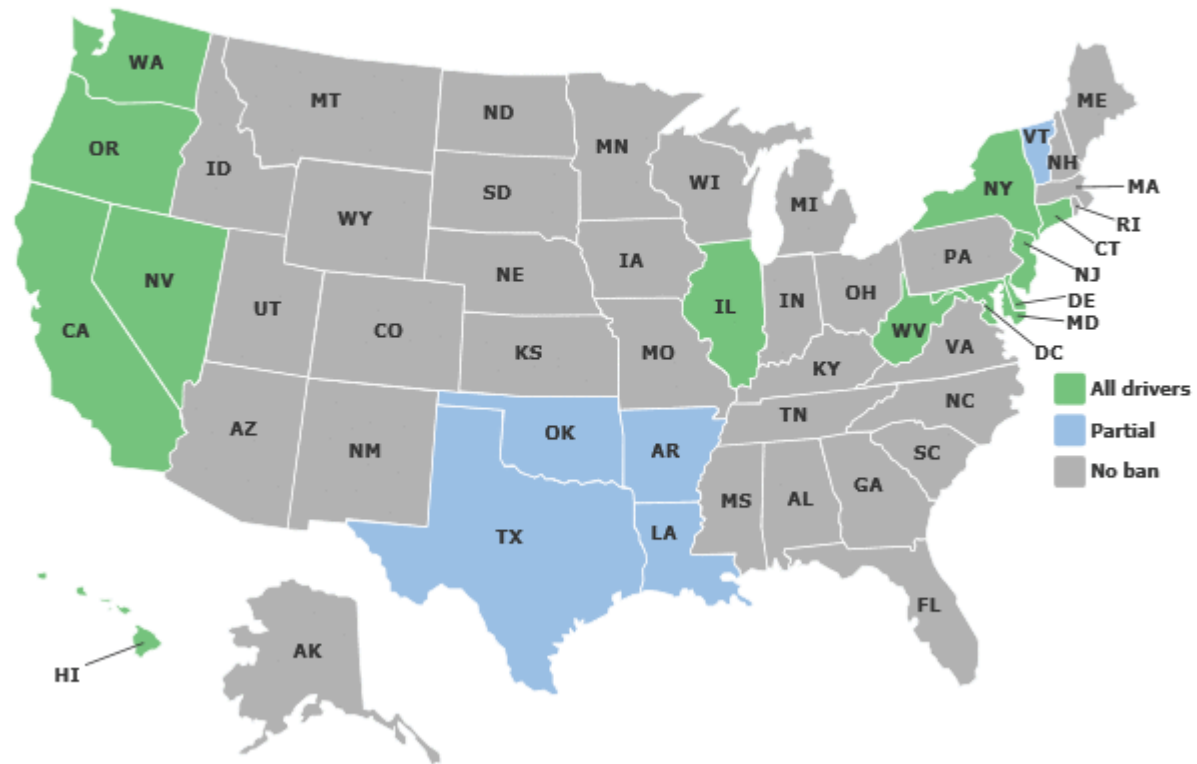


The Solution

**Laws/Mandates/Guidelines
= Confusion**



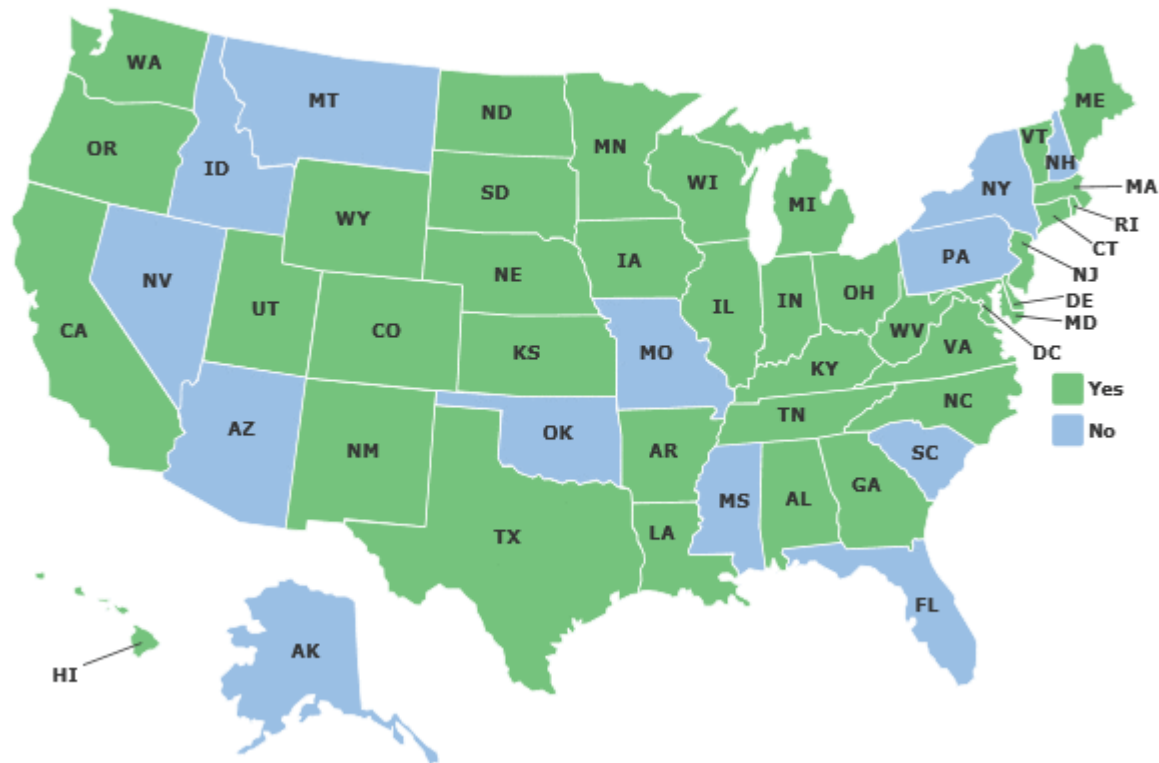
Map of hand-held cellphone bans (all driver)
(hover over map for more detail)





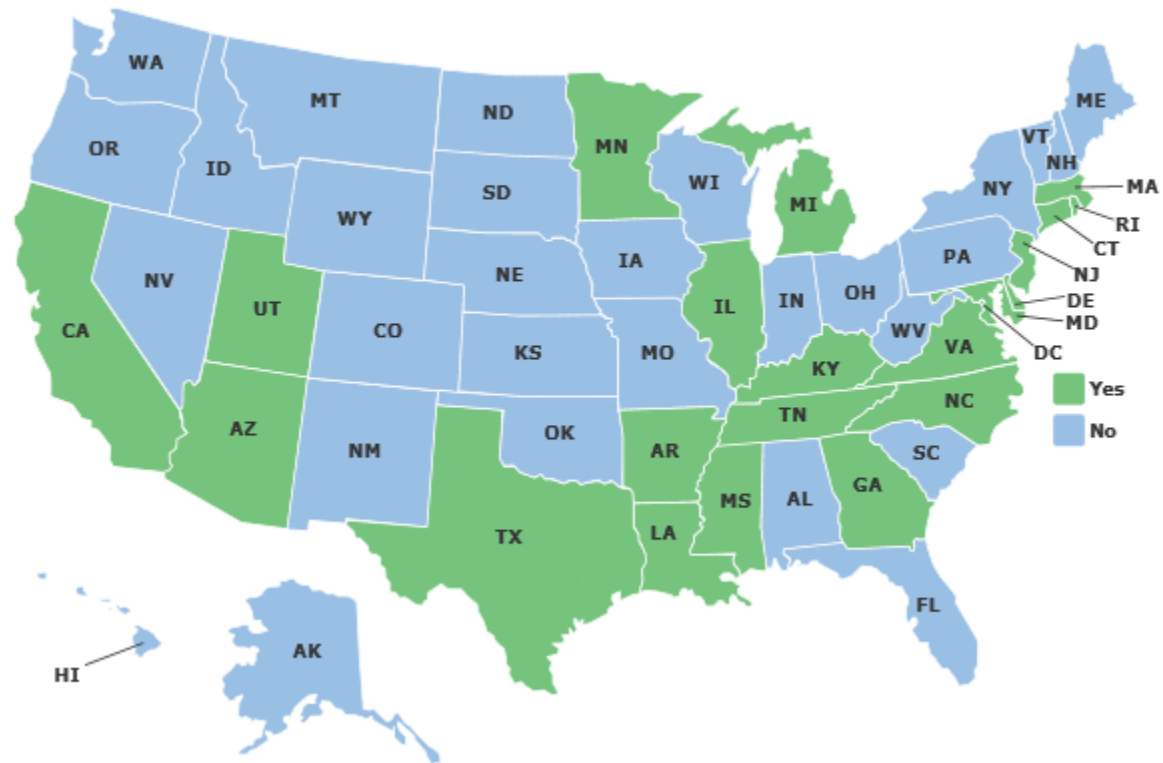
Map of bans specific to young drivers and all cellphones

(hover over map for more detail)



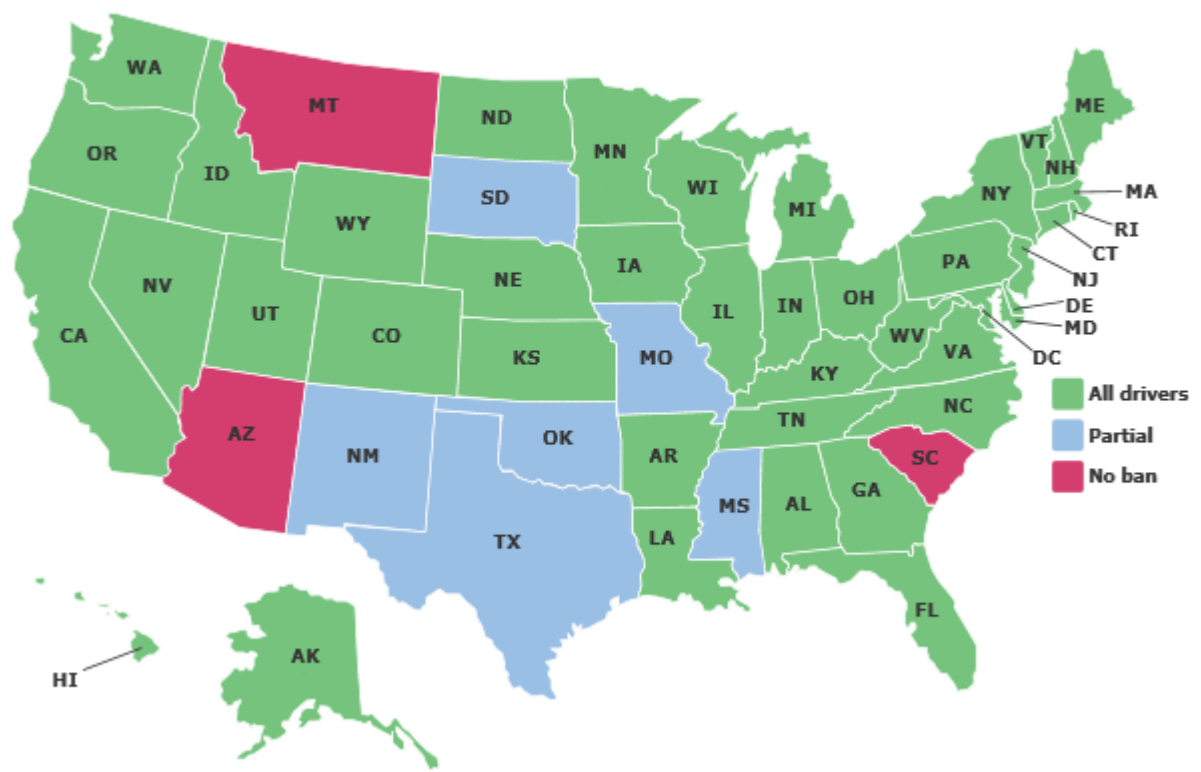


Map of bans specific to bus drivers and all cellphones
(hover over map for more detail)





Map of texting bans
(hover over map for more detail)



What Are the Car Companies Doing?



SAMSUNG DRIVE LINK





Connected Vehicle UX Comparison

	Features	Discoverability	HMI	Integration	Overall UX
Audi Connect	●	●	●	●	●
BMW <u>ConnectedDrive</u>	●	●	●	●	●
Cadillac CUE	●*	●	●	●	●
Chrysler <u>UConnect</u>	●*	●	●	●	●
GM <u>MyLink</u>	●**	●	●	●	●
Hyundai Blue Link	●	●	●	●	●
Mercedes-Benz <u>mbrace2</u>	●	●	●	●	●
<u>MirrorLink</u>	●	●	●	●	●
<u>MyFord Touch</u>	●	●	●	●	●
SAIC <u>InkaNet</u>	●	●	●	●	●
Toyota <u>Entune</u>	●*	●	●	●	●
Toyota Touch & Go	●	●	●	●	●

* When combined with Sirius Travel Link Services

** When combined with Sirius Travel Link Services and \$50 BringGo navigation app



What Are the Carriers Doing?



at&t

What Could the Carriers and Car Companies Do Together?



Two Main Safety Use Cases



**Smartphone as
personal safety
device**



**Smartphone as
aftermarket
device**



Use Cases at a Glance



Pedestrian Safety (P2V)



VRU and Infrastructure Interaction (P2I)



Taxi Finder or Car Pool Finder (P2V)



VAD: Here-I-Am device (V2V, V2I)



ASD: Aftermarket OBU (V2V, V2I)



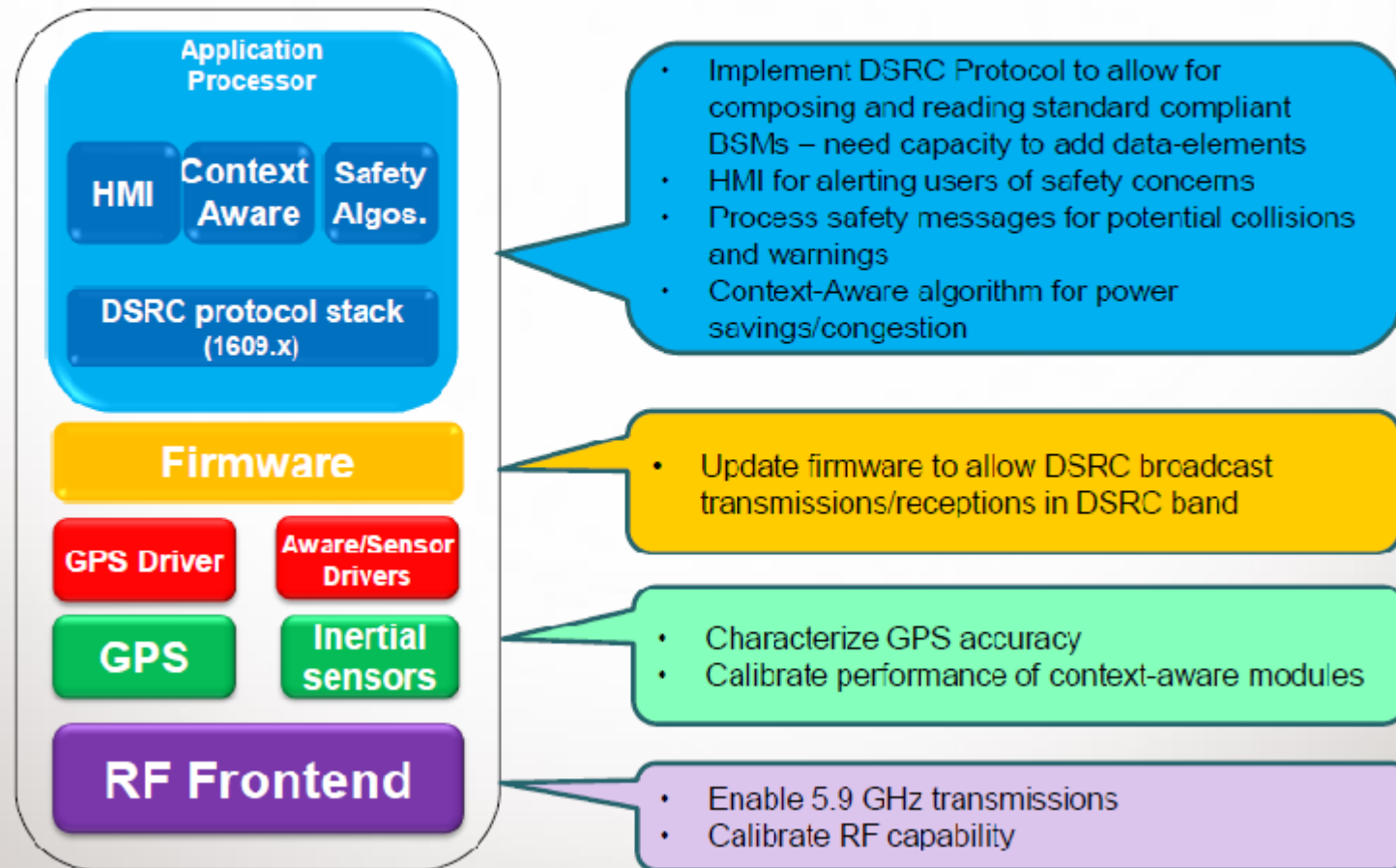
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In-Car Signage (V2I)





Engineering Overview of Enabling DSRC in Smartphones





The Solution – Step One

Terminate Confusion:

**National Mandate: Do not
touch the phone while driving**



The Solution – Step One

Market impact:

Simplified message for car makers, handset makers, wireless carriers, consumers

Easier for car makers to design toward

Clearcut enforcement proposition

The Solution – Step Two



Technology/Innovation



Contextual Awareness



Wireless Connectivity



Smartphone Integration





**Leverage
smartphone and
apps to avoid
accidents, save lives**

GM Shares Qualcomm's View: V2X Smartphone Integration



Advantages

- Leverages existing customer devices to provide services at a lower cost
- Integration with vehicle systems provides access to vehicle sensors, antennas and power
- Multi-function platform can host a variety of information services
- Upgradable hardware



SOURCE: GM



Smartphone as life saver – location & EDR



App would give 911 operators control of callers' smart phones

By William Jackson

Jun 12, 2013

A smart phone application to be publicly demonstrated next week could let emergency 911 operators take control of phones at the scene of an incident to gather medical data from victims.

Smartphone for Collision Avoidance, Safety



Qualcomm's Prototype Effort

- Main purpose: Demonstrate smartphones can be used for communications in DSRC band without adding new hardware
- Enabled DSRC (5.9GHz) band operation in both Qualcomm reference design phones and existing commercial phones
 - Currently doing extensive lab and field measurement and test
- Integrated with Qualcomm situational aware capabilities to gate the DSRC operation
- Added safety applications with HMI design to demonstrate the DSRC capability
 - HMI utilizes both visual and audio warnings





Connected Smartphones in Cars

Location awareness – alerts

Car controls phone – screen shut off

Contextual awareness

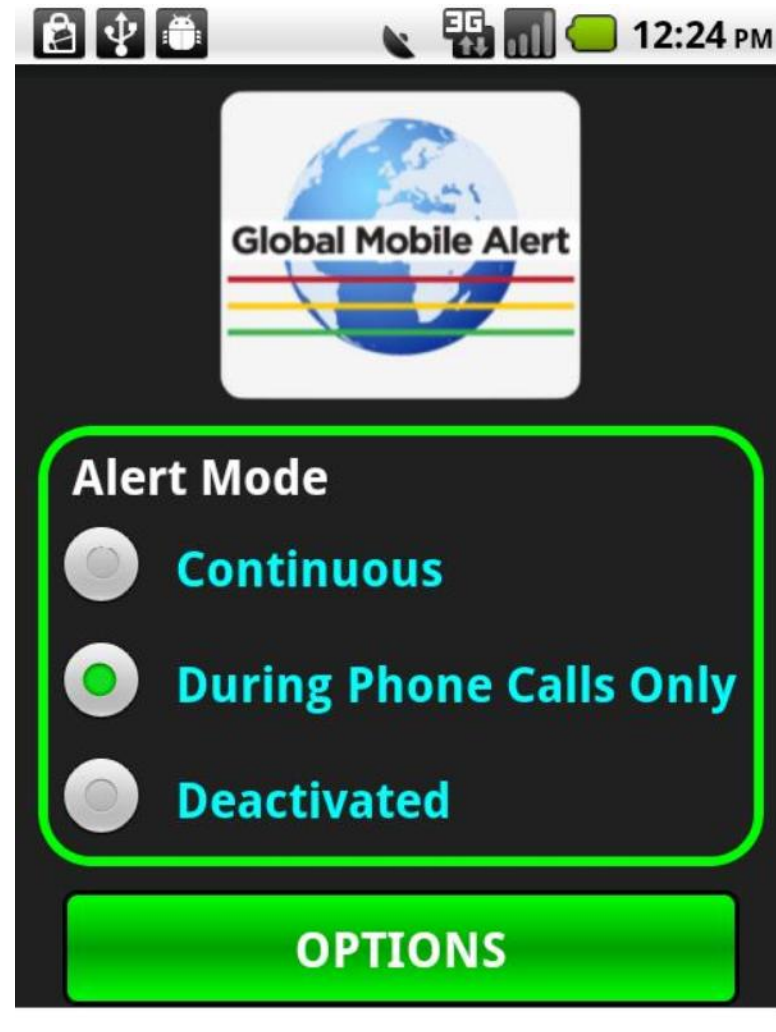
External connections – intersection signals

Vehicle connections – cams, sensors

Global Mobile Alert – Wireless

communication with traffic lights for both presence of light and phase – Use of map data for intersection and other location alerts

Global Mobile Alert

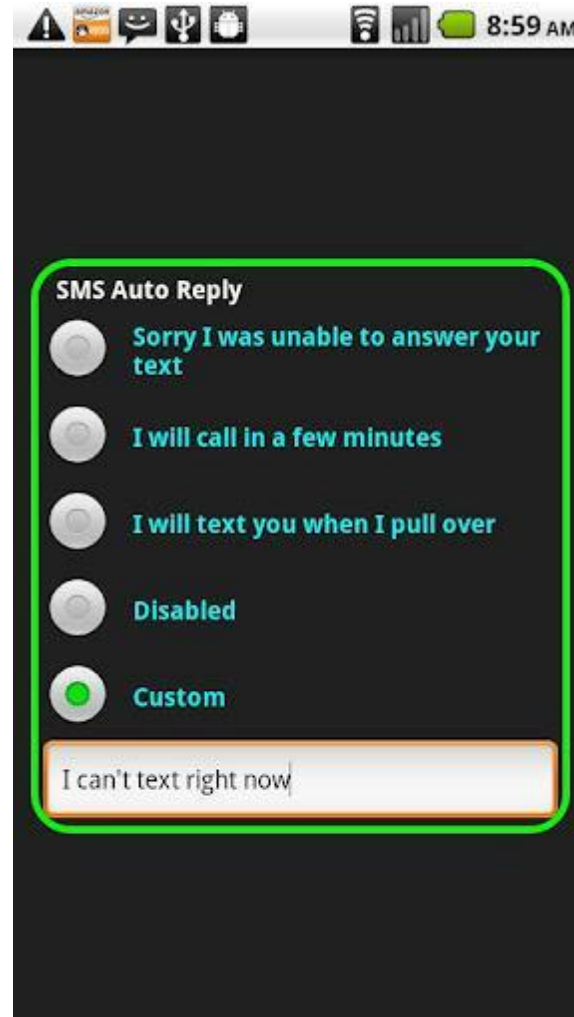


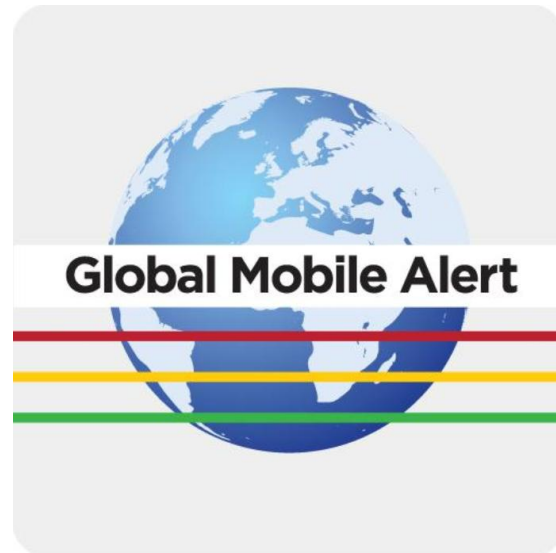
Global Mobile Alert





Pull Over To Text™





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Thank you!

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11-95.COM

Fighting Today's Fraud with Tomorrow's Technology

11-95.COM BRIEFING AGENDA

- ❖ Introduction
- ❖ Brief Overview
- ❖ 11-95 Quick Verification Software (QVS)
- ❖ Benefits of the 11-95 QVS
- ❖ Demonstration
- ❖ Question and Answer

11-95.COM LLC., DEVELOPS SOFTWARE TO DETECT AND PREVENT INSURANCE FRAUD.

11-95.COM CULTIVATES TECHNOLOGY TO FIGHT INSURANCE FRAUD IN A VARIETY OF AREAS INCLUDING: AUTOMOBILE, MEDICARE AND MEDICAID.

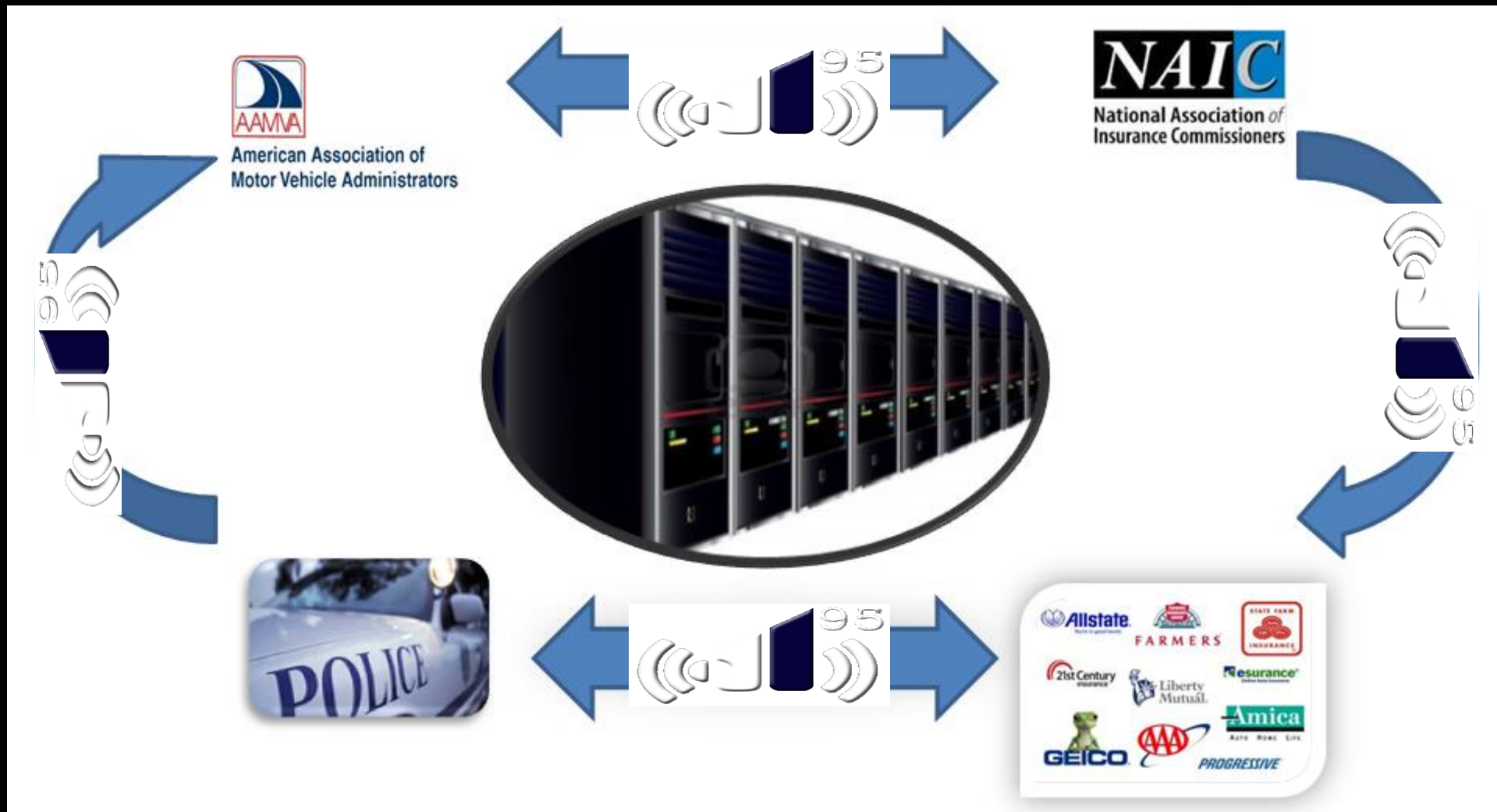
11-95.COM DEVELOPS SOFTWARE WHICH REMAINS RELEVANT AS TECHNOLOGY EVOLVES.

THE QVS FACILITATES COLLABORATION BETWEEN INSURANCE COMPANIES, LAW ENFORCEMENT AND DMV.

THE UTILITY OF THE QVS IS FUNCTIONAL ANYWHERE AUTOMOBILE INSURANCE IS COMPULSORY.



LINKING ELEMENT



The 11-95 QVS reduces opportunities and in some cases eliminates the ability to commit automotive insurance fraud. The QVS fraud prevention capabilities include:



Patent Pending

- ❖ Verifies “in real time” proof of insurance, vehicle registration and validity of drivers license; Provides instant access via linking element to database.
- ❖ Delivers scan results immediately to device (Tablet, Smartphone, Laptop, or PC).
- ❖ QVS enables the tracking of fraud trends.
- ❖ QVS can be used to develop fraud resistant, prevention and mitigation strategies.
- ❖ The QVS is a scalable platform which incorporates user roles;
- ❖ Facilitates liaison functions between insurance regulators, federal, state, and local law enforcement and other specific anti-fraud organizations;
- ❖ Provides a technology solution for data collection, dissemination, and information sharing.
- ❖ 11-95 QVS software is provided at No Cost!

DEMONSTRATION

The 11-95 QVS uses a proprietary **Security Stack (SAMSON)** to resist compromise; this includes the standard SSL (HTTPS) 128 bit encryption.

The 11-95 QVS **Does Not Collect** or maintain any Personal Information, we route information to secured devices.

The 11-95 QVS **Does Not Collect, Store, or Exchange** proprietary insurance company customer lists.

Questions





THANK YOU