FREQUENTLY ASKED QUESTIONS ABOUT:
2022 Fire Hazard Severity Zones

Fire Hazard Severity Zones Explained

- **What is a "Fire Hazard Severity Zone," or FHSZ?**
  - **Answer:** Public Resource Code 4202; The State Fire Marshal shall classify lands within state responsibility areas into fire hazard severity zones. Each zone shall embrace relatively homogeneous lands and shall be based on fuel loading, slope, fire weather, and other relevant factors present, including areas where winds have been identified by the department as a major cause of wildfire spread. Government Code 51178; The State Fire Marshal shall identify areas in the state as moderate, high, and very high fire hazard severity zones based on consistent statewide criteria and based on the severity of fire hazard that is expected to prevail in those areas. Moderate, high, and very high fire hazard severity zones shall be based on fuel loading, slope, fire weather, and other relevant factors including areas where winds have been identified by the Office of the State Fire Marshal as a major cause of wildfire spread.

  When were the maps last updated?
  - **Answer:** In 2007, CAL FIRE updated the FHSZs for the entire State Responsibility Area (SRA). Between 2008-2011 the department worked with local governments to make recommendations of the Very High Fire Hazard Severity Zones within Local Responsibility Areas (LRA).

- **When will the maps be updated?**
  - **Answer:** Over the past few years, CAL FIRE has been building the new model for a 2022 update. The latest technologies will be used in the mapping and will include new factors now available including land use changes, recent fire history, new significant wind event data, as well as a model that is more spatially detailed.

- **Why are fire hazard severity maps being updated?**
  - **Answer:** The hazard maps are being updated to more accurately reflect the zones in California that are susceptible to wildfire. The hazard mapping process will incorporate new science in local climate data and improved fire assessment modeling in determining hazard ratings.

- **What do Fire Hazard Severity Zones measure?**
  - **Answer: The** Fire Hazard Severity Zone map evaluates **"hazard," not "risk"**. The map is like flood zone maps, where lands are described in terms of the probability level of a particular area being inundated by floodwaters, and not specifically prescriptive of impacts. **"Hazard"** is based on the physical conditions that create a likelihood and expected fire behavior over a 30 to 50-year period without considering mitigation measures such as home hardening, recent wildfire, or fuel reduction efforts. **"Risk"** is the potential damage a fire can do to the area under existing conditions, accounting for any modifications such as fuel reduction projects, defensible space, and ignition resistant building construction.

- **Where do Fire Hazard Severity Zones apply?**
  - **Answer:** Fire Hazard Severity Zones are found in areas where the state has financial responsibility for wildfire protection and prevention, called the State Responsibility Area. More than 31 million acres are in this area. Under Senate Bill 63 (Stern, 2021) Government

Code 51178 was amended to add the Moderate and High Fire Hazard Severity Zones with the Very High in local jurisdictions.

- **What are the uses of Fire Hazard Severity Zones?**
  - **Answer:** The zones are used for several purposes including to designate areas where California's defensible space standards and wildland urban interface building codes are required. They can be a factor in real estate disclosure, and local governments may consider them in their general plan.

- **Is there an easy way to determine the Fire Hazard Severity Zone of my property?**
  - **Answer:** You can search by address to find your current designation on the web at: osfm.fire.ca.gov/FHSZ

- **What are the key elements of the Fire Hazard Severity Zone model?**
  - **Answer:** The fire hazard severity model for wildland fire has two key elements: probability of an area burning and expected fire behavior under extreme fuel and weather conditions. The zones reflect areas that have similar burn probabilities and fire behavior characteristics. The factors considered in determining fire hazard within wildland areas are fire history, flame length, terrain, local weather, and potential fuel over a 50-year period. Outside of wildlands, the model considers factors that might lead to buildings being threatened, including terrain, weather, urban vegetation cover, blowing embers, proximity to wildland, fire history, and fire hazard in nearby wildlands. FHSZs are not a structure loss model, as key information regarding structure ignition (such as roof type, etc.) is not included.

- **How do the Fire Hazard Severity Zone Maps differ from California Public Utilities Commission (CPUC) High Fire Threat District Maps?**
  - **Answer:** The California Public Utilities Commission (CPUC) sponsored map, known as "CPUC High Fire Threat District Map" (HFTD), includes similar factors as those in the FHSZ maps, however the CPUC HFTD Map is designed specifically for identifying areas where there is an increased risk for utility associated wildfires. As such, the CPUC map includes fire hazards associated with historical powerline-caused wildfires, current fuel conditions, and scores areas based on where fires start, as opposed to where potential fires may cause impacts.

- **Why is my property in a different zone than the adjacent area, which looks similar?**
  - **Answer:** In non-wildland areas, zone edges occur based on distance to the wildland edge. Because hazard in these areas is largely determined by incoming embers from adjacent wildland, urban areas that are similar in vegetation type and housing density may have a change in FHSZ class as the distance to the wildland edge increases. Areas immediately adjacent to wildland receive the same FHSZ score as that wildland where fire originates, and the model then produces lower scores as the distance to wildland edge increases.

    In wildland areas, zone edges are a result of the way zones are delineated. Specifically, zones represent areas of similar slope and fuel potential. Zone boundaries divide zones based on geographic and vegetation features that align with fire hazard potential; although, at a local scale, it may appear that the immediate area is similar on both sides of the edge. The class value within a zone is based on the average hazard score across the whole zone, so areas that are in the same zone but not immediately adjacent to a local area can have an influence on the final zone classification.

Data Related Questions

- **How are Fire Hazard Severity Zones determined?**
  - **Answer:** CAL FIRE used the best available science and data to develop, and field test a model that served as the basis of zone assignments. The model evaluated the probability of the area burning and potential fire behavior in the area. Many factors were included such as fire history, vegetation, flame length, blowing embers, proximity to wildland, terrain, and weather.

- **What new data will be included in the new model, and how does this differ from the previous model?**
  - **Answer:** A 2 km grid of climate data covering the years 2003-2018 is being used in the update. The previous model used stock weather inputs across the state to calculate wildland fire intensity scores. The updated model will adjust fire intensity scores based on the most extreme fire weather at a given location, considering temperature, humidity, and wind speed. In addition, ember transport is being modeled based on local distributions of observed wind speed and direction values instead of using a generic buffer distance for urban areas adjacent to wildlands.

- **What is the difference between the various Fire Hazard Severity Zones?**
  - **Answer:** Classification of a wildland zone as Moderate, High or Very High fire hazard is based on the average hazard across the area included in the zone, which have a minimum size of 200 acres. In wildlands, hazard is a function of modeled flame length under the worst conditions and annual burn probability. Both these factors generally increase with increasing hazard level, but there may be instances where one value is Very High and the other is low, pushing the overall hazard into a more intermediate ranking. On average, both modeled flame length and burn probability increase by roughly 40-60% between hazard classes. Classification outside of wildland areas is based on the fire hazard of the adjacent wildland and the probability of flames and embers threatening buildings.

- **Why does the model place an emphasis on the spread of embers?**
  - **Answer:** Embers spread wildfire because they can travel long distances in the wind and ignite vegetation, roofs, attics (by getting into vents), and decks.

- **Is the GIS data for Fire Hazard Severity Zones available for download?**
  - **Answer:** The data inputs used to develop the Fire Hazard Severity Zones are identified in the Initial Statement of Reasons (ISOR) Title 19 Development (ca.gov). Geospatial data files of FHSZ are currently not available during the adoption process. The regulation incorporates the map by reference, and it is presented as an accurate and tractable representation of the data; release of the geospatial data files could compromise the integrity of the files, causing misrepresentation of the map and regulation. Upon completion of this process, the FHSZ maps will become formally adopted; at that time geospatial data files will become available. We have provided a web map service for you to view the zone classifications at osfm.fire.ca.gov/FHSZ.

- **Why do waterbodies have a Fire Hazard Severity Zone Classification?**
  - **Answer:** All areas in State Responsibility Area, including water bodies, require a fire hazard severity zone designation. The 2007 FHSZ maps zoned all water as moderate by default. In the 2022 FHSZ model we added a buffer of FHSZ from the surrounding wildland into water bodies to account for potential threat of embers to buildings on docks and house boats, as well as variation in reservoir height that occurs with drought.

State Regulated Area Questions

- **What is "State Responsibility Area," or SRA?**
  - **Answer:** SRA is a legal term defining the area where the state has financial responsibility for wildland fire protection and prevention. Incorporated cities and federal ownership are not included. Within the SRA, CAL FIRE is responsible for fire prevention and suppression. There are more than 31 million acres in SRA, with an estimated 1.7 million people and 800,000 existing homes.

- **How is state responsibility area determined?**
  - **Answer:** The Board of Forestry and Fire Protection (Board) classifies land as State Responsibility Area. The legal definition of SRA is found in the Public Resources Code Section 4125. The Board has developed detailed procedures to classify lands as State Responsibility Area. Lands are removed from SRA when they become incorporated by a city, change in ownership to the federal government, become more densely populated, or are converted to intensive agriculture that minimizes the risk of wildfire. While some lands are removed from SRA automatically, the Board typically reviews changes every five years.

- **What Fire Hazard Severity Zones are in State Responsibility Area?**
  - **Answer:** All of the State Responsibility Area is in a Fire Hazard Severity Zone. Lands are either ranked as Moderate, High or Very High Fire Hazard Severity Zones.

- **What are the wildland urban interface (WUI) building codes in State Responsibility Area?**
  - **Answer:** The WUI building codes (California Building Code (CBC) Chapter 7A) reduce the risk of embers fanned by wind-blown wildfires from igniting buildings. The codes for roofing, siding, decking, windows, and vents apply throughout all state responsibility area regardless of the fire hazard severity ranking. Ember-resistant building materials can be found at: https://osfm.fire.ca.gov/divisions/fire-engineering-and-investigations/building-materials-listing/

Local Regulated Area Questions

- **What is "Local Responsibility Area", or LRA?**
  - **Answer:** Local Responsibility Areas (LRA) are incorporated cities, urban regions, agriculture lands, and portions of the desert where the local government is responsible for wildfire protection. This is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract.

- **What is the "Bates Bill"?**
  - **Answer**: The "Bates Bill" (AB 337), Government Code Section 51175, was prompted by the devastating Oakland Hills Fire of 1991. This mid-1990s legislation calls for CAL FIRE to evaluate fire hazard severity in local responsibility area and to make a recommendation to the local jurisdiction where very high FHSZs exist. The Government Code then provides direction for the local jurisdiction to take appropriate action.

- **How are Fire Hazard Severity Zones determined in local responsibility areas?**
  - **Answer:** CAL FIRE uses an extension of the state responsibility area Fire Hazard Severity Zone model as the basis for evaluating fire hazard in Local Responsibility Area. The Local Responsibility Area hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area.

- **What are the requirements for landowners in FHSZs in local responsibility areas? GC51189**

- **Answer:** California's WUI building codes (CBC Chapter 7A) apply to the design and construction of new buildings located in High and Very High FHSZs in Local Responsibility Areas. Local ordinances may require ignition resistant construction for remodel projects. Check with your local building department to determine which ignition resistant building codes apply to your project. In addition, Government Code Section 51182 calls for defensible space clearance and other wildland fire safety practices for buildings. Owners are also required to make a natural hazard disclosure as part of a real estate transfer. For information regarding "home hardening" and defensible space clearance, visit www.ReadyForWildfire.org.

- **Does the designation of Very High Fire Hazard Severity Zones in the Local Responsibility Area trigger the 100-foot clearance requirement?**
  - **Answer:** Yes, per Government Code 51182 unless a local government has passed a more stringent requirement, the 100-foot defensible space clearance applies. For information regarding "home hardening" and defensible space clearance, visit www.ReadyForWildfire.org.

- **How does CAL FIRE assist Local Governments in Fire Hazard Severity Zones?**
  - **Answer:** CAL FIRE's Land Use Planning Program is a specialized unit that provides support to local governments by providing fire safety expertise on the State's wildland urban interface building codes, wildfire safety codes, as well as helping in the development of the safety elements in general plans. Currently there are 189 cities and 56 counties with FHSZ.

- **What is the process for developing Fire Hazard Severity Zones in the Local Responsibility Area?**
  - **Answer:** CAL FIRE uses the same modeling data that is used to map the State Responsibility Area. The department works with local jurisdictions for validation of the mapping. The map, along with a model ordinance, are then sent to the governing body for adoption.

- **How are the new Fire Hazard Severity Zones impacting development?**
  - **Answer:** Many of the changes expanding fire hazard severity zones in local responsibility areas (LRA) have been supported by the building industry. CAL FIRE works closely with the building industry when setting various building codes and defensible space requirements, so we are working together to not affect development itself but to make sure development matches the hazards of that area.

- **When will the Local Responsibility Area Map be released?**
  - **Answer:** The Local Responsibility Area Map Process will happen after the State Responsibility Area process has been completed, which is estimated to occur in Spring or Summer of 2023.

Insurance Related Questions

- **Will the new fire hazard severity zones affect my ability to get or maintain insurance?**
  - **Answer:** Insurance companies use risk models, which differ from hazard models, because they consider the susceptibility of a structure to damage from fire and other short-term factors that are not included in hazard modeling. It is unlikely that insurance risk models specifically call out CAL FIRE Fire Hazard Severity Zones as a factor, but much of the same data that is used in the fire hazard severity zone model are likely included in the insurance companies' risk models. However, insurance risk models incorporate many additional factors and factors that change more frequently than those that CAL FIRE includes in its hazard mapping, which is built to remain steady for the next 10+ years.

Resources, Additional Information, and Contact Information

- To find the current FHSZ designation for a property, visit FHSZ Map Viewer (ca.gov).

- Helpful links:
  - FHSZ Website:
    - osfm.fire.ca.gov/FHSZ

  - FHSZ Map Viewer:
    - FHSZ Map Viewer (ca.gov)

- Contacts for FHSZ for Public Questions:

  (916) 633-7655

  FHSZinformation@fire.ca.gov