

Climate Impact Resources

Recommended by Climate Ready North Bay



1. **Climate Ready North Bay.** Reports and accompanying slideshows with results of customized analyses based on climate-related watershed management questions from North Bay users. North-Bay-wide results document broad trends. There are also products specific to Marin County, Sonoma County plus Russian River, and Napa River. <http://climate.calcommons.org/crn/home>
2. **Conservation Lands Network Explorer.** Create, view, and download maps of your hand-drawn area within the Bay Area, with 270m x 270m resolution, of BCM variables. Choose from 4 climate futures and 5 time periods. See results compared to vegetation, conservation value, and other mapped parameters. Data is 30-year averages. <http://www.bayarealands.org/explorer/>
3. **SF Bay Area Watershed Analyst.** Pick a subwatershed in the Bay Area, see graphs, tables, seasonal water balance diagram. Choose any of 14 futures to graph. Download graphics and data for that subwatershed. Monthly data can be aggregated as you wish. <http://climate.calcommons.org/tbc3/sf-bay-watershed-analyst>
4. **CalWeedMapper.** Interactive mapping and reports for download, for invasive plant trends based on climate suitability and proximity to infestations. Results based on expert opinion, mapped observations, and limited climate suitability data. Choose Advanced mode, map an area of interest, and download the Regional Management Opportunities report. <http://calweedmapper.cal-ipc.org/maps/>
5. **Vegetation change.** Bar plots showing changes in vegetation types with varying climate futures, 4-square diagrams for important vegetation types, and short report by plant ecologists, available for each North Bay Landscape Unit of the Conservation Lands Network. <http://www.pepperwoodpreserve.org/tbc3/our-work/climate-ready/> Detailed bar plots for each Bay Area county are at <http://www.pepperwoodpreserve.org/tbc3/our-work/vegetation-modeling/>
6. **30-year climate and hydrology data for California.** USGS Basin Characterization Model data: maps of 30-year averages for all BCM variables for 18 climate futures for all of California (270m x 270m resolution) available as GIS downloads: <http://climate.calcommons.org/dataset/2014-CA-BCM>
7. **The Climate Commons.** <http://climate.calcommons.org>. A searchable library of climate adaptation resources, including all of the above and more. See especially the articles introducing concepts at <http://climate.calcommons.org/article/getting-started-articles> and the tabular comparison of tools at <http://climate.calcommons.org/list/tools>.



CLIMATE CHANGE

IT'S A BEGINNING... DEFINE OPPORTUNITIES & ACTIONS!

WARM & WET?

WHAT MAKES SANDOIA COUNTY A GOOD PLACE TO LIVE?

WHAT WILL MAKE IT GOOD FOR OUR CHILDREN?

A SIMPLE CONCEPT... DAY IN DAY LIFE...

AN INTEGRATED APPROACH... PROTECT... PROMOTE... INCREASE RESILIENCE...

PEOPLE

COMMUNITIES & FAMILIES

PLANNING

CITIES INDUSTRY

EDUCATION

PLAY

AGRICULTURE... LIVING... BUSINESS... TOURISM... RECREATION

RECHARGE

HUMAN LIFE

LONGER SUMMER SEASON

FIRES!

DROUGHT

SEA LEVEL RISE...

FLOODING

WATERSHEDS IMPACT

WHAT IS IT THAT WE NEED TO DO?

WHO IS DOING IT EITHER?

QUALITY

'VENTURE CONSERVATION'

INCREASE EMERGENCY PREPAREDNESS!

'MALADAPTIVE'?

'ADAPTABLE'?

WHAT ARE YOU TALKING ABOUT?

HOT & DRY?

Our vision is that the San Francisco North Bay has resilient, biologically diverse natural systems that provide lasting ecosystem functions and services.

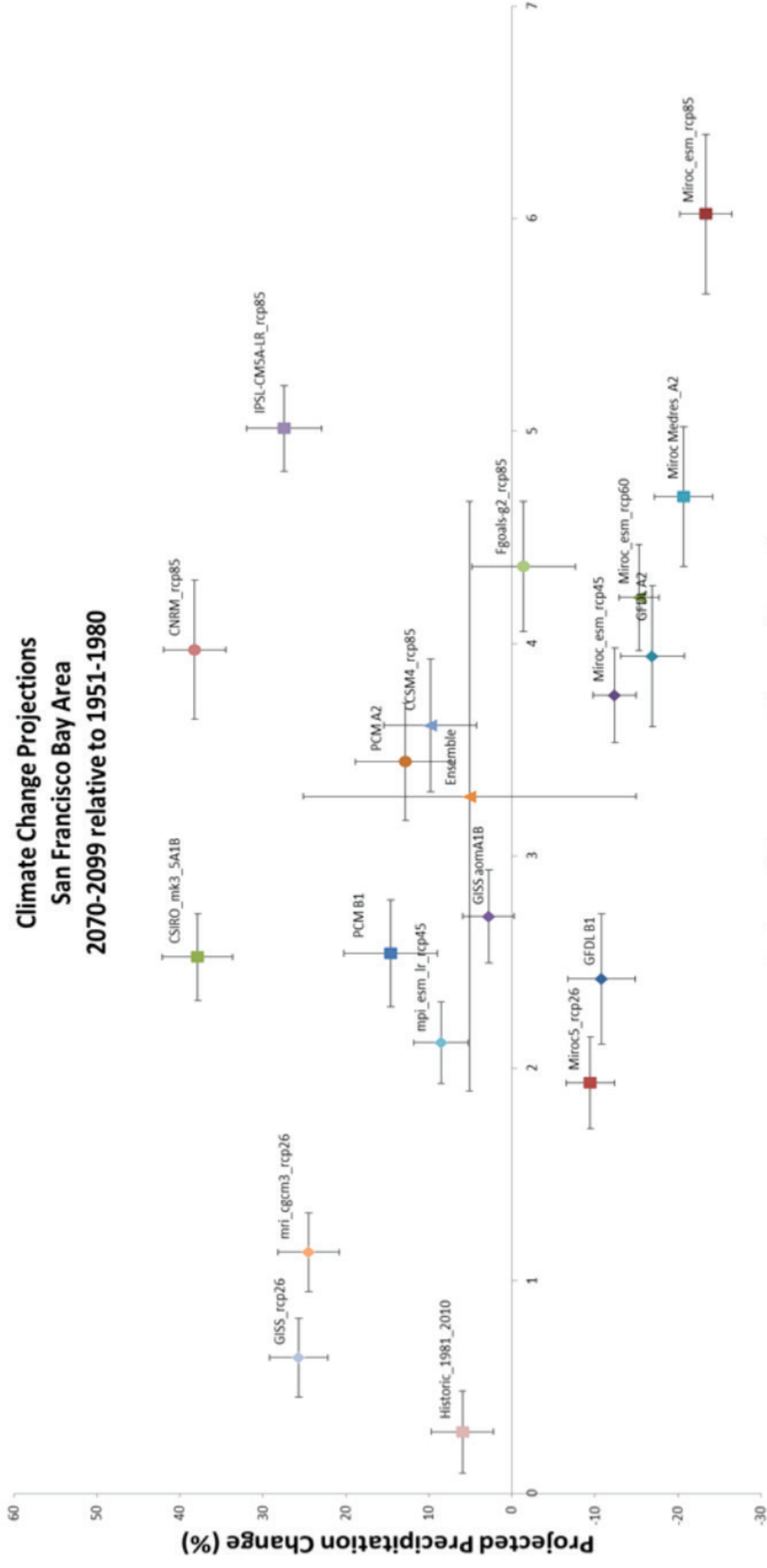
- [*A Roadmap for Climate Resilience in Sonoma County*](#). Actions for all sectors and actors.
- [Sonoma County Climate Resilience Team](#) member, with Sonoma County Regional Climate Protection Authority, Sonoma County Water Agency, Pepperwood, and TBC3.
- [Climate Smart North Bay](#) fact sheet series.
- [*Climate Ready Sonoma County: Climate Hazards and Vulnerabilities*](#)
- [Climate Ready North Bay](#). New data products and interactive tools for managers.
- [Sonoma County Adaptation Forum](#). Clarifying multiple-benefit strategies across sectors.

Work across silos	Translate from science to action
Start with the science	Empower local land and water decision-makers
Stay at the cutting edge	
Pilot solutions in Sonoma County	Focus on multiple-benefit strategies



Contact: caitlin@sonomaecologycenter.org or genevieve@aginnovations.org

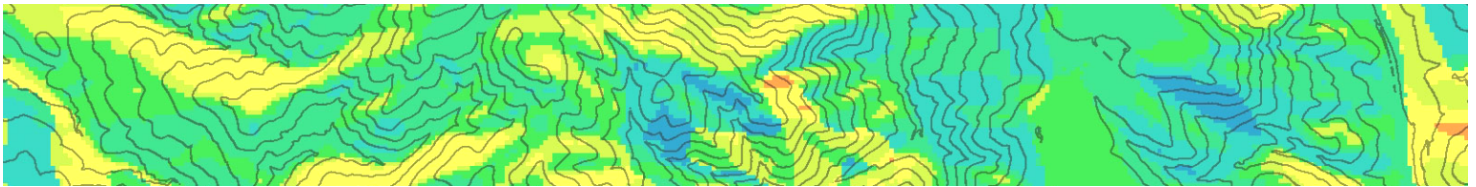
Climate Change Projections San Francisco Bay Area 2070-2099 relative to 1951-1980



Projected Temperature Change (Tmax C)

San Francisco Bay Area Watershed Analyst

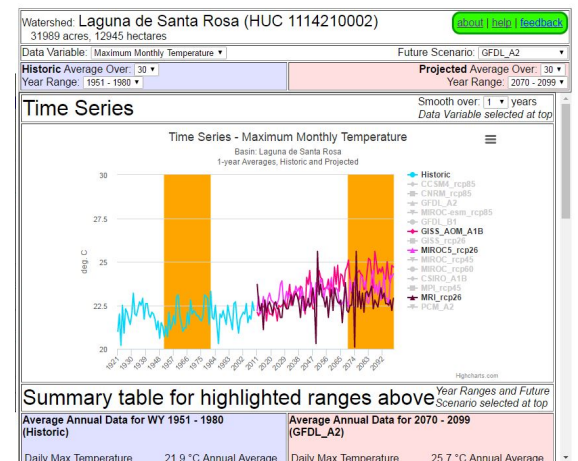
TBC3 Terrestrial Biodiversity Climate Change Collaborative
a project of Pepperwood's Dwight Center for Conservation Science



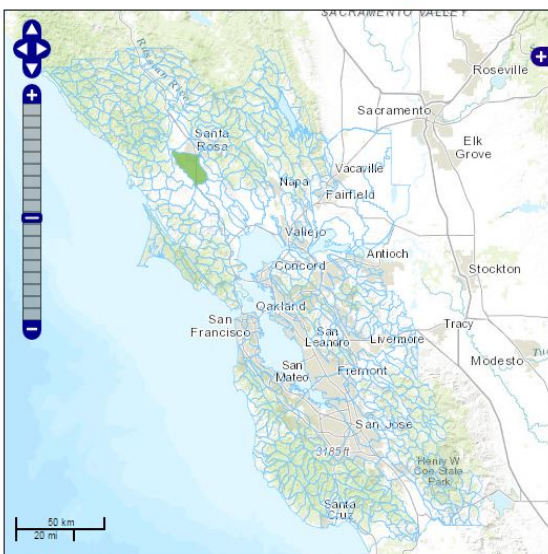
What is the Watershed Analyst? This innovative online tool lets you access climate and hydrology data to help your community get climate ready. Explore historic climate and water patterns and compare them with modeled future scenarios, create graphs, and download customizable summaries for your watershed. Data provided can be a helpful tool for teachers, students, planners, and researchers.

About the data: The Watershed Analyst utilizes the best science available to provide our region's first high resolution resource for looking at the effects of climate on water resources and open spaces. It taps into the US Geological Survey's Basin Characterization Model (BCM), which projects the interactions of climate and water on the landscape, and applies TBC3's extensive, multi-disciplined knowledge to interpret this powerful data for resource management.

For more information on the BCM data see <http://climate.calcommons.org/bcm>.



San Francisco Bay Area Climate-Smart Watershed Analyst *Beta release*



Why watersheds? A watershed is a geographic area of land, water, and biota within the confines of a drainage divide. The climate and water data in the Watershed Analyst are presented at a "planning watershed" scale—the smallest sub-watersheds that make up the major basins of the Bay Area, as shown in blue in the map to the left. This is an excellent scale for evaluating climate and hydrologic change using the BCM.

We want your feedback!

Access the Watershed Analyst at the link below. Please send any feedback to tbc3@pepperwoodpreserve.org.

<http://climate.calcommons.org/tbc3/sf-bay-watershed-analyst>

The Watershed Analyst is a project of TBC3, Pepperwood Foundation, Point Blue Conservation Science, and the Climate Commons with funding from the Gordon and Betty Moore Foundation.

www.TBC3.org

Key Management Questions Addressed by Climate Ready North Bay

<http://climate.calcommons.org/crn timer/home>

Rain and Supply

1. How is climate change projected to impact the variability of annual rainfall relative to the historic record? (all)
2. How will climate change affect precipitation quantities? (Russian)
3. How will climate change impact annual and spring precipitation variability, and in turn, winter and dry season runoff? (Russian)
4. How will climate change impact the seasonality of annual rainfall in a reservoir basin? (Russian)
5. How does rainfall variability translate to variability in watershed-wide water availability and potential delivery to reservoirs? (Napa)
6. How will climate change potentially impact the seasonality of the water cycle? (Napa)
7. Which parcels in the parks and open space portfolio provide key water supply benefits? Which parcels are prone to extreme drought stress? (Sonoma)

Flooding

1. What are the potential impacts of climate change on the streamflow regime? (Napa)
2. How might climate change increase the risk of flooding? (Russian River)
3. How will climate change potentially impact the hydrology of high value main stem reaches and tributaries for fish? (Napa)

Groundwater

1. What is the relationship of annual recharge relative to annual runoff? (Sonoma)
2. What is the spatial variability of runoff and potential groundwater recharge and how might climate change impact these distributions? (Sonoma)

Irrigation Demand

1. How will the agricultural lands be potentially impacted by climate change in terms of irrigation demand? (Napa)
2. How will climate change influence the frequency and intensity of heat events that trigger big upticks in demand for irrigation? (Sonoma)
3. How might climate change influence the magnitude of landscape drought stress, estimated as climatic water deficit? Where might this effect be mitigated by present day fog distributions? (Russian)

Native Vegetation Response and Fire Risks

1. What will be the impact of climate change on important upland vegetation types, and can we identify potentially stable vegetation communities? (Sonoma, Napa)
2. How will climate change affect potential fire frequencies? (all)
3. What kind of transitions in native vegetation may occur on parks and open space lands? (Sonoma)
4. How are fire risks projected to impact the parks and open space portfolio? (Sonoma)