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Policy Issues in a Changing Climate

for voters, elected officials, planners and policy makers



Inside Learn About:

How Climate Impacts Water Sources

Importance of Riparian Zones

How to Make a Difference



Policy Issues in a Changing Climate

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The North Bay's climate is already changing

Current research shows that weather patterns in the North Bay already demonstrate signs of climate change. For example, long-term average air temperatures for the Marin-Sonoma-Napa region have steadily increased on the order of 1.0-1.7°F over the last century.¹ Scientists predict that weather patterns of the future will differ significantly from those experienced over the past century. Rising temperatures and more unpredictable rainfall will put increased pressure on our limited water resources. There will likely be increased risks of drought, flood, fire, and heat-related health emergencies.² These changes will have an impact on local agriculture, infrastructure, social systems, and natural systems.

Climate change impacts agriculture



Flooding in Sebastopol, CA on December 31, 2005

Now is the time to address policy, planning, and strategy implications for the North Bay.

What is climate adaptation?

Most work on climate change to date has focused on reducing greenhouse gas emissions. It is essential to continue this work to limit future impacts from climate change. This strategy is known as climate change mitigation.

Climate adaptation refers to strategies (policies, programs, and other actions) that reduce our vulnerability and bolster community resilience in the face of unavoidable climate impacts already underway.

Examples of likely impacts that will require an adaptation strategy:

- **Water availability during growing seasons** for crops, including existing grape varieties, will change
- **Russian River water and groundwater county-wide** will be less reliable
- Major transit corridors, including Highways 101 and 37, will **flood** more frequently and more severely
- North Bay farm **levees** will be subjected to greater stress from sea level rise and storms
- Mosquito hatch periods will be longer, increasing risks of **mosquito-borne diseases** such as the West Nile virus
- **Fire** risk will be higher, especially in the eastern hills
- **Extreme weather events** will happen more often, with corresponding increased demands on emergency services
- **Native plants and wildlife** may become more endangered

Climate change impacts transportation



Flooding in Schellville, CA on March 24, 2011

1 Micheli, L et al., 2012. Downscaling Future Climate Projections to the Watershed Scale. *San Francisco Estuary and Watershed Science*, 10(4), jmie_sfew_11170.
 2 Micheli, L, 2013. Climate Change in the North Bay. *Climate Ready North Bay*, Pepperwood Preserve, Santa Rosa, CA.

Policy Implications of Climate Change Adaptation Efforts

Cities, counties and other authorities within California have begun to identify risks and develop climate adaptation strategies. Some of this work is being accomplished through specific climate adaptation efforts, such as:

Vulnerability assessments

These can help a community measure the risks it faces from climate change. A good vulnerability assessment uses the best available science to identify local impacts, determine the community's exposure and sensitivity to these impacts, and define where the community needs to improve its capacity to adapt to these impacts.

Climate adaptation plans

A comprehensive climate adaptation plan sets priorities for adaptation actions that respond to risks identified in a vulnerability assessment.

Modifying existing plans & projects

Climate adaptation strategies can be integrated into existing plans and projects such as:

- Environmental impact reports
- Local hazard mitigation plans
- Safety elements of general plans
- Parks, trails, and open space master plans
- Stormwater, urban water, and flood management plans and ordinances
- Capital improvement projects
- Transportation improvement plans
- Public health monitoring procedures
- Street tree and water efficient landscaping ordinances
- Zoning, building, and fire codes

Policy planning in action



Council meeting for City of Sonoma, CA

While all levels of government are adopting climate adaptation policies and guidelines, much of the on-the-ground work of preparing for and responding to climate change will fall to local municipalities. Additionally, private insurers and banks are creating climate change policies. Those who frame and set local policy—city councils, supervisors, planning commissions and staff—benefit from having access to the latest evidence on local climate vulnerability, news on policy innovations, and other information in order to make educated, effective decisions. Authorities are also likely to incorporate input from interested local individuals, businesses, and organizations to help them set policies.

Learn more

NBCAI Summary of Climate Adaptation Policy Initiatives | www.goo.gl/lhKk9

NBCAI Summary of California Legislation Pertaining to Climate Change Policy | www.goo.gl/b7m90

Federal Climate Adaptation Resources | www.globalchange.gov

California Climate Adaptation Planning Guide | www.goo.gl/zm10N

Sonoma County RCPA Mission Statement, Goals and Objectives | www.goo.gl/cIZxv

California Climate Commons (Climate Change Science) | <http://climate.calcommons.org>

The North Bay Climate Smart fact sheet series is a project of the North Bay Climate Adaptation Initiative (NBCAI). NBCAI is a coalition of natural resource managers, policy makers and scientists working to identify and promote effective climate adaptation strategies that sustain the ecological and human communities of the North Bay watersheds. This document is also available at www.northbayclimate.org.