

VIII. Adaptation to Climate Change

Even in a “best case” scenario, the effects of climate change are likely to negatively impact San Carlos. It is therefore prudent that the City and community be prepared for the known and unknown consequences of climate change. Waiting for these impacts to become more severe before responding or having an established method of response will only put the City at an economic and social disadvantage to other Cities in the region that are proactively addressing climate change.



The known consequences of climate change, as discussed in the introduction chapter, include sea level rise, increased risk of wildfires, an increase in unpredictable weather, negative impacts on wildlife, a deterioration of public health, and a decrease in the consistent supply of fresh water. To address these impacts, the following adaptation strategies are recommended:

1. Identify and reassess regional climate change vulnerabilities on a regular basis and work with neighboring cities, counties and regional agencies to establish more uniform approaches to addressing climate change.
2. Evaluate the potential climate change impacts of items being considered by the Planning Commission, City Council, and other discretionary hearing bodies.
3. Prepare for sea level rise by cooperating with the San Francisco Bay Conservation and Development Commission (BCDC) and other regional agencies preparing for sea level rise, coastal erosion, and peak storm events.
4. Address barriers to change and inefficiencies within the existing structure of City government in order to be able to respond quickly to climate change developments. Incorporate climate change threats to the City's existing Emergency Incident Plan and Emergency Operations Center (EOC) training for City staff

It is important that San Carlos prepare for climate change not only within its borders, but within the region as a whole. Creating partnerships with bordering cities, the County of San Mateo, and agencies such as BCDC, ABAG, and MTC will ensure the safety of our region as a whole. It is also important to maintain consistency with State adaptation efforts. Climate change adaptation has recently become a priority at the State level through Executive Order S-13-08 signed by Governor Schwarzenegger in November 2008. The mandate initiates the development of a California Climate Adaptation Strategy (CAS) to be completed in 2009. The Plan will identify climate change vulnerabilities resulting from sea level rise, increased temperatures, shifting precipitation, and extreme weather events and recommend methods and policies to adapt to these

changes. The Order also directs State agencies to analyze existing and planned infrastructure projects that could be at risk to sea level rise.⁶⁵ By coordinating regionally and cooperating with State adaptation efforts, San Carlos will preserve the quality of life residents of the City enjoy now.

1. Identify and reassess regional climate change vulnerabilities on a regular basis

New and more accurate climate change information is being developed and released each day. In order to adequately stay prepared, the City must reassess its regional climate change vulnerabilities on a regular basis and modify its actions accordingly.

This process could be done in combination with the Climate Action Plan update, which is recommended every five years. It has become industry practice to assume re-evaluation of the community's emissions every 5 years. For San Carlos, and most neighboring Cities, that means preparing updated baselines in 2010, 2015 and 2020, with climate action plan updates occurring in 2012, 2017, and 2022.

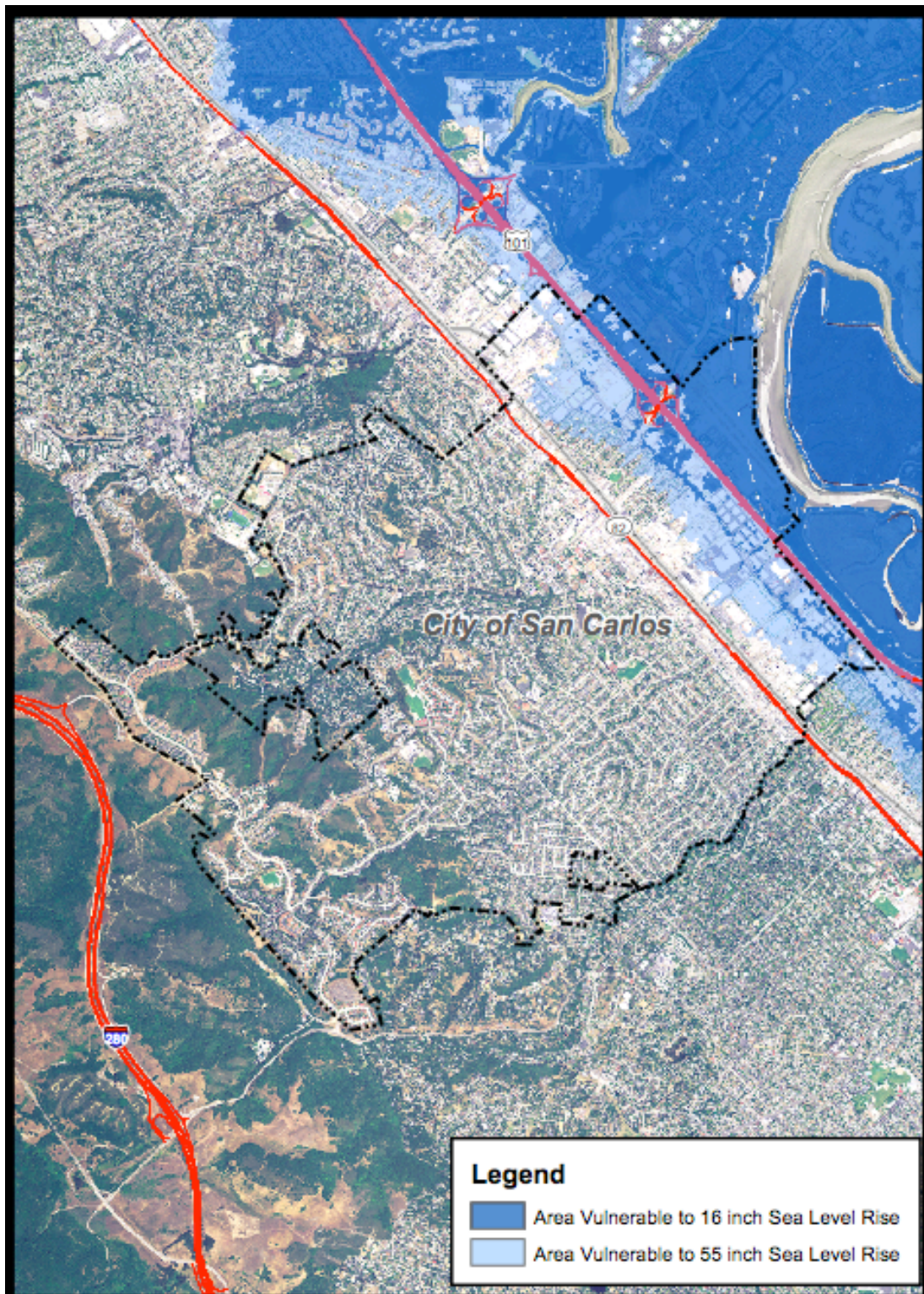
The purpose of re-evaluating the community's emissions is to understand how the reduction measures are working, and to provide an opportunity to develop alternatives to reduction measures that are found to be ineffective or too costly for the emission reductions obtained from the measures. This process will allow adaptive management of the climate action plan and emission reduction measures leading to a more effective resolution to the challenge of climate change.

2. Evaluate the potential climate change impacts of items being considered by the Planning Commission, City Council, and other discretionary hearing bodies

Climate change is a serious threat to the community of San Carlos, with potential economic and social ramifications that could result in fiscal impacts to the City's general fund. Consistency with state goals regarding reduction of greenhouse gas emissions will likely open sources of funding that the City could use to expand or maintain climate programs and other outreach programs. Approving programs and developments that address climate change consistent with this climate action plan and, as a result, State goals regarding climate change will result in more sustainable communities that provide healthier living conditions, fewer pollutants, less waste and a better quality of life. These evaluations would be similar to the 'fiscal impact' analysis already required in Council reports. Climate change evaluations in discretionary decisions will guarantee that the community and City of San Carlos is continuously conscious of our changing environment. It will also keep the goals and recommendations of this report alive and in the forefront of the decision making process.

⁶⁵ Office of the Governor press release, Gov. Schwarzenegger Issues Executive Order Directing State Agencies to Plan for Sea Level Rise and Climate Impacts, November 14, 2008. <http://gov.ca.gov/press-release/11035/>

Figure 12
Estimated Inundation Levels from Sea Level Rise on the South Bay



Source: BCDC, 2009

3. Prepare for sea level rise by cooperating with the San Francisco Bay Conservation and Development Commission (BCDC) and other regional agencies preparing for coastal inundation⁶⁶

Sea level rise is perhaps the most visible and threatening consequence of climate change to the City of San Carlos. BCDC issued a report on sea level rise in April, 2009, which states that sea level along the west coast rises approximately 7.9 inches per century, or approximately 0.08 inches per year. However, the rate of sea level rise is increasing. During the period of 1993-2003, the rate was approximately 0.12 inches per year, which could demonstrate the result of human-induced warming on sea level. The BCDC uses the same sea level rise estimates that are used by California Climate Action Team-funded assessments. These estimates anticipate the sea level in the Bay Area will rise 16 inches by mid-century and 55 inches by the end of the century as shown in Figure 12.

By mid-century, approximately 180,000 acres of the Bay Area could be flooded and 213,000 acres could be flooded by the end of the century. Due to Bay Area topography 100 percent of the development located in 100-year flood plain areas will likely flood by the year 2050. Also, different parts of the Bay Area are more vulnerable to flooding than others. In particular, due to differing tides, the South Bay will likely experience amplified storm surge events. In the vulnerable areas are several large commercial and industrial developments, including 93 percent of both the Oakland and the San Francisco airports that may be inundated by 2100. Half of the vulnerable development is residential and approximately 270,000 people would be at risk of flooding. Approximately 4,300 acres of waterfront parts are expected to flood by 2100.

Given the scale and potential severity of sea level rise impacts, it is important that the coordination and preparation be a region-wide effort. It is recommended that San Carlos participate in and cooperate with efforts like BCDC's in order to protect its own borders, property owners, and neighbors.

4. Address barriers to change and inefficiencies within the existing structure of City government in order to be able to respond quickly to climate change developments. Incorporate climate change threats to the City's existing Emergency Incident Plan and Emergency Operations Center (EOC) training for City staff

Due to the projected increase in peak storm events, along with associated impacts of storm surges exacerbated by sea level rise, adequate preparation will be essential in order to keep the community safe and prepared for these types of situations. In an emergency, there can be inherent difficulties with communication and coordination between a multitude of agencies. By identifying these inefficiencies and preparing a course of action, the City can be better prepared to escalate issues throughout the City government when the need arises. A secondary benefit to improving emergency

⁶⁶ San Francisco Bay Conservation and Development Commission. 2009. (April) Draft Staff Report. *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline*. http://www.bcdc.ca.gov/proposed_bay_plan/bp_1-08_cc_draft.pdf. Accessed June 5, 2009.

response and planning will be the general improvement of emergency preparedness within the City and the community.

One of the primary barriers to implementing climate change reduction measures is a lack of understanding of climate change and its importance in the long term viability of the community. Educating City staff, decision makers, and the public about the risks of climate change and the efforts the City is taking will prepare the City and the community for potential climate related events and the appropriate response to these events. Incorporating climate change education into the existing Emergency Incident training given to all City staff should be one major component of this adaptation strategy.

Implementation of Climate Change Adaptation Strategies

Unlike the reduction measures described previously in this document, these four adaptation measures described in this chapter do not include a cost-benefit analysis of greenhouse gas emissions reductions as these are not meant to address our contribution to climate change, but rather our response to the effects of climate change. Many of the processes involved in adaptation efforts can be done in conjunction with existing processes and would not involve substantial cost. Grant funding will likely become available in the next few years to develop climate emergency preparedness plans and response plans in coordination with regional programs to reduce the long term risks of climate change on Bay Area communities. These adaptation measures are an essential part of ensuring the City is proactively prepared for climate change and a way to ensure that the City as a whole maintains its awareness of climate change in its day to day operations.

IX. Public Outreach and Education

A Climate Action Plan can be more effective if the community is aware of its purpose and reduction measures. Resident participation is essential to many of the reduction measures included in this plan if we are to achieve the predicted emissions reductions. The voice of few may have begun the movement to prepare this plan, but it will take the actions of many to see it through implementation.

This chapter outlines three levels of engaging the public in climate action efforts. Descriptions and cost estimates are based on similar scopes of work and budgets prepared by consultants.

Level 1: Minimal Public Outreach and Education

The goal of a level one public outreach and education effort would be to inform the community that the City has developed a Climate Action Plan and will be implementing its measures. It would involve a short four-week campaign consisting of local media outreach, including press releases, a printed FAQ (frequently asked question) sheet and the addition of one page promoting the Plan on the City web site. The cost of this level of outreach is estimated to be \$6,000 through the use of internal staff or outside consultants.

Level 2: Moderate Public Outreach and Education

The goal of a level two public outreach and education effort would be to inform the community of the Climate Action Plan, what its conservation goals are, and how the public can participate in them. It would require a six-month campaign that includes the following outreach components:

- ❏ Development of a campaign motto that represents the goals of the CAP.
- ❏ Local media outreach, including multiple press releases, a media kit and media pitching.
- ❏ Development of a campaign web site that includes information on the CAP, conservation tips, optional online survey and frequently asked questions. The site would be branded to match the City's current site.
- ❏ Staffed participation at two City-sponsored community events, including development of a booth.
- ❏ Development of printed promotional collateral pieces (brochure, FAQ, etc.)
- ❏ Development of a Speaker's Bureau to conduct presentations on the program at important community based organization meetings (Chamber of Commerce, civic and environmental organizations, faith based organizations, etc.).

The cost of this level of campaign would be approximately \$36,000.00 the first year, and less in later years. The first year of implementation would likely use the services of an outside consultant.

Level 3: Comprehensive Public Outreach and Education

A level three public outreach and education campaign would be to educate the community about conservation activities they can participate in that are enforced or recommended by the CAP. It would entail a comprehensive one-year campaign that would target the business community, school system, and residents.

The following outreach components could be included:

- ❏ Development of a unique campaign brand that represents the conservation goals of the CAP.
- ❏ Creation of a series of four community-based events that promote residential conservation (for example composting or water conservation workshops).
- ❏ A membership campaign for businesses who participate in conservation efforts. Those efforts are identified to the public through branded window decals and a membership card that provides a 10 percent discount to customers.
- ❏ School outreach will include a teacher's guide that can be used in elementary schools and high schools.
- ❏ Local media outreach, including multiple press releases, a media kit and media pitching.
- ❏ Development of a campaign web site (up to 6 pages) that includes information on the CAP, conservation tips, optional online survey and frequently asked questions. The site would be branded to match the City's current site.
- ❏ Development of printed promotional collateral pieces (brochure, FAQ, etc.).
- ❏ Development of a Speaker's Bureau to conduct presentations on the program at important community based organization meetings (Chamber of Commerce, civic and environmental organizations, faith based organizations, schools, etc.)
- ❏ Develop utility bill insert touting the campaign with conservation tips to all residents.

A comprehensive public outreach and education program would cost an estimated \$60,000 per year for an outside consultant to develop and administer for the first year. Costs to manage the program after the first year would vary depending on whether external assistance is used or whether in house staff manage the program.



Example: City of San Mateo, Climate Action Plan Public Outreach Program

The City of San Mateo developed the San Mateo Acting Responsibly Together (SMART) program to educate residents and businesses on the City's Sustainable Initiatives Plan. It is anticipated that the program will increase awareness and behavioral changes in individual energy consumption, waste production, and travel behavior. This will assist the City in achieving its short- and long-term greenhouse gas emissions reduction targets.

SMART targets businesses, schools and individuals in San Mateo and encourages them to reduce San Mateo's carbon footprint by changing simple, day-to-day behaviors. Businesses can receive a SMART designation by pledging to meet certain guidelines consistent with carbon reduction. A Web site dedicated to SMART uses a pledge form where businesses, individuals and even children can calculate their emissions and make their pledge to live SMART.

As individuals pledge to reduce their carbon footprints, they will receive a SMART card that can be used at participating businesses where they will receive special discounts and/or promotional items. To further promote campaign efforts, some businesses will sell or provide SMART reusable cloth bags that will feature the participating business and SMART logos.

<http://www.cityofsanmateo.org/index.asp?NID=1536>