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The Resilience Roundup highlights CIRCA's presence in the news, provides links to recent local/state/national news articles related to resilience and adaptation, and announces upcoming events and seminars.

Resilience Roundup

March 8, 2016

A service of the Connecticut Institute for Resilience and Climate Adaptation (CIRCA)

Local & State News Clips

- **March 4, 2016** - *Revamped satellite data shows no pause in global warming*, CT Post
- **March 3, 2016** - *Is Houston Ready for the Next Big Hurricane?*, Where We Live, WNPR
- **March 2, 2016** - *Climate Change Should Spur CT to Fast-Track Renewable Energy,* Hartford Courant
- **February 25, 2016** - *The seas are rising fast - and even faster in Mass*, Boston Globe

National News Clips

- **March 3, 2016** - *Rising Seas Pull Fort Lauderdale, Florida's Building Boomtown, Toward a Bust,* Inside Climate News
- **March 3, 2016** - *Hell and High Water*, Texas Tribune and ProPublica
- **March 2, 2016** - *Rethinking Urban Landscapes To Adapt to Rising Sea Levels*, Environment 360
- **February 29, 2016** - *Preparing for the Inevitable Sea-Level Rise*, The Atlantic
- **February 28, 2016** - *As sea levels rise, economic damage piles up even faster: study*, Reuters
- **February 23, 2016** - *Scientists Are More Confident Than Ever In Troubling Sea Level Rise Projections*, Climate Progress
- **February 22, 2016** - *Most U.S. Flooding Linked to Climate Change*, Bloomberg Business
- **February 22, 2016** - *Seas Are Rising at Fastest Rate in Last 28 Centuries*, The New York Times
- **February 22, 2016** - *Vanishing Tribe: Coastal erosion threatens survival of Biloxi-Chitimacha-Choctaw*, WDSU News
- **February 18, 2016** - *Kiribati president: Climate-induced migration is 5 years away*, Climate Home

Announcements

- **CIRCA Blog Posted:** Old Saybrook Committee Recommends Adapting, Mitigating, and Retreating When It Comes to Addressing the Impacts of Sea Level Rise and Climate Change
- **ASFPM Riverine Erosion Hazards White Paper** released February 2016 by the

ASFPM Riverine Erosion Hazards Working Group

- **March 8, 2016** - "Strategies for a diverse and vibrant Newport Harbor," 2016 Coastal Perspective Lecture Series, UConn, Avery Point. 7:30pm, 2nd floor Academic Building.
- **March 10, 2016** - Free Webinar presented by CLEAR and CIRCA on Living Shorelines in Connecticut: Design Considerations and Site Suitability. Register here.
- **March 15, 2016** - Next review date for CIRCA Matching Funds Program. Up to $100,000 available. For more information go to **http://circa.uconn.edu/funds.htm**
- **March 15, 2016** - FY2016 FEMA Flood Mitigation Assistance and Pre-Disaster Mitigation Assistance Grant Opportunity Open. Applications due to the state by April 29.
- **March 15, 2016** - New England Grassroots Environment Fund Grow Grants Applications **due**.
- **March 17, 2016** - Connecticut Association of Wetland Scientists Annual Meeting. http://www.ctwetlands.org/annualmeetings.html
- **March 19, 2016** - 32nd Annual Connecticut Land Conservation Conference. http://www.ctconservation.org/2016-conference
- **March 31, 2016** - Urban Planning in the Age of Climate Change: Symposium sponsored by UConn Urban and Community Studies Program. Free and open to the public.
- **April 4-6, 2016** - Local Solutions: Eastern Regional Climate Preparedness Conference, Baltimore, MD
- **April 6, 2016** - NOAA funding opportunity for community habitat restoration. Application due April 6, 2016
- **April 10-13, 2016** - Keeping History Above Water conference in Newport, RI on threat of sea level rise to historic coastal communities.
- **April 15, 2016** - CIRCA Municipal Resilience Grant Program Round 2: Applications due April 15, 2016. Up to $100,000 available. **http://circa.uconn.edu/funds-muni.htm**
- **April 15, 2016** - Our Changing Climate - Its Impacts on the Economy and the Way We Live: A Symposium sponsored by Rockfall Foundation, UConn CLEAR, Connecticut Sea Grant, UConn Extension, and Middlesex Community College

Local & State News Clips

March 4, 2016 - Revamped satellite data shows no pause in global warming, CT Post

WASHINGTON (AP) - Climate change doubters may have lost one of their key talking points: a particular satellite temperature dataset that had seemed to show no warming for the past 18 years.

The Remote Sensing System temperature data, promoted by many who reject mainstream climate science and especially most recently by Sen. Ted Cruz, now shows a slight warming of about 0.18 degrees Fahrenheit since 1998. Ground temperature measurements, which many scientists call more accurate, all show warming in the past 18 years.

"There are people that like to claim there was no warming; they really can't claim that anymore," said Carl Mears, the scientist who runs the Remote Sensing System temperature data tracking.

The change resulted from an adjustment Mears made to fix a nagging discrepancy in the data from 15 satellites.

The satellites are in a polar orbit, so they are supposed to go over the same place at about the same time as they circle from north to south pole. Some of the satellites drift a bit, which changes their afternoon and evening measurements ever so slightly. Some satellites had drift that made temperatures warmer, others cooler. Three satellites had thrusters and they stayed in the proper orbit so they provided guidance for adjustments.

Mears said he was "motivated by fixing these differences between the satellites. If the differences hadn't been there, I wouldn't have done the upgrade."

NASA chief climate scientist Gavin Schmidt and Andrew Dessler, a climate scientist at Texas A&M, said experts and studies had shown these problems that Mears adjusted and they both said those adjustments make sense and are well supported in a study in the American Meteorological Society's Journal of Climate.

The study refutes the idea of a pause in global warming, "but frankly common sense and looking at how Earth was responding over the past 18 years kind of makes this finding a 'duh' moment," wrote University of Georgia meteorology professor Marshall Shepherd.

Chip Knappenberger of the Cato Institute, who doesn't doubt that human-caused climate change is happening but does not agree with mainstream scientists who say the problem is enormous, said this shows "how messy the procedures are in putting the satellite data together."

The other major satellite temperature data set, run by University of Alabama-Huntsville professor John Christy, shows slight warming after 1998. But if 1998 is included in the data, it sees no warming. But that should change with a warm 2016, Christy said. In fact, Christy used his measurements to determine that February 2016 was 1.5 degrees Fahrenheit above the average for the month - the largest such disparity for any month since records were first kept, in 1979.

As far as what this means for people claiming no warming, scientists don't expect them to change.

"I don't know what Cruz, et al., will do now," Dessler said in an email. "I think it will be increasingly difficult for them to claim that the satellite data show now warming, although it may be possible to say that it shows 'no significant warming.'"

March 3, 2016 - Is Houston Ready for the Next Big Hurricane?, Where We Live, WNPR

Few of us remember Hurricane Ike as vividly as we remember Katrina and Sandy. But for people down in Houston, Texas, the 2008 storm was a major wake-up call.

So, what happens when another Ike -- a mightier Ike -- hits the Houston region? Will it be ready?

This hour, we go behind the scenes of a new investigation to find out.

We also look at how states in the Northeast are dealing with the aftermath of Hurricane Sandy, and prepping for more events like it in the years to come.

GUESTS:

Neena Satija - Investigative reporter and radio producer for The Texas Tribune and Reveal, a public radio program and podcast from The Center for Investigative Reporting and PRX
William Shea - Deputy Commissioner of Connecticut's Department of Emergency Services and Public Protection - Division of Emergency Management and Homeland Security
Rick Bennett - Regional scientist for the U.S. Fish and Wildlife Service, Northeast Region; coordinator of the Service's Hurricane Sandy recovery and resiliency efforts

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March 2, 2016 - Climate Change Should Spur CT to Fast-Track Renewable Energy, Hartford Courant

Climate change is arguably the most pressing issue facing the world. From intense droughts punctuated by short periods of heavy rainfall, to the spread of agricultural pests and parasites, to rising sea levels and the fragmentation of vital ecosystems, there many stories on the woe that freak weather patterns are inflicting, and will continue to inflict. This has dire implications on a global and regional scale, and Connecticut is no exception.

According to "The Impacts of Climate Change on Connecticut Agriculture, Infrastructure, Natural Resources and Public Health," a climate change report from 2010 created by a state government subcommittee, "Most of the agricultural features assessed ... were found to be highly impacted by climate change, and most of these impacts were negative." The report also said that due to warming in lower elevations "maple syrup production in Connecticut may be impossible by 2080," and that by next century the intensity of droughts and precipitation events will significantly increase. The report notes that shellfish will be harmed by rising ocean temperatures, and that due to climate-driven sea-level rise and storm surges, waste runoff and overflows will become more likely to spread pathogens along coastal waters.

The implications for the northeastern U.S. under climate change are clearly challenging. We should take the initiative to tackle climate change immediately, in whatever way we can.

Connecticut can do its part, and help set an example for the rest of the U.S., by fast-tracking renewable energy and minimizing the use of fossil fuels as soon as possible.

According to the U.S. Energy Information Administration, in 2013 natural gas provided the majority of Connecticut's energy, with nuclear power coming in second. Connecticut's use of fossil fuels that year pumped 34 million metric tons of carbon into the atmosphere. This is by no means a good thing.

Connecticut's electricity generation, however, has recently included more renewable sources. Connecticut's renewable portfolio standard requires 23 percent of power in the state to come from renewable sources by 2020. But more can be done: According to the second edition report of Energy Self-Reliant States - a publication from the Institute for Local Self-Reliance in Washington, D.C. - Connecticut has the potential to generate 50 percent to 75 percent of its energy from local renewables, with 22 percent from offshore wind power and 24 percent from rooftop solar.

Granted, this kind of renewable capacity would exist only under ideal conditions in which financial setbacks and problems with infrastructure - not to mention unforeseeable issues with funding or installation - are assumed to be minor. Unfortunately, a lot of renewable energy sources are simply not cost-competitive with dirtier fuels, and the energy return on investment of fossil fuels is higher than that of solar, wind and biofuels, with only hydropower and nuclear energy bringing a better return.

This is why both the state and federal governments should increase their subsidies of renewable energy, as well as invest in renewable energy research, boosting the adoption of cleaner power and promoting the technological innovation necessary to make renewable energy sources - solar in particular, which every year becomes cheaper and cheaper - cost competitive with dirtier fuels, faster.

It is foolish to continue burning fossil fuels at the expense of the world. For a state like Connecticut, which prides itself on its humanitarianism - featuring numerous social programs, one of the best-funded public education systems in the country and a good quality of life for its citizens - it is hypocritical to continue with our current methods of energy production.

February 25, 2016 - The seas are rising fast - and even faster in Mass, Boston Globe

A new study released this week found that the world's oceans rose significantly faster last century than in any of the previous 27 centuries. It also showed levels increasing even faster along the East Coast, including the shores of Massachusetts.

Researchers say they expect sea level rises in our region to continue to outpace other parts of the world.

"There are reasons to think Boston and other areas of New England and along the East Coast will continue to see greater relative sea level rise than the global average," said Andrew Kemp,

an assistant professor in Tufts University's Department of Earth and Ocean Sciences.

"We know there are a lot of processes that are going to make it a lot worse here than other parts of the world," he added.

Kemp and another area researcher, Jeffrey Donnelly of the Woods Hole Oceanographic Institution, in recent years helped study and collect data about how sea levels have risen along the shores of Massachusetts and Connecticut.

Their analysis, along with research by another local scientist, Harvard geophysics professor Jerry Mitrovica, was included in a study published Monday in the Proceedings of the National Academy of Sciences.

That new study, which made headlines, calculated that the global sea level rose by about 5.4 inches between 1900 and 2000. Scientists say the sea level rise is being caused by global warming melting the polar ice caps.

At three sites where data has been tracked in Massachusetts, the sea level rise was higher.

In Barnstable, there was an 11.1-inch increase in sea levels in the 20th century, the study found. In Revere, the water rose 9.3 inches. At Wood Island, it increased by 8.8 inches.

Three other sites in Connecticut all saw sea levels rise by more than 10 inches.

The largest increase was 15.2 inches at a spot in New Jersey. Other parts of the Garden State as well as spots in North Carolina also saw increases larger than the global number.

The findings are similar to previous research that has found sea levels to be rising faster along the East Coast than in other parts of the planet.

So why has the ocean swallowed more of the shorelines here?

"The ocean isn't a bathtub. It doesn't rise equally everywhere," Kemp said.

One key factor is that we're sinking.

"On the East Coast of the US, the biggest change [until about 1850] was that the land was going down rather than the sea going up," said Kemp.

He explained that the massive sheet of ice that covered Canada during the Ice Age was so heavy that it caused the land below it to be pushed downward, which triggered a rise in land in other areas, including New England.

As ice from the Ice Age melted, it reversed that process, and it's still not done. Kemp said land here is still sinking at a rate of about 1 millimeter annually and we can expect that to continue for at least the next 1,000 years.

"The process goes on for thousands of years even after the ice melts away," he said.

Another factor responsible for sea levels rising faster here than in other parts of the world is a slowdown in the Gulf Stream in the Atlantic Ocean.

The Gulf Stream creates a "hill" of water in the Atlantic Ocean that's roughly parallel to the shores of the East Coast. But the Gulf Stream has been slowing down, causing the hill to flatten out, leading to higher sea levels along the Eastern Seaboard, said Kemp.

A third factor is the melting of ice at the top of the world, including places like Greenland. A large ice sheet has a strong gravitational pull and as it melts, it not only adds water to the ocean, but the ice sheet also loses mass. That loss of mass weakens the ice sheet's gravitational pull, causing water to flow away from it, experts say.

"Boston has a lot more to fear than Greenland, which of course is counterintuitive," said Kemp.

The study released this week - which was largely in line with other recent studies on the topic - also projected that by 2100 global sea levels will rise by anywhere from another 11 inches to another 4 feet 4 inches. The increase will depend on how much greenhouse gas emissions, which scientists say cause global warming, can be reduced.

Concern over rising sea levels has spurred cities around the world into action.

Senator Edward J. Markey, a Massachusetts Democrat, said more must be done to cut back harmful emissions and to prepare for the effects of global warming.

"Because of climate change, Massachusetts is already experiencing sea-level rise and stronger storms that flood homes and businesses," he said in a statement.

"Without action, Fenway Park could be Fenway Pond and the Back Bay would go back to being a bay," Markey added. "We need to put in place the laws and policies that dramatically cut carbon pollution and help communities respond to this growing threat."

In Massachusetts, state and local officials, utility companies, and others have taken steps to try to prevent and prepare for impacts from potential flooding, including efforts to shore up coastal areas and dams, review building codes, and measure what would happen to tunnels and other infrastructure under flood conditions.

"Hurricane Sandy was a wake-up call for leaders in Massachusetts, especially in Boston," said Ken Pruitt, executive director of the Environmental League of Massachusetts. "If it had been angled just a little differently, it would have slammed into Massachusetts instead of New Jersey and caused extensive damage."

He pointed out that much of the state's population and infrastructure is situated near the ocean.

"Coastal property is some of the most sought-after in the state," he said. "As sea levels rise, it puts a lot of real estate and people in harm's way."

Pruitt said his organization is one of several urging political leaders to bolster efforts to plan for the future.

"It's no longer a question of if, it's a question of when, and any prudent government needs to start planning for the impacts now."

National News Clips

March 3, 2016 - Rising Seas Pull Fort Lauderdale, Florida's Building Boomtown, Toward a Bust, Inside Climate News

FORT LAUDERDALE, Fla.-Along the canals that slice through downtown Fort Lauderdale, dozens of freshly razed lots sit ready for construction, many nestled next to historic riverfront mansions and yachts bobbing dockside. Cranes and half-built high-rises tower overhead. Everywhere, there are signs that this mid-size city of 170,000 is thinking big.

Mayor Jack Seiler says the goal is to turn Fort Lauderdale into "the city you never want to leave." The population is expected to grow by a third, more than 50,000 people, in the next 15 years. Nearly 5,500 apartments and condos are, or will soon be, under construction and developers are seeking to build another 2,400 units in the next few years. The city processed 26,000 building permits with a construction value of $1.8 billion last year alone.

But as the coastal city's skyline climbs upward, Fort Lauderdale-nicknamed the Venice of America for its 165 miles of canals-is slowly becoming an edifice of risk as climate change lays siege to its shores.

Already, water regularly creeps over sea walls, lapping against foundations every few weeks. When the earth, moon and sun align to drive waters as much as 18 inches above normal, the resulting King Tides inundate whole streets and neighborhoods. The city is racing to put climate resiliency measures in place, but they face a nearly impossible foe.

Mayor Seiler and his city typify the imminent risks much of South Florida faces from global warming.

"We are already experiencing the effects of a changing climate," a coalition of 15 South Florida municipal leaders wrote to Sen. Marco Rubio and former Gov. Jeb Bush last month, urging the state's two then-Republican presidential candidates to pledge firm steps against global warming.

"Sea levels off the coast of South Florida rose about eight inches in the twentieth century. As a result, we have seen more tidal flooding, more severe storm surges, and more saltwater intrusion into aquifers," they wrote. "By 2050, mean sea level around Florida is expected to rise about a foot, a shift which could wipe out as much as $4 billion in taxable real estate in the four-county region of Southeast Florida. At three feet of sea level rise, the loss could total $31 billion, with large sections of the Everglades, the Florida Keys and the Miami metropolitan region under water."

Scientists, city officials, planners and policymakers say that in the coming decades, climate change will impact nearly every aspect of life in Fort Lauderdale and the rest of South Florida, from the price of flood insurance to home values, drinking water supplies, infrastructure, the economy and health.

Continued....

March 3, 2016 - Hell and High Water, Texas Tribune and ProPublica

It is not if, but when Houston's perfect storm will hit.

They called Ike "the monster hurricane."

Hundreds of miles wide. Winds at more than 100 mph. And - deadliest of all - the power to push a massive wall of water into the upper Texas coast, killing thousands and shutting down a major international port and industrial hub.

That was what scientists, public officials, economists and weather forecasters thought they were dealing with on Sept. 11, 2008, as Hurricane Ike barreled toward Houston, the fourth-largest city in the United States and home to its largest refining and petrochemical complex. And so at 8:19 p.m., the National Weather Service issued an unusually dire warning.

"ALL NEIGHBORHOODS, AND POSSIBLY ENTIRE COASTAL COMMUNITIES, WILL BE INUNDATED," the alert read. "PERSONS NOT HEEDING EVACUATION ORDERS IN SINGLE FAMILY ONE OR TWO STORY HOMES WILL FACE CERTAIN DEATH."

But in the wee hours of Sept. 13, just 50 miles offshore, Ike shifted course. The wall of water the storm was projected to push into the Houston area was far smaller than predicted - though still large enough to cause $30 billion in damage and kill at least 74 people in Texas. Ike remains the nation's third-costliest hurricane after Katrina and Superstorm Sandy.

Still, scientists say, Houston's perfect storm is coming - and it's not a matter of if but when. The city has dodged it for decades, but the likelihood it will happen in any given year is nothing to scoff at; it's much higher than your chance of dying in a car crash or in a firearm assault, and 2,400 times as high as your chance of being struck by lightning.

If a storm hits the region in the right spot, "it's going to kill America's economy," said Pete Olson, a Republican congressman from Sugar Land, a Houston suburb.

Such a storm would devastate the Houston Ship Channel, shuttering one of the world's busiest shipping lanes. Flanked by 10 major refineries - including the nation's largest - and dozens of chemical manufacturing plants, the Ship Channel is a crucial transportation route for crude oil and other key products, such as plastics and pesticides. A shutdown could lead to a spike in gasoline prices and many consumer goods - everything from car tires to cell phone parts to prescription pills.

"It would affect supply chains across the U.S., it would probably affect factories and plants in every major metropolitan area in the U.S.," said Patrick Jankowski, vice president for research at the Greater Houston Partnership, Houston's chamber of commerce.

Houston's perfect storm would virtually wipe out the Clear Lake area, home to some of the fastest-growing communities in the United States and to the Johnson Space Center, the headquarters for NASA's human spaceflight operation. Hundreds of thousands of homes and businesses there would be severely flooded.

Many hoped Ike's near miss would spur action to protect the region. Scientists created elaborate computer models depicting what Ike could have been, as well as the damage that could be wrought by a variety of other potent hurricanes, showing - down to the specific neighborhood and industrial plant - how bad things could get.

They wanted the public to become better educated about the enormous danger they were facing; a discussion could be had about smarter, more sustainable growth in a region with a skyrocketing population. After decades of inaction, they hoped that a plan to build a storm surge protection system could finally move forward.

Several proposals have been discussed. One, dubbed the "Ike Dike," calls for massive floodgates at the entrance to Galveston Bay to block storm surge from entering the region. That has since evolved into a more expansive concept called the "coastal spine." Another proposal, called the "mid-bay" gate, would place a floodgate closer to Houston's industrial complex. But none have gotten much past the talking stage.

Continued...

March 2, 2016 - Rethinking Urban Landscapes To Adapt to Rising Sea Levels, Environment 360

Landscape architect Kristina Hill focuses on helping cities adapt to climate change, particularly sea level rise. In an interview with Yale Environment 360, she discusses the challenges, solutions, and costs of saving cities from encroaching oceans.

Sea levels are rising faster than they have in at least 28 centuries, according to recent research, and by 2100, they are expected to rise by one to four feet - possibly even higher. If emissions go unchecked and polar ice sheets melt on a large scale, global sea levels could climb by dozens of feet in the coming centuries. From Shanghai and Mumbai to New York and Buenos Aires, even a few feet of sea level rise threatens to flood homes and highways, inundate sewage treatment plants, and contaminate drinking water.

Landscape architect Kristina Hill argues that cities need to start planning now for impacts that will happen 50 or 100 years in the future. "It takes decades for us to get our act together and build things," says Hill, an associate professor at the University of California, Berkeley. "Future generations won't have the luxury of decades. They're going to be coping with two feet of sea level rise over 25 years, potentially."

Hill advocates blending natural ecosystems and human-made infrastructure to help cities adjust to rising tides. She has studied sea level rise adaptation in Germany and The Netherlands and worked with city governments in New Orleans and Seattle to design water management

systems. Currently, she is developing innovative adaptation strategies for the Bay Area. In an interview with Yale Environment 360, Hill talked about her vision for modifying coastal communities, the limits to adaptation, and the promise of "cyborg landscapes."

Yale Environment 360: From your perspective as a landscape architect, which projections of sea level rise should we be paying attention to as we plan for our cities, and how far out should we be looking?

Kristina Hill: From a very practical perspective, we have to at least look in terms of the horizon in which we borrow money to pay for infrastructure investments. So if we build a new sewage treatment plant, we know it's going to take a hundred years to pay it off. We at least have to make sure that we're planning for what's going to happen during that debt period. That's the minimal responsible behavior. But I have always thought that we have to plan for the upper trend line, because even if that isn't what happens by 2100, it is eventually going to happen. And we owe a big debt to future generations because we have benefited from the use of fossil fuels.

Continued...

February 29,2016 - Preparing for the Inevitable Sea-Level Rise, The Atlantic

Between 1901 and 2010, global sea levels rose an average of 0.19 meters, or roughly seven inches. Over the next century, they'll continue to rise-but at this point, that's one of the few things scientists know for certain. Less understood is how fast they'll rise, or where in the world these changes will be the most pronounced-information that will be crucial in helping coastal communities adapt to climate change.

"This is the burning question," said Andrea Dutton, an assistant professor of geology at University of Florida. "How quickly will the sea levels rise, and by how much?"

To figure it out, Dutton and other scientists across the United States are studying sea-level changes dating back 125,000 to 400,000 years ago, when global mean temperatures were 1.5 or two degrees Celsius higher than they are today. In some cases, the global mean sea levels during these eras peaked at 20-30 feet above present rates.

According to the Intergovernmental Panel on Climate Change (IPCC), the planet is likely to reach those temperatures again by 2100-which means understanding the past millennia could help researchers determine how best to protect vulnerable areas from the rising tides.

The IPCC estimates a maximum 2.69-foot increase over the next hundred years or so, though other estimates are as high as three or four feet. In the meantime, some places have already begun to feel the impact. In southeast Florida, for example, four counties-including Miami Dade and Palm Beach-have formed a coalition called the Southeast Florida Regional Compact to develop strategies for problems like nuisance flooding, land subsidence, and saltwater intrusion into fresh water sources. Similar local efforts are taking place in the communities surrounding the Chesapeake Bay, and in other flooding hotspots around the country.

"People are demanding more regionalized information because local communities are being affected," said Benjamin Kirtman, a professor of atmospheric sciences at the University of Miami. "The regional effects are very tricky, particularly here."

But regional research will have to account for events with global implications:, including the likely eventual break-up, or deglaciation, of the West Antarctic ice sheet and the melting of Greenland. And right now, scientists don't have the data to understand how the changes in these massive ice sheets will affect sea levels worldwide, says Richard Alley, a glaciologist at Pennsylvania State University.

Continued...

February 28, 2016 - As sea levels rise, economic damage piles up even faster: study,

Reuters

As sea levels rise, threatening cities from New York to Shanghai, the economic damage will increase even faster, scientists said on Monday.

Extreme floods whipped up by storms will become ever more costly for cities as ocean levels edge up around the world's coasts in coming decades, they wrote in a study that could help guide governments budgeting to protect everything from buildings and basements to metro systems.

"The damage from sea level rise rises faster than sea level rise itself," co-author Juergen Kropp, part of a team at the Potsdam Institute for Climate Impact Research, told Reuters of the findings.

For the Danish capital Copenhagen, for instance, a moderate sea level rise of 11 cm (4 inches) by 2050 from 2010 levels would cause about a billion euros ($1.1 billion) a year in extra damage if no protective action is taken, the study estimated.

But the costs would quadruple to 4 billion euros if the rate of sea level rise roughly doubles to 25 cm by 2050, in line with the worst scenarios projected by a U.N. scientific panel, they wrote in the journal Natural Hazards and Earth System Sciences.

World sea levels are creeping higher, the U.N. panel says, partly because global warming is adding water to the oceans by melting glaciers from the Andes to the Alps and parts of vast ice sheets on Greenland and Antarctica.

The Potsdam scientists said that mathematical models they developed to estimate rising costs would work around the world. "You can apply it in Tokyo, New York or Mumbai," Kropp said.

The exact costs of sea level rise, which could in the worst case reach about a meter by 2100, are extremely uncertain.
One study in 2014 estimated it could cost anywhere from 0.3 percent to 9 percent of world gross domestic product a year by 2100.

Continued...

February 23, 2016 - Scientists Are More Confident Than Ever In Troubling Sea Level Rise Projections, Climate Progress

Charles Warsinske has a daunting and unusual task for a city planner: move a town out of the way of climate change.

"If you think about it too long it's somewhat overwhelming," said Warsinske, manager of the Quinault Indian Nation Community Development Planning Department. "It seems like the climate change thing is certainly on everybody's minds right now and it's a very, very complicated thing."

For the Quinault Nation, which has lived next to the Quinault River and the Pacific coast just west of Seattle for generations, climate change raises more issues than for most communities. Their culture and economy depend on the bounty of the land, forests, rivers, and oceans that are behaving as differently as any tribal elder can remember. The glaciers that feed the rivers and support the salmon population - so integral to their livelihood - are disappearing. Forests on tribal lands are changing, too, as invasive species threaten critical resources.

What's more, the waters that feed this ancient tribe have become unusually violent. In fact, intensified storms associated with human-caused climate change have brought the Pacific Ocean and the Quinault River over their seawalls recently with such force that tribe officials issued a state of emergency in March of 2014. They issued another the following January.

"With the thermal expansion of the ocean, with the warmer temperatures, and so on ... we are experiencing flooding," Warsinske told ThinkProgress. They are also "experiencing a lot of erosion along the shorelines and that hasn't happened before," he said.

In response to these threats, officials started reviewing earthquake, tsunami, and climate studies, including sea level rise projections. Soon after, the tribe understood that Taholah, the reservation's main population center, didn't stand a chance against rising waters. This is how an ambitious plan to move some 700 people half a mile up the hill in the next two decades came to be. That means moving not just homes, but also police and fire stations, a school, administrative buildings and businesses - as well as all the infrastructure that comes with it.

Moving the town was an "extremely difficult" and costly decision to make, Quinault President Fawn Sharp told ThinkProgress. But there was no other option. The signs and dangers of coastal erosion, unprecedented tidal surges, and sea level rise were on their doorsteps in the most literal way.

"We are looking at 300 to 400 million dollars for all the infrastructure and buildings," said Warsinske, noting they are pursuing every funding stream and grant they can think off to gather the money they need.

Continued...

February 22, 216 - Most U.S. Flooding Linked to Climate Change, Bloomberg Business

U.S. coastal cities are flooding more often, and we have no one to blame but ourselves. That's because two-thirds of floods since 1950, measured at 27 tidal gauges around the country, might not have spilled over without a push from manmade climate change, according to a new report by the research-and-news nonprofit Climate Central.

The study is based in part on a new scientific article, published simultaneously in the Proceedings of the National Academy of Sciences (PNAS), which shows that the current pace of global sea-level rise is faster than it's been in at least 3,000 years.

"Sea-level rise caused by humans is already tipping the balance for most coastal floods today," said Benjamin Strauss, a Climate Central vice president responsible for its rising-seas research, "and we're only inches into a problem that is going to grow by feet."

Strauss co-authored the Climate Central report with three others, including Robert Kopp, a Rutgers climate scientist who also led the PNAS study. Kopp's study is noteworthy because it assembled for the first time a running 3,000-year global average of sea-level rise. Without manmade warming, Kopp estimates the global average sea-level would have risen less than 51 percent of the observed 20th-century rate of 5.4 inches.

To translate the above into a National Football League metaphor: We are just a minute or two into the first quarter of global warming.
The PNAS team, which includes scientists from the U.S., Germany, Singapore, and the U.K., built their global picture from two dozen studies of local sea-level rise going back three millennia, plus 66 tide-gauge records going back to 1700. Their results refine and bring more urgency to projections of the risk cities may face this century. The geography of this risk was illustrated in a previous collaboration between Kopp, Strauss and others:

If the first two studies weren't enough, PNAS published yet another breakthrough study about rising seas today. Led by two scientists from the Potsdam Institute for Climate Impact Research, the report estimates the oceans will swell about a meter by the end of the century if nothing is done to stop climate change. The Potsdam research takes a different approach from Kopp's for projecting the threat to coasts, but arrives at roughly the same conclusion. In the worst-case scenario-which is pretty horrendous-sea level rise will stay below 1.5 meters, said Anders Levermann, a Potsdam climate scientist. That's more than 10 times what the 20th century brought.

Continued...

February 22, 2016 - Vanishing Tribe: Coastal erosion threatens survival of Biloxi-Chitimacha-Choctaw, WDSU News

TERREBONNE PARISH, La. -Residents of the tiny Terrebonne Parish community of Isle de Jean Charles face a real dilemma. Coastal erosion already threatens to swallow what's left of their island home, and a massive hurricane protection project planned for the area will ultimately leave residents on the outside looking in.

Going back generations, the island has been home to a mixed Cajun and Native American population, Biloxi-Chitimacha-Choctaw. Now down to just a handful of families, their history and heritage hang in the balance. The federal government has put up more than $50 million to help them relocate. But many of them don't want to move and are prepared to stand their ground.

Traditional Chief Albert Naquin, of the Isle de Jean Charles Band of Biloxi-Chitimacha-Choctaw Indians, remembers the island as a child.
"A way of life did disappear," he laments. "There used to be a lot of trees. Like I say, I could leave from my house where they had trees, and I could walk in the trees all along here and nobody would see me."

Continued...

February 22, 2016 - Seas Are Rising at Fastest Rate in Last 28 Centuries, The New York Times

The worsening of tidal flooding in American coastal communities is largely a consequence of greenhouse gases from human activity, and the problem will grow far worse in coming decades, scientists reported Monday.

Those emissions, primarily from the burning of fossil fuels, are causing the ocean to rise at the fastest rate since at least the founding of ancient Rome, the scientists said. They added that in the absence of human emissions, the ocean surface would be rising less rapidly and might even be falling.

The increasingly routine tidal flooding is making life miserable in places like Miami Beach; Charleston, S.C.; and Norfolk, Va., even on sunny days.

Though these types of floods often produce only a foot or two of standing saltwater, they are straining life in many towns by killing lawns and trees, blocking neighborhood streets and clogging storm drains, polluting supplies of freshwater and sometimes stranding entire island communities for hours by overtopping the roads that tie them to the mainland.

Such events are just an early harbinger of the coming damage, the new research suggests.

"I think we need a new way to think about most coastal flooding," said Benjamin H. Strauss, the primary author of one of two related studies released on Monday. "It's not the tide. It's not the wind. It's us. That's true for most of the coastal floods we now experience."

In the second study, scientists reconstructed the level of the sea over time and confirmed that it is most likely rising faster than at any point in 28 centuries, with the rate of increase growing sharply over the past century - largely, they found, because of the warming that scientists have said is almost certainly caused by human emissions.
They also confirmed previous forecasts that if emissions were to continue at a high rate over the next few decades, the ocean could rise as much as three or four feet by 2100.

Continued...

February 18, 2016 - Kiribati president: Climate-induced migration is 5 years away, Climate Home

Islanders will start leaving Kiribati in 2020 as rising seas make life too difficult, according to its president Anote Tong.

The government has built coastal walls and floating islands but they won't be enough to stop emigration, he told a climate change meeting in Wellington, Radio New Zealand reported on Tuesday.

"People are getting quite scared now and we need immediate solutions. This is why I want to rush the solutions so there will be a sense of comfort for our people," Tong said.

Kiribati, a string of 33 coral atolls dotted around the international dateline in the Pacific, purchased land on nearest neighbour Fiji in 2014. It's a three-hour flight away from overcrowded capital Tarawa.

The move drew international publicity, with Tong boosting his profile as a defender of countries on the front line of climate change.
Tong's twelve-year rule will come to an end this year as he steps down after a third term. He said the land purchase had met criticism, but it meant security for islanders in the long-term.

The people of Kiribati, which is largely dependent on foreign aid, had to prepare to "migrate with dignity," he told delegates in Wellington.
Aside from climbing sea levels, extreme storms and acidifying oceans threaten the reef atolls in decades to come.

Greg Stone, chief ocean scientist at NGO Conservation International and Tong's science advisor at last year's Paris climate summit, said brackish water destroying crops was another key driver.

"The freshwater table is the thing people don't think about. For every inch of sea-level rise, you lose 10 square feet of arable land. It seeps into the soil."

But in the face of mass relocations, Fiji's help offered reassurance, Stone said: "The Fiji government is the first nation to say if you need a place to live, you can come and live here."

Announcements

CIRCA Blog Posted: **Old Saybrook Committee Recommends Adapting, Mitigating, and Retreating When It Comes to Addressing the Impacts of Sea Level Rise and Climate Change**

By Maya Thompson, 2015-2016 CIRCA Undergraduate Intern

In May 2014, the Old Saybrook Board of Selectmen established the Town's Sea Level Rise and Climate Adaptation Committee (SLRCAC). It was comprised of residents concerned about the growing impacts of sea level rise. The Committee, which met bi-weekly for 18 months, formally issued its Report of Findings to the Board of Selectmen on January 12, 2016. In developing its many recommendations to address sea level rise, the SLRCAC considered three general categories of actions:

- "to adapt - accommodate these natural, dynamic processes"
- "to mitigate - reduce impacts where feasible or prudent; or, as a last resort"
- "to retreat - abandon areas permanently flooded or where the cost of adapting or mitigating is too high."

The Committee also suggested initiatives for immediate action including:

- Charging a new group to continue the work of the Committee and monitor changes to sea level rise forecasts
- Engaging a consulting firm for costal resilience planning
- Considering sea level rise and climate change in long-range and current planning, including the natural hazard mitigation plan update and the plan of conservation and development
- Budgeting for design and construction of physical solutions
- Continuing to keep sea level rise and climate change on the front burner of community dialog

When I began my undergraduate student internship with the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) in the summer of 2015, I was tasked with following the work on the SLRCAC to learn about Old Saybrook's process for addressing the impacts of climate change and sea level rise. I interviewed Sandy Prisloe, the Environmental Planner for Old Saybrook, in July 2015 to learn more about the Committee's work. The following blog describes what I learned about how the Committee came to the conclusions in its Report of Findings.

Continued...

ASFPM Riverine Erosion Hazards White Paper released February 2016 by the ASFPM Riverine Erosion Hazards Working Group

Despite billions of dollars being spent on flood control strategies and mitigation, and continuing efforts to educate the public about flood hazards, flood losses continue to increase. One reason is well known continued development in and around floodplains. Another reason is that most of the effort to curb flood loss has been directed at inundation, leaving initiatives to mitigate the significant damage to infrastructure from riverine erosion on the sidelines.

The main purpose of this **White Paper** is to encourage state and local governments to begin mapping riverine erosion hazard areas in their communities. The mapping should be carried out using methodologies that they feel are appropriate for their specific conditions and at a level of detail that meets their specific requirements. This White Paper looks into the successes and challenges of this approach, and offers 11 recommendations.

March 8, 2016 - "Strategies for a diverse and vibrant Newport Harbor," 2016 Coastal Perspective Lecture Series

UConn, Avery Point. 7:30pm, 2nd floor Academic Building.
2016 Coastal Perspective Lecture Series
University of Connecticut, Avery Point

Tuesday, March 8th, 7:30 p.m. "Strategies for a diverse and vibrant Newport Harbor"

By Tanya Kelley
Landscape Architect of Place Studio in Newport, RI

Newport's waterfront serves millions of people each year from land and sea. Year-round residents, the yachting and recreational boating community, tourists, day trippers, and summer visitors from the region enjoy the diverse activities offered in the City. While the Cliff Walk is a well-known destination for residents and visitors to Newport, the Newport Harbor Walk is not as well developed or marketed. Over the past thirty years, a number of partners have worked collaboratively to chart a future course for public access to Newport's waterfront. What they didn't know until recently was increased flooding along the waterfront would change the way we think about function of public space. This talk will focus on some of the efforts made in the past

to amplify the Harbor Walk as a public amenity and what the next thirty years may look like for this series of connected public spaces.

Biography:
Tanya Kelley is a designer with thirty years of experience, including projects that have been recognized for design excellence from professional organizations and civic agencies. Her work has been featured in national publications, including the New York Times. Tanya is the founder and Principal of Place studio Landscape Design in Newport, RI. She is currently designing the Newport Opera House Roof Garden among other residential and institutional projects. She received a Bachelor of Science in Landscape Architecture from the City College of New York and a Masters in Landscape Architecture from The Rhode Island School of Design and currently teaches in the Landscape Architecture Department at the University of Rhode Island.
Lecture series is FREE and open to the public. Lectures begin at 7:30 p.m., with light refreshments at 7:10.

Please join us in our newly renovated 300-seat auditorium for the 20th Annual Coastal Perspectives Lecture Series. The auditorium is located on the second floor of the Academic Building (disabled accessible). Enter through the Academic Building or through the Student Center. There is a limited-capacity elevator on the first floor of the Academic Building. Please call us with your questions, or concerns, on the limited-mobility access points to the auditorium at 860-405-9025, or email Noreen.blaschik@uconn.edu.

This series is sponsored by UCONN Avery Point, the Connecticut Sea Grant College Program, the Department of Marine Sciences, UCONN and the Maritime Studies Program, UCONN. For more information, a printable lecture flyer, or a campus map, visit our website at http://marinesciences.uconn.edu/lectures/ or email CoastalPerspectives@uconn.edu.
To be added to or removed from our listserv, send an email to CoastalPerspectives@uconn.edu.

March 10, 2016 -
Free Webinar presented by CLEAR and CIRCA on Living Shorelines in Connecticut: Design Considerations and Site Suitability. Register here.

An increasing awareness of the need to reduce the potential adverse impacts of hardened coastal structures has prompted interest in the development of living shorelines as an alternative. This webinar will review of the benefits of living shorelines in comparison with traditional hardened shoreline protection structures, including non-structural and hybrid approaches, and describe the effectiveness of these approaches in response to waves, storms and sea-level rise. The webinar will also explore where living shorelines may be suitable on the Connecticut Coast based on an automated geospatial model which determines the suitability of living shoreline treatment options for the Long Island Sound shoreline. Factors such as fetch, bathymetry, erosion rates, marsh, and beach are taken into consideration in producing site suitability. This presentation will provide a brief overview of the site suitability model, as well as a tutorial of an online map-viewer which has been developed to display results from the analysis. A brief overview of the conference proceedings from the first-ever national living shorelines summit in Hartford, which drew nearly 300 researchers, government employees, engineers, students and others, will be provided.

March 15, 2016 - Next review date for CIRCA Matching Funds Program. Up to $100,000 available. For more information go to http://circa.uconn.edu/funds.htm

The CIRCA Executive Steering Committee is excited to announce its fifth round of funding under the Matching Funds Program - up to $100,000 is available. CIRCA will consider requests from Connecticut municipalities, institutions, universities, foundations, and other non-governmental organizations for matching funds for projects that address the mission of the Institute. To be funded, a successful Matching Funds request must have a commitment of primary funding within 6 months of the CIRCA award announcement, or have received a waiver from the CIRCA Executive Steering Committee. CIRCA Matching Funds will provide up to 25%

of the primary funder's contribution other than municipal or State of Connecticut funds to enhance the likely success of project proposals that advance CIRCA research and implementation priorities. In evaluating proposals preference will be given to those that leverage independent funding awarded through a competitive process.

March 15, 2016 -FY2016 FEMA Flood Mitigation Assistance and Pre-Disaster Mitigation Assistance Grant Opportunity Open. Applications due to the state by April 29.

FY 2016 Grant Opportunity Announcement
Flood Mitigation Assistance (FMA) and Pre-Disaster Mitigation (PDM)

Application period: 3/15/2016 - 4/29/2016. Sub-applications must be received by the state via e-grants no later than 3pm on April 29, 2016. Paper or email applications cannot be accepted.

All Sub-Applicants applying for FMA must have a FEMA approved local hazard mitigation plan in place no later than April 29th to be eligible to apply for project funding.

To Apply: Eligible applicants must apply for funding through the Mitigation e-Grants system on the FEMA Grants Portal, accessible at https://portal.fema.gov

Applications for funding are reviewed on a nationally competitive basis and there are limited funds available for these programs. Applications whose main focus is in line with Federal priorities have the best chance of being funded.

Pre-Disaster Mitigation (PDM):
Eligible Sub-Applicants:
State and Local Governmental Agencies
Indian Tribal Governments
Eligible Activities:
Mitigation Planning

Priorities:
1. Multi -Jurisdictional Local Natural Hazard Mitigation Plans (NHMP's). Up to $300,000 can be awarded per multi NHMP.
2. Single-Jurisdictional Local Natural Hazard Mitigation Plans (NHMP's). Up to $150,000 can be awarded per single jurisdictional NHMP.

For more information about e-Grants, go to:
http://www.fema.gov/mitigation-egrants-system-0

Flood Mitigation Assistance (FMA):
Provides funds to eligible sub-applicants to reduce or eliminate risk of flood damage to buildings insured under the National Flood Insurance Program (NFIP). Federal priorities are to mitigate severe repetitive loss (SRL) and repetitive loss properties (RL).

Eligible Activities Include:
Property acquisition and Structure Demolition
Structure Elevation
Dry Flood-proofing (Non-residential and Historic residential structures only)
Minor Localized Flood Reduction Projects (that primarily benefit NFIP insured structures)
Mitigation Re-construction

Further information on FMA and PDM can be found on www.grants.gov

For FMA please contact Emily Pysh, State Hazard Mitigation Officer, emily.pysh@ct.gov
For PDM please contact Gemma Fabris, Deputy State Hazard Mitigation Officer, gemma.fabris@ct.gov

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March 15 - New England Grassroots Environment Fund Grow Grants Applications due .

Grow grants are geared to established groups who are ready to expand the scope of their work. Grow groups often have 1+ year experience running community projects and are ready to take on (pieces of) local system strategy around their issue. Grants are intended to support community groups who represent the most exciting energy in the environmental movement that are not being reached by traditional funders. The Fund interprets the word 'environment' broadly and will provide funding for a wide range of activities. Whole systems-thinking is critical to initiatives focused on making our environment better, healthier and more sustainable. Examples of Grow grant projects include:

- a community garden looking to initiate a food policy council and take on food security challenges in their community;
- a local energy committee planning to implement a community-wide energy plan;
- a sustainability committee establishing a time trade effort to support local resources.

March 17, 2016 - Connecticut Association of Wetland Scientists Annual Meeting. For more information go to http://www.ctwetlands.org/annualmeetings.html

The Connecticut Association of Wetland Scientists is hosting their annual meeting on March 17, 2016; this all-day event includes continental breakfast and lunch, exhibitors on site with products and services of interest to wetland professionals, and multiple speakers and presentations concerning wetland ecosystems and land development.

March 19, 2016 - 32nd Annual Land Conservation Conference.
http://www.ctconservation.org/2016-conference

Held every Spring, the Connecticut Land Conservation Conference (Annual Conference) is the largest conservation gathering and only convocation of its kind in Connecticut. Attracting over 300 attendees annually - and growing in size each year - the Annual Conference provides dynamic training, networking and information sharing opportunities for board members, staff and volunteers from Connecticut's many land trusts and conservation organizations, as well as a broad spectrum of people involved with municipal land use commissions, state agencies, private groups with conservation missions including enthusiasts from garden clubs and various grassroots-level land preservation advocates.

The Annual Conference features an inspiring opening plenary session, including an awards ceremony recognizing outstanding achievements in conservation by organizations and individuals; multiple subject matter tracks featuring 30+ workshops, roundtables and seminars on a range of topics of interest to the conservation community; exhibits and displays from land trusts, conservation partners and conference sponsors; and a unique opportunity for socializing and networking, including a post-conference reception, with land conservation peers from across the state and beyond.

March 31, 2016 - Urban Planning in the Age of Climate Change: Symposium sponsored by UConn Urban and Community Studies Program. Free and open to the public.

12pm-2:30pm
UConn Greater Hartford Campus
School of Social Work Building
Zachs Community Room
Trout Brook Drive/Asylum Avenue, West Hartford, CT

Keynote:

Karl-Ludwig Scheibel, Senior Fellow climate Alliance of European Cities

Panel:

Rebecca A. French, Ph.D., Director of Community Engagement, UConn Connecticut Institute for Resilience and Climate Adaptation

Brian Garcia, MBA, MPA, MEM, President and CEO Connecticut Green Bank

Robert Klee, Ph.D,, J.D. Commissioner Department of Energy and Environmental Protection

Lynn Stoddard, MCP, Director, Institute for Sustainable Energy, Eastern Connecticut State University

Moderator: Donald Poland, Ph.D., AICP

April 4-6, 2016 - Local Solutions: Eastern Regional Climate Preparedness Conference, Baltimore, MD

Join us in Baltimore's Inner Harbor April 4-6, 2016, for the Local Solutions: Eastern Regional Climate Preparedness Conference. This capacity-building, "how to" conference, convened by Antioch University's Center for Climate Preparedness & Community Resilience in partnership with the U.S. Environmental Protection Agency (EPA), is designed to build capacity for local decision makers from throughout the Eastern United States (EPA Regions 1-4). The convening builds on the success of the May 2014 Local Solutions: Northeast Climate Change Preparedness Conference, which drew more than 500 participants from Washington, D.C., to Canada's eastern provinces.

April 6, 2016 - NOAA funding opportunity for community habitat restoration. Application due April 6, 2016

NOAA has released a Federal Funding Opportunity (FFO), seeking proposals to restore habitats critical to Listed or Managed Species or their prey and all proposals that ensure healthy habitats for forage and juvenile fish will be considered. NOAA Fisheries promotes a holistic, landscape-scale approach to resource management in a changing climate. Proposed habitat restoration actions may also increase the resilience of coastal communities by providing important ecosystem services such as protection from coastal flooding, extreme weather events, and coastal erosion.

- High priority will be given to proposals that fulfill the following NOAA programmatic goals:
- Have the greatest potential to contribute to the recovery of Listed Species under NOAA jurisdiction, including those species designated by NOAA as Species in the Spotlight, through habitat restoration project(s) that are consistent with priority habitat restoration actions identified in Recovery Plans;
- Have the greatest potential to enhance or sustain populations of Managed Species or their prey, specifically through project(s) that restore or enhance Essential Fish Habitat or address actions supported by Fishery Management Plans;
- Provide sustainable and lasting ecological and economic benefits that enhance the resiliency of communities to severe weather events and changing conditions as a result of climate change;

- Restore critical habitat within NOAA Blueprint Habitat Focus Areas, where habitat restoration is a key strategy in achieving the goals of the Habitat Focus Area (http://www.habitat.noaa.gov/habitatblueprint/);

- Increase the amount of habitat accessible to diadromous species through dam and other instream migration barrier removal projects in high priority watersheds in the Northeast, as identified by the Restoration Center's regional fish passage prioritization; more information on Northeast regional fish passage priority watersheds can be found here (http://www.habitat.noaa.gov/funding/applicantresources.html).

One-year or multi-year awards up to three funding years will be considered, and additional releases of funds may be used to fund selected proposals through FY18 without further competition. NOAA anticipates typical federal funding awards will range from $300,000 to $2 million over one to three years. NOAA will accept proposals with a federal funding request of $100,000 or more up to $5 million over three years. NOAA anticipates up to $9 million will be available under this FFO in FY16.

Applicants with multiple-year award requests should divide their funding request into logical allocations by consecutive years, based on their project implementation plan. For instance, a proposal request might include design costs in year one and estimated construction costs needed in year two. Another example would be a proposal that requests construction costs for distinct sites in each of three years. If multiple restoration sites are included within one proposal, applicants are encouraged to develop a comprehensive approach for restoration which links proposed sites and restoration activities by habitat-based issue or proposed target species and outcome goals.

There is no matching requirement for this funding, although NOAA typically leverages its federal funding with matching contributions from a broad range of sources in the public and private sectors to implement coastal and marine habitat restoration. Applicants are encouraged to demonstrate partnerships and some portion of non-federal match (suggested at 1:1) with NOAA funds requested to implement the proposed project.

April 10-13, 2016 - Keeping History Above Water conference in Newport, RI.

Keeping History Above Water is a national conversation that focuses on the increasing threat of sea level rise to historic coastal communities and their built environment. Over four days, specialists from across the United States and abroad will share experiences, examine risks, and debate solutions with an emphasis on case studies and real world applications. Keeping History Above Water will approach sea level rise from a multi-disciplinary perspective in order to develop practical approaches to mitigation, protective adaptation, and general resilience.

April 15, 2016 - **Our Changing Climate - Its Impacts on the Economy and the Way We Live: A Symposium** sponsored by Rockfall Foundation, UConn CLEAR, Connecticut Sea Grant, UConn Extension, Middlesex Community College

It's not just sea level rise and coastal flooding. Our changing climate affects all aspects of our lives - our infrastructure, our farms, the wildlife around us, our leisure activities, the tourist attractions that draw people to our towns and our businesses, and more. The direct effect and the ripple effects of our changing climate impact our economy and the way we live. We need to think about how we build our roads and how we design our drainage, about the vegetables we buy from our local farms and the animals we find in our backyards, about our tourist attractions and the businesses the tourists frequent. Come learn more about the issues and how to deal with them.

Early Registration (until March 15): $40
Regular Registration: $45
Student Registration: $20

Optional Lunch: $15
AICP CM Credits Pending
Or Register at www.rockfallfoundation.org
Questions? Please contact Tony Marino at The Rockfall Foundation
tmarino@rockfallfoundation.org or 860.347-0340

April 15, 2016 - CIRCA Municipal Resilience Grant Program Round 2: Applications due April 15, 2016.

Up to $100,000 available. http://circa.uconn.edu/funds-muni.htm

The Connecticut Institute for Resilience and Climate Adaptation (CIRCA) is a partnership of the University of Connecticut and the Connecticut Department of Energy and Environmental Protection. The mission of CIRCA is to assist Connecticut towns and cities adapt to a changing climate and to enhance the resilience of their infrastructure.

CIRCA is requesting grant proposals from municipal governments and councils of government for initiatives that advance resilience, including the creation of conceptual design, construction (demonstration projects or other) of structures, or the design of practices and policies that increase their resilience to climate change and severe weather. This program is focused on implementation. The CIRCA Executive Steering Committee has made up to $100,000 in funds available to municipal governments and councils of government for the execution of resilience initiatives.

Project proposals should develop knowledge or experience that is transferable to multiple locations in Connecticut and have well-defined and measurable goals. Preferable projects will be implemented in no more than an 18-month time frame. Preference will also be given to those projects that leverage multiple funding sources and that involve collaboration with CIRCA to address at least one of the following priority areas:

1. Develop and deploy natural science, engineering, legal, financial, and policy best practices for climate resilience;

2. Undertake or oversee pilot projects designed to improve resilience and sustainability of the natural and built environment along Connecticut's coast and inland waterways;

3. Foster resilient actions and sustainable communities - particularly along the Connecticut coastline and inland waterways - that can adapt to the impacts and hazards of climate change; and

4. Reduce the loss of life and property, natural system and ecological damage, and social disruption from high-impact events.

Information on past grant recipients is available at: http://circa.uconn.edu/recipients-muni.htm.

Eligible Applicants
All Connecticut municipalities and councils of government are eligible to apply. Partnerships are encouraged.

Proposal Deadline
An original and complete application must be received no later than April 15, 2016 by 5:00 PM.

Application materials can be found on the CIRCA website: **http://circa.uconn.edu/funds-muni.htm**.

CIRCA will host an informational webinar on March 17, 2016 at 11:00 AM. Please see the Municipal Resilience Grant Program webpage for registration details.

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The *Resilience Roundup* highlights CIRCA's presence in the news, provides links to recent local/state/national news articles related to resilience and adaptation, and announces upcoming events and seminars.

The Connecticut Institute for Resilience and Climate Adaptation's (CIRCA) mission is to increase the resilience and sustainability of vulnerable communities along Connecticut's coast and inland waterways to the growing impacts of climate change and extreme weather on the natural, built, and human environment. The institute is located at the University of Connecticut's Avery Point campus and includes faculty from across the university. CIRCA is a partnership between UConn and the Connecticut Department of Energy and Environmental Protection (CT DEEP).

circa.uconn.edu

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