
Livable Places Update

Emerging Trends in Community Planning and Design

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Turning Bad Weather Into Good Planning: Local Leaders Respond to Increasing Extreme Weather Events: From coast to coast, America's weather has been bad - extremely bad - over the last two years. In fact, 2012 was the nation's second-worst year on record for extreme weather - heat, drought, wildfires and floods - and its average temperatures made it the hottest year on record. Nationwide, the extreme weather events communities experienced were more frequent and more severe.

This year hasn't been very encouraging either, with record storms and snowfall in the Northeast and Midwest, drought in the West, the massive tornado in Oklahoma, destructive wildfires in Arizona and California, and extensive flooding in Colorado.

The environmental destruction has devastated the lives of communities and their residents, damaging health, quality of life and economic well-being.

In 2012 alone, extreme weather and natural disasters cost the American economy more than \$100 billion.

This demonstrable increase of extreme weather events is linked to climate change, says a recent study from NOAA and the United Kingdom's National Weather Service, which found that half of last year's extreme weather were due in part to climate change.

According to the study, climate change helped raise the temperatures during the run of 100°F days in last year's heat wave, and fueled the devastating storm surge of Hurricane Sandy. Heat waves, like the one that scorched the Midwest and Northeast last summer, are now four times as likely because of climate change.

The findings reflect scientists' growing confidence in attributing single weather events to climate change.

In addition, there is compelling evidence that "human caused climate change was a factor contributing to the extreme events," said Thomas Karl, the National Climatic Data Centre's director.

This connection was highlighted in the Intergovernmental Panel on Climate Change (IPCC) report released last week, "It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century."

Public Support Gets Hotter: In physics and in politics, every action requires a corresponding reaction, with swift responses at the national, state and local level becoming increasingly imperative to improve community resilience to climate impacts.

Californians are increasingly demonstrating support for practical strategies to combat climate change. A large majority (79%) now believe global warming is happening, and 6 in 10 want more action by the governor, state legislators and local officials, a recent poll (Yale Univ.) discovered. And in large numbers, they also think businesses (73%) and the public (70%) should be doing more to help solve the problem.

At the state level, the California Air Resources Board is updating the AB 32 Scoping Plan (a preliminary draft is expected in late-September). The California Natural Resources Agency is revising the California Climate Adaptation Strategy, with a public-comment draft slated for the end of the year.

Meanwhile, in Washington, a new federal initiative focuses on reducing carbon pollution from power plants, accelerating clean energy leadership, building a 21st-century transportation sector, cutting energy waste, reducing greenhouse gas emissions, and building climate resiliency.

Regional efforts are also taking shape in California. Formed in early 2012, the Alliance of Regional Collaboratives for Climate Adaptation (ARCCA) is working to prepare California's urban centers for the emerging impacts of climate change, including extreme storm events, heat waves, droughts, and sea level rise. ARCCA currently brings together four collaboratives - from San Diego, Los Angeles, the Bay Area and Sacramento - to coordinate and support local partners in projects that enhance public health, protect natural systems, build economies, and improve the quality of life.

Many existing hazards and threats require regional planning and cooperation to ensure that the communities in the area make the most of opportunities to reduce risk while minimizing the money needed to mitigate and adapt to climate change.

Local governments will need many partners to maximize their communities' ability to effectively adapt to changing environmental conditions and more quickly recover from severe weather and natural disasters. Coordination between government agencies, businesses and non-profit organizations can save money, leverage scarce planning assets, and help local governments better access state and federal funding.

Local governments are on the front line when it comes to reducing greenhouse gas emissions and climate change impacts.

The LGC's Ahwahnee Principles for Climate Change provide one set of practical steps that communities can take to help address this urgent challenge.

Across the country, local and regional officials are implementing effective measures to create more resilient communities and prepare for climate change and energy challenges, and turn adversity into economic opportunity.

Local Governments Respond: Local communities in the San Diego area have shown leadership to respond and adapt to regional climate impacts, including increases in heat waves, wildfires, drought and coastal flooding - and beach erosion due to sea-level rise that threatens coastal property, tourism and public safety.

In 2012, one of the nation's first regional approaches to sea level rise - the Sea Level Rise Adaptation Strategy for San Diego Bay - was developed to provide a vulnerability assessment and recommend resilience strategies.

One innovative City project in San Diego will restore 1.4 million cubic yards of beach sand, the equivalent of about 280,000 dump truck loads. Besides the environmental benefits, this new sand will generate \$35 million in recreational and tourism benefits, and save another \$40 million in prevented storm damages.

Two years ago, Chula Vista - the San Diego region's second-largest city - approved Implementation Plans for 11 Climate Adaptation Strategies, which are being phased in through 2014. These adaptation strategies primarily leverage existing municipal programs and policies to reduce implementation costs and "institutionalize" climate resilience. To date, over 95% of Chula Vista's strategies and their 57 implementation components are completed or are being actively pursued.

Some of Chula Vista's first climate-adaptation programs feature a grading ordinance to accommodate 50 years of sea level rise, a shade tree mandate of 50% shade cover in parking lots to combat heat islands, a resilient design and construction policy in its Housing Element, increased public education and air-quality alerts, and inclusion of extreme heat events in its Emergency Operations Plan and Multi-Jurisdictional Hazard Mitigation Plan.

The City has also completed (or is in the process of developing) standards, incentives and outreach programs on cool roofs and cool paving, water reuse, stormwater pollution prevention, open space management, wetland preservation and green business support.

Taking the First Steps Towards a More Resilient Community: Many local and regional efforts have effectively started down the path towards resiliency by compiling current research on local climate impacts and starting a regional dialogue among stakeholders that represent critical sectors and populations affected by climate change.

Practical tools are available to help communities start a regional dialogue about climate impacts at no charge.

The Pacific Institute provides maps on coastal flood risk and erosion hazard zones - key impacts featured include population and property at risk, miles of vulnerable roads and railroads, vulnerable power plants and wastewater treatment plants, and wetland migration potential.

The State of California's Cal-Adapt identifies regional climate impacts on temperature, snow pack, precipitation, sea level rise and wildfire. This data will need to be refined for making local decisions about individual projects. Nevertheless, these wider snapshots help identify all of the stakeholders who should be at the table, and can also suggest where further research might be needed.

Once a community is ready to take action, the California Climate Adaptation Planning Guide provides a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development.

The Local Government Commission has worked in the Fresno, San Luis Obispo and Sacramento regions to bring diverse, multi-sector stakeholders together to develop comprehensive strategies that address a wide range of needs and concerns.

These conversations illustrate the connectedness of climate impacts and the need to have corresponding strategies. For example, greening efforts to combat heat-island effects should align with water conservation efforts; and renewable energy efforts must consider energy reliability to residents and businesses and effects on wildlife habitats and other natural systems.

By engaging a wide range of decision-makers early in the planning process, potential unintended consequences can be identified and resolved.

We've also found that the level of awareness of climate change impacts and the degree of preparation vary immensely among cities, agencies and departments within a region. Creating a regional dialogue can begin to highlight existing resources and gaps to target limited resources most effectively.

To reach a positive tipping point in our efforts to mitigate and adapt to climate change, we will need leadership at all levels of government. Local leaders are particularly well-positioned to assess community needs and opportunities and to pilot innovative climate responses.

The leadership that California cities and counties have shown through the Cool Mayors Initiative, voluntary local climate action planning, and engagement in regional blueprints has built the momentum needed to drive state action - creating models for other states and our federal government. Change starts with you!