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**SUMMARY OF TESTIMONY**  
**BEFORE THE U.S. SENATE SUBCOMMITTEE ON SCIENCE AND SPACE**  
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The RAA supports efforts to enhance the science of hurricanes. We also strongly endorse increased federal funding for hurricane research and forecasting as such research initiatives are critical to efforts to minimize the economic and human loss associated with hurricanes. My testimony will address the economic impacts of hurricane activity and the reinsurance perspective on managing risk by promoting the conservation of our natural resources and through risk mitigation efforts along our densely-populated coastlines.

(Re)insurers have a keen interest in improved hurricane forecasting and risk management as a means to reduce economic loss. The insurance industry's financial health is inter-dependent with climate and weather. It is the risk of natural events that drives the demand for property insurance coverage, yet if not properly managed, can threaten the financial health of an insurer. An insurance company's financial viability rests on its ability to estimate the economic consequences of future events. Because of this, the insurance and reinsurance industries have long supported private and public sector research efforts to better understand the frequency, severity, financial impact and mitigation of natural catastrophes, particularly hurricanes.

**The Need for Increased Research Funding:** There are two principal socio-economic factors that directly influence economic losses due to a catastrophic event: the increasing degree of urbanization and value at risk. U.S. Census Bureau data indicates that 35.7 million Americans live in coastal counties most threatened by hurricanes; essentially the coastal populations from North Carolina to Texas—approximately 12 percent of the U.S. population. As a result, from 1980 through 2005, 29% of the nation's population lived in a county that experienced at least one hurricane. This combination of urbanization and increasing property values translates into increased concentration of exposure in areas at highest risk for hurricanes. Gulf and Atlantic Coast insured property

exposure totals \$9 trillion. Of this insured coastal exposure, \$2.4 trillion is in Florida; \$2.4 trillion in New York; \$900 billion in Texas; \$775 billion in Massachusetts; \$635 billion in New Jersey; \$480 billion in Connecticut; and \$224 billion in Louisiana. Catastrophe modeling firm AIR Worldwide estimates that catastrophe losses will double every decade due to this growing residential and commercial density. Since the first \$1 billion-plus hurricane insured loss in 1989 (Hurricane Hugo), Munich Re reports that economic losses (insured and uninsured) of greater than \$1 billion have risen dramatically: \$60 billion in 2004; \$170 billion in 2005; \$58 billion in 2008. This reflects a rise in the number of global meteorological (storm), hydrological (flood) and climatological events, while geophysical events (earthquakes and volcanic eruptions) have remained steady.

According to the Insurance Information Institute, the U.S. insurance industry has reported \$170 billion of insured hurricane related losses since 1988. Although that number is significant, estimated losses (in 2009 dollars) for past hurricanes based on current exposures<sup>1</sup> are more notable:

	<u>Today's Economic Loss</u>	<u>Today's Insured Loss</u>
▪ 1900 Galveston, Texas	\$94 billion	\$33 billion
▪ 1926 Miami Hurricane:	\$180 billion	\$80 billion
▪ 1938 Long Island, NY	\$45 billion	\$35 billion
▪ 1960 Hurricane Donna (FL-ME)	\$44 billion	\$26 billion
▪ 2005 Katrina, Gulf Coast:	\$91 billion	\$41 billion

The sheer magnitude of these economic losses illustrates the need for appropriating increased funding for hurricane research and improved forecasting.

**Mitigation and Adaptation Initiatives Should Be Considered:** In addition to increased funding for hurricane research and improved forecasting, Congress should help people living in hurricane-prone coastal areas take proactive mitigation and adaptation steps to protect their property, rather than encourage unwise development in these high-risk, environmentally-sensitive locales. The research arising from new Congressional funding will assist in the assessment of planning aimed at mitigation and adaptation.

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<sup>1</sup> iCAT Damage Estimator

Hazard mitigation programs are well-established as a cost-effective means to reduce the impact of natural disasters.

Land-use planning, largely the purview of local governments, is also key to reducing development in environmentally-sensitive, high-risk coastal areas. We support the Coastal Barrier Resources System which prevents structures proposed for construction in undeveloped, environmentally-pristine areas from purchasing federal flood insurance.

**Global Climate Change Must Be Addressed:** With 30% of the U.S. population living in coastal counties most exposed to hurricanes, extreme storms, and related storm surge, global climate change will increase U.S. citizens' exposure to property losses and potential loss of life, and disrupt and degrade ecosystems and natural features such as barrier islands, mangroves, and wetlands that act as natural buffers to wind and flooding. Enhanced funding for hurricane research will help us to better understand the relationship between hurricanes, climate change and ecosystems. The development of regional climate models capable of resolving hurricanes and producing statistics on future climate will provide a database that can substantially extend and render more accurate risk assessment methods. As the Senate considers climate legislation, we encourage the adoption of appropriate provisions that require federal and state governments to develop and implement adaptation programs that will enable us to better prepare for the impacts of climate change on our communities and natural environment.

The RAA is committed to working with Congress for legislative measures to improve mitigation, adaptation, and increase hurricane research funding. All legislative efforts should ensure environmentally-sound and fiscally responsible policy that will ultimately reduce the costs borne by federal and state governments, insurers/reinsurers, and the American taxpayers, as well as save lives, protect habitats, and ensure our coastal areas thrive for future generations.