



# California Regional Water Quality Control Board

## San Francisco Bay Region



Linda S. Adams  
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Arnold Schwarzenegger  
Governor

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**Subject: Comments on the Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions**

Dear Madam or Sir:

We have reviewed the Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions (Preliminary Draft Guidelines). We applaud the effort to provide a new technical advisory with informal guidance to help address the issue of climate change in future CEQA documents. We also recognize the importance of curtailing greenhouse gas emissions to minimize the effects of climate change. However, even if we immediately stopped emitting greenhouse gases, the greenhouse gases emitted since industrialization will still result in some degree of global warming. It is important that California acknowledge and account for this when addressing climate change and greenhouse gas effects in CEQA. Therefore, in addition to evaluating the generation of greenhouse gases as proposed in the Preliminary Draft Guidelines, we recommend evaluating the reasonably foreseeable effects of global warming that result from greenhouse gas emissions. These effects including the following:

**Comments on Sea Level Rise**

Sea level rise will occur as a result of global warming caused by greenhouse gases. The Intergovernmental Panel on Climate Change and the 2006 California Climate Action Team Report project that mean sea level will rise between 10 and 90 cm (12 and 36 inches) by the year 2100. Sea level rise models indicate that a 30 cm (11.8 inch) rise in sea level would shift the 100-year storm surge-induced flood event to once every 10 years. With each flood event, California stands to lose valuable real estate, critical public infrastructure, and natural resources. As such, the Preliminary Draft Guidelines should account for this by including the following criteria:

**Recommended Sea Level Rise Criteria 1:** Will the project place buildings or other infrastructure that will be inundated by sea level rise within 50 to 75 years?

Constructing buildings or other infrastructure in areas that are expected to be inundated by sea level rise will result in costly flood control measures (e.g., levees and dikes) to protect these structures. Furthermore, if and when these flood control measures have a catastrophic failure, as

witnessed in the Gulf with Hurricane Katrina, there will not only be an inestimable economic impact, but a loss of life and physical and mental well-being.

**Recommended Sea Level Rise Criteria 2:** Will the proposed project block the inland migration of tidal marshes, sloughs or other aquatic ecosystems? Will the project isolate tidal marshes, sloughs or other aquatic ecosystems from uplands that are necessary for some life stages of marsh-dwelling species?

As sea levels rise, tidal marshes, sloughs and other aquatic ecosystems will adjust by moving inland. However, if a buffer between tidal marsh and other aquatic ecosystems is not provided for in planning documents, these ecosystems will have no where to go and will be confined to the outer edges of dikes and levees. This will result in the loss of most of the rest of California's tidal marshes. Having already lost close to 90 percent of California's tidal marshes, we can ill afford to lose more. A fact that is supported by the California Wetlands Conservation Policy, which has a goal to "Ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship and respect for private property."

### Comments on Precipitation Patterns

There will be greenhouse gas induced changes in the frequency and duration of extreme climatic events, such as droughts and floods. The projections by the Intergovernmental Panel on Climate Change (IPCC) indicate that more intense precipitation and drought events are likely to occur in the 21<sup>st</sup> century. These predictions are summarized in Table 9.6 of Climate Change 2001: The Scientific Basis ([http://www.grida.no/climate/ipcc\\_tar/wg1/pdf/TAR-09.PDF](http://www.grida.no/climate/ipcc_tar/wg1/pdf/TAR-09.PDF)). On Page 891 in Climate Change 2007: The Physical Science Basis, the IPCC's review of regional climate models also found increases in extreme temperature events in California, prolonged hot spells and increased diurnal temperature range ([http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1\\_Print\\_Ch11.pdf](http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch11.pdf)). We acknowledge and appreciate the difficulty in assessing impacts resulting from greenhouse gas induced changes in precipitation patterns; however, the Draft Preliminary Guidelines should be expanded to include the following criteria:

**Recommended Precipitation Pattern Criteria 1:** Will the project modify the magnitude and frequency of stormwater runoff in a manner that, when combined with the expected increase in storm intensities, will exacerbate reasonably foreseeable erosion, sediment, and siltation impacts on- and off-site?

The anticipated increase in precipitation intensity associated with climate change and greenhouse gas effects will increase the magnitude and duration of surface water discharges. This will, in turn, increase erosive forces in streams leading to more sediment movement, channel incision, and bank erosion. Land use practices that increase impervious surfaces or remove vegetation have the potential to exacerbate this impact significantly by increasing stormwater runoff and

exposing and destabilizing soils. Therefore, the cumulative effect of climate change and hydrologic changes resulting from a project should be analyzed to determine whether changes in stormwater runoff will cause significant cumulative impacts to water quality.

**Recommended Precipitation Pattern Criteria 2:** Are local water supplies sufficient to support the proposed projects without exacerbating adverse effects associated with extreme droughts?

The anticipated increase in drought events will only place a further burden on our already beleaguered municipal water supply. In addition, further diversions in association with future droughts will only worsen the plight of pelagic fish populations in the Sacramento-San Joaquin Delta and salmonid populations throughout California. As a result of these cumulative impacts, it is imperative that water resources are examined in every CEQA document to evaluate whether sufficient water is available for municipal supply and natural resources during droughts. We recommend using a planned drought that combines precipitation and water supply information from the droughts of 1977 and 1987 through 1993 with river flow models and aquatic life natural history information to evaluate whether sufficient water exists for proposed projects without impacting natural resources.

### Closing

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Sincerely,

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