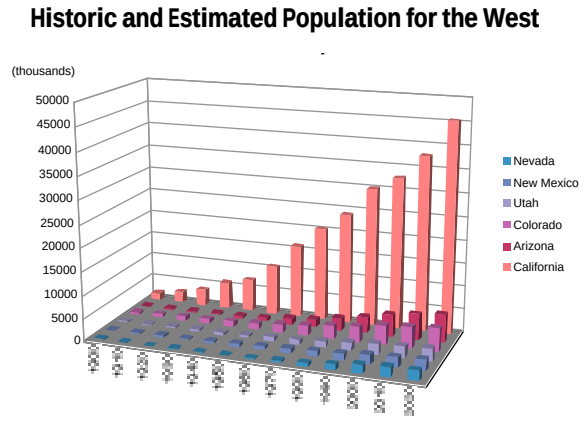

Figure 1: The West's population grew from less than 10 million in 1940 to 46.2 million in 1998 (US Census Bureau, 1998). California's population mushroomed from less than 7 million in 1940 to more than 33 million in 1998 (California Trade and Commerce Agency, 1997; California Department of Finance, 1998). Although more than two-thirds of the West's population lives in California, in recent decades, the intermountain states have become the fastest-growing in the nation. For example, Arizona's population grew from 1.3 million in 1960 to 4.5 million in 1998 (CLIMAS, 1998). Six of the 10 fastest-growing states in the US are projected to be in this region, with Arizona, Nevada, and Utah being the fastest. California's population is projected to rise from its 1998 level of 33 million to about 45 million (NPA Data Services, Inc., 1999).

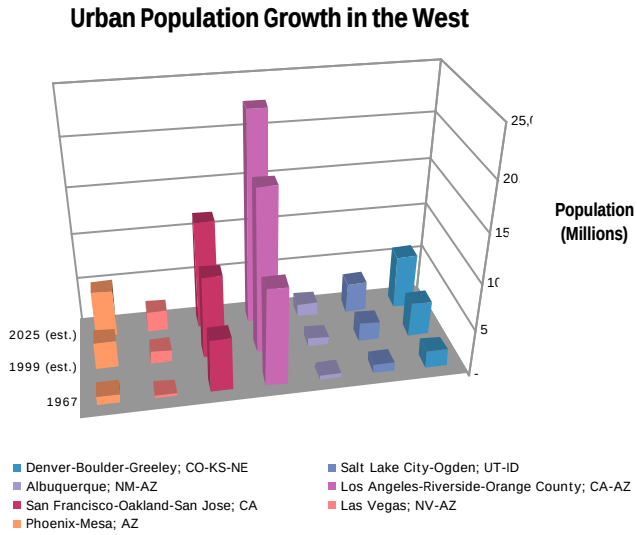

Figure 2: Over 93% of California's residents live in cities, including San Francisco, Los Angeles, San Diego, and Sacramento, and their surrounding metropolitan areas. In intermountain areas, population growth is also largely concentrating in cities, such as Denver, Salt Lake City, Albuquerque, Phoenix, Las Vegas, Santa Fe and Provo. Much of the future population growth is expected to occur in urban areas. Source: NPA Data Services, 1999.

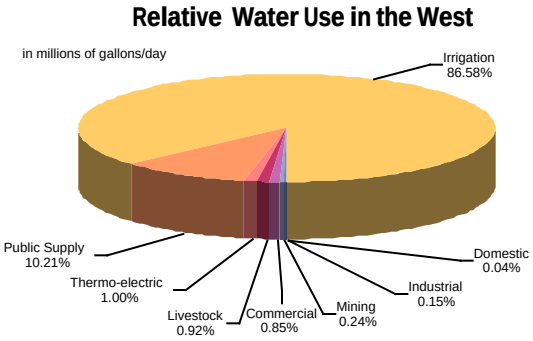

Figure 4: In 1995, 87% of the water consumed in the West was for irrigation (Solley et al., 1998; see Figure 4). However, water use for irrigation has declined slightly since 1980, while municipal uses have grown (Diaz and Anderson, 1995). For example, agriculture accounts for 81% of all water used in Arizona, down from 93% in 1963, while municipal demand currently accounts for 14% of water used, up from 5% in 1963 (CLIMAS, 1998). In addition, irrigated land in the region fell by 8% from 1982 to 1992, although acreage may have increased in recent years (USDA, 1997). Total water use in the region appears to have been declining since 1980 (Templin, 1999).

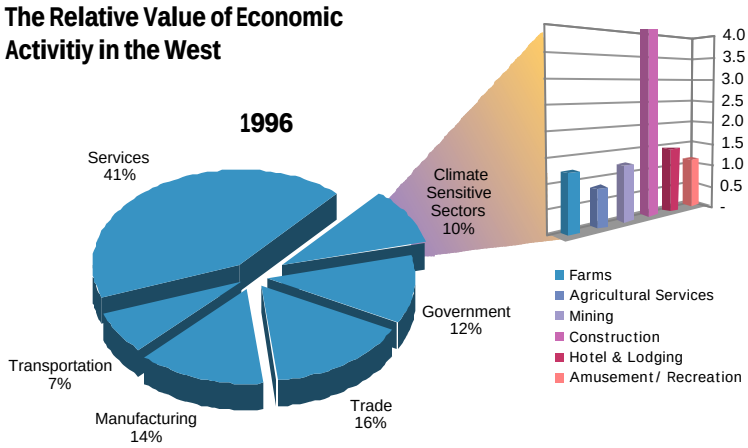

Figure 3: The West produces 18% of US Gross National Product. The region has a slightly greater share of its economy in relatively climate-sensitive sectors such as agriculture, mining, construction, and tourism, than the nation as a whole. While 1.8% of the nation's economic output is from agriculture (which includes forests and fisheries), 2.0% of the West's economic output is from the agriculture sector. The West has 4.1% of its gross product from hotels, amusement/recreation, restaurants, and museums, which are strongly affected by tourism, while the nation as a whole has 1.6% (US BEA, 1999a). With its Gross State Product of $962 billion, California comprises 72% of the total Regional Product of $1.3 trillion in 1996 (US BEAa, 1999). Ranked as a nation, California would be the seventh largest economy in the world (California Trade and Commerce Agency, 1997).

El Niño and Events 1997-1998

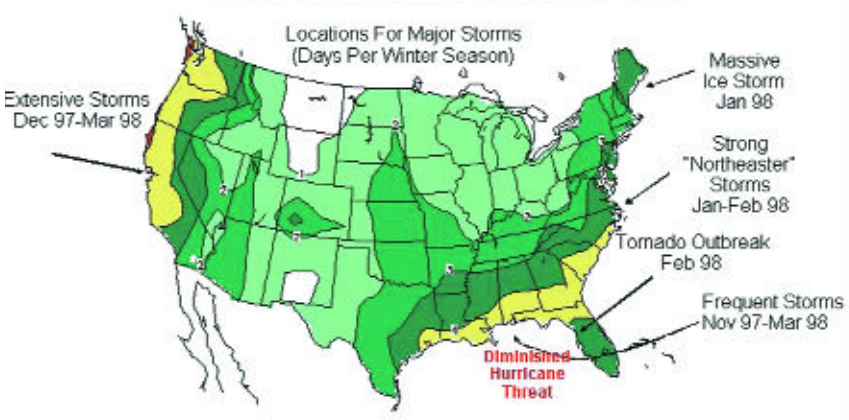

Figure 5: The 1997-1998 El Niño had quite strong effects in the West, with particularly large winter precipitation events. The heavy precipitation lead to such localized consequences as flooding and landslides.

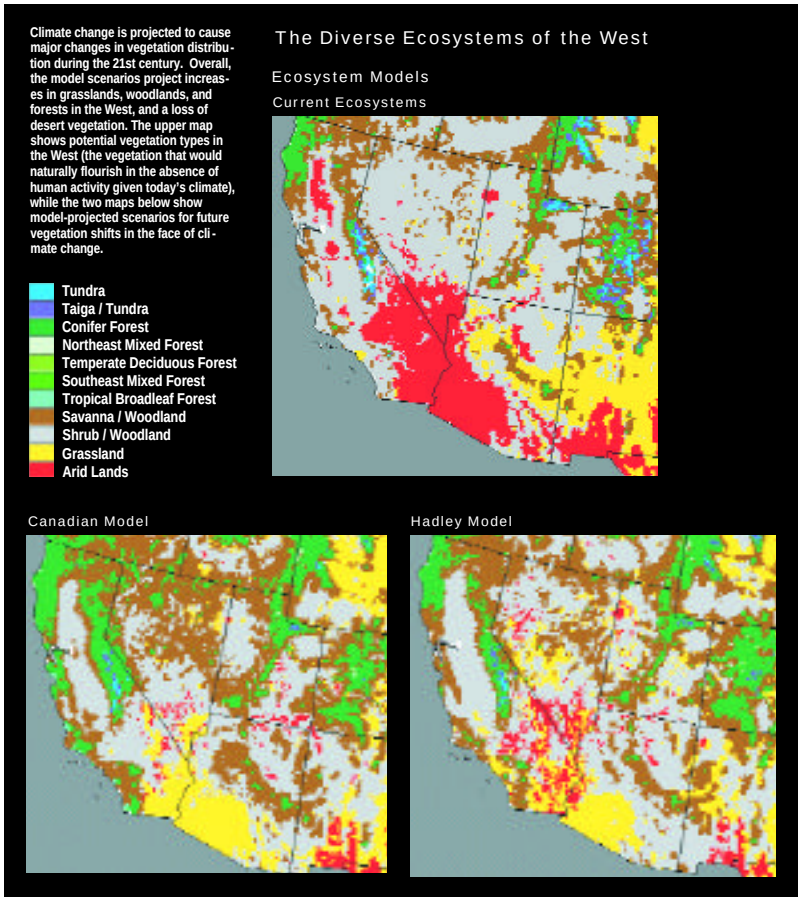

Figure 8: Currently the West has a large diversity of ecosystems. Under the two climate change scenarios, the area in arid and grassland ecosystems would decrease and the area in forest ecosystems would increase.

Observed Shift in Range of Edith's Checkerspot Butterfly: 1900 to 1990s

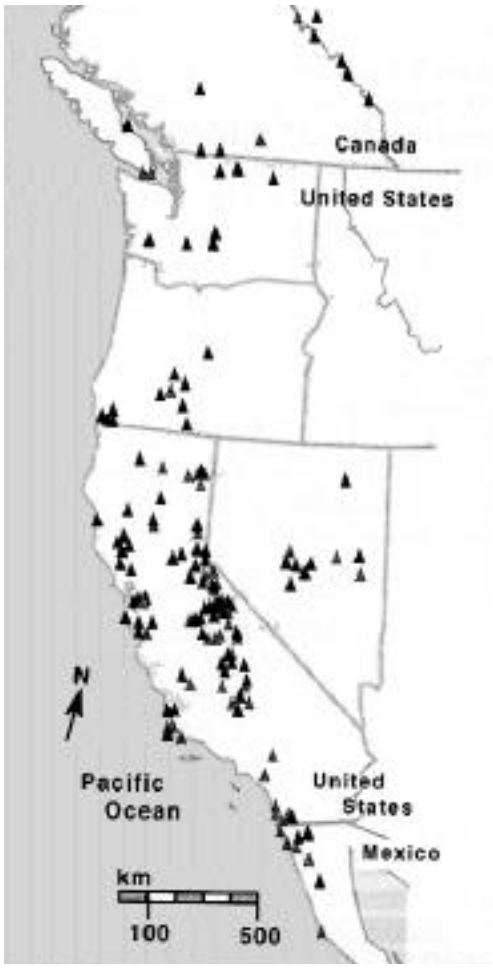

Figure 10: On this map of studied sites, the lighter triangles represent extinct populations of Edith's Checkerspot butterfly, while the darker triangles represent present populations. The mean location of populations of this butterfly has shifted northward by 57 miles (92 kilometers) and upward in altitude by 407 feet (124 meters) since 1900. This is an indication that climate change is already having an affect on the some species ranges. Source: Parmesan, 1996.

Relative Share of Crop and Livestock Output in the West.

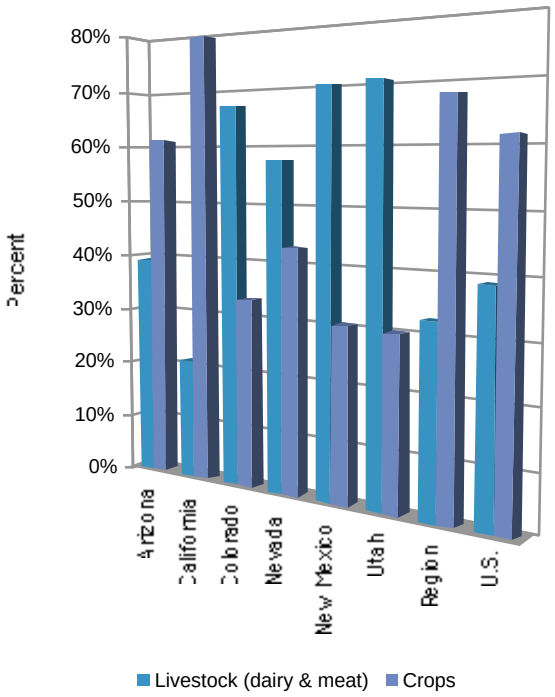

Figure 11: For most of the states in the West, the majority of value-added agriculture production comes from livestock and dairy production. However, because California's agricultural production is dominated by crops (75% of total agricultural output for the state), and because California dominates regional agricultural output (84% of regional crop production, 51% of regional livestock and dairy production), the majority of the region's total agricultural production comes from crops. This difference between the dominant types of agricultural production on a state level and on a regional level highlights the heterogeneity of agriculture in the West. Source: USDA Economic Research Service State Farm Sector Value-Added Data; (http://www.econ.ag.gov/briefing /fbe/fi/fivadmu.htm). August 30, 1999.

Current and Projected Wetlands in South San Francisco Bay

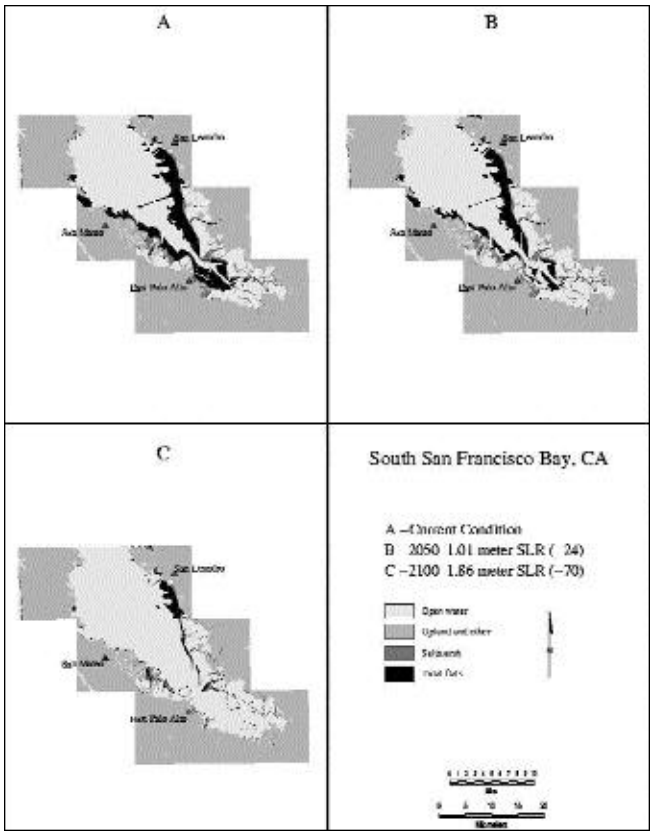

Figure 12: This figure shows the spatial extent and distribution of current and projected wetland habitat types in southern San Francisco Bay (derived from US Fish and Wildlife, National Wetlands Inventory data) following sea-level rise as calculated using the Sea Level Affecting Marshes Model (SLAMM4) (Galbraith et al., In prep.). The sea-level rise scenarios use historic rates that include local subsidence (obtained from tide gages at or close to each of the sites), superimposed on the median estimate of the likely rate of sea-level change due to climate change (Titus and Narayanan, 1996). The historic rate of sea-level rise in the southern part of San Francisco Bay is estimated to be 3.0 feet (0.9 meter) by 2050 and 5.3 feet (1.6 meter) by 2100. This could be due to tectonic movements resulting in land subsidence and/or crustal subsidence due to the depletion of subterranean aquifers. When combined with the projected median estimate of 13.4 inches (34 cm) eustatic (global) sea-level rise by 2100 from climate change, sea-level rise is estimated to be 3.3 feet (1.0 meter) by 2050 and 6.1 feet (1.9 meters) by 2100. The numbers shown in parenthesis on the figure indicate that approximately 57.7% of tidal flat habitat will be lost by 2050 and 62.1% by 2100, compared to the current condition. Using only the historic rate of local sea level rise, approximately 58.9% (2050) and 61.1% (2100) of tidal flat habit.