# SOUTHERN CALIFORNIA EDISON

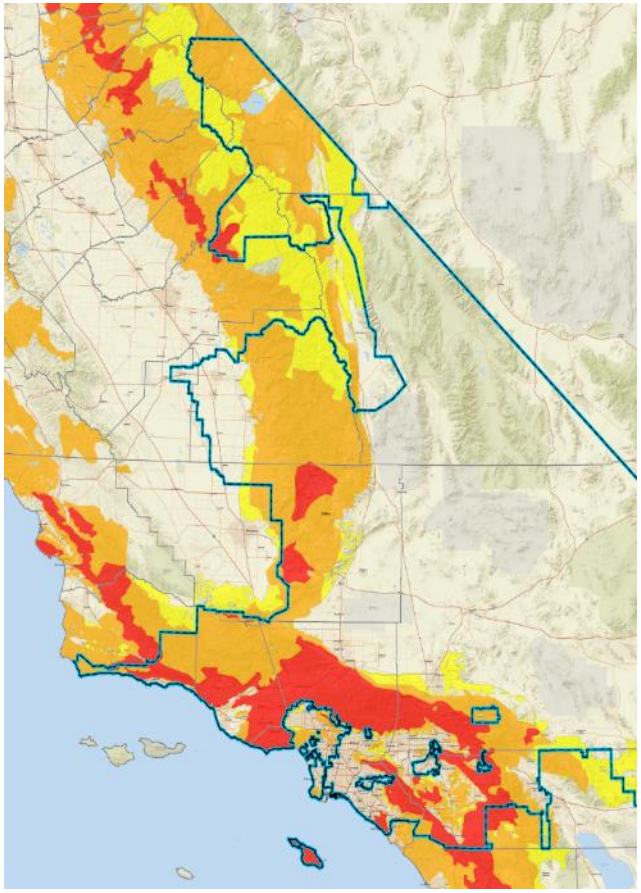
# Wildfire Mitigation, Safety & Grid Resiliency



Energy for What's Ahead®

SOUTHERN CALIFORNIA EDISON®

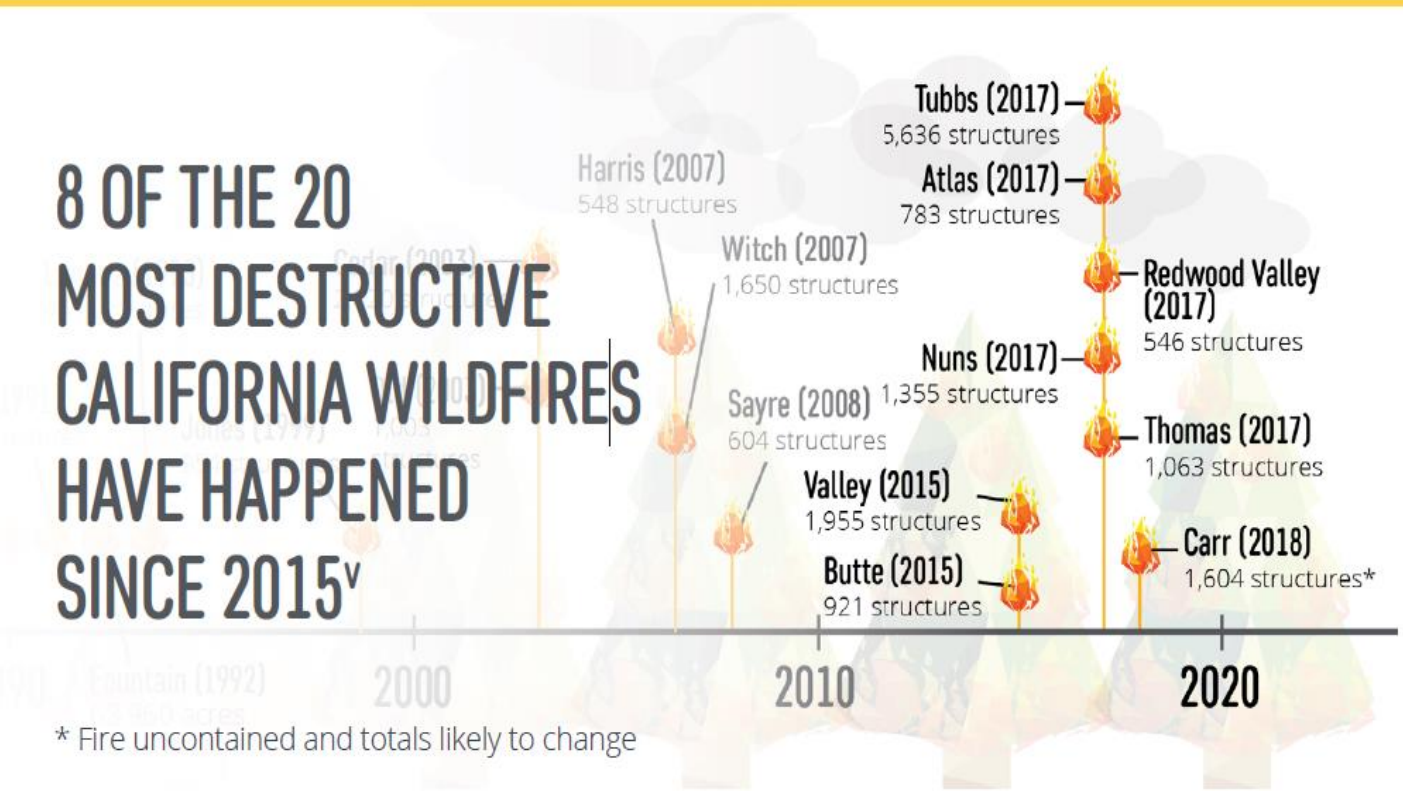
# SCE Service Territory



# CALIFORNIA'S WILDFIRE RISK

**Year-Round Fire Season:** Changes to California's climate means that the traditional notion of a fire "season" no longer exists

**Hazardous fuel is building up:** 9M acres of land contain ready-to-burn kindling from nearly 129M trees that have been killed or weakened by drought and bark beetle infestation




**Year-Round Fire Season:** Changes to California's climate mean that the traditional notion of a fire "season" is out of date: The catastrophic 2017 Thomas Fire occurred in December, which had not previously been a destructive month for fires.

# SCE's Wildfire Mitigation Strategy

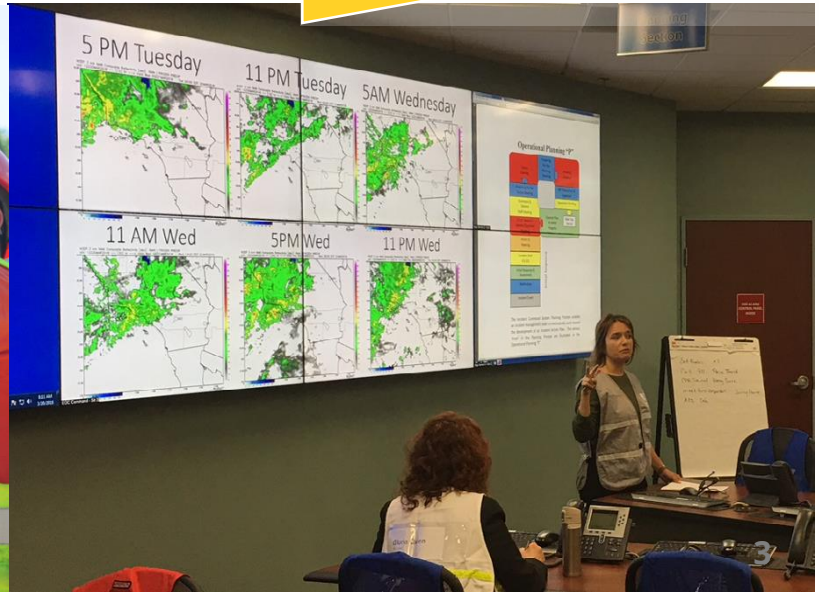
We have long taken substantial steps to reduce the risk of wildfires, and we continue to proactively enhance our operational practices and infrastructure through our comprehensive wildfire mitigation strategy

**Long-Standing Operational Practices**

**Investing in System Hardening of Electric Grid**

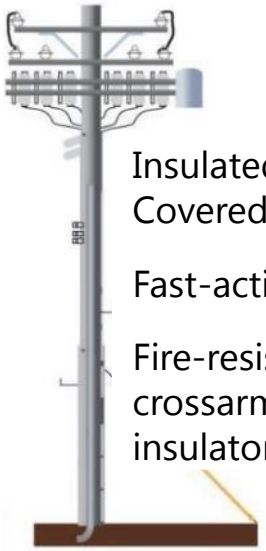
**Bolstering Situational Awareness Capabilities**

**Enhancing Operational Practices**



# System Hardening Elements

## Hardened System

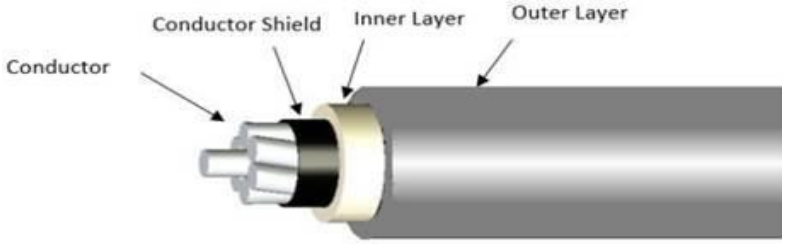


Insulated Wires / Covered conductors

Fast-acting fuses

Fire-resistant poles, crossarms and insulators

## Covered Conductor




## Fast-Acting Fuses

# Vegetation Management

- **20+** in-house certified arborists
- **800+** pruning contractors
- ≈ **900,000** trees inspected annually
- ≈ **700,000** pruned per year; **400,000** trees in high fire risk areas
- Dead, dying, diseased tree removal; total drought and bark beetle trees removed in 2017 was **39,000**
- Expanding use of Light Detection and Ranging (LiDAR) technology
- Joint patrols with fire agencies

Dead, dying, diseased trees present a hazard and are removed to protect electrical facilities and eliminate risk of fire

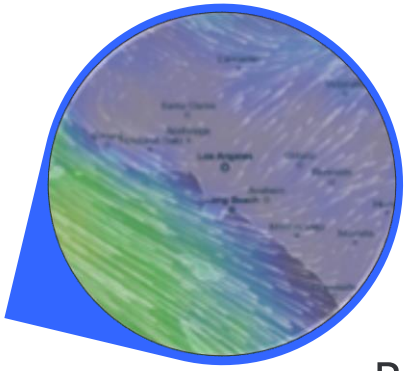
# Fire and Severe Weather Monitoring

## Weather Stations

- Hi-Res Data
- Local Weather

## Situational Awareness Center

- 24/7 monitoring
- SCE meteorologists



## Advanced Weather Modeling

- Better Forecasting
- Advanced Warning

## Fire Monitoring Cameras

- High-Definition
- Remote-controlled

Fire Cameras: [www.alertwildfire.org](http://www.alertwildfire.org)

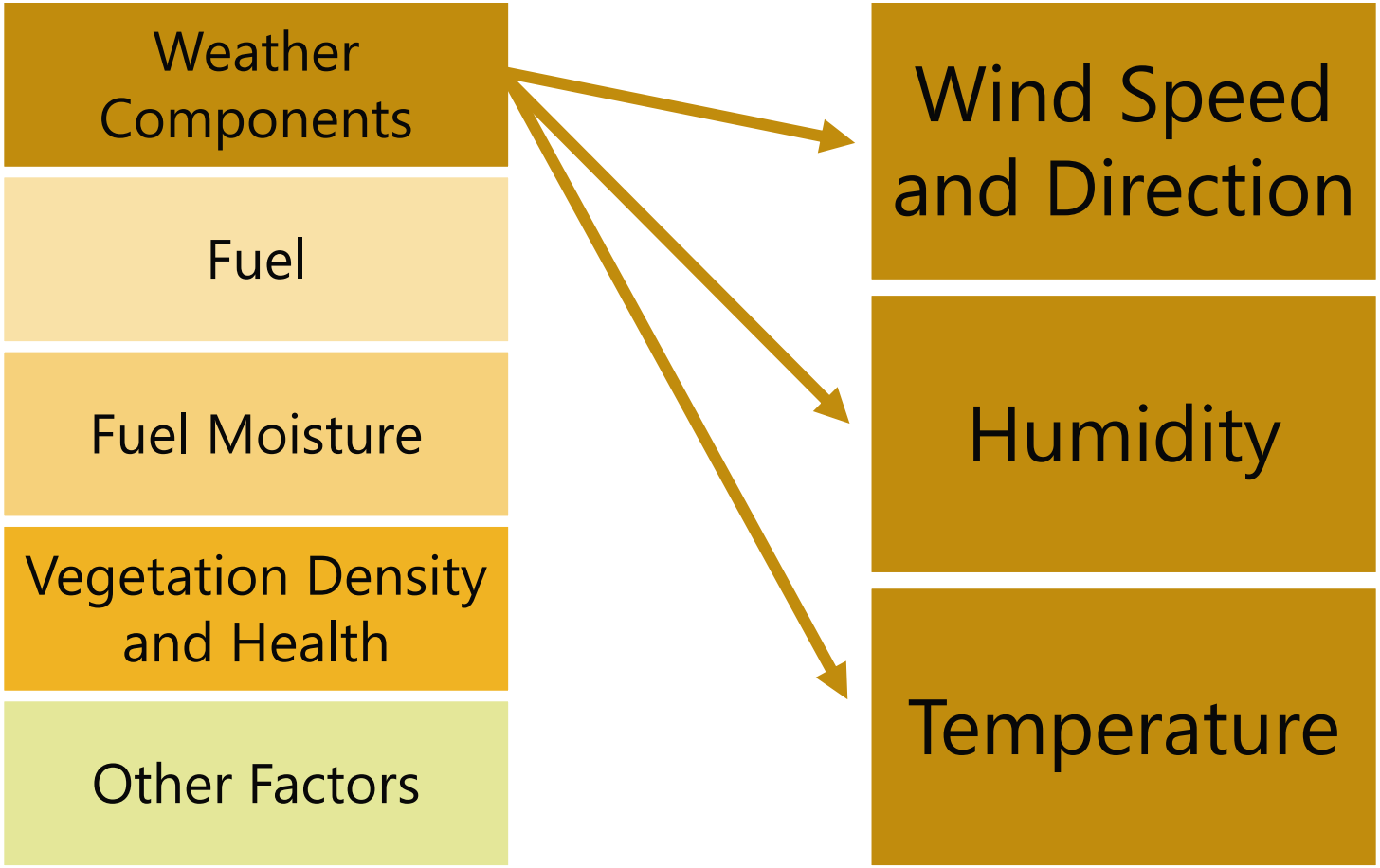
# Fire and Severe Weather Monitoring

# Practice of Last Resort: Public Safety Power Shutoff

- De-energization to **prevent wildfire ignitions**
- Used only in **most extreme weather conditions**
- Focused on high fire risk areas
- **More frequent use possible** given increased wildfire risk
- Notifications starting **48 hours** before potential power shutoff
  - First Responders, Local Governments, Communications and Water Providers, and Customers (especially critical care & medical baseline)
- Variety of factors considered in **decision to de-energize**
  - SCE will be in regular contact with fire/emergency personnel prior to decision
- **Power restoration** begins after local conditions have improved and safety checks have been performed

# Extreme Fire Conditions

- Significantly increased risk of ignition
- Fires can grow rapidly, burn intensely, and/or erratically

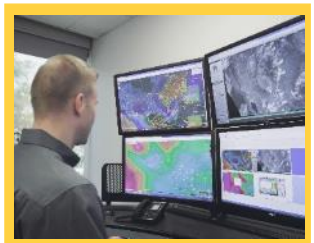


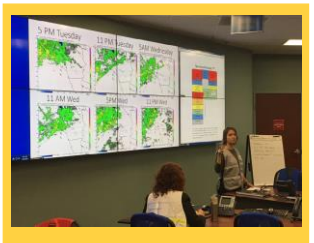
# PUBLIC SAFETY POWER SHUTOFF - CONSIDERATIONS

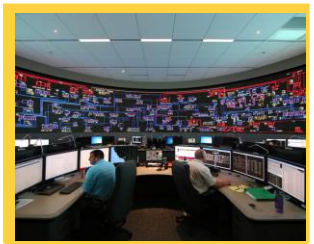
Many factors inform decision to turn power off. Factors include but are not limited to:

- **Real-time conditions**
  - Weather station data
  - Trained field personnel in local area
- **Input from fire authorities and Emergency Management Personnel**
  - Evacuation orders / status
  - Impact on essential services
  - Location of evacuation centers
  - Other emergency operations

# Public Safety Power Shutoff: Timeline







4-7 DAYS AHEAD

3 DAYS AHEAD

2 DAYS AHEAD

1 DAY AHEAD

POWER SHUTOFF

POWER RESTORATION

Forecast Weather & Fire Conditions

Incident Responders On Alert

1st Notification PSPS Possible

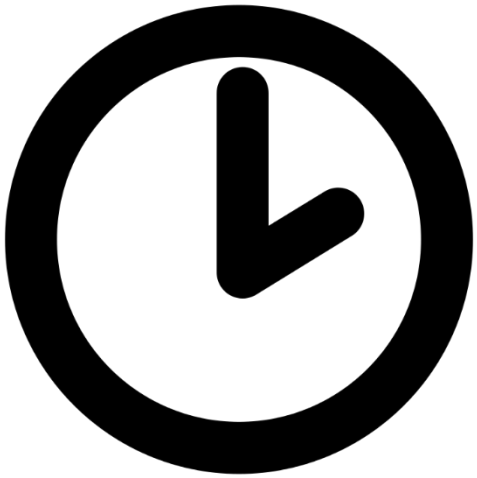
2nd Notification PSPS Likely

3rd Notification Power Shutoff

4th Notification Power Restored

# PSPS Event Frequency and Duration Forecast

**2-10 PSPS shutoffs per year predicted (system wide)**



**Outages predicted to last between half a day to a few days**

- Predictions based on historical weather data and past PSPS events. Actual frequency and duration depends on a number of factors which cannot be forecasted with certainty
- Event frequency and duration predictions across all of SCE's high fire risk areas
- Scope/impact of extreme fire conditions and time to conduct safety checks of our equipment following these conditions will affect the duration of these outages.

# Thank You