

Threats to Shasta County	Impacts to Shasta County
1. Wildfires (and intense rainfall)	Landslides
	Disruption of roadways and rail lines
2. Reduced Snowpack, Reduced Precipitation, and changes in temperature	Affects high elev. Hydropower systems w/less storage capacity.
	Lower river flows require increased release of water, inducing spills
	Water quantity: reduced water in dry months
	Water quality
3. Ecosystem Shifts	Changes in flow regimes and water quality will affect aquatic species.
4. Flooding from: A) Rapid snowmelts and intense rainfall and B) Increased wildfires and intense rainfall (winter storms)	Overwhelmed water treatment and waste management facilities
	Increased damage to transportation infrastructure
	Damage to culverts, canals, and treatment facilities
	Damage to transmission lines
	Risk of exposing communities to contaminated water resources
5. Economic Impact (timber, tourism)	Decreased recreation and tourism due to lower reservoir levels and algae-infested waters, which may increase the economic vulnerability of employees in the tourist industry.
	Reduced timber harvest result of: reduced water availability, drier conditions, altered pest and invasive species ranges, and increased fire severity and frequency.
6. Public Health, Socioeconomic, and Equity Impacts	
Reduced public health due to air pollution and heat waves (especially for elderly and children under five)	Eye and respiratory illnesses.
	Exacerbation of asthma, allergies, chronic obstructive pulmonary disease, and other cardiovascular diseases.
Higher temps and early snow melts	May lengthen the life and impact of vector-borne diseases.
	Households may be at risk of not using cooling appliances due to associated energy costs.
	People who are over 65, or work in the agricultural and tourism industries, in the foothills and mountainous communities may be subject to respiratory problems and heat stress due to a combination of higher ozone levels, higher elevations, and increasing temps.
7. Higher temps/Events	Increased cooling demands
	Transmission efficiencies affected in hot weather
	Increase in road and railroad track buckling
	Decrease in transportation safety and higher costs

Collected from Appendix C of the APG and the Statewide Adaptation Strategy

Main Threats to Transportation in Shasta County	Main Impacts to Transportation in Shasta County
1. Wildfires (and intense rainfall)	Landslides
	Disruption of roadways and rail lines
2. Reduced Snowpack, Reduced Precipitation and changes in temperature	Lower river flows require increased release of water, inducing spills
3. Flooding from: A) Rapid snowmelts and intense rainfall and B) Increased wildfires and intense rainfall (winter storms)	Increased damage to transportation infrastructure
4. Higher temps/Events	Increase in road and railroad track buckling
	Decrease in transportation safety and higher costs

Climate Change Threats and Impacts (From Statewide Adaptation Strategy)			
Threat	Impact		
WARMING			
Higher avg. temps	Increased cooling demands		
	Decrease in water avail. for hydroelectric power generation		
	Risk of increased brown outs & black outs		
	Transmission efficiencies affected in hot weather		
Temp Extremes	Increase in road and railroad track buckling		
	Decrease in transportation safety and higher costs		
PRECIPITATION CHANGES			
Climate Changes	Decrease of hydropower generation		
Shrinking snowpack	Affects high elev. Hydropower systems w/less storage capacity		
Lower river flows requiring increased release of water	Spills		
	Reducing water in dry months		

Top 3 Threats to Shasta County	Impacts
1. Wildfires (and intense rainfall)	Landslides
	Disruption of roadways and rail lines
2. Reduced Snowpack, Reduced Precipitation, and changes in temperature	Affects high elev. Hydropower systems w/less storage capacity.
	Lower river flows require increased release of water, inducing spills
	Water quantity: reduced water in dry months
	Water quality
3. Ecosystem Shifts	Changes in flow regimes and water quality will affect aquatic species.
Threats to Shasta County in Greater Detail	Impacts
4. Flooding from: A) Rapid snowmelts and intense rainfall and B) Increased wildfires and intense rainfall (winter storms)	Overwhelmed water treatment and waste management facilities
	Increased damage to transportation infrastructure
	Damage to culverts, canals, and treatment facilities
	Damage to transmission lines
	Risk of exposing communities to contaminated water resources
5. Economic Impact (timber, tourism)	Decreased recreation and tourism due to lower reservoir levels and algae-infested waters, which may increase the economic vulnerability of employees in the tourist industry.
	Reduced timber harvest result of: reduced water availability, drier conditions, altered pest and invasive species ranges, and increased fire severity and frequency.
6. Public Health, Socioeconomic, and Equity Impacts	
Reduced public health due to air pollution and heat waves (especially for elderly and children under five)	Eye and respiratory illnesses.
	Exacerbation of asthma, allergies, chronic obstructive pulmonary disease, and other cardiovascular diseases.
Higher temps and early snow melts	May lengthen the life and impact of vector-borne diseases.
	Households may be at risk of not using cooling appliances due to associated energy costs.
	People who are over 65, or work in the agricultural and tourism industries, in the foothills and mountainous communities may be subject to respiratory problems and heat stress due to a combination of higher ozone levels, higher elevations, and increasing temps.
7. Higher temps/Events	
	Increased cooling demands
	Transmission efficiencies affected in hot weather
	Increase in road and railroad track buckling

Winter storms and high runoff snowmelt	Flooding
	Damage to transmission lines
Extreme rainfall and flooding	Wastewater system overload
	Damage to culverts, canals, and treatment facilities
Flooding	Increased damage to transportation infrastructure
More drought, fires, and intense rainfall	Landslides
	Disruption of roadways and rail lines

	Decrease in transportation safety and higher costs
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	Asset type	Transportation asset	Daily vehicle/passenger volume	Daily freight volume	Redundancy (Y, Partial, N)	Vulnerability (low, medium, or high)			
						Extreme Heat	Landslides	Flooding	
								100 yr.	500 yr.
1	Road/Highway	Interstate 5							
2	Road/Highway	Highway 299							
3	Road/Highway	Highway 273							
4	Road/Highway	Highway 36							
5	Road/Highway	Highway 44							
6	Road/Highway	Highway 89							
7	Rail	UPRR							
8	Airport	RDD							
9	Airport	Benton							
10	Airport	Fall River Mills							
11	Transit	RABA Network							