Will climate change devastate coastal property insurance?
WILL CLIMATE CHANGE DEVASTATE COASTAL PROPERTY INSURANCE?
Property insurers say that the U.S. Atlantic and Gulf coastlines are increasingly becoming a more dangerous place for hurricanes – and that climate change is an important reason why.

WIND POOL MOVES INLAND
The state wind pool, which was enlarged twice in 2007, is a last resort for many coastal property owners.

PREPARING YOUR HOME CAN BE AS EASY AS THE ABCs
How to make your dwelling more hurricane-resistant.

INSURERS SHOULD RETURN TO ROOTS?
Insurers could do more to help their customers reduce disaster risks.

EBBS AND FLOWS
• Balancing Private and Public Rights in the Coastal Zone in the Era of Climate Change
• Conference on the Science and Education of Land Use
• Labs 21 2007 Annual Conference

ON THE COVER:
The incredible power of Hurricane Katrina is illustrated by these flattened townhouses on the Mississippi coast.
PHOTO/WADE SPEES

Please fill out the reader survey attached to the center spread of this issue of Coastal Heritage. The survey will help us serve you better.

Coastal Heritage is a quarterly publication of the S.C. Sea Grant Consortium, a university-based network supporting research, education, and outreach to conserve coastal resources and enhance economic opportunity for the people of South Carolina. Comments regarding this or future issues of Coastal Heritage are welcomed at john.tibbetts@scseagrant.org. Subscriptions are free upon request by contacting:

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Dear policyholder, your property insurance will not be renewed. Dear policyholder, your annual premium will quadruple. Dear policyholder, your deductible, once $500, has been changed to a new formula that could cost you thousands if your home is damaged by a storm.

For 30 years, retirees John and Fay Branks have lived in their two-story frame house on Folly Beach, overlooking the Folly River. During three decades, they’ve filed just one minor insurance claim—for damage after Hurricane Hugo in 1989. Yet this spring they received a letter from State Farm, saying that their homeowners’ insurance would not be renewed in November 2007.

John Branks, a retired maintenance supervisor for S.C. Electric and Gas, is fighting leukemia, diabetes, and other illnesses. His wife, a retired nurse, hasn’t had time to look for another policy.

Fay Branks says quietly, “I just don’t know what I’m going to do about it.” She hopes that rising insurance premiums and taxes won’t drive them from their home. “It’s not cost-effective to spend all that you’ve worked for on taxes and insurance.”

In March 2007, Isaac Humes, a Mt. Pleasant investment manager, was told that he would lose Farm Bureau policies covering his primary residence, four vehicles, and six investment properties.

“The company sent me a letter that it needed to reduce its ‘catastrophic wind exposure,’ ” says Humes, who lives in a Park West neighborhood several miles inland from the shoreline. “In 10 years, I’ve never filed a claim.” After a search, he eventually found coverage with State Farm, but his new premium and deductible are much higher than before. “I was put in a position of, ‘Please take me.’ ”

Will climate change devastate coastal property insurance?

By John H. Tibbetts
Every homeowner, of course, needs property insurance. If hurricane winds destroy your roof and rain pours into your house, then you can file a claim under a standard homeowner’s policy. Wind coverage has traditionally been part of standard policies sold by private companies such as State Farm and Farm Bureau.

But if water rises from below—from a flood or a storm surge—and damages your home, then you would have to file a flood-insurance claim. The federal government manages the flood-insurance program, and any property owner can buy it at relatively modest prices.

By contrast, homeowners’ insurance, including wind coverage, is increasingly costly in hurricane-prone areas and difficult to find. In 18 states along the Gulf Coast and the Atlantic seaboard, most major insurers are in retreat, selling fewer policies or not renewing them at all.

In Florida and Louisiana, more than 600,000 homeowners’ policies, which include wind coverage, were canceled in the wake of Hurricane Katrina and other 2005 storms. Companies have ratcheted up premiums and deductibles for coastal homeowners, narrowed terms of deductibles, or turned away new customers.

“Senior citizens in Miami shouldn’t have to choose between paying insurance premiums and buying food,” says William Bailey, managing director of the Hurricane Insurance Information Center, based in Chelsea, Maryland. “People living on very tight budgets are seeing insurance rates going up, and they are forced to make choices they shouldn’t have to make.”

Four of South Carolina’s largest property insurers indicated that they wouldn’t renew homeowners’ coverage for about 20,000 policies along the South Carolina coast. In addition, many homeowners from Myrtle Beach to Hilton Head have experienced premium increases. South Carolina’s coastal-insurance market, like that of Florida, is experiencing a “near meltdown,” notes Kevin M. McCarty, the Florida insurance commissioner.

“We’ve never had to deal with what we’re dealing with now,” says Scott Richardson, the South Carolina insurance commissioner.

At first glance, the lowcountry shouldn’t be facing Florida’s problems. Of the 10 costliest U.S. hurricanes, only one—Hugo, in 1989—hit South Carolina. By contrast, six of the most expensive have struck Florida, all arriving during 2004 and 2005.

Still, insurers signal that the entire U.S. Atlantic and Gulf coastlines are becoming an even more dangerous bet for high winds, pointing to climate change as an important reason why. In 2006, Lloyd’s of London urged the insurance industry to take global warming more seriously or risk extinction. “If we do not take action now to understand the risks and their impact, the changing climate could kill us.”

Most U.S. insurance companies, until recently, didn’t pay much attention to global warming. But that era is over. “We’d be out of our minds if we wrote weather insurance on the opinion global warming would have no effect at all,” said Omaha-based insurance investor Warren Buffett, at a 2006 Berkshire Hathaway annual shareholder meeting.

Warmer waters in the tropical North Atlantic, climate scientists agree, are spawning more powerful hurricanes. Rising sea-surface temperatures are fueling stronger tropical cyclones, which crash with higher wind speeds and storm surges against U.S. shores.

Human-induced global warming since 1970 is probably causing more intense Atlantic hurricane activity as measured by “potential destructive- ness,” according to a 2005 study by Kerry Emanuel, a tropical meteorologist at the Massachusetts Institute of Technology. Atlantic hurricanes have become more intense or they have survived longer as major storms over the previous 35 years, he argues. An especially dramatic rise in Atlantic sea-surface temperatures and powerful hurricanes has occurred since 1995.

But Chris Landsea, science and operations manager with the National Oceanic and Atmospheric Administration’s (NOAA) National Hurricane Center, says that human-induced global warming is probably not what’s driving increased hurricane activity.

He points out that the tropical North Atlantic has a built-in, natural temperature oscillation, and one end of this oscillation is warming the North Atlantic. “It looks much more to me like a cyclic phenomenon. In the Atlantic, we see very strong multi-decade swings in land-falling storms. It’s
very busy for 25 to 40 years, and then it’s very quiet for 25 to 40 years. The Atlantic was in a very quiet phase from 1971 to 1994; and then in 1995, it got busy.”

Emanuel has argued, though, that a hurricane oscillation in the Atlantic doesn’t really exist. Some atmospheric pollutants—particles such as sulphur—cooled the planet from the 1950s to the 1970s, a cooling that suppressed Atlantic hurricanes. Now that sulphur levels have been reduced by pollution controls, atmospheric and sea-surface temperatures are rising again.

Even so, many climate scientists believe that a combination of man-made global warming and a natural cycle has increased Atlantic sea-surface temperatures in the regions where hurricanes form and intensify, says Tom Knutson, a research meteorologist at NOAA’s Geophysical Fluid Dynamics Laboratory.

The debate, he says, now centers on which influence is more important.

Many climate scientists also believe that over the next 10 to 15 years—and through the Roof. Jim Trusso (left) and his wife’s property-insurance premium skyrocketed in 2007. Michael Parades, who represents homeowners’ associations, plans to organize consumers to lobby the South Carolina legislature for more relief from rising insurance prices. PHOTO/WADE SPEES perhaps much longer—the tropical Atlantic is likely to be warmer than usual and hurricanes fiercer, regardless of whether the recent increase in hurricane activity has been caused mainly by man-made climate warming or natural climate cycles.

Worried insurers, in turn, are already changing how they do business. In 2006, on James Island, a condominium association had its annual premium jump from $46,000 to $400,000, says Michael Parades, South Carolina district manager for Sentry Management, Inc., a company that represents 1,200 homeowner associations around the country.

Retirees Jim and Sue Trusso live in a condominium complex called Little Oak Island Villas on a marsh island behind Folly Beach. In May 2007, they learned that their unit’s insurance premium, covering the unfinished interior, was raised 77 percent to $8,000 a year. They also pay $3,000 annually for property insurance as part of the condominium regime fee. That’s $11,000 a year in property insurance for a 1,500-square-foot marshfront home. “It’s more than a mortgage payment,” says Jim Trusso.

“This crisis started reaching the middle-class and retirees on fixed incomes—the South Carolina voters,” says Parades. “If the insurance system is not reformed, it will have a tremendous, adverse impact on coastal South Carolina. Some people will no longer be able to afford their homes.”

More Powerful Storms

Since Katrina, insurers have tightened their risk portfolios, a response that makes sense in histori-
cal terms, says Evan Mills, an environmental scientist at the U.S. Department of Energy’s Lawrence Berkeley National Laboratory. The current period is one of the most dangerous for insurers since the Great Depression of the 1930s and the urban riots of the 1960s, and one reason for that is climate change.

Although global warming can’t be blamed for any single event, climate change is responsible for intensifying a trend of weather-related disasters around the world, including powerful rainstorms, according to a 2007 report by the Intergovernmental Panel on Climate Change (IPCC) of the United Nations.

Hundreds of scientists write and review IPCC major reports, which are published every six to seven years and represent a consensus from leading climate researchers around the world. Scientists analyze peer-reviewed study results and apply the results of supercomputer simulations used to test how the planet’s climate is changing and will change in the future.

Increased greenhouse-gas emissions from power plants, automobiles, and other sources are trapping more radiation from the sun, accelerating warming of air and sea, says the IPCC. Carbon dioxide levels in the atmosphere have risen from 280 parts per million in 1750—near the beginning of the Industrial Revolution—to nearly 380 today. Eleven of the last 12 years rank among the warmest worldwide since reliable recordkeeping began in the 1860s.

Global warming is drawing more moisture from the sea surface into the atmosphere, and this process alters wind and precipitation patterns virtually everywhere. The planet, particularly in the tropics, may be becoming stormier.

There’s no doubt, meanwhile, that oceans are warming, says the IPCC. Since 1961, the oceans have been absorbing 80 percent of the heat added to the global climate system. Ocean heating is sinking farther down—two miles deep now—and as the deeper ocean turns warmer, the seawater there expands, raising sea levels around the world.

Ocean observations since 1970, according to the IPCC, show that Atlantic hurricanes have become more powerful, with a greater number of major storms (category 3 to 5). Also since 1970, sea-surface temperatures have risen in the tropical Atlantic band that spawns hurricanes.

The IPCC says that human-caused climate warming “more likely than not” has contributed to observed increases in intense tropical cyclone activity since 1970. It’s also “likely” that climate warming would contribute to more intense hurricanes in the future. This language, as Knutson points out, doesn’t express the highest level of scientific confidence, as compared with, say, the much stronger language (“very likely”) attributing most of the global warming of the past 50 years to increases in greenhouse gases.

Also, in 2007, some scientists have raised the question of whether a hotter planet would increase the intensity of El Niño events, which could inhibit hurricanes in the future. More intense El Niño events would speed up jet-stream winds that cut off the tops of Atlantic hurricanes.

Climate scientists, in other words, are extremely confident that manmade global warming is occurring. But they aren’t as certain that human influences have caused the increase in intense Atlantic hurricanes over the past decade or would cause future hurricanes to become more powerful.

THE WORST IS YET TO COME

Someday a hurricane far more expensive than Katrina will strike the U.S. coast. Katrina cost about $80 billion, and insurers picked up about half of the tab, roughly $40 billion. The rest of the burden fell on government, businesses, and individuals. Despite these mind-boggling numbers, the storm’s hardest blows didn’t hit exceptionally high-value coastal areas.

Katrina was a category 1 storm when it struck Florida’s Atlantic coast and then bloomed into a category 5 in the warm waters of the Gulf of Mexico, before dropping to a still-destructive category 3 at landfall on the Gulf Coast.

Florida and New York state each has $2 trillion in coastal insured exposure. By contrast, Louisiana, Mississippi, and Alabama, which took the brunt of the 2005 hurricanes, had a total coastal-property value of about $160 billion—just eight percent the size of Florida’s before Katrina struck.

Coastal real-estate prices, meanwhile, continue to rise into the stratosphere. Florida’s total coastal-property value is expected to double to $4 trillion by 2017, says Robert Hartwig, chief economist and president of the Insurance Information Institute, a trade group. “The concern is not another Katrina, it is an event far worse.”

Insurers are perhaps most alarmed about the risk of a category 3 or 4 hurricane striking the New York metropolitan area, with a potential cost of $200 billion in total damage and $110 billion in insurance payouts, almost three times Katrina’s insured damage.

To hedge against immense payouts, insurance companies buy insurance
A giant new housing development in Dorchester County. Some of the fastest growing coastal areas are 20 to 30 miles from the ocean, but they are still highly vulnerable to hurricane winds.

PHOTO/WADE SPEES
Coastal Heritage!

In recent years, U.S. hurricanes and other disasters have strained a global reinsurance system that relies on finite capital markets. "Reinsurance rates have not been realistic," underestimating the potential for huge insured coastal losses, says Paul Epstein, associate director of the Center for Health and the Global Environment at Harvard Medical School. Homeowners' premiums, partly as a result, have not kept pace with the rising risk of future destructive storms.

Each U.S. state has responsibility for regulating property insurers, and many hurricane-prone states have historically kept premiums and deductibles low at the behest of coastal property owners, says Detlefsen. "State regulators have often not allowed premiums commensurate with the risks in coastal areas. When insurers are prevented from sending signals to property owners about the true level of risk they face, greater numbers of people move to the coast and more developers build in those areas, but then there's not enough money for insurers to pay claims."

"Reinsurance is very much a driving force" behind the insurance crisis along the coast, says Henry Lowndes, an independent insurance agent in Charleston. "Reinsurance is very expensive right now," says Robert Detlefsen, vice-president of the National Association of Mutual Insurance Companies, based in Indianapolis. "Insurance companies need to buy it to keep their own companies on a sound financial basis."

Major insurers purchase catastrophe policies on the global market, which is unregulated, and reinsurance prices can rise and fall dramatically from year to year. "Reinsurance is very expensive right now," says Detlefsen. "State regulators have often not allowed premiums commensurate with the risks in coastal areas. When insurers are prevented from sending signals to property owners about the true level of risk they face, greater numbers of people move to the coast and more developers build in those areas, but then there's not enough money for insurers to pay claims."

The S.C. Department of Insurance regulates policies sold by "admitted companies" such as Nationwide and Travelers. Scott Richardson, the South Carolina insurance director, says that admitted companies have traditionally covered about 90 percent of the homes in South Carolina coastal counties, except for those within a half-mile or so of the beachfront, but now most of these companies are retreating from the shoreline or raising premiums or both.

Surplus-line carriers have stepped in to cover more homes and businesses after admitted insurers retreated. "The surplus carriers," says Richardson, "have taken advantage of the situation."

Since Katrina, rating agencies such as A.M. Best have indirectly applied upward pressure on coastal premiums. Rating agencies have instructed insurers and global reinsurers to reduce their U.S. coastal exposures and to hold larger financial reserves in case of future catastrophes. Rating agencies analyze the financial health of insurers and other companies, and this information is available to state regulators, investors, lenders, condo associations, and other property owners.

"When somebody like A.M. Best says do something," Lowndes points out, "companies do it."

In the past year, catastrophe modelers—a special breed of risk assessors—have changed the financial landscape for insurers and property owners in hurricane-prone areas. Students of history!

"Students of history!"
catastrophe models: Boston-based Applied Insurance Research (AIR); Oakland, California-based Equecat; and Newark, California-based Risk Management Solutions (RMS), by far the largest of its kind and the one that most primary insurers use.

The computer models themselves—complex and controversial—crunch various factors: past storm magnitude and frequency, wind strength and surge heights, extent of structural damage, and financial costs of past storms. Containing data on tens of millions of existing homes, these models estimate future damage risks based on computer simulations of possible storms.

Each year, major insurers buy guidance from RMS and other catastrophe modelers before deciding how many policies to sell in a particular region. And when asking state regulators for hikes in premiums and deductibles, insurers also point to the newest catastrophe models as evidence of escalating hurricane threats.

Catastrophe modelers in the past factored in longer-term historical storm and damage patterns—usually over the previous 100 years—to forecast hurricane damage in a particular coastal region. Many state regulators, in fact, have required that insurers rely on a 100-year averaging approach. For one thing, it results in more consistent insurance pricing. During active hurricane periods, premiums aren’t as likely to shoot up high; and during quiet periods, premiums don’t fall far.

Katrina, however, startled catastrophe-modeling firms; they had failed to anticipate the storm’s unprecedented economic damages. So modelers began looking at their methods and assumptions.

In 2005 and again in 2006, RMS gathered a group of climate scientists, asking for guidance on how global warming or a temperature cycle in the tropical Atlantic would affect future hurricane damages. The climate scientists agreed that probably both influences—global warming and a natural hurricane cycle—were roughly equally important in driving up hurricane intensity since 1995, according to

That doesn’t sound right to Scott Richardson, South Carolina insurance director. “We haven’t had the same sort of hurricanes that Florida has had. Since Hugo in 1989, we haven’t been hit by the big kahunas.”

The insurance industry, critics say, is stacking the deck in its own interest. Catastrophe modelers “are under pressure from the insurance industry to help them get higher rates,” says J. Robert Hunter, director of insurance for the Consumer Federation of America. “Insurers threaten the modelers to leave them unless the modelers come up with higher risks. When the modelers do what insurers want, insurers say, ‘It’s not us, it’s the models.’”

“That’s just not true,” says Muir-Wood. “That’s a misunderstanding of what our business does. It’s crucial to our business that our models are neutral.”

It’s accurate to say that the new RMS model has sparked an insurance crisis in coastal areas, says Smitty Harrison, executive director of the S.C. Wind and Hail Underwriting Association, commonly known as the “wind pool,” which provides wind coverage for many homes near the coast.

But Harrison also says that an improved catastrophe model was needed. “The models have been traditionally wrong on the low end for years. They’ve been low in predicting the amount of actual damage.”

Skyrocketing costs of building materials and labor, especially following big storm seasons in 2004 and 2005, have driven insured losses much higher than modelers had anticipated. Building materials and labor are usually scarce after major hurricanes. Insurers have a name for such scarcity: “demand surge.” Particularly strong demand surges following hurricanes in 2004 and 2005, says Harrison, were not accurately reflected in catastrophe models.

Muir-Wood agrees. “The 2004 and 2005 hurricane seasons made us undergo a huge amount of learning. We were underestimating the demand surge. But we feel much more confident now.”
Wind pool moves inland

For decades, property owners near the oceanfront who couldn’t find wind coverage from private insurers have turned to state help to the S.C. Wind and Hail Underwriting Association, commonly known as the “wind pool.”

“In the late 1960s, insurers started withdrawing from the coast,” says Smitty Harrison, executive director of the South Carolina wind pool. “The state said to insurers, ‘Don’t withdraw from the coast. Continue to write the homeowners’ policies there, but don’t write the wind coverage. Instead, we’ll ask the industry as a whole to write the wind coverage, and we’ll do it through this tax-paying private association, mandated by state law.’”

All property insurers regulated by South Carolina must participate in the wind pool, created in 1971. But the wind pool otherwise works much like any other state-regulated private insurer in terms of issuing policies, charging premiums, and paying claims.

Although backed by private insurers, the wind pool also purchases reinsurance policies, which help hedge financial risks in case of a catastrophe. Following an immensely costly high-wind disaster that strikes the South Carolina shoreline, with losses beyond the wind pool’s reinsurance, private insurers would have to provide payouts in proportion to their statewide and coastal premiums.

Numerous coastal states have created wind pools; some western states have similar plans for high-hazard areas.

Evan Mills, an environmental scientist at the U.S. Department of Energy’s Lawrence Berkeley National Laboratory, says that these special-hazard pools were “designed to provide niche insurance coverage in segments of the market where private insurers didn’t want to play or felt that it was too risky.” But such niche plans have greatly expanded in recent years in terms of the numbers of policies sold and total premiums taken in.

South Carolina’s wind pool once covered only a sliver of coastal land, primarily barrier islands and beachfronts. But, in March 2007, Scott Richardson, director of the S.C. Department of Insurance, for the first time expanded the wind pool several miles farther inland along some stretches of the coast. In May 2007, he expanded it in another portion of the coast.

There’s a negative side to moving the wind-pool line, says Richardson. Private insurers tend to drop wind policies in the newly covered area. Property owners, then, must often purchase two policies: wind coverage from the state wind pool and other-hazard coverage from private companies. They would also still need to buy flood insurance. This kind of complementary coverage is expensive, driving up total premiums for individual homeowners by 50 to 70 percent.

“The wind pool should be the last resort for coastal property owners,” says Richardson, “not the first resort. It’s a safety net for people. We don’t want you to be in the wind pool forever.”

NEW SOUTH CAROLINA LEGISLATION

On June 11, 2007, South Carolina Gov. Mark Sanford signed a bill into law that’s intended to alleviate insurance costs. The new legislation provides tax deductions for catastrophe savings accounts, encouraging homeowners to save money for use in case of a disaster later. It also creates a system of tax credits for insurance companies that write full coverage (policies without wind exclusions) for property owners along the coast. Property owners who buy and install building materials that make homes stronger can receive tax credits. And private insurers would be required to give discounts to homeowners who improve their dwellings to withstand wind storms.

For months, South Carolina lawmakers studied a Florida state-sponsored Residential Mitigation Incentives Program, adapting portions of it for use here. But the South Carolina program will not have the degree of state funding that Florida’s has.

The Florida program, supported by $250 million from a state tax surplus, provides free inspections of owner-occupied homes of $500,000-or-less assessed value. Administrators of the Florida plan expect to have 400,000 inspections by specially trained personnel completed over the next three years. Homes are assigned an overall wind-resistance score of 1 to 100, and homeowners are given a checklist of the most cost-effective techniques for improvement.

The state of Florida offers matching grants of up to $5,000 to homeowners who spend their own money on retrofits based on inspections. The retrofit package focuses on protecting windows, doors, and gable-end vents; upgrading garage doors, roof-to-wall connections, and roof coverings; and adding secondary water barriers on roof decks, among other techniques.

Homeowners can choose among three retrofit options varying in price. The Florida program has been augmented by a $100 million grant from U.S. Housing and Urban Development to aid low-income homeowners.
Insurers in Florida are required by state law to reduce premiums for selected wind-resistant home features. In Southeast Florida, homeowners who have completed the most extensive mitigation efforts—at a total median cost of $11,000—have seen their premiums drop by an average of 49 percent, according to Leslie Chapman Henderson, president of the Federal Alliance for Safe Homes, a nonprofit consumer organization that managed a pilot project of the retrofit program.

South Carolina’s brand-new S.C. Hurricane Damage Mitigation Program will be less ambitious than Florida’s initiative.

For one thing, the amount of money available for state-sponsored hurricane mitigation would almost certainly be more modest in South Carolina. The state legislature has changed the S.C. Department of Insurance with searching for federal funds for the program. It would also receive funds from premium taxes due to the state from the wind pool, and from one percent of the premium taxes collected by the S.C. Department of Insurance.

In South Carolina, hurricane-mitigation grants would be provided only to those homeowners who have a homestead exemption, which means they are over age 65; their homes must also have an insured value of $300,000 or less.

But one provision of the new law—insurance discounts for homeowners who strengthen their dwellings against high winds—could have widespread impacts.

“If the insurance discounts are reasonable and credible, and the premiums get high enough, then homeowners will respond,” says Tim Reinhold, director of engineering and vice-president of the Institute for Business and Home Safety, a nonprofit insurance-industry organization. “If you’re paying out an extra $1,500 a year in insurance premiums, you’ll likely want to look at incentives. You could pay for shuttering your home and putting on a better roof when you re-roof, and with insurance discounts, you could get that $1,500 a year back.”

South Carolina leaders continue struggling for answers. What are fair-market premiums for coastal homeowners and businesses? What are actual risks for various structures located on the South Carolina coast? Should taxpayers and policyholders in other parts of South Carolina subsidize premiums for coastal property owners? What further legislative measures could help people who have paid premiums for many years yet have been abandoned by their insurers?

In South Carolina, new legislation might take some of the sting out of rising coastal-insurance costs and vanishing coverage.

Nevertheless, all hurricane-prone states will almost certainly face continuing demographic, financial, and climate pressures that threaten insurance affordability and availability.

Next year, Michael Parades of Sentry Management, Inc., and other reform advocates will push for legislation that they hope would provide further financial relief for insurance consumers. For one thing, they are calling for a statewide, state-run insurance company.

“Something’s got to give,” says Parades. “We have to ratchet up the pressure on legislators to pass substantive changes in the laws to bring back some sanity to the insurance market. We’re going to do some grassroots organizing of homeowners’ associations to affect legislation and make politicians listen.”

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**Reading and Web Sites**

- Federal Alliance for Safe Homes, Inc. www.flash.org
- Intergovernmental Panel on Climate Change. www.ipcc.ch
- South Carolina Climate, Energy and Commerce Advisory Committee www.scclimatechange.us/index.cfm
Preparing your home can be as easy as the ABCs

Anchor
- Bring anything from the yard that could become wind-borne inside, and ask neighbors to do the same.
- Replace gravel/rock-landscaping material with fire treated, shredded bark to reduce damage.
- Trim and anchor down foliage.
- Make sure your home has a wall-to-foundation (anchor bolts/re-bar) connection.

Brace
- Bolt all doors with foot and head bolts with a minimum one-inch bolt throw length.
- Reinforce the garage door and tracks with center support.*
- Brace all gable end walls with horizontal and/or diagonal braces.
* Approximately 80% of residential hurricane wind damage starts with wind entry through garage doors.

Cover
- Cover all large windows and doors, especially patio doors, with securely fastened, tested, and approved impact-resistant shutters with proper mounting hardware, or replace them with impact-resistant laminated window and door systems if feasible.
- To reduce potential water intrusion, make sure all doors and windows are properly caulked and/or weather-stripped.
- Install a roof covering that is rated for hurricane-force winds.

S. C. Sea Grant publications to help improve hurricane preparation and mitigation:

- “Re-Roofing?” A brochure highlighting opportunities for reducing wind damage vulnerability when re-roofing.
- “Hurricane Preparation Checklist.” A flyer to help you prepare for a hurricane.
- “Q & A on Purchasing Coastal Real Estate in South Carolina.” This brief guide focuses on basic questions you should ask as a potential purchaser of coastal real estate.
- “Window and Door Protection.” This brochure gives important information on protecting openings in your home, such as windows and doors, from wind damage.

These products can be viewed or ordered, free: www.scseagrant.org/products.

Published with permission of the Federal Alliance for Safe Homes, Inc. (FLASH)
For more information, visit www.flash.org.
Insurers should return to roots?

Insurers owned the first fire trucks in America. They funded the original fire departments, advocated building codes, and established the first underwriting codes for electricity. But somewhere along the line, insurance companies scaled back their emphasis on preventing losses, according to Evan Mills, an environmental scientist at the U.S. Department of Energy’s Lawrence Berkeley National Laboratory. Now, he says, “Insurers could go back to their roots in loss prevention and managing risk.”

Most of the coastal development that will exist 30 years from now is probably not yet built. Insurers could help make future growth more disaster-resistant by lobbying states to improve building codes, land-use planning, and other measures that reduce future losses, industry experts say.

Protection from hazards is ultimately a matter of where you build and how you build, according to James C. Schwab, senior research associate with the American Planning Association, based in Chicago, Illinois. “The closer to a danger you live, the more you have to compensate in measures to build stronger structures. It would make more sense to back up from that danger with planning ordinances, but structural controls and design measures are beneficial. If you’re doing sound planning, you’re taking into account both things—improved building codes and planning—at the same time.”

Florida, for instance, requires that local building codes comply with comprehensive plans. Florida requires state review of each local comprehensive plan every five years to ensure this compliance.

“Within the regions vulnerable to coastal storms, Florida has done as good a job as anyone else,” says Schwab. “Florida’s big challenge, obviously, is that people keep moving there, and so the growth is staggering. I would shudder to think what position Florida would be in without the statewide growth-management system it has in place. The fact is that over a period of years, Florida cumulatively has not had as many deaths as occurred during Katrina. This indicates the beneficial aspect of stronger building codes and growth management.”

South Carolina has adopted a strong statewide building code and passed a law requiring localities to create comprehensive plans that factor in coastal hazards.

Evan Mills

“We need a more serious engagement by the insurance industry to help people fortify their property and analyze their vulnerabilities.”

“Comprehensive planning and building codes are not going to change things overnight,” says Schwab. “These are long-term projects. Zoning codes and building codes are prospective in nature, affecting new development or changes to existing development.”

The Institute for Business and Home Safety, a nonprofit insurance-industry organization, is a leader in risk prevention. But the industry could do more, says Mills. “A hundred years ago, insurers advocated for physical risk management. That was very much a part of their nature as risk managers. Some insurers still do this, but some don’t. We need a more serious engagement by the insurance industry to help people fortify their property and analyze their vulnerabilities.”

Huge payouts for business interruption

Hurricane Katrina taught insurers that a single catastrophic event could cause a cascade of social and economic disasters. In New Orleans, the storm damaged infrastructure, disrupted virtually all public services, closed schools and hospitals, and delayed repairs of businesses and homes for months or years.

The most expensive hurricane in U.S. history, Katrina battered bridges, roads, five major ports and their cargo, chemical plants, shipyards, offshore and onshore oil and gas facilities, resorts, fishing vessels, floating casinos, and 30 electric power stations.

Insurers paid out immense sums for losses from wind, fire, looting, mold, hazardous-substance contamination, and other damages. But perhaps just as important, insurers were liable for extensive “business-interruption” payouts to commercial customers.

The energy sector was hit particularly hard, as were insurers that had provided coverage to energy companies. Three weeks after the storm, more than half of the oil production and a third of gas production in the Gulf of Mexico were not yet restored.

Today, although rebuilding continues vigorously, some New Orleans neighborhoods still resemble a war zone, with block after block of destroyed homes.

The city, built on sinking delta sediments and bordered on three sides by water, has unique geographic problems. Even so, Cindy Parker, a public-health physician at the Johns Hopkins Bloomberg School of Public Health, points out that major cities along the Atlantic seaboard—Washington, Baltimore, Philadelphia, and others—could also experience social and economic meltdowns if a giant hurricane struck there.

“You’d have a lot of people who couldn’t evacuate,” says Parker, “who would be trapped in poorly functioning center cities.”

Major trauma centers and other hospitals would be flooded. Industries, electric power facilities, and schools could be shuttered for weeks or months.
Balancing Private and Public Rights in the Coastal Zone in the Era of Climate Change
Columbia, S.C.
September 20-21, 2007

To be held on campus at the University of South Carolina Law School, this conference will examine the legal and policy challenges posed by coastal development pressures in this period of climate change. The conference will also focus on the constraints, with respect to coastal management, created by the landmark Lucas takings case, which arose from a pioneering effort in South Carolina to restrict coastal development. For more information, visit www.law.sc.edu/elij2007symposium.

Conference on the Science and Education of Land Use
Washington, D.C.
September 24-26, 2007

This conference seeks to explore the causes and consequences of current land-use trends and dynamics related to society, economy, and environment. It will identify the major drivers of land use and address the questions of what will happen if we keep doing what we are doing now. The conference will also feature alternative measures that could strengthen the sustainable use of natural resources in rural and suburban areas. For more information, visit www.nercrl.psu.edu/TALUC.

Labs 21 2007 Annual Conference
North Charleston, S.C.
October 2-4, 2007

This conference provides a unique forum to address the historical challenges of designing, building, and maintaining high-performance facilities. Also to be discussed are the latest sustainable techniques and technologies available to improve laboratory design, engineering, construction, and operations and maintenance. For more information, visit www.labs21century.gov/conf/index.htm.

ATTENTION SCHOOL TEACHERS! The S.C. Sea Grant Consortium has designed supplemental classroom resources for this and past issues of Coastal Heritage magazine. Coastal Heritage Curriculum Connection, written for both middle- and high-school students, is aligned with the South Carolina state standards for the appropriate grade levels. Includes standards-based inquiry questions to lead students through explorations of the topic discussed. Curriculum Connection is available on-line at www.scseagrant.org/education.

Subscriptions are free upon request by contacting: Annette.Dunmeyer@scseagrant.org