
Hazus: Earthquake Global Risk Report

Region Name: CoronadoBankalt2v2

Earthquake Scenario: coronadobankalt2shaw_m7p38_se

Print Date: May 21, 2024

Disclaimer:

Totals only reflect data for those census tracts/blocks included in the user's study region.

The estimates of social and economic impacts contained in this report were produced using Hazus loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific earthquake. These results can be improved by using enhanced inventory, geotechnical, and observed ground motion data.

Table of Contents

| Section | Page # |
|--|---------------|
| General Description of the Region | 3 |
| Building and Lifeline Inventory | 4 |
| Building Inventory | |
| Critical Facility Inventory | |
| Transportation and Utility Lifeline Inventory | |
| Earthquake Scenario Parameters | 7 |
| Direct Earthquake Damage | 8 |
| Buildings Damage | |
| Essential Facilities Damage | |
| Transportation and Utility Lifeline Damage | |
| Induced Earthquake Damage | 14 |
| Fire Following Earthquake | |
| Debris Generation | |
| Social Impact | 15 |
| Shelter Requirements | |
| Casualties | |
| Economic Loss | 17 |
| Building Related Losses | |
| Transportation and Utility Lifeline Losses | |
| | |
| Appendix A: County Listing for the Region | |
| Appendix B: Regional Population and Building Value Data | |

General Description of the Region

Hazus-MH is a regional earthquake loss estimation model that was developed by the Federal Emergency Management Agency (FEMA) and the National Institute of Building Sciences. The primary purpose of Hazus is to provide a methodology and software application to develop multi-hazard losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from multi-hazards and to prepare for emergency response and recovery.

The earthquake loss estimates provided in this report was based on a region that includes 9 county(ies) from the following state(s):

California

Note:

Appendix A contains a complete listing of the counties contained in the region.

The geographical size of the region is 53,758.93 square miles and contains 5,401 census tracts. There are over 7,846 thousand households in the region which has a total population of 23,480,480 people. The distribution of population by Total Region and County is provided in Appendix B.

There are an estimated 6,630 thousand buildings in the region with a total building replacement value (excluding contents) of (millions of dollars). Approximately 90.00 % of the buildings (and % of the building value) are associated with residential housing.

The replacement value of the transportation and utility lifeline systems is estimated to be 272,266 and 178,921 (millions of dollars) , respectively.

Building and Lifeline Inventory

Building Inventory

Hazus estimates that there are 6,630 thousand buildings in the region which have an aggregate total replacement value of (millions of dollars) . Appendix B provides a general distribution of the building value by Total Region and County.

In terms of building construction types found in the region, wood frame construction makes up 88% of the building inventory. The remaining percentage is distributed between the other general building types.

Critical Facility Inventory

Hazus breaks critical facilities into two (2) groups: essential facilities and high potential loss facilities (HPL). Essential facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. High potential loss facilities include dams, levees, military installations, nuclear power plants and hazardous material sites.

For essential facilities, there are 326 hospitals in the region with a total bed capacity of 59,608 beds. There are 7,402 schools, 1,275 fire stations, 430 police stations and 117 emergency operation facilities. With respect to high potential loss facilities (HPL), there are no dams identified within the inventory. The inventory also includes no hazardous material sites, no military installations and no nuclear power plants.

Transportation and Utility Lifeline Inventory

Within Hazus, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The lifeline inventory data are provided in Tables 1 and 2.

The total value of the lifeline inventory is over 451,187.00 (millions of dollars). This inventory includes over 10,885.18 miles of highways, 10,902 bridges, 226,889.89 miles of pipes.

Table 1: Transportation System Lifeline Inventory

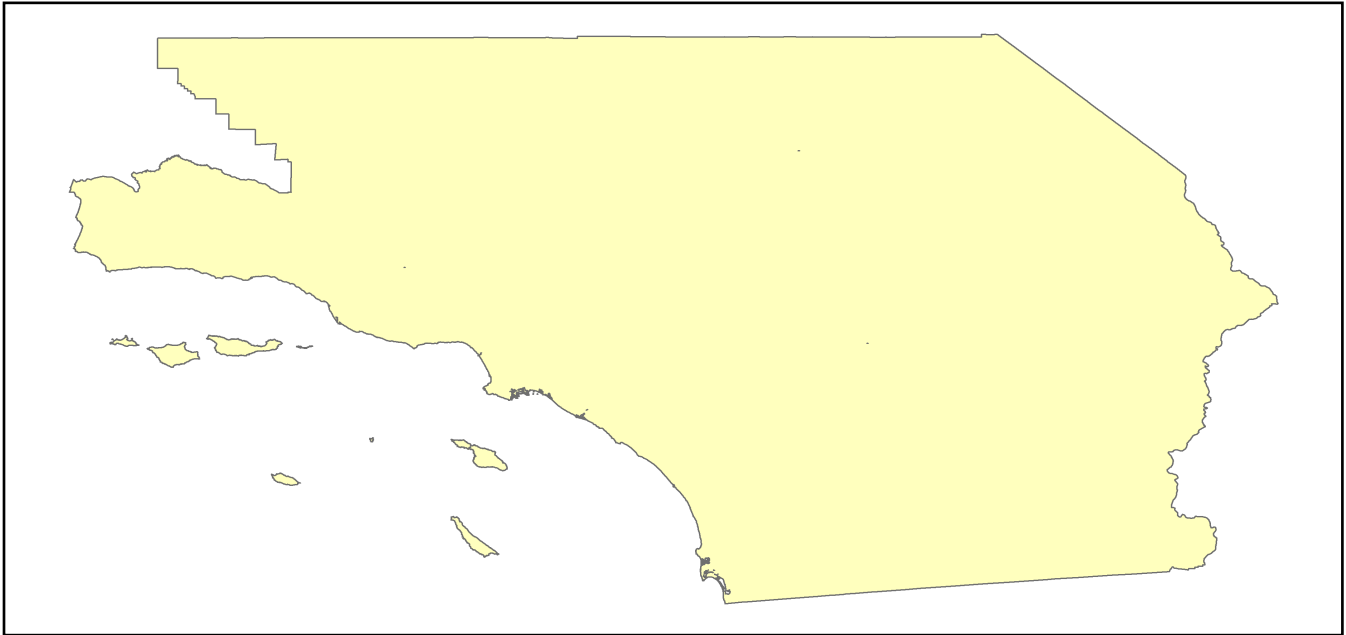
| System | Component | # Locations/ # Segments | Replacement value (millions of dollars) |
|-------------------|-----------------|----------------------------|--|
| Highway | Bridges | 10,902 | 65710.7145 |
| | Segments | 9,618 | 115510.3125 |
| | Tunnels | 62 | 553.5147 |
| | Subtotal | | 181774.5417 |
| Railways | Bridges | 2,016 | 11471.0400 |
| | Facilities | 108 | 287.6040 |
| | Segments | 1,839 | 62113.0193 |
| | Tunnels | 0 | 0.0000 |
| | Subtotal | | 73871.6633 |
| Light Rail | Bridges | 51 | 13.2750 |
| | Facilities | 149 | 3200.8000 |
| | Segments | 8 | 5399.1047 |
| | Tunnels | 0 | 0.0000 |
| | Subtotal | | 8613.1797 |
| Bus | Facilities | 37 | 80.0981 |
| | Subtotal | | 80.0981 |
| Ferry | Facilities | 22 | 29.2820 |
| | Subtotal | | 29.2820 |
| Port | Facilities | 346 | 1318.8983 |
| | Subtotal | | 1318.8983 |
| Airport | Facilities | 145 | 4691.6758 |
| | Runways | 161 | 1887.4908 |
| | Subtotal | | 6579.1666 |
| | | Total | 272,266.80 |

Table 2: Utility System Lifeline Inventory

| System | Component | # Locations / Segments | Replacement value (millions of dollars) |
|-------------------------|--------------------|------------------------|---|
| Potable Water | Distribution Lines | NA | 4499.1310 |
| | Facilities | 51 | 2003.9940 |
| | Pipelines | 0 | 0.0000 |
| | | Subtotal | 6503.1250 |
| Waste Water | Distribution Lines | NA | 2699.4786 |
| | Facilities | 125 | 21493.9750 |
| | Pipelines | 0 | 0.0000 |
| | | Subtotal | 24193.4536 |
| Natural Gas | Distribution Lines | NA | 1799.6524 |
| | Facilities | 42 | 1475.0374 |
| | Pipelines | 322 | 18365.1690 |
| | | Subtotal | 21639.8588 |
| Oil Systems | Facilities | 65 | 7.6700 |
| | Pipelines | 0 | 0.0000 |
| | | Subtotal | 7.6700 |
| Electrical Power | Facilities | 562 | 126530.2471 |
| | | Subtotal | 126530.2471 |
| Communication | Facilities | 401 | 47.3180 |
| | | Subtotal | 47.3180 |
| | Total | | 178,921.70 |

Earthquake Scenario

Hazus uses the following set of information to define the earthquake parameters used for the earthquake loss estimate provided in this report.



| | |
|--------------------------------------|-------------------------------|
| Scenario Name | coronadobankalt2shaw_m7p38_se |
| Type of Earthquake | User-defined |
| Fault Name | NA |
| Historical Epicenter ID # | NA |
| Probabilistic Return Period | NA |
| Longitude of Epicenter | NA |
| Latitude of Epicenter | NA |
| Earthquake Magnitude | 7.38 |
| Depth (km) | NA |
| Rupture Length (Km) | NA |
| Rupture Orientation (degrees) | NA |
| Attenuation Function | NA |

Direct Earthquake Damage

Building Damage

Hazus estimates that about 11,063 buildings will be at least moderately damaged. This is over 0.00 % of the buildings in the region. There are an estimated 23 buildings that will be damaged beyond repair. The definition of the 'damage states' is provided in Volume 1: Chapter 5 of the Hazus technical manual. Table 3 below summarizes the expected damage by general occupancy for the buildings in the region. Table 4 below summarizes the expected damage by general building type.

Damage Categories by General Occupancy Type

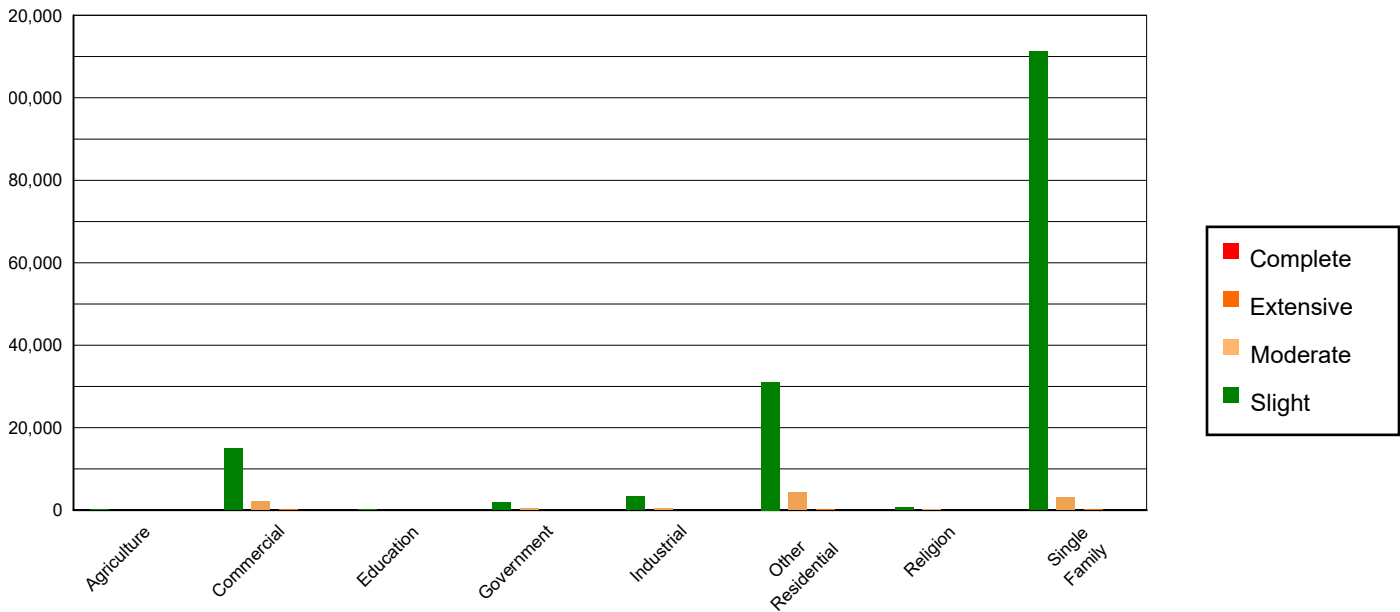


Table 3: Expected Building Damage by Occupancy

| | None | | Slight | | Moderate | | Extensive | | Complete | |
|--------------------------|------------------|-------|----------------|-------|---------------|-------|------------|-------|-----------|-------|
| | Count | (%) | Count | (%) | Count | (%) | Count | (%) | Count | (%) |
| Agriculture | 14478.42 | 0.22 | 222.52 | 0.14 | 27.86 | 0.27 | 1.19 | 0.22 | 0.02 | 0.07 |
| Commercial | 434614.55 | 6.73 | 15020.35 | 9.19 | 2199.74 | 20.95 | 114.55 | 21.19 | 4.82 | 20.77 |
| Education | 12453.54 | 0.19 | 164.82 | 0.10 | 20.60 | 0.20 | 1.01 | 0.19 | 0.03 | 0.12 |
| Government | 32730.34 | 0.51 | 1816.03 | 1.11 | 346.17 | 3.30 | 10.40 | 1.92 | 0.06 | 0.27 |
| Industrial | 113857.66 | 1.76 | 3335.02 | 2.04 | 472.64 | 4.50 | 15.36 | 2.84 | 0.32 | 1.38 |
| Other Residential | 993419.92 | 15.39 | 31102.35 | 19.02 | 4184.55 | 39.85 | 170.90 | 31.61 | 2.29 | 9.88 |
| Religion | 22234.48 | 0.34 | 683.69 | 0.42 | 113.89 | 1.08 | 4.84 | 0.89 | 0.11 | 0.47 |
| Single Family | 4832136.06 | 74.85 | 111179.95 | 67.99 | 3134.11 | 29.85 | 222.34 | 41.13 | 15.55 | 67.05 |
| Total | 6,455,925 | | 163,525 | | 10,500 | | 541 | | 23 | |

Table 4: Expected Building Damage by Building Type (All Design Levels)

| | None | | Slight | | Moderate | | Extensive | | Complete | |
|-----------------|------------------|-------|----------------|-------|---------------|-------|------------|-------|-----------|-------|
| | Count | (%) | Count | (%) | Count | (%) | Count | (%) | Count | (%) |
| Wood | 5668083.21 | 87.80 | 131970.26 | 80.70 | 2995.65 | 28.53 | 2.52 | 0.47 | 0.03 | 0.11 |
| Steel | 112875.53 | 1.75 | 6290.41 | 3.85 | 1795.80 | 17.10 | 244.14 | 45.16 | 16.83 | 72.58 |
| Concrete | 112769.25 | 1.75 | 4558.89 | 2.79 | 861.66 | 8.21 | 99.35 | 18.38 | 2.88 | 12.43 |
| Precast | 52073.36 | 0.81 | 2310.51 | 1.41 | 401.59 | 3.82 | 6.10 | 1.13 | 0.03 | 0.13 |
| RM | 291392.72 | 4.51 | 6330.38 | 3.87 | 1017.68 | 9.69 | 10.68 | 1.98 | 0.02 | 0.07 |
| URM | 27548.39 | 0.43 | 2363.19 | 1.45 | 529.69 | 5.04 | 52.77 | 9.76 | 2.90 | 12.52 |
| MH | 191182.51 | 2.96 | 9701.09 | 5.93 | 2897.47 | 27.60 | 125.02 | 23.13 | 0.50 | 2.15 |
| Total | 6,455,925 | | 163,525 | | 10,500 | | 541 | | 23 | |

*Note:

- RM Reinforced Masonry
- URM Unreinforced Masonry
- MH Manufactured Housing

Essential Facility Damage

Before the earthquake, the region had 59,608 hospital beds available for use. On the day of the earthquake, the model estimates that only 58,117 hospital beds (98.00%) are available for use by patients already in the hospital and those injured by the earthquake. After one week, 99.00% of the beds will be back in service. By 30 days, 100.00% will be operational.

Table 5: Expected Damage to Essential Facilities

| Classification | Total | # Facilities | | |
|----------------|-------|-----------------------------------|--------------------------|--------------------------------------|
| | | At Least Moderate Damage > 50% | Complete Damage > 50% | With Functionality > 50% on day 1 |
| Hospitals | 326 | 0 | 0 | 325 |
| Schools | 7,402 | 15 | 0 | 7,350 |
| EOCs | 117 | 0 | 0 | 116 |
| PoliceStations | 430 | 1 | 0 | 426 |
| FireStations | 1,275 | 4 | 0 | 1,266 |

Transportation Lifeline Damage

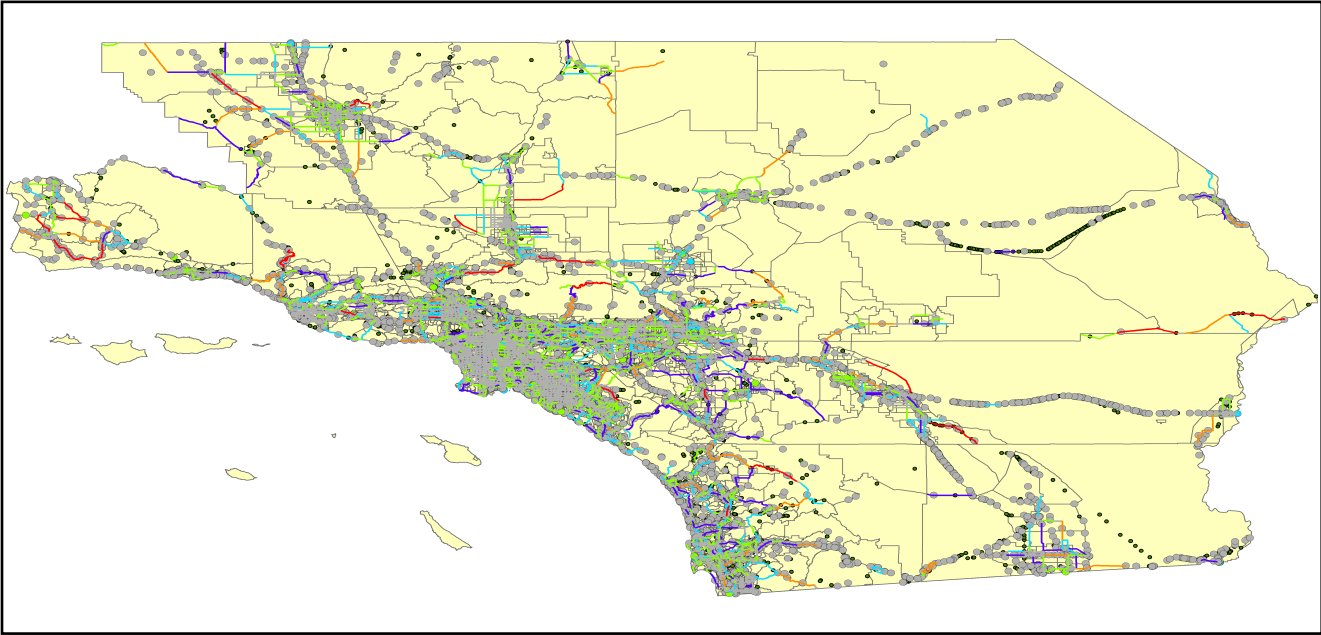


Table 6: Expected Damage to the Transportation Systems

| System | Component | Number of Locations_ | | | | |
|------------|------------|------------------------|------------------------------|-------------------------|---------------------------|-------------|
| | | Locations/ Segments | With at Least Mod. Damage | With Complete Damage | With Functionality > 50 % | |
| | | | | | After Day 1 | After Day 7 |
| Highway | Segments | 9,618 | 0 | 0 | 9,618 | 9,618 |
| | Bridges | 10,902 | 0 | 0 | 10,902 | 10,902 |
| | Tunnels | 62 | 0 | 0 | 62 | 62 |
| Railways | Segments | 1,839 | 0 | 0 | 1,839 | 1,839 |
| | Bridges | 2,016 | 0 | 0 | 2,016 | 2,016 |
| | Tunnels | 0 | 0 | 0 | 0 | 0 |
| | Facilities | 108 | 0 | 0 | 108 | 108 |
| Light Rail | Segments | 8 | 0 | 0 | 8 | 8 |
| | Bridges | 51 | 0 | 0 | 51 | 51 |
| | Tunnels | 0 | 0 | 0 | 0 | 0 |
| | Facilities | 149 | 0 | 0 | 149 | 149 |
| Bus | Facilities | 37 | 0 | 0 | 37 | 37 |
| Ferry | Facilities | 22 | 0 | 0 | 22 | 22 |
| Port | Facilities | 346 | 0 | 0 | 346 | 346 |
| Airport | Facilities | 145 | 0 | 0 | 145 | 145 |
| | Runways | 161 | 0 | 0 | 161 | 161 |

Table 6 provides damage estimates for the transportation system.

Note: Roadway segments, railroad tracks and light rail tracks are assumed to be damaged by ground failure only. If ground failure maps are not provided, damage estimates to these components will not be computed.

Tables 7-9 provide information on the damage to the utility lifeline systems. Table 7 provides damage to the utility system facilities. Table 8 provides estimates on the number of leaks and breaks by the pipelines of the utility systems. For electric power and potable water, Hazus performs a simplified system performance analysis. Table 9 provides a summary of the system performance information.

Table 7 : Expected Utility System Facility Damage

| System | # of Locations | | | | |
|------------------|----------------|-------------------------------|----------------------|---------------------------|-------------|
| | Total # | With at Least Moderate Damage | With Complete Damage | with Functionality > 50 % | |
| | | | | After Day 1 | After Day 7 |
| Potable Water | 51 | 0 | 0 | 51 | 51 |
| Waste Water | 125 | 1 | 0 | 109 | 125 |
| Natural Gas | 42 | 0 | 0 | 42 | 42 |
| Oil Systems | 65 | 0 | 0 | 65 | 65 |
| Electrical Power | 562 | 10 | 0 | 557 | 562 |
| Communication | 401 | 0 | 0 | 401 | 401 |

Table 8 : Expected Utility System Pipeline Damage (Site Specific)

| System | Total Pipelines Length (miles) | Number of Leaks | Number of Breaks |
|---------------|--------------------------------|-----------------|------------------|
| Potable Water | 139,781 | 1573 | 393 |
| Waste Water | 83,869 | 790 | 198 |
| Natural Gas | 3,240 | 0 | 0 |
| Oil | 0 | 0 | 0 |

Table 9: Expected Potable Water and Electric Power System Performance

| | Total # of Households | Number of Households without Service | | | | |
|----------------|-----------------------|--------------------------------------|----------|----------|-----------|-----------|
| | | At Day 1 | At Day 3 | At Day 7 | At Day 30 | At Day 90 |
| Potable Water | 7,846,232 | 862 | 189 | 0 | 0 | 0 |
| Electric Power | | 0 | 0 | 0 | 0 | 0 |

Induced Earthquake Damage

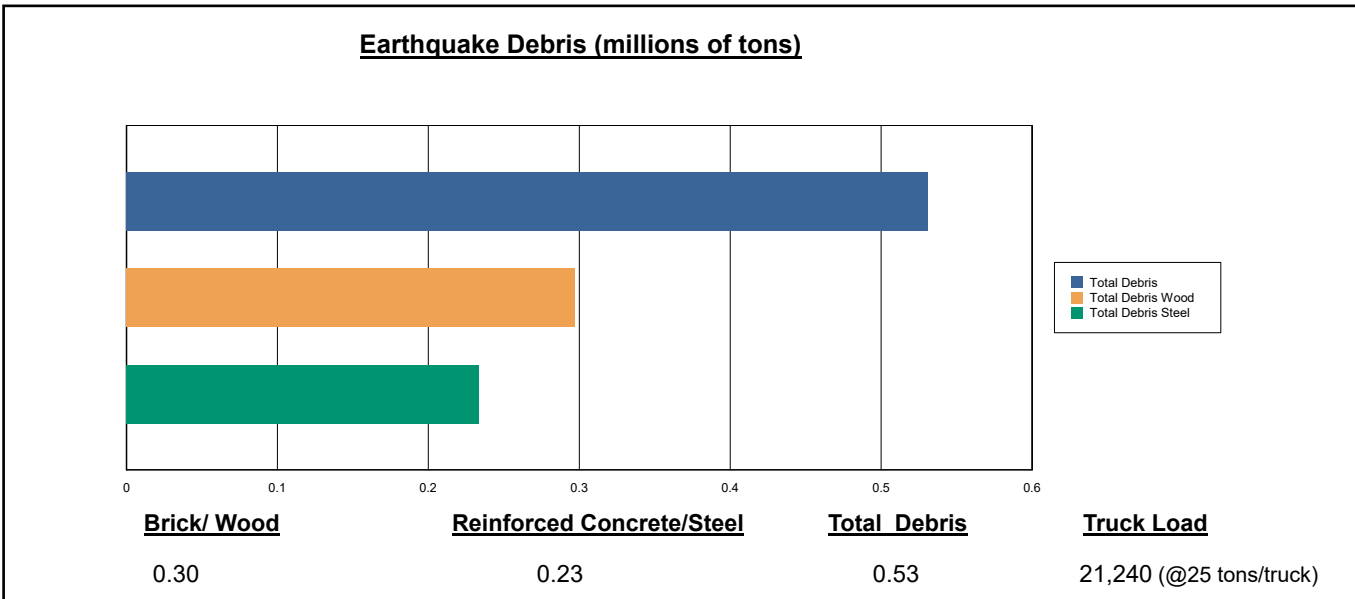
Fire Following Earthquake

Fires often occur after an earthquake. Because of the number of fires and the lack of water to fight the fires, they can often burn out of control. Hazus uses a Monte Carlo simulation model to estimate the number of ignitions and the amount of burnt area. For this scenario, the model estimates that there will be 30 ignitions that will burn about 0.52 sq. mi (0.00 % of the region's total area.) The model also estimates that the fires will displace about 5,164 people and burn about 524 (millions of dollars) of building value.

Debris Generation

Hazus estimates the amount of debris that will be generated by the earthquake. The model breaks the debris into two general categories: a) Brick/Wood and b) Reinforced Concrete/Steel. This distinction is made because of the different types of material handling equipment required to handle the debris.

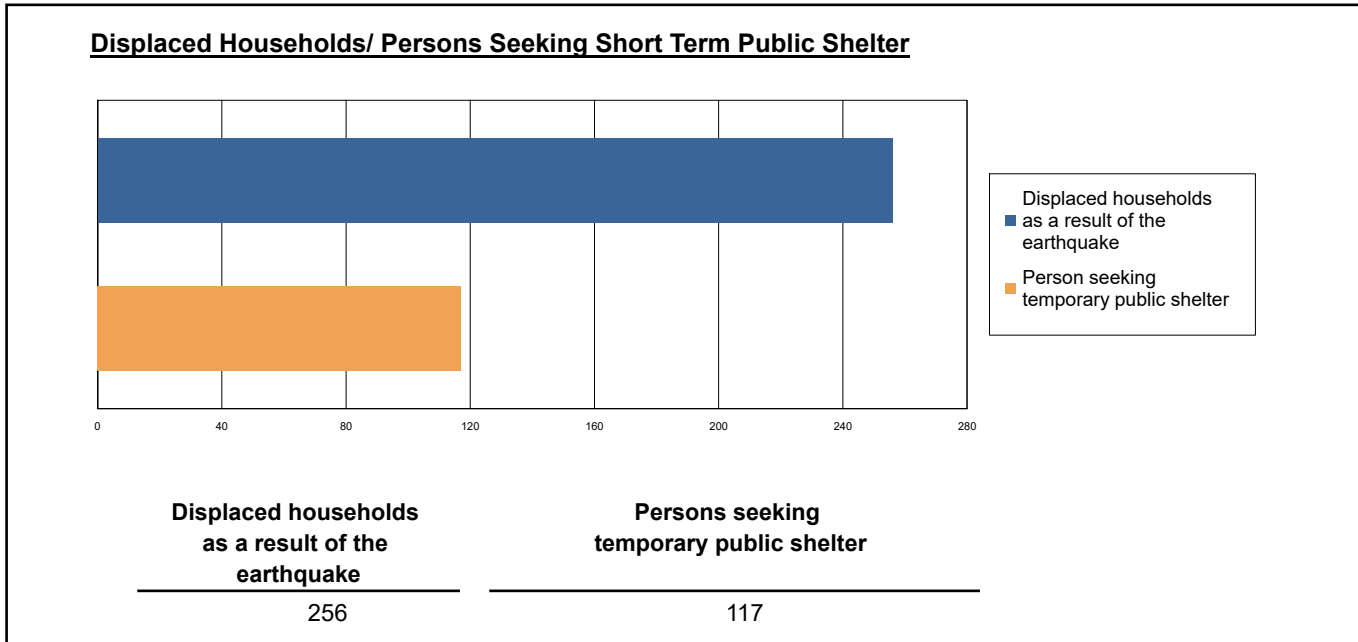
The model estimates that a total of 531,000 tons of debris will be generated. Of the total amount, Brick/Wood comprises 56.00% of the total, with the remainder being Reinforced Concrete/Steel. If the debris tonnage is converted to an estimated number of truckloads, it will require 21,240 truckloads (@25 tons/truck) to remove the debris generated by the earthquake.



Social Impact

Shelter Requirement

Hazus estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 256 households to be displaced due to the earthquake. Of these, 117 people (out of a total population of 23,480,480) will seek temporary shelter in public shelters.



Casualties

Hazus estimates the number of people that will be injured and killed by the earthquake. The casualties are broken down into four (4) severity levels that describe the extent of the injuries. The levels are described as follows;

- Severity Level 1: Injuries will require medical attention but hospitalization is not needed.
- Severity Level 2: Injuries will require hospitalization but are not considered life-threatening
- Severity Level 3: Injuries will require hospitalization and can become life threatening if not promptly treated.
- Severity Level 4: Victims are killed by the earthquake.

The casualty estimates are provided for three (3) times of day: 2:00 AM, 2:00 PM and 5:00 PM. These times represent the periods of the day that different sectors of the community are at their peak occupancy loads. The 2:00 AM estimate considers that the residential occupancy load is maximum, the 2:00 PM estimate considers that the educational, commercial and industrial sector loads are maximum and 5:00 PM represents peak commute time.

Table 10 provides a summary of the casualties estimated for this earthquake

Table 10: Casualty Estimates

| | | Level 1 | Level 2 | Level 3 | Level 4 |
|-------------------|-------------------|------------|-----------|----------|----------|
| 2 AM | Commercial | 4.56 | 0.27 | 0.00 | 0.01 |
| | Commuting | 0.01 | 0.01 | 0.03 | 0.00 |
| | Educational | 0.00 | 0.00 | 0.00 | 0.00 |
| | Hotels | 0.62 | 0.05 | 0.00 | 0.00 |
| | Industrial | 4.00 | 0.23 | 0.00 | 0.01 |
| | Other-Residential | 173.24 | 7.65 | 0.08 | 0.13 |
| | Single Family | 186.79 | 3.01 | 0.05 | 0.08 |
| | Total | 369 | 11 | 0 | 0 |
| | 2 PM | Commercial | 300.91 | 17.95 | 0.30 |
| Commuting | | 0.10 | 0.13 | 0.23 | 0.04 |
| Educational | | 89.04 | 4.46 | 0.03 | 0.05 |
| Hotels | | 0.12 | 0.01 | 0.00 | 0.00 |
| Industrial | | 29.06 | 1.70 | 0.02 | 0.04 |
| Other-Residential | | 51.31 | 2.36 | 0.03 | 0.04 |
| Single Family | | 53.61 | 0.97 | 0.02 | 0.03 |
| Total | | 524 | 28 | 1 | 1 |
| 5 PM | | Commercial | 204.31 | 12.12 | 0.20 |
| | Commuting | 2.22 | 2.71 | 4.87 | 0.93 |
| | Educational | 23.73 | 1.18 | 0.00 | 0.00 |
| | Hotels | 0.18 | 0.01 | 0.00 | 0.00 |
| | Industrial | 18.16 | 1.06 | 0.02 | 0.03 |
| | Other-Residential | 62.57 | 2.84 | 0.03 | 0.05 |
| | Single Family | 66.80 | 1.14 | 0.02 | 0.03 |
| | Total | 378 | 21 | 5 | 1 |

Economic Loss

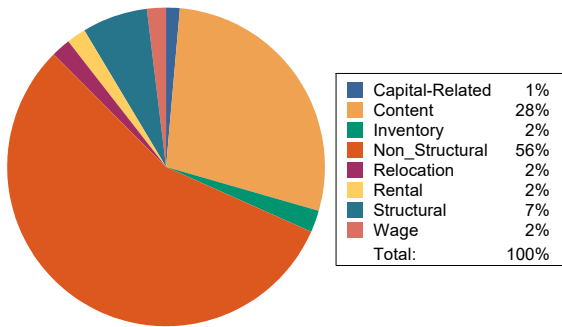
The total economic loss estimated for the earthquake is 11,375.03 (millions of dollars), which includes building and lifeline related losses based on the region's available inventory. The following three sections provide more detailed information about these losses.

Building-Related Losses

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

The total building-related losses were 8,625.45 (millions of dollars); 7 % of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 47 % of the total loss. Table 11 below provides a summary of the losses associated with the building damage.

Earthquake Losses by Loss Type (\$ millions)



Earthquake Losses by Occupancy Type (\$ millions)

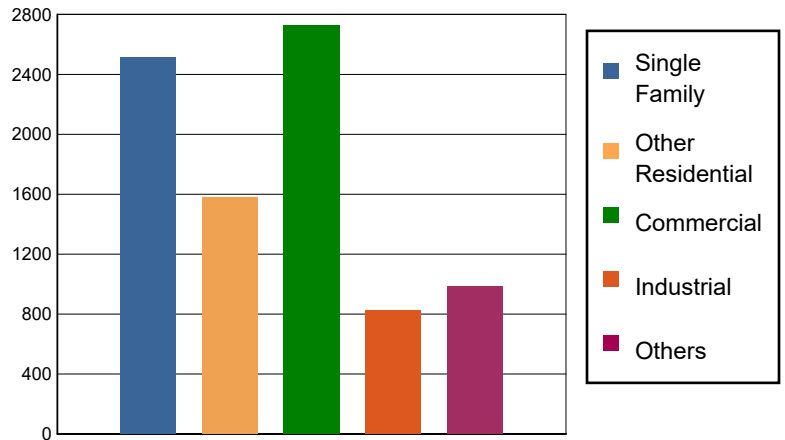


Table 11: Building-Related Economic Loss Estimates
(Millions of dollars)

| Category | Area | Single Family | Other Residential | Commercial | Industrial | Others | Total |
|-----------------------------|-----------------|------------------|-------------------|------------------|-----------------|-----------------|------------------|
| Income Losses | | | | | | | |
| | Wage | 0.0000 | 14.8842 | 115.9343 | 3.2516 | 28.9545 | 163.0246 |
| | Capital-Related | 0.0000 | 6.3202 | 109.7916 | 2.0720 | 5.1954 | 123.3792 |
| | Rental | 12.3148 | 54.1450 | 79.1599 | 2.2966 | 10.8272 | 158.7435 |
| | Relocation | 20.9893 | 21.5086 | 70.5223 | 8.9513 | 41.2394 | 163.2109 |
| | Subtotal | 33.3041 | 96.8580 | 375.4081 | 16.5715 | 86.2165 | 608.3582 |
| Capital Stock Losses | | | | | | | |
| | Structural | 218.0953 | 100.1980 | 177.5699 | 40.5079 | 49.5736 | 585.9447 |
| | Non_Structural | 1615.5480 | 1045.8719 | 1225.4642 | 420.4555 | 506.3675 | 4,813.7071 |
| | Content | 645.1180 | 334.1420 | 800.5310 | 301.0650 | 339.2359 | 2,420.0919 |
| | Inventory | 0.0000 | 0.0000 | 147.4175 | 44.6790 | 5.2471 | 197.3436 |
| | Subtotal | 2478.7613 | 1480.2119 | 2350.9826 | 806.7074 | 900.4241 | 8017.0873 |
| | Total | 2512.07 | 1577.07 | 2726.39 | 823.28 | 986.64 | 8625.45 |

Transportation and Utility Lifeline Losses

For the transportation and utility lifeline systems, Hazus computes the direct repair cost for each component only. There are no losses computed by Hazus for business interruption due to lifeline outages. Tables 12 & 13 provide a detailed breakdown in the expected lifeline losses.

Table 12: Transportation System Economic Losses
(Millions of dollars)

| System | Component | Inventory Value | Economic Loss | Loss Ratio (%) |
|--------------|-----------------|--------------------|-----------------|----------------|
| Highway | Segments | 115510.3125 | 0.0000 | 0.00 |
| | Bridges | 65710.7145 | 53.7022 | 0.08 |
| | Tunnels | 553.5147 | 0.1950 | 0.04 |
| | Subtotal | 181774.5417 | 53.8972 | |
| Railways | Segments | 62113.0193 | 0.0000 | 0.00 |
| | Bridges | 11471.0400 | 0.7875 | 0.01 |
| | Tunnels | 0.0000 | 0.0000 | 0.00 |
| | Facilities | 287.6040 | 8.6727 | 3.02 |
| | Subtotal | 73871.6633 | 9.4602 | |
| Light Rail | Segments | 5399.1047 | 0.0000 | 0.00 |
| | Bridges | 13.2750 | 0.0157 | 0.12 |
| | Tunnels | 0.0000 | 0.0000 | 0.00 |
| | Facilities | 3200.8000 | 142.8182 | 4.46 |
| | Subtotal | 8613.1797 | 142.8339 | |
| Bus | Facilities | 80.0981 | 1.2318 | 1.54 |
| | Subtotal | 80.0981 | 1.2318 | |
| Ferry | Facilities | 29.2820 | 1.7680 | 6.04 |
| | Subtotal | 29.2820 | 1.7680 | |
| Port | Facilities | 1318.8983 | 105.5255 | 8.00 |
| | Subtotal | 1318.8983 | 105.5255 | |
| Airport | Facilities | 4691.6758 | 217.8007 | 4.64 |
| | Runways | 1887.4908 | 0.0000 | 0.00 |
| | Subtotal | 6579.1666 | 217.8007 | |
| Total | | 272,266.83 | 532.52 | |

Table 13: Utility System Economic Losses

(Millions of dollars)

| System | Component | Inventory Value | Economic Loss | Loss Ratio (%) |
|------------------|--------------------|--------------------|------------------|----------------|
| Potable Water | Pipelines | 0.0000 | 0.0000 | 0.00 |
| | Facilities | 2003.9940 | 9.5856 | 0.48 |
| | Distribution Lines | 4499.1310 | 7.0777 | 0.16 |
| | Subtotal | 6503.1250 | 16.6633 | |
| Waste Water | Pipelines | 0.0000 | 0.0000 | 0.00 |
| | Facilities | 21493.9750 | 383.2522 | 1.78 |
| | Distribution Lines | 2699.4786 | 3.5553 | 0.13 |
| | Subtotal | 24193.4536 | 386.8075 | |
| Natural Gas | Pipelines | 18365.1690 | 0.0000 | 0.00 |
| | Facilities | 1475.0374 | 2.7712 | 0.19 |
| | Distribution Lines | 1799.6524 | 1.2180 | 0.07 |
| | Subtotal | 21639.8588 | 3.9892 | |
| Oil Systems | Pipelines | 0.0000 | 0.0000 | 0.00 |
| | Facilities | 7.6700 | 0.0525 | 0.68 |
| | Subtotal | 7.6700 | 0.0525 | |
| Electrical Power | Facilities | 126530.2471 | 1808.9268 | 1.43 |
| | Subtotal | 126530.2471 | 1808.9268 | |
| Communication | Facilities | 47.3180 | 0.6240 | 1.32 |
| | Subtotal | 47.3180 | 0.6240 | |
| | Total | 178,921.67 | 2,217.06 | |

Appendix A: County Listing for the Region

Imperial,CA

Kern,CA

Los Angeles,CA

Orange,CA

Riverside,CA

San Bernardino,CA

San Diego,CA

Santa Barbara,CA

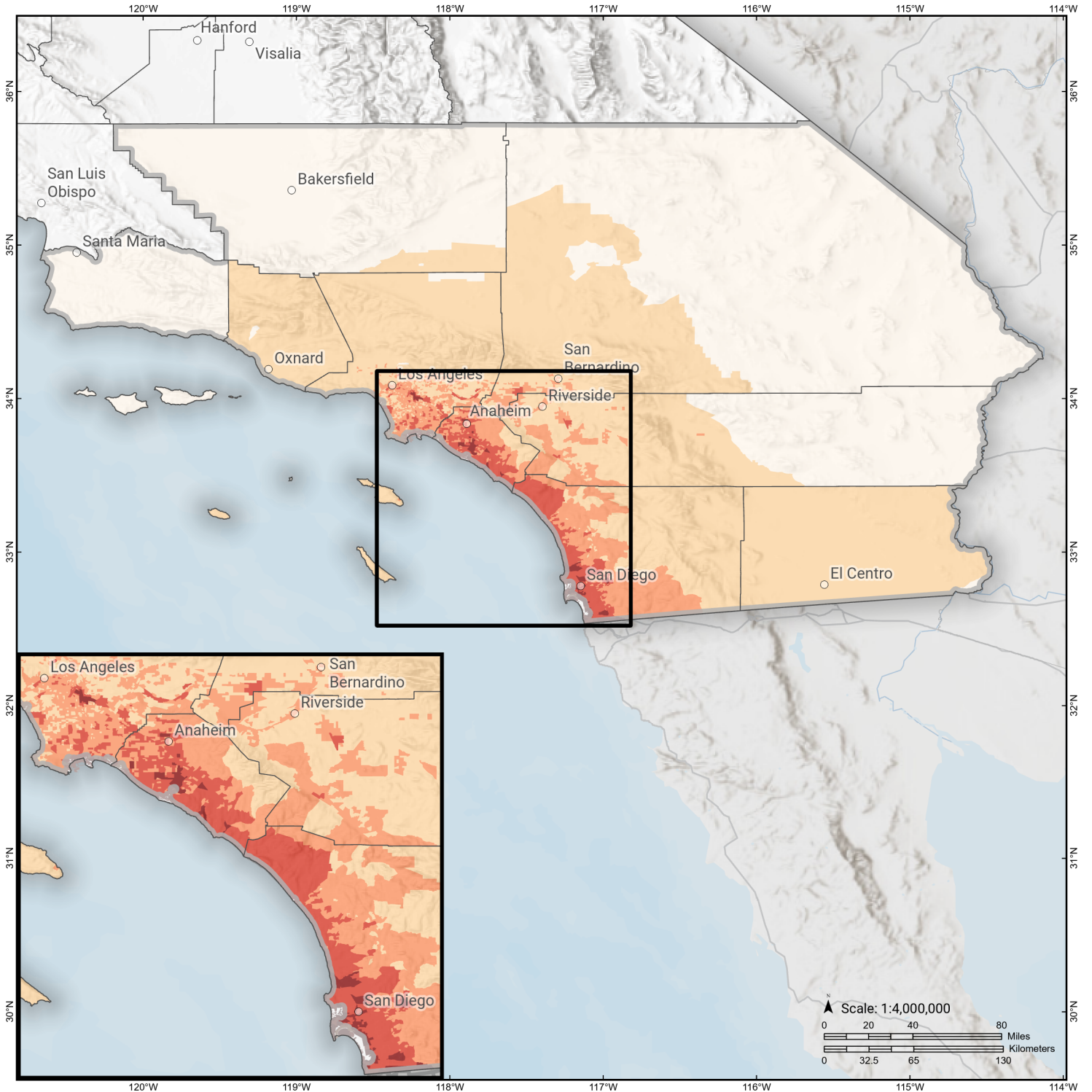
Ventura,CA

Appendix B: Regional Population and Building Value Data

| State | County Name | Population | Building Value (millions of dollars) | | |
|---------------------|----------------|-------------------|--------------------------------------|------------------|------------------|
| | | | Residential | Non-Residential | Total |
| California | Imperial | 179,702 | 20,945 | 12,603 | 33,548 |
| | Kern | 909,235 | 87,567 | 59,168 | 146,736 |
| | Los Angeles | 10,014,009 | 950,697 | 566,995 | 1,517,692 |
| | Orange | 3,186,989 | 363,381 | 176,806 | 540,188 |
| | Riverside | 2,418,185 | 281,482 | 137,249 | 418,731 |
| | San Bernardino | 2,181,654 | 225,045 | 152,557 | 377,602 |
| | San Diego | 3,298,634 | 375,834 | 193,238 | 569,072 |
| | Santa Barbara | 448,229 | 49,971 | 28,481 | 78,452 |
| | Ventura | 843,843 | 99,299 | 52,072 | 151,371 |
| Total Region | | 23,480,480 | 2,454,221 | 1,379,169 | 3,833,392 |

Coronado Bank alt2

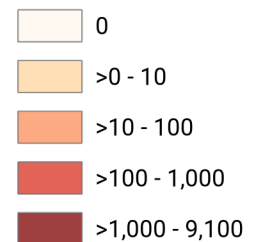
Debris Generated by Census Tract



Study Region: Coronado Bank alt2
Scenario: coronadobankalt2shaw_m7p38_se

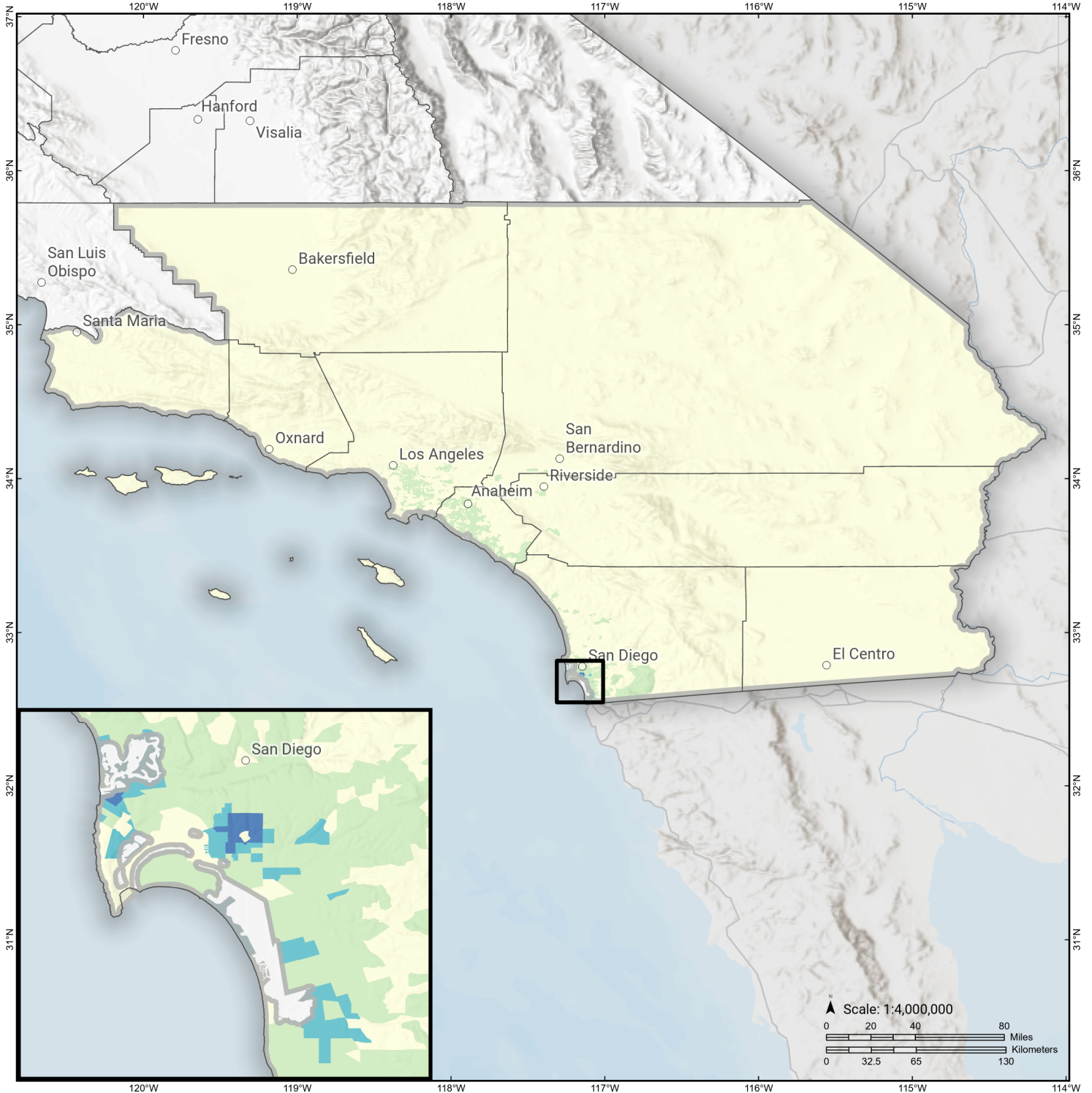


Debris Generated (in tons)



Coronado Bank alt2

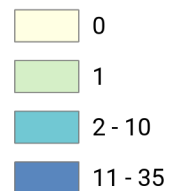
Displaced Households by Census Tract



Study Region: Coronado Bank alt2
Scenario: coronadobankalt2shaw_m7p38_se

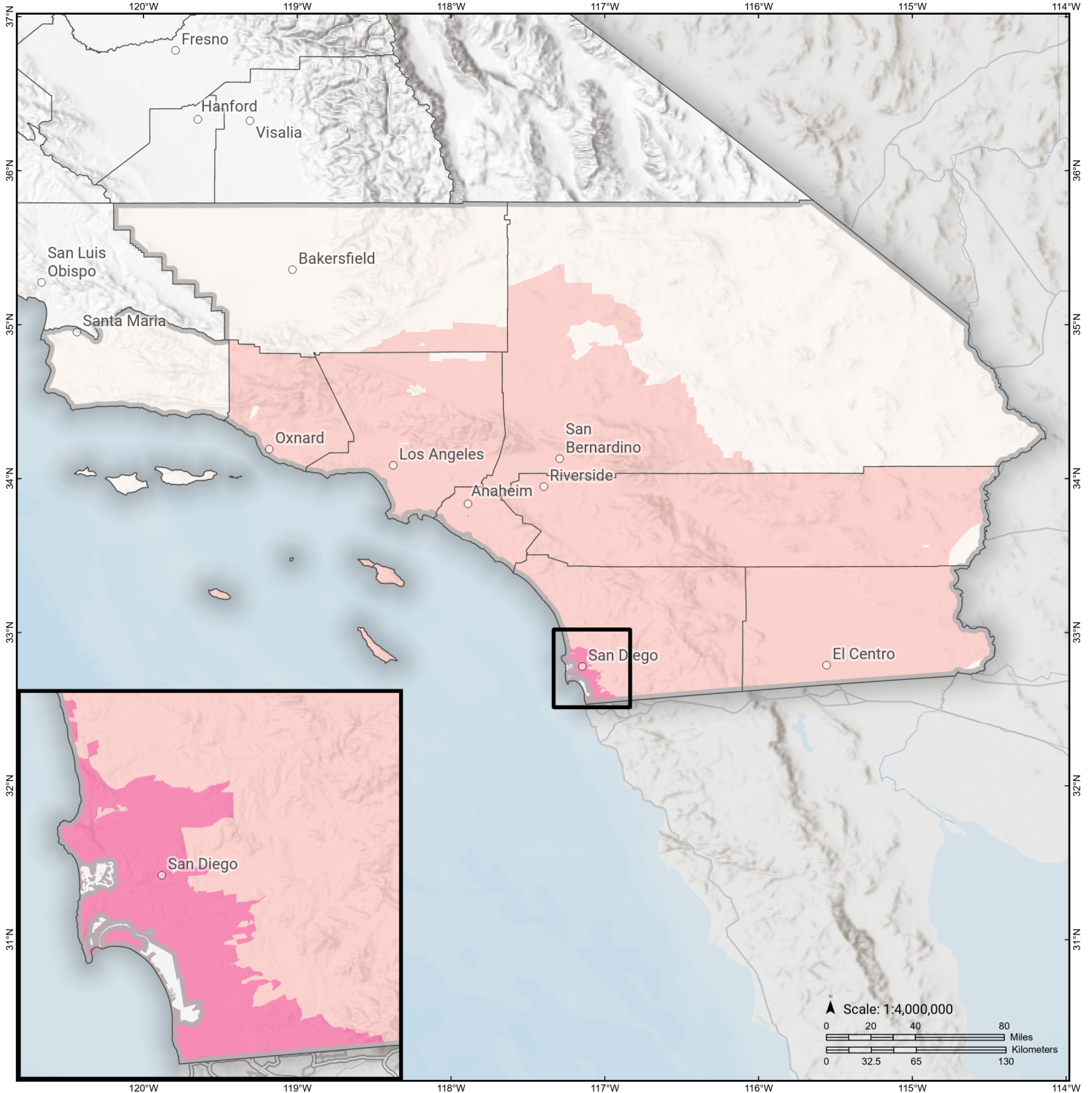


Displaced Households



Coronado Bank alt2

Loss Ratio by Census Tract



Study Region: Coronado Bank alt2
Scenario: coronadobankalt2shaw_m7p38_se

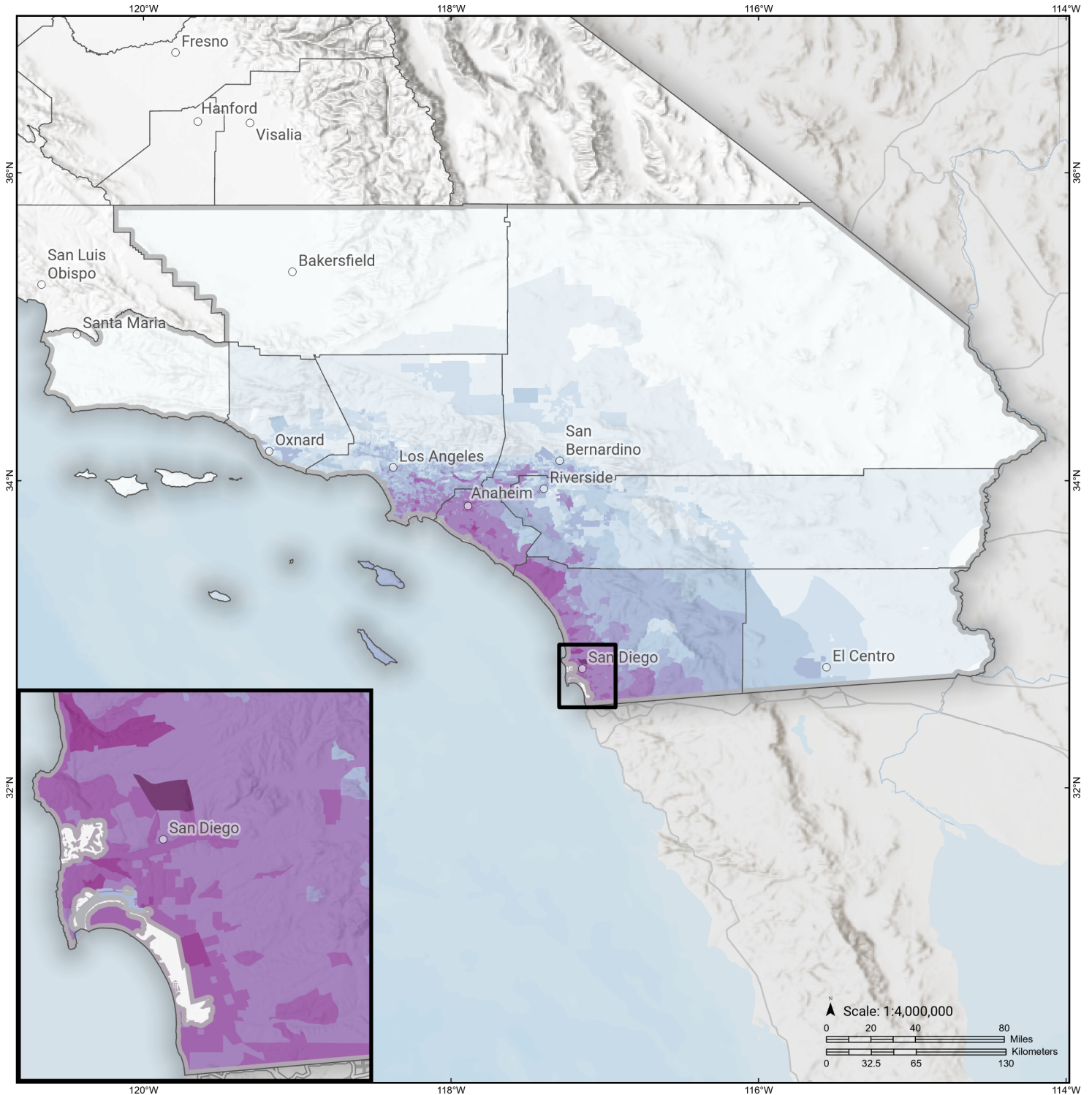
Loss Ratio (ratio of building related economic loss to exposed value of buildings)

- 0%
- >0 - 1%
- >1 - 6%



Coronado Bank alt2

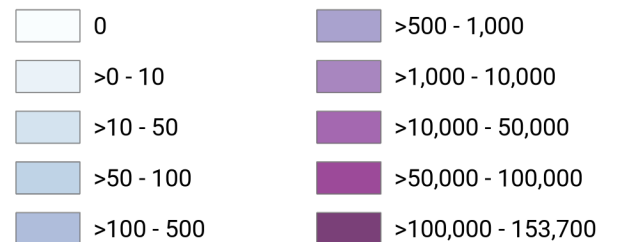
Total Building Related Economic Loss by Census Tract



Study Region: Coronado Bank alt2
Scenario: coronadobankalt2shaw_m7p38_se



Economic Loss (in USD \$)



Building Damage by Count by General Occupancy

May 21, 2024

| | # of Buildings | | | | | Total |
|--------------------------|----------------|--------|----------|-----------|----------|---------|
| | None | Slight | Moderate | Extensive | Complete | |
| California | | | | | | |
| Imperial | | | | | | |
| <i>Agriculture</i> | 138 | 0 | 0 | 0 | 0 | 138 |
| <i>Commercial</i> | 3,645 | 1 | 0 | 0 | 0 | 3,646 |
| <i>Education</i> | 99 | 0 | 0 | 0 | 0 | 99 |
| <i>Government</i> | 202 | 0 | 0 | 0 | 0 | 202 |
| <i>Industrial</i> | 580 | 0 | 0 | 0 | 0 | 580 |
| <i>Religion</i> | 295 | 0 | 0 | 0 | 0 | 295 |
| <i>Other Residential</i> | 7,509 | 9 | 0 | 0 | 0 | 7,518 |
| <i>Single Family</i> | 35,403 | 2 | 0 | 0 | 0 | 35,405 |
| Kern | | | | | | |
| <i>Agriculture</i> | 4,645 | 0 | 0 | 0 | 0 | 4,645 |
| <i>Commercial</i> | 15,567 | 0 | 0 | 0 | 0 | 15,567 |
| <i>Education</i> | 462 | 0 | 0 | 0 | 0 | 462 |
| <i>Government</i> | 443 | 0 | 0 | 0 | 0 | 443 |
| <i>Industrial</i> | 6,047 | 0 | 0 | 0 | 0 | 6,047 |
| <i>Religion</i> | 1,524 | 0 | 0 | 0 | 0 | 1,524 |
| <i>Other Residential</i> | 54,520 | 0 | 0 | 0 | 0 | 54,520 |
| <i>Single Family</i> | 205,139 | 0 | 0 | 0 | 0 | 205,139 |
| Los Angeles | | | | | | |

| | # of Buildings | | | | | Total |
|--------------------------|----------------|--------|----------|-----------|----------|-----------|
| | None | Slight | Moderate | Extensive | Complete | |
| <i>Agriculture</i> | 2,016 | 14 | 2 | 0 | 0 | 2,032 |
| <i>Commercial</i> | 188,390 | 2,264 | 204 | 3 | 0 | 190,861 |
| <i>Education</i> | 5,468 | 17 | 1 | 0 | 0 | 5,486 |
| <i>Government</i> | 2,975 | 51 | 4 | 0 | 0 | 3,031 |
| <i>Industrial</i> | 52,396 | 651 | 77 | 1 | 0 | 53,126 |
| <i>Religion</i> | 10,506 | 134 | 11 | 0 | 0 | 10,651 |
| <i>Other Residential</i> | 478,415 | 3,088 | 166 | 1 | 0 | 481,671 |
| <i>Single Family</i> | 1,797,180 | 5,918 | 41 | 0 | 0 | 1,803,140 |
| Orange | | | | | | |
| <i>Agriculture</i> | 1,044 | 78 | 12 | 1 | 0 | 1,135 |
| <i>Commercial</i> | 63,227 | 4,528 | 571 | 14 | 0 | 68,340 |
| <i>Education</i> | 1,849 | 38 | 4 | 0 | 0 | 1,890 |
| <i>Government</i> | 596 | 48 | 6 | 0 | 0 | 650 |
| <i>Industrial</i> | 17,361 | 1,266 | 165 | 3 | 0 | 18,795 |
| <i>Religion</i> | 1,905 | 135 | 17 | 0 | 0 | 2,057 |
| <i>Other Residential</i> | 77,957 | 6,934 | 819 | 9 | 0 | 85,718 |
| <i>Single Family</i> | 676,909 | 29,054 | 248 | 2 | 0 | 706,212 |
| Riverside | | | | | | |
| <i>Agriculture</i> | 1,711 | 2 | 0 | 0 | 0 | 1,713 |
| <i>Commercial</i> | 46,263 | 90 | 3 | 0 | 0 | 46,357 |
| <i>Education</i> | 989 | 1 | 0 | 0 | 0 | 990 |
| <i>Government</i> | 7,166 | 9 | 0 | 0 | 0 | 7,175 |
| <i>Industrial</i> | 6,397 | 12 | 0 | 0 | 0 | 6,409 |
| <i>Religion</i> | 1,316 | 2 | 0 | 0 | 0 | 1,319 |
| <i>Other Residential</i> | 121,898 | 853 | 48 | 0 | 0 | 122,799 |

| | # of Buildings | | | | | Total |
|--------------------------|----------------|--------|----------|-----------|----------|---------|
| | None | Slight | Moderate | Extensive | Complete | |
| <i>Single Family</i> | 604,798 | 653 | 3 | 0 | 0 | 605,455 |
| San Bernardino | | | | | | |
| <i>Agriculture</i> | 1,807 | 7 | 1 | 0 | 0 | 1,815 |
| <i>Commercial</i> | 39,981 | 58 | 3 | 0 | 0 | 40,041 |
| <i>Education</i> | 985 | 0 | 0 | 0 | 0 | 985 |
| <i>Government</i> | 1,236 | 2 | 0 | 0 | 0 | 1,238 |
| <i>Industrial</i> | 9,460 | 13 | 1 | 0 | 0 | 9,474 |
| <i>Religion</i> | 2,317 | 3 | 0 | 0 | 0 | 2,320 |
| <i>Other Residential</i> | 98,567 | 242 | 12 | 0 | 0 | 98,821 |
| <i>Single Family</i> | 525,077 | 287 | 3 | 0 | 0 | 525,367 |
| San Diego | | | | | | |
| <i>Agriculture</i> | 2,055 | 121 | 13 | 1 | 0 | 2,190 |
| <i>Commercial</i> | 52,770 | 8,078 | 1,419 | 98 | 5 | 62,369 |
| <i>Education</i> | 1,806 | 109 | 16 | 1 | 0 | 1,932 |
| <i>Government</i> | 18,872 | 1,706 | 336 | 10 | 0 | 20,924 |
| <i>Industrial</i> | 12,680 | 1,392 | 229 | 11 | 0 | 14,313 |
| <i>Religion</i> | 2,564 | 409 | 85 | 4 | 0 | 3,063 |
| <i>Other Residential</i> | 104,288 | 19,968 | 3,140 | 161 | 2 | 127,559 |
| <i>Single Family</i> | 684,680 | 75,266 | 2,839 | 220 | 16 | 763,020 |
| Santa Barbara | | | | | | |
| <i>Agriculture</i> | 464 | 0 | 0 | 0 | 0 | 464 |
| <i>Commercial</i> | 9,820 | 0 | 0 | 0 | 0 | 9,820 |
| <i>Education</i> | 299 | 0 | 0 | 0 | 0 | 299 |
| <i>Government</i> | 239 | 0 | 0 | 0 | 0 | 239 |
| <i>Industrial</i> | 2,840 | 0 | 0 | 0 | 0 | 2,840 |

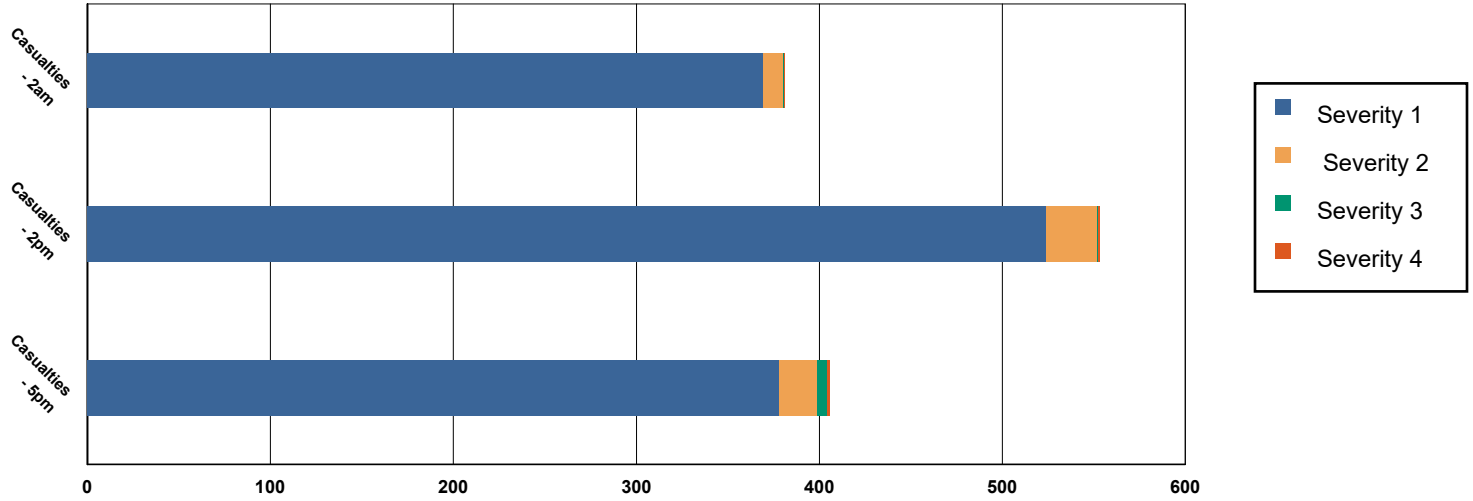
| | # of Buildings | | | | | Total |
|--------------------------|------------------|----------------|---------------|------------|-----------|------------------|
| | None | Slight | Moderate | Extensive | Complete | |
| <i>Religion</i> | 621 | 0 | 0 | 0 | 0 | 621 |
| <i>Other Residential</i> | 24,111 | 0 | 0 | 0 | 0 | 24,111 |
| <i>Single Family</i> | 98,982 | 0 | 0 | 0 | 0 | 98,982 |
| Ventura | | | | | | |
| <i>Agriculture</i> | 598 | 0 | 0 | 0 | 0 | 598 |
| <i>Commercial</i> | 14,951 | 2 | 0 | 0 | 0 | 14,953 |
| <i>Education</i> | 497 | 0 | 0 | 0 | 0 | 497 |
| <i>Government</i> | 1,001 | 0 | 0 | 0 | 0 | 1,001 |
| <i>Industrial</i> | 6,096 | 1 | 0 | 0 | 0 | 6,097 |
| <i>Religion</i> | 1,187 | 0 | 0 | 0 | 0 | 1,187 |
| <i>Other Residential</i> | 26,155 | 8 | 0 | 0 | 0 | 26,163 |
| <i>Single Family</i> | 203,968 | 0 | 0 | 0 | 0 | 203,968 |
| Total | 6,455,925 | 163,525 | 10,500 | 541 | 23 | 6,630,513 |
| Region Total | 6,455,925 | 163,525 | 10,500 | 541 | 23 | 6,630,513 |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

Casualties Summary Report

May 21, 2024

Region Total Casualties



Injury Severity Level

Severity 1 Severity 2 Severity 3 Severity 4 Total

California

Imperial

Casualties - 2am

| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | Total |
|-------------------------------|------------|------------|------------|------------|----------|
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 0 | 0 | 0 | 0 | 0 |

Casualties - 2pm

| | | | | | |
|-------------------|---|---|---|---|---|
| Educational | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |

| | Injury Severity Level | | | | Total |
|-------------------------------|-----------------------|------------|------------|------------|----------|
| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | |
| California | | | | | |
| Imperial | | | | | |
| Total Casualties - 2pm | 0 | 0 | 0 | 0 | 0 |
| Casualties - 5pm | | | | | |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 5pm | 0 | 0 | 0 | 0 | 0 |
| Kern | | | | | |
| Casualties - 2am | | | | | |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 0 | 0 | 0 | 0 | 0 |
| Casualties - 2pm | | | | | |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2pm | 0 | 0 | 0 | 0 | 0 |
| Casualties - 5pm | | | | | |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 5pm | 0 | 0 | 0 | 0 | 0 |
| Los Angeles | | | | | |
| Casualties - 2am | | | | | |
| Hotels | 0 | 0 | 0 | 0 | 0 |

| | Injury Severity Level | | | | Total |
|-------------------------------|-----------------------|------------|------------|------------|-----------|
| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | |
| California | | | | | |
| Los Angeles | | | | | |
| Casualties - 2am | | | | | |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 10 | 0 | 0 | 0 | 10 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 22 | 1 | 0 | 0 | 22 |
| <i>Commercial</i> | 1 | 0 | 0 | 0 | 1 |
| Total Casualties - 2am | 33 | 1 | 0 | 0 | 33 |
| Casualties - 2pm | | | | | |
| <i>Industrial</i> | 3 | 0 | 0 | 0 | 4 |
| <i>Other-Residential</i> | 6 | 0 | 0 | 0 | 7 |
| <i>Commercial</i> | 35 | 1 | 0 | 0 | 37 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 7 | 0 | 0 | 0 | 7 |
| <i>Single Family</i> | 3 | 0 | 0 | 0 | 3 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2pm | 55 | 2 | 0 | 0 | 56 |
| Casualties - 5pm | | | | | |
| <i>Other-Residential</i> | 8 | 0 | 0 | 0 | 8 |
| <i>Industrial</i> | 2 | 0 | 0 | 0 | 2 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 1 |
| <i>Single Family</i> | 4 | 0 | 0 | 0 | 4 |
| <i>Commercial</i> | 23 | 1 | 0 | 0 | 24 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 2 | 0 | 0 | 0 | 2 |
| Total Casualties - 5pm | 38 | 1 | 0 | 0 | 40 |
| Orange | | | | | |
| Casualties - 2am | | | | | |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Industrial</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Other-Residential</i> | 33 | 1 | 0 | 0 | 34 |
| <i>Commercial</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Single Family</i> | 48 | 0 | 0 | 0 | 48 |
| Total Casualties - 2am | 83 | 2 | 0 | 0 | 84 |
| Casualties - 2pm | | | | | |
| <i>Industrial</i> | 10 | 0 | 0 | 0 | 10 |
| <i>Other-Residential</i> | 9 | 0 | 0 | 0 | 10 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 58 | 3 | 0 | 0 | 61 |
| <i>Single Family</i> | 13 | 0 | 0 | 0 | 13 |

| | Injury Severity Level | | | | Total |
|-------------------------------|-----------------------|------------|------------|------------|------------|
| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | |
| California | | | | | |
| Orange | | | | | |
| Casualties - 2pm | | | | | |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 23 | 1 | 0 | 0 | 23 |
| Total Casualties - 2pm | 113 | 4 | 0 | 0 | 118 |
| Casualties - 5pm | | | | | |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 6 | 0 | 0 | 0 | 6 |
| <i>Commuting</i> | 0 | 0 | 1 | 0 | 2 |
| <i>Single Family</i> | 17 | 0 | 0 | 0 | 17 |
| <i>Commercial</i> | 39 | 2 | 0 | 0 | 40 |
| <i>Other-Residential</i> | 12 | 0 | 0 | 0 | 12 |
| <i>Industrial</i> | 6 | 0 | 0 | 0 | 6 |
| Total Casualties - 5pm | 80 | 3 | 1 | 0 | 84 |
| Riverside | | | | | |
| Casualties - 2am | | | | | |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 2 | 0 | 0 | 0 | 2 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 3 | 0 | 0 | 0 | 3 |
| Casualties - 2pm | | | | | |
| <i>Commercial</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Other-Residential</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2pm | 2 | 0 | 0 | 0 | 2 |
| Casualties - 5pm | | | | | |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 5pm | 2 | 0 | 0 | 0 | 2 |

| | Injury Severity Level | | | | Total |
|-------------------------------|-----------------------|------------|------------|------------|------------|
| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | |
| California | | | | | |
| San Bernardino | | | | | |
| Casualties - 2am | | | | | |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 1 | 0 | 0 | 0 | 1 |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 1 | 0 | 0 | 0 | 1 |
| Casualties - 2pm | | | | | |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 1 | 0 | 0 | 0 | 1 |
| Total Casualties - 2pm | 1 | 0 | 0 | 0 | 1 |
| Casualties - 5pm | | | | | |
| <i>Other-Residential</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 5pm | 1 | 0 | 0 | 0 | 1 |
| San Diego | | | | | |
| Casualties - 2am | | | | | |
| <i>Commercial</i> | 3 | 0 | 0 | 0 | 3 |
| <i>Other-Residential</i> | 117 | 6 | 0 | 0 | 123 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 128 | 3 | 0 | 0 | 130 |
| <i>Industrial</i> | 2 | 0 | 0 | 0 | 2 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 250 | 9 | 0 | 0 | 259 |
| Casualties - 2pm | | | | | |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 59 | 3 | 0 | 0 | 63 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 206 | 14 | 0 | 0 | 221 |

Injury Severity Level

| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | Total |
|--|------------|------------|------------|------------|-------|
|--|------------|------------|------------|------------|-------|

California

San Diego

Casualties - 2pm

| | | | | | |
|-------------------------------|------------|-----------|----------|----------|------------|
| Other-Residential | 35 | 2 | 0 | 0 | 37 |
| Single Family | 37 | 1 | 0 | 0 | 38 |
| Industrial | 16 | 1 | 0 | 0 | 17 |
| Total Casualties - 2pm | 353 | 21 | 1 | 1 | 376 |

Casualties - 5pm

| | | | | | |
|-------------------------------|------------|-----------|----------|----------|------------|
| Other-Residential | 42 | 2 | 0 | 0 | 44 |
| Commercial | 142 | 9 | 0 | 0 | 152 |
| Commuting | 2 | 2 | 4 | 1 | 9 |
| Single Family | 46 | 1 | 0 | 0 | 47 |
| Educational | 16 | 1 | 0 | 0 | 17 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Industrial | 10 | 1 | 0 | 0 | 11 |
| Total Casualties - 5pm | 257 | 16 | 4 | 1 | 279 |

Santa Barbara

Casualties - 2am

| | | | | | |
|-------------------------------|----------|----------|----------|----------|----------|
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 0 | 0 | 0 | 0 | 0 |

Casualties - 2pm

| | | | | | |
|-------------------------------|----------|----------|----------|----------|----------|
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2pm | 0 | 0 | 0 | 0 | 0 |

Casualties - 5pm

| | | | | | |
|-------------------|---|---|---|---|---|
| Other-Residential | 0 | 0 | 0 | 0 | 0 |
| Single Family | 0 | 0 | 0 | 0 | 0 |
| Commercial | 0 | 0 | 0 | 0 | 0 |
| Commuting | 0 | 0 | 0 | 0 | 0 |
| Educational | 0 | 0 | 0 | 0 | 0 |
| Industrial | 0 | 0 | 0 | 0 | 0 |
| Hotels | 0 | 0 | 0 | 0 | 0 |

| | Injury Severity Level | | | | Total |
|-------------------------------|-----------------------|------------|------------|------------|----------|
| | Severity 1 | Severity 2 | Severity 3 | Severity 4 | |
| California | | | | | |
| Santa Barbara | | | | | |
| Total Casualties - 5pm | 0 | 0 | 0 | 0 | 0 |
| Ventura | | | | | |
| Casualties - 2am | | | | | |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2am | 0 | 0 | 0 | 0 | 0 |
| Casualties - 2pm | | | | | |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 2pm | 0 | 0 | 0 | 0 | 0 |
| Casualties - 5pm | | | | | |
| <i>Commuting</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Other-Residential</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Commercial</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Hotels</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Educational</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Single Family</i> | 0 | 0 | 0 | 0 | 0 |
| <i>Industrial</i> | 0 | 0 | 0 | 0 | 0 |
| Total Casualties - 5pm | 0 | 0 | 0 | 0 | 0 |
| Region Total | NA | NA | NA | NA | NA |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

Debris Summary Report



May 21, 2024

All values are in thousands of tons.

| | Brick, Wood & Others | Concrete & Steel | Total |
|---------------------|----------------------|------------------|------------|
| California | | | |
| Imperial | 0 | 0 | 0 |
| Kern | 0 | 0 | 0 |
| Los Angeles | 50 | 20 | 70 |
| Orange | 72 | 60 | 132 |
| Riverside | 3 | 0 | 4 |
| San Bernardino | 2 | 0 | 2 |
| San Diego | 172 | 152 | 323 |
| Santa Barbara | 0 | 0 | 0 |
| Ventura | 0 | 0 | 0 |
| Total | 299 | 232 | 532 |
| Region Total | 299 | 232 | 532 |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

Direct Economic Losses For Buildings

May 21, 2024

All values are in thousands of dollars

| | Capital Stock Losses | | | | Loss Ratio % | Income Losses | | | | Total Loss |
|-------------------|------------------------|-------------------------|----------------------|----------------|--------------|-----------------|----------------------|--------------|--------------------|------------|
| | Cost Structural Damage | Cost Non-struct. Damage | Cost Contents Damage | Inventory Loss | | Relocation Loss | Capital Related Loss | Wages Losses | Rental Income Loss | |
| California | | | | | | | | | | |
| Imperial | 22 | 783 | 428 | 74 | 0.00 | 1 | 2 | 2 | 4 | 1,317 |
| San Bernardino | 1,919 | 30,346 | 15,940 | 2,505 | 0.01 | 196 | 179 | 218 | 413 | 51,717 |
| Riverside | 3,143 | 52,111 | 26,031 | 1,870 | 0.01 | 299 | 291 | 299 | 660 | 84,704 |
| Santa Barbara | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 |
| Kern | 0 | 6 | 3 | 0 | 0.00 | 0 | 0 | 0 | 0 | 9 |
| Ventura | 29 | 1,934 | 1,246 | 173 | 0.00 | 2 | 6 | 7 | 8 | 3,403 |
| Orange | 147,061 | 1,279,395 | 650,837 | 56,793 | 0.26 | 28,156 | 27,196 | 31,413 | 34,139 | 2,254,990 |
| San Diego | 375,193 | 2,937,313 | 1,432,700 | 103,955 | 0.58 | 121,993 | 84,527 | 117,015 | 105,624 | 5,278,318 |
| Los Angeles | 58,579 | 511,821 | 292,908 | 31,973 | 0.04 | 12,565 | 11,178 | 14,070 | 17,895 | 950,989 |

| | Capital Stock Losses | | | | Loss Ratio % | Income Losses | | | | Total Loss |
|---------------------|------------------------|-------------------------|----------------------|----------------|--------------|-----------------|----------------------|--------------|--------------------|------------|
| | Cost Structural Damage | Cost Non-struct. Damage | Cost Contents Damage | Inventory Loss | | Relocation Loss | Capital Related Loss | Wages Losses | Rental Income Loss | |
| Total | 585,945 | 4,813,707 | 2,420,092 | 197,344 | 0.10 | 163,211 | 123,379 | 163,025 | 158,744 | 8,625,447 |
| Region Total | 585,945 | 4,813,707 | 2,420,092 | 197,344 | 0.10 | 163,211 | 123,379 | 163,025 | 158,744 | 8,625,447 |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

Direct Economic Loss For Transportation

May 21, 2024

All values are in thousands of dollars

| | Highway | Railway | Light Rail | Bus Facility | Ports | Ferries | Airport | Total |
|--------------------|-----------|-----------|------------|--------------|----------|----------|------------|------------|
| California | | | | | | | | |
| Imperial | | | | | | | | |
| Segments | 0 | 0 | 0 | | | | | 0 |
| Bridges | 11 | 0 | 0 | | | | | 11 |
| Tunnels | 0 | 0 | 0 | | | | | 0 |
| Facilities | | 77 | 0 | 0 | 0 | 0 | 461 | 538 |
| Total | 11 | 77 | 0 | 0 | 0 | 0 | 461 | 549 |
| Kern | | | | | | | | |
| Segments | 0 | 0 | 0 | | | | | 0 |
| Bridges | 0 | 0 | 0 | | | | | 0 |
| Tunnels | 0 | 0 | 0 | | | | | 0 |
| Facilities | | 0 | 0 | 2 | 0 | 0 | 17 | 19 |
| Total | 0 | 0 | 0 | 2 | 0 | 0 | 17 | 20 |
| Los Angeles | | | | | | | | |
| Segments | 0 | 0 | 0 | | | | | 0 |
| Bridges | 10,134 | 11 | 0 | | | | | 10,145 |
| Tunnels | 2 | 0 | 0 | | | | | 2 |
| Facilities | | 3,713 | 40,335 | 521 | 30,987 | 546 | 31,854 | 107,956 |

| | Highway | Railway | Light Rail | Bus Facility | Ports | Ferries | Airport | Total |
|-----------------------|---------------|--------------|---------------|--------------|---------------|------------|---------------|----------------|
| Total | 10,137 | 3,724 | 40,335 | 521 | 30,987 | 546 | 31,854 | 118,103 |
| Orange | | | | | | | | |
| <i>Segments</i> | 0 | 0 | 0 | | | | | 0 |
| <i>Bridges</i> | 4,717 | 50 | 0 | | | | | 4,767 |
| <i>Tunnels</i> | 2 | 0 | 0 | | | | | 2 |
| <i>Facilities</i> | | 1,428 | 0 | 0 | 4,605 | 449 | 32,124 | 38,606 |
| Total | 4,719 | 1,478 | 0 | 0 | 4,605 | 449 | 32,124 | 43,374 |
| Riverside | | | | | | | | |
| <i>Segments</i> | 0 | 0 | 0 | | | | | 0 |
| <i>Bridges</i> | 143 | 0 | 0 | | | | | 143 |
| <i>Tunnels</i> | 0 | 0 | 0 | | | | | 0 |
| <i>Facilities</i> | | 212 | 0 | 324 | 0 | 0 | 2,178 | 2,713 |
| Total | 143 | 212 | 0 | 324 | 0 | 0 | 2,178 | 2,856 |
| San Bernardino | | | | | | | | |
| <i>Segments</i> | 0 | 0 | 0 | | | | | 0 |
| <i>Bridges</i> | 178 | 0 | 0 | | | | | 178 |
| <i>Tunnels</i> | 0 | 0 | 0 | | | | | 0 |
| <i>Facilities</i> | | 419 | 0 | 43 | 0 | 0 | 2,934 | 3,396 |
| Total | 178 | 419 | 0 | 43 | 0 | 0 | 2,934 | 3,574 |
| San Diego | | | | | | | | |
| <i>Segments</i> | 0 | 0 | 0 | | | | | 0 |
| <i>Bridges</i> | 38,515 | 727 | 16 | | | | | 39,257 |
| <i>Tunnels</i> | 191 | 0 | 0 | | | | | 191 |
| <i>Facilities</i> | | 2,687 | 102,483 | 321 | 69,236 | 745 | 147,625 | 323,097 |

| | Highway | Railway | Light Rail | Bus Facility | Ports | Ferries | Airport | Total |
|----------------------|---------------|--------------|----------------|--------------|----------------|--------------|----------------|----------------|
| Total | 38,706 | 3,414 | 102,499 | 321 | 69,236 | 745 | 147,625 | 362,545 |
| Santa Barbara | | | | | | | | |
| Segments | 0 | 0 | 0 | | | | | 0 |
| Bridges | 0 | 0 | 0 | | | | | 0 |
| Tunnels | 0 | 0 | 0 | | | | | 0 |
| Facilities | | 9 | 0 | 0 | 33 | 3 | 42 | 86 |
| Total | 0 | 9 | 0 | 0 | 33 | 3 | 42 | 86 |
| Ventura | | | | | | | | |
| Segments | 0 | 0 | 0 | | | | | 0 |
| Bridges | 4 | 0 | 0 | | | | | 4 |
| Tunnels | 0 | 0 | 0 | | | | | 0 |
| Facilities | | 128 | 0 | 21 | 665 | 26 | 566 | 1,405 |
| Total | 4 | 128 | 0 | 21 | 665 | 26 | 566 | 1,409 |
| Total | 53,897 | 9,460 | 142,834 | 1,232 | 105,525 | 1,768 | 217,801 | 532,517 |
| Region Total | 53,897 | 9,460 | 142,834 | 1,232 | 105,525 | 1,768 | 217,801 | 532,517 |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

Direct Economic Loss For Utilities

May 21, 2024

All values are in thousands of dollars

| | Potable Water | Waste Water | Oil Systems | Natural Gas | Electric Power | Communication | Total |
|--------------------|---------------|-------------|-------------|-------------|----------------|---------------|---------|
| California | | | | | | | |
| Imperial | | | | | | | |
| <i>Facilities</i> | 56 | 1,844 | 0 | 0 | 47,591 | 2 | 49,494 |
| <i>Pipelines</i> | 101 | 51 | 0 | 0 | | | 152 |
| Total | 157 | 1,895 | 0 | 0 | 47,591 | 2 | 49,645 |
| Kern | | | | | | | |
| <i>Facilities</i> | 1 | 3 | 0 | 0 | 12,026 | 0 | 12,030 |
| <i>Pipelines</i> | 177 | 89 | 0 | 0 | | | 266 |
| Total | 178 | 92 | 0 | 0 | 12,026 | 0 | 12,296 |
| Los Angeles | | | | | | | |
| <i>Facilities</i> | 1,702 | 13,670 | 36 | 1,050 | 628,761 | 45 | 645,265 |
| <i>Pipelines</i> | 1,202 | 604 | 0 | 0 | | | 1,807 |
| Total | 2,905 | 14,274 | 36 | 1,050 | 628,761 | 45 | 647,071 |
| Orange | | | | | | | |
| <i>Facilities</i> | 2,366 | 48,512 | 7 | 803 | 132,471 | 55 | 184,214 |

| | Potable Water | Waste Water | Oil Systems | Natural Gas | Electric Power | Communication | Total |
|-----------------------|---------------|-------------|-------------|-------------|----------------|---------------|-----------|
| <i>Pipelines</i> | 1,619 | 813 | 0 | 0 | | | 2,432 |
| Total | 3,985 | 49,325 | 7 | 803 | 132,471 | 55 | 186,646 |
| Riverside | | | | | | | |
| <i>Facilities</i> | 1,271 | 14,580 | 0 | 78 | 80,236 | 10 | 96,174 |
| <i>Pipelines</i> | 450 | 226 | 0 | 0 | | | 676 |
| Total | 1,721 | 14,806 | 0 | 78 | 80,236 | 10 | 96,850 |
| San Bernardino | | | | | | | |
| <i>Facilities</i> | 112 | 7,206 | 0 | 92 | 69,929 | 8 | 77,348 |
| <i>Pipelines</i> | 430 | 216 | 0 | 0 | | | 645 |
| Total | 542 | 7,422 | 0 | 92 | 69,929 | 8 | 77,993 |
| San Diego | | | | | | | |
| <i>Facilities</i> | 3,963 | 295,821 | 9 | 658 | 817,856 | 501 | 1,118,808 |
| <i>Pipelines</i> | 2,970 | 1,492 | 0 | 0 | | | 4,462 |
| Total | 6,933 | 297,313 | 9 | 658 | 817,856 | 501 | 1,123,270 |
| Santa Barbara | | | | | | | |
| <i>Facilities</i> | 0 | 15 | 0 | 4 | 14 | 0 | 34 |
| <i>Pipelines</i> | 24 | 12 | 0 | 0 | | | 35 |
| Total | 24 | 27 | 0 | 4 | 14 | 0 | 69 |
| Ventura | | | | | | | |
| <i>Facilities</i> | 113 | 1,601 | 0 | 87 | 20,043 | 3 | 21,847 |
| <i>Pipelines</i> | 105 | 53 | 0 | 0 | | | 158 |

| | Potable Water | Waste Water | Oil Systems | Natural Gas | Electric Power | Communication | Total |
|---------------------|---------------|----------------|-------------|--------------|------------------|---------------|------------------|
| Total | 218 | 1,654 | 0 | 87 | 20,043 | 3 | 22,005 |
| Total | 16,663 | 386,808 | 52 | 2,771 | 1,808,927 | 624 | 2,215,845 |
| Region Total | 16,663 | 386,808 | 52 | 2,771 | 1,808,927 | 624 | 2,215,845 |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

Hazus Quick Assessment Report

Estimated Economic Loss (\$ Billions)

| Category | Description | Range |
|------------------------|-----------------------|--------------|
| General Building Stock | Building Damage | 2.70 - 10.80 |
| | Building Contents | 0.40 - 1.50 |
| | Business Interruption | 0.30 - 1.20 |
| Infrastructure | Lifelines Damage | |
| Total | | 4.30 - 17.30 |

Preliminary Damage Assessment (PDA) Estimates

| Description | Residential | Commercial | Other | Total |
|--------------|-------------|------------|-------|---------|
| Affected | 142,300 | 15,000 | 5,900 | 163,200 |
| Minor | 7,300 | 2,200 | 930 | 10,430 |
| Major | 390 | 110 | 30 | 530 |
| Destroyed | 20 | < 10 | < 10 | 20 |
| Total | 150,010 | 17,310 | 6,860 | 174,180 |

Estimated Casualties : Night Time

| Severity Level | Description | # Persons |
|----------------|------------------|-----------|
| Level 1 | Medical Aid | 180 - 700 |
| Level 2 | Hospital Care | 10 - 20 |
| Level 3 | Life-threatening | < 10 |
| Level 4 | Fatalities | < 10 |

Estimated Shelter Needs

| Type | Households | People |
|----------------------|------------|-------------|
| Displaced Households | 130 - 500 | 325 - 1,250 |
| Public Shelter | 50 | 120 |

Comments :

**Hazus damage estimates are presented using FEMA Preliminary Damage Assessment (PDA) categories. These estimates should be used for planning purposes and may not reflect actual observed damages from the PDA process.*

Disclaimer:

The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific earthquake. These results can be improved by using enhanced inventory, geotechnical, and observed ground motion data.

Earthquake Information

Location :

Origin Time:

Magnitude : 7.38

Epicenter Latitude/Longitude :
/

Depth & Type : /U

Name :
NA

Ground Motion /Attenuation :

Maximum PGA: 0.00

Information Sources:

Comments :

Population and Building Exposure

Population: 23,480,480

Building Exposure : (\$ Millions)

| | |
|-------------|---------|
| Residential | |
| Commercial | 793,699 |
| Other | 585,473 |
| Total | |

Counties :

Major Metro Area :

Hazus Quick Assessment Report

Estimated Economic Loss (\$ Billions)

| Category | Description | Range |
|------------------------|-----------------------|--------------|
| General Building Stock | Building Damage | 2.70 - 10.80 |
| | Building Contents | 0.40 - 1.50 |
| | Business Interruption | 0.30 - 1.20 |
| Infrastructure | Lifelines Damage | |
| Total | | 4.30 - 17.30 |

Preliminary Damage Assessment (PDA) Estimates

| Description | Residential | Commercial | Other | Total |
|--------------|-------------|------------|-------|---------|
| Affected | 142,300 | 15,000 | 5,900 | 163,200 |
| Minor | 7,300 | 2,200 | 930 | 10,430 |
| Major | 390 | 110 | 30 | 530 |
| Destroyed | 20 | < 10 | < 10 | 20 |
| Total | 150,010 | 17,310 | 6,860 | 174,180 |

Estimated Casualties : Day Time

| Severity Level | Description | # Persons |
|----------------|------------------|-------------|
| Level 1 | Medical Aid | 300 - 1,000 |
| Level 2 | Hospital Care | 10 - 60 |
| Level 3 | Life-threatening | < 10 |
| Level 4 | Fatalities | < 10 |

Estimated Shelter Needs

| Type | Households | People |
|----------------------|------------|-------------|
| Displaced Households | 130 - 500 | 325 - 1,250 |
| Public Shelter | 50 | 120 |

Comments :

*Hazus damage estimates are presented using FEMA Preliminary Damage Assessment (PDA) categories. These estimates should be used for planning purposes and may not reflect actual observed damages from the PDA process.

Disclaimer:

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Earthquake Information

Location :

Origin Time:

Magnitude : 7.38

Epicenter Latitude/Longitude :
/

Depth & Type : /U

Name :
NA

Ground Motion /Attenuation :

Maximum PGA: 0.00

Information Sources:

Comments :

Population and Building Exposure

Population: 23,480,480

Building Exposure : (\$ Millions)

| | |
|-------------|---------|
| Residential | |
| Commercial | 793,699 |
| Other | 585,473 |
| Total | |

Counties :

Major Metro Area :

Hazus Quick Assessment Report

Estimated Economic Loss (\$ Billions)

| Category | Description | Range |
|------------------------|-----------------------|--------------|
| General Building Stock | Building Damage | 2.70 - 10.80 |
| | Building Contents | 0.40 - 1.50 |
| | Business Interruption | 0.30 - 1.20 |
| Infrastructure | Lifelines Damage | |
| Total | | 4.30 - 17.30 |

Preliminary Damage Assessment (PDA) Estimates

| Description | Residential | Commercial | Other | Total |
|--------------|-------------|------------|-------|---------|
| Affected | 142,300 | 15,000 | 5,900 | 163,200 |
| Minor | 7,300 | 2,200 | 930 | 10,430 |
| Major | 390 | 110 | 30 | 530 |
| Destroyed | 20 | < 10 | < 10 | 20 |
| Total | 150,010 | 17,310 | 6,860 | 174,180 |

Estimated Casualties : Commute Time

| Severity Level | Description | # Persons |
|----------------|------------------|-----------|
| Level 1 | Medical Aid | 190 - 800 |
| Level 2 | Hospital Care | 10 - 40 |
| Level 3 | Life-threatening | < 10 |
| Level 4 | Fatalities | < 10 |

Estimated Shelter Needs

| Type | Households | People |
|----------------------|------------|-------------|
| Displaced Households | 130 - 500 | 325 - 1,250 |
| Public Shelter | 50 | 120 |

Comments :

**Hazus damage estimates are presented using FEMA Preliminary Damage Assessment (PDA) categories. These estimates should be used for planning purposes and may not reflect actual observed damages from the PDA process.*

Disclaimer:

The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific earthquake. These results can be improved by using enhanced inventory, geotechnical, and observed ground motion data.

Earthquake Information

Location :

Origin Time:

Magnitude : 7.38

Epicenter Latitude/Longitude :
/

Depth & Type : /U

Name :
NA

Ground Motion /Attenuation :

Maximum PGA: 0.00

Information Sources:

Comments :

Population and Building Exposure

Population: 23,480,480

Building Exposure : (\$ Millions)

| | |
|-------------|---------|
| Residential | |
| Commercial | 793,699 |
| Other | 585,473 |
| Total | |

Counties :

Major Metro Area :

Shelter Summary Report

May 21, 2024

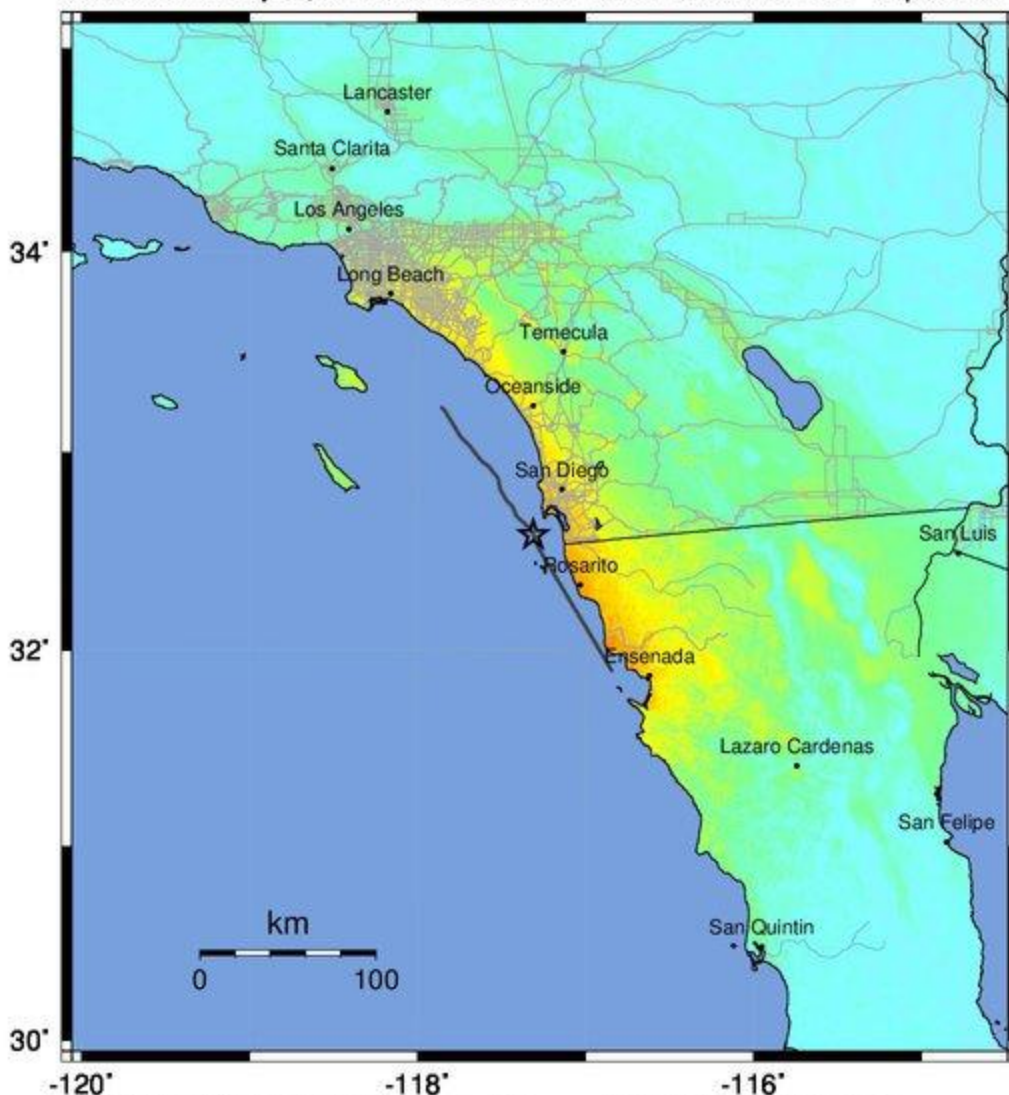
| | # of Displaced Households | # of People Needing Short Term Shelter |
|---------------------|------------------------------|---|
| California | | |
| Imperial | 0 | 0 |
| Kern | 0 | 0 |
| Los Angeles | 12 | 6 |
| Orange | 18 | 10 |
| Riverside | 0 | 0 |
| San Bernardino | 0 | 0 |
| San Diego | 225 | 103 |
| Santa Barbara | 0 | 0 |
| Ventura | 0 | 0 |
| Total | 256 | 118 |
| Region Total | 256 | 118 |

Totals only reflect data for those census tracts/blocks included in the user's study region and will reflect the entire county/state only if all of the census blocks for that county/states were selected at the time of study region creation.

-- Earthquake Planning Scenario --

ShakeMap for Coronado Bank alt2 - Median ground motions Scenario

Scenario Date: May 16, 2017 08:31:54 AM MDT M 7.4 N32.58 W117.31 Depth: 5.5km



PLANNING SCENARIO ONLY -- Map Version 10 Processed 2017-05-16 03:17:00 PM MDT

| PERCEIVED SHAKING | Not felt | Weak | Light | Moderate | Strong | Very strong | Severe | Violent | Extreme |
|------------------------|----------|--------|-------|------------|--------|-------------|------------|---------|------------|
| POTENTIAL DAMAGE | none | none | none | Very light | Light | Moderate | Mod./Heavy | Heavy | Very Heavy |
| PEAK ACC.(%g) | <0.05 | 0.3 | 2.8 | 6.2 | 12 | 22 | 40 | 75 | >139 |
| PEAK VEL.(cm/s) | <0.02 | 0.1 | 1.4 | 4.7 | 9.6 | 20 | 41 | 86 | >178 |
| INSTRUMENTAL INTENSITY | I | II-III | IV | V | VI | VII | VIII | IX | X+ |

Scale based upon Worden et al. (2012)