
LEARNING TOUR BRIEF #11

Environmental Conservation of the San Diego Bay

OVERVIEW AND LEARNING OBJECTIVES

This tour will take you to the beautiful San Diego Bay, where The San Diego Foundation is working with through its [Climate Initiative](#) to ensure San Diego's natural treasures and vibrant economy can be enjoyed for generations to come. An area of the world known for its ideal climate and stunning coast line, regional partners have come together in an unprecedented collaboration of philanthropy, academia, nonprofits and all local governments in the region to deal with the challenge of climate change preparedness. The [San Diego Bay Sea Level Rise Adaptation Strategy](#) is one product of this collaboration and a unique example of a local region putting climate change research into action.

As you participate in this learning tour, you'll have chance to:

- Understand how a foundation's investment in research and commitment to communicate data and science can be a powerful lever for change
- Learn more about the impacts of climate change - specifically as it relates to a local community – and contemplate how to engage diverse stakeholders in critical environmental dialogue
- Examine the opportunities and challenges for community foundations when working across sectors with academia, nonprofits, and government to collectively work towards a common vision

LEARNING TOUR AGENDA

- Part I: Welcome and Overview
- Part II: Walking Tour
- Part III: Panel with Questions and Answers
- Part IV: Lunch at Maritime Museum

ISSUE STATEMENT

Climate change is no longer a distant threat. Communities across the U.S. are already experiencing various impacts and weather patterns that are ever more extreme:

Higher Temperatures – Last year was the warmest year ever in the contiguous United States and about one-third of all Americans experienced 10 days or more of 100-degree heat. Scientists project the average surface temperature of the Earth will continue to rise.

Changing Landscapes – With rising temperatures, ice is melting, the ocean is rising and vegetation is changing around the world.

Wildlife at Risk – Scientists predict that one-fourth of the Earth's species will be extinct by 2050 if warming continues at its current rate.

Rising Seas – Sea levels are rising due to melting of glaciers. Estimates are sea levels could rise from 20 to 55 inches this century. Almost, 40% of the US population lives in coastal areas.

Increased Risk of Drought, Flooding and Fire – With higher temperatures, an increasing amount of moisture evaporates from land and water leading to drought in many areas. These dry areas are significantly more susceptible to fires. And when rain does fall, areas previously impacted by drought are far more vulnerable to floods.

Stronger Storms and Hurricanes – Research indicates that it is more likely than not that climate change raises the probability of an increase in both the number of storms and their severity.



Economic Losses – A British Government Report indicates climate change could cost between 5 and 20% of the annual global gross domestic product. The same report estimates it would take 1 percent of GDP to lessen the most damaging effects of climate change.

Ocean Acidification – The oceans act like a sponge to draw down excess carbon dioxide from the air. This might seem like a good thing, except if CO₂ goes into the oceans too quickly, it can deplete the carbonate ions that corals, mollusks and some plankton need to thrive.

NATIONAL TRENDS

We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations. Some may still deny the overwhelming judgment of science, but none can avoid the devastating impact of raging fires and crippling drought and more powerful storms.

-- President Obama, Second Inaugural Address, January 2013

Climate-related impacts are occurring across regions of the country and across many sectors of our economy. Many state and local governments are already preparing for the impacts of climate change through "adaptation," which is planning for the changes that are expected to occur.

Adaptation can consist of a wide variety of actions by an individual, community, or organization to prepare for, or respond to, climate change impacts. Many of these measures are things we are already doing but could be stepped up or modified to prepare for climate change. Examples from the EPA include:

- [Agriculture and Food Supply](#)
- [Coasts](#)
- [Ecosystems](#)
- [Energy](#)
- [Human Health](#)
- [Water Resources](#)

Additional efforts include:

- The EPA has instituted programs to help communities adapt, including [Climate Ready Estuaries](#) and [Climate Ready Water Utilities](#).
- The U.S. Interagency [Climate Change Adaptation Task Force](#) is coordinating the efforts for adaptation across government agencies.
- A growing number of states (e.g., [California](#)) and cities (e.g., [Chicago](#)) have begun preparing to protect people and infrastructure from climate change impacts.

Obama Administration Plan

In February 2013, federal agencies released Climate Change Adaptation Plans for the first time, outlining strategies to protect operations, missions, and programs from the effects of climate change. Going forward, the Administration will expand these efforts into three major, interrelated initiatives to better prepare America for the impacts of climate change:


1. Building Stronger and Safer Communities and Infrastructure
2. Protecting our Economy and Natural Resources
3. Using Sound Science to Manage Climate Impacts



THE PRESIDENT'S PLAN WILL

PREPARE THE U.S. FOR THE IMPACTS OF CLIMATE CHANGE

WE'VE MADE GREAT PROGRESS



PROGRESS: The Administration and partners developed national strategies to help decision makers address the impacts of climate change on freshwater resources — fish, wildlife, and plants — and oceans.

PROGRESS: In 2013, federal agencies released Climate Change Adaptation plans for the first time, outlining strategies to protect their operations, missions, and programs from the effects of climate change.

PROGRESS: The US Global Change Research Program, NOAA, USACE, and FEMA developed and released interactive sea-level rise maps and a calculator to aid rebuilding efforts in NY and NJ after Superstorm Sandy.

THERE'S MORE WORK TO DO

Moving forward, the Obama Administration will help states, cities, and towns build stronger communities and infrastructure, protect critical sectors of our economy as well as our natural resources, and use sound science to better understand and manage climate impacts.



SUPPORT CLIMATE-RESILIENT INVESTMENTS
at the community level by removing policy barriers, modernizing programs, and establishing a short-term task force of state, local, and tribal officials to advise on key actions the federal government can take to support local and state efforts to prepare for climate change.

REBUILD AND LEARN FROM SUPERSTORM SANDY

by piloting innovative strategies in the Superstorm Sandy-affected region to strengthen communities against future extreme weather and other climate impacts and building on a new, consistent flood risk reduction standard established for the Sandy-affected region, agencies will update their flood-risk reduction standards for all federally-funded projects.



LAUNCH AN EFFORT TO CREATE SUSTAINABLE AND RESILIENT HOSPITALS
in the face of climate change through a public-private partnership with the healthcare industry.

MAINTAIN AGRICULTURAL PRODUCTIVITY

by delivering tailored, science-based knowledge to farmers, ranchers, and forest landowners to help them understand and prepare for the impacts of climate change.



PROVIDE TOOLS FOR CLIMATE RESILIENCE
including existing and newly developed climate preparedness tools and information that state, local, and private-sector leaders need to make smart decisions.

ECONOMIC IMPACT

Things to consider:

- According to the OECD 2010 publication, *Cities and Climate Changes*, “Direct costs from climate change impacts can be staggeringly high, especially related to natural disasters and sea level rise. For example, shoreline retreat in the United States is projected to cost between \$270 billion to \$475 billion for each meter of sea level rise.”
- Without engineering protection, five feet of sea-level rise could permanently flood 94% of Miami beach, 88% of New Orleans, 7% of New York City, 63% of Atlantic City, 20% of Jersey City, 68% of Galveston TX, 6% of San Francisco, and 4% of Seattle
- If climate changes continue unabated, what was once considered a 100-year storm could begin happening every 3-20 years. Last year’s Storm Sandy cost approximately \$65 billion and is considered one of the costliest disasters
- In California, a sea-level rise of 4.6 feet by 2100 would cost Malibu beaches alone nearly \$500 million in lost tourism spending and local and state tax revenue losses due to beach erosion.

CLIMATE AND WEATHER DISASTERS IN 2012 COST THE AMERICAN ECONOMY MORE THAN \$100 BILLION



\$30 BILLION
U.S. DROUGHT/HEATWAVE
ESTIMATED ACROSS THE U.S.



\$1 BILLION
WESTERN WILDFIRES
ESTIMATED



\$65 BILLION
SUPERSTORM SANDY
ESTIMATED



\$2.3 BILLION
HURRICANE ISAAC
ESTIMATED



\$11.1 BILLION
COMBINED SEVERE WEATHER
ESTIMATED FOR INCIDENTS ACROSS THE U.S.

HOW IS THE SAN DIEGO COMMUNITY DEALING WITH THIS ISSUE?

There are many exciting initiatives underway in the San Diego region to both reduce regional emissions and help prepare for the most harmful effects of climate change, many summarized in a recent report on [Climate Action Planning Progress in the San Diego Region](#). One such major partnership is the [Climate Collaborative](#) – San Diego Region. This Collaborative is a San Diego regional forum for public agencies to share expertise and leverage resources to facilitate climate action planning and ultimately help to ensure a vibrant regional economy and healthy environment for generations to come. The San Diego Foundation has been an active leader in the Collaborative and the region’s efforts to address climate change since the launch of the Foundation’s Climate Initiative in 2006.

Sea Level Rise Adaptation Strategy for San Diego Bay

Supported by The San Diego Foundation’s Climate Initiative, the Sea Level Rise Adaptation Strategy for San Diego Bay was prepared by ICLEI - Local Governments for Sustainability through a collaborative, regional stakeholder process that included most of the public agencies and private sector representatives with a major interest in the future of San Diego Bay. The steering committee was composed of representatives from the San Diego Airport, Port of San Diego and its five member cities as well as collaboration from many stakeholders including the U.S. Navy. This is just one example of how the San Diego region’s local governments, businesses and nonprofits are coming together with engagement from philanthropy in an unprecedented way to address the challenge of climate change.



The [Sea Level Rise Adaptation Strategy report](#) outlines ten recommended strategies to best manage the risks that sea level rise poses to the economic, environmental, and community resources around San Diego Bay. The report walks through the process undergone by the San Diego community. The strategy consists of two primary components: a vulnerability assessment that evaluates impact on community by sea level rise, and recommendations for building the resilience of those community assets.

ARE THERE MORE RESOURCES I CAN ACCESS ON THIS?

This [article](#) originally appearing in the *Chronicle of Philanthropy*, Robert Searle, a partner at the Bridgespan Group, and Karim Al-Khafaji, an engagement manager at Opower, offered the following five ways that both local and national grant makers can make a difference to climate change:

1. *Support local science by local scientists.* In the American cities most often cited for pioneering efforts on climate adaptation, including Chicago, New York, San Diego, and Seattle, high-quality research prepared by local scientific authorities has been a key part of the approaches. When it comes time to debate the risks and benefits of costly projects, such as building a sea wall or managing land use along retreating coastlines, local scientists can figure out how best to apply cutting-edge research. The analysis and recommendations of nearby universities and research institutes may prove more persuasive to policy makers and voters than work by far-off experts.
2. *Provide a neutral forum for everyone who's affected.* Lots of players need to get involved in helping communities adapt: government agencies that focus on transportation; environmental and public-works agencies; businesses, community leaders, scientists, and others. Philanthropy is in a good position to reach across political and socioeconomic divides to bring such diverse groups to the table and keep them there for what will inevitably be a long-term effort.

The San Diego Foundation cast itself in that role by holding meetings of local governments, nonprofits, and others. It formed committees of organizations with a stake in preventing damage from climate change, as well as those that could deal with the nitty-gritty issues involving science and construction. They were instrumental in developing the "Focus 2050" study, published in 2008. It explores implications of climate change for the San Diego region over the next several decades and serves as a guide for community action.

3. *Support community advocacy for change.* Powerful interests don't always have much reason to support new efforts to adapt to climate change. For example, developers may resist zoning restrictions or coastal set-back requirements. Such special-interest groups usually know how to use the political process to push their agendas. Other voices, particularly those who represent the poor and elderly, need to be heard. Philanthropy can support grass-roots organizations that help set an agenda for policy makers.

A Kresge Foundation background paper, "Climate Adaptation as an Evolutionary Process," shows how grass-roots advocacy and other efforts supported by foundations can involve citizens to create pressure to act. It urges bringing to the table "community members most vulnerable to climate change, often the disadvantaged and local champions who have trust and connections in the community."

4. *Build and share expertise.* National philanthropy has a vital role to play in developing more knowledge about adaptation efforts and sharing them. Local groups will benefit from being able to draw on such knowledge and applying it to their own efforts.

For example, since 2009, the Kresge Foundation has been one of the few national foundations that have focused on ways to adapt to climate change. Its efforts to build knowledge about this topic have focused on strengthening research and developing networks, tools, and information resources to promote informed action. The foundation has been a major sponsor of the Climate Adaptation Knowledge Exchange, which seeks to make it easy for everyone to find information about how to manage natural systems in the face of rapid climate change.

5. *Focus the conversation on the human toll of climate change.* Philanthropy has a critical role to play in spotlighting the people who are most vulnerable to the problems caused by climate change. The elderly and the poor are most likely to be hard hit, so communities must grapple with fundamental questions of fairness and equity when they don't act fast enough to prevent the kind of damage that happened after Hurricane Sandy.



REFERENCES:

[2012 State of the Climate](#)

Articles or reports about how philanthropy in general can get involved in building community resilience to the impacts of climate change, such as sea level rise

- [Bridgespan Report](#)
- [A Kresge Foundation white paper](#) on climate change resilience, 2012
- [Rising Seas](#), a National Geographic article from September 2013

[Award for Innovation in Green Community Planning](#)

[Climate Action Planning Progress in the San Diego Region](#)

[Climate Collaborative – San Diego Region](#), collaboration of public private entities working together and investing today to address climate change - the Sea Level Rise Adaptation Strategy was a project of this group.

[Details about Ruocco Park](#), a public-private partnership funded by donors of The San Diego Foundation and the Port of San Diego

[Economics of Climate Change - UK Report](#)

[Economic Vitality – Clean Jobs in the San Diego Region](#)

[EPA - Climate Change](#)

[Focus 2050 Study](#) - overall look at climate impacts to the San Diego region

[Is Climate Change a Problem](#)

[Ocean and Climate](#)

[Public opinion research](#) about the San Diego region's views and perspectives on climate change

[San Diego Bay Sea Level Rise Adaptation Study](#)

[State of the Coast](#)

[Sea Level Rise Damage](#)

[Sea Level Rise - Drowning in Numbers](#)

[Sea-Level Rise for the Coasts of California, Oregon, and Washington](#)

Two relevant funder affinity groups

1. [Climate & Energy Funders Group](#)
2. [The Funders Network for Smart Growth and Livable Communities](#)

[Valuing the Oceans](#)

[White House Climate Change Infographic](#)

