



Wildfire and Extreme Weather Mitigation Plans

- PacifiCorp develops and updates its wildfire and extreme weather mitigation plans in partnership with local and state-wide authorities and emergency services leaders and incorporates the use of state-of-the-art technology
- **PacifiCorp has invested over \$500 million through 2023 and plans to invest an additional \$1 billion in wildfire mitigation capital from 2024 to 2026**

- **Asset Hardening**

- **Reduces the occurrence of events involving the emission of sparks** (or other forms of heat) from electrical facilities. Examples include:

- Rebuilding overhead lines with covered conductor or converting to underground, reducing exposure to interference from trees or other objects
- Replacing electro-mechanical relays with microprocessor relays throughout the fire high consequence areas to provide quicker fault detection that limits the amount of arc-energy (heat) present in a fault event
- Installing additional field reclosers with upgraded fault detection (similar to relays) and remote setting capability that reduces wildfire risk while minimizing outage impacts to customers

Wildfire Mitigation Projects	Prior including 2023	2024	2025	2026	Total through 2026
Line Rebuild (miles)	495	345	335	340	1,515
Relay Upgrades (devices)	207	68	26	29	330
Recloser Installs (devices)	211	54	53	44	362
Weather Station Installs (stations)	454	105	50	31	640

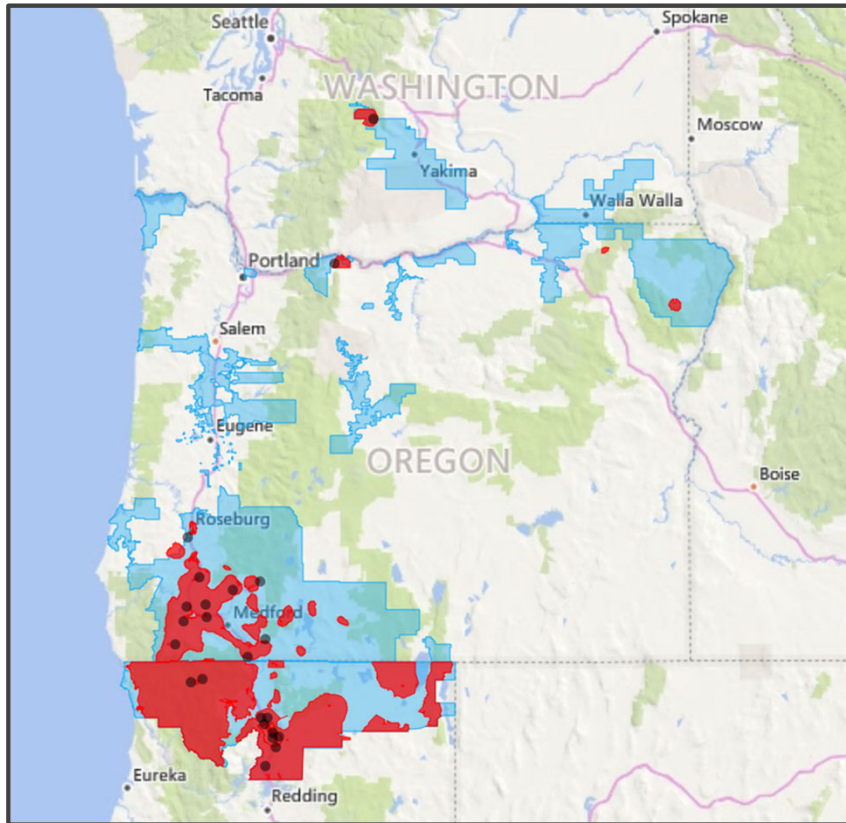
- **Meteorology**

- Capital investment to de-risk transmission and distribution lines through collection of key meteorological data to inform both situational awareness models and long-term investment planning
- **Leveraged meteorological data from 454 operational weather stations throughout 2023**
- Deployed an internal weather forecasting team to provide 24/7 weather forecasting for entire service territory
- **Implemented a custom Weather Research & Forecast** model that provides twice-daily hourly weather and fuels forecast data at 2km resolution across a 96-hour time horizon

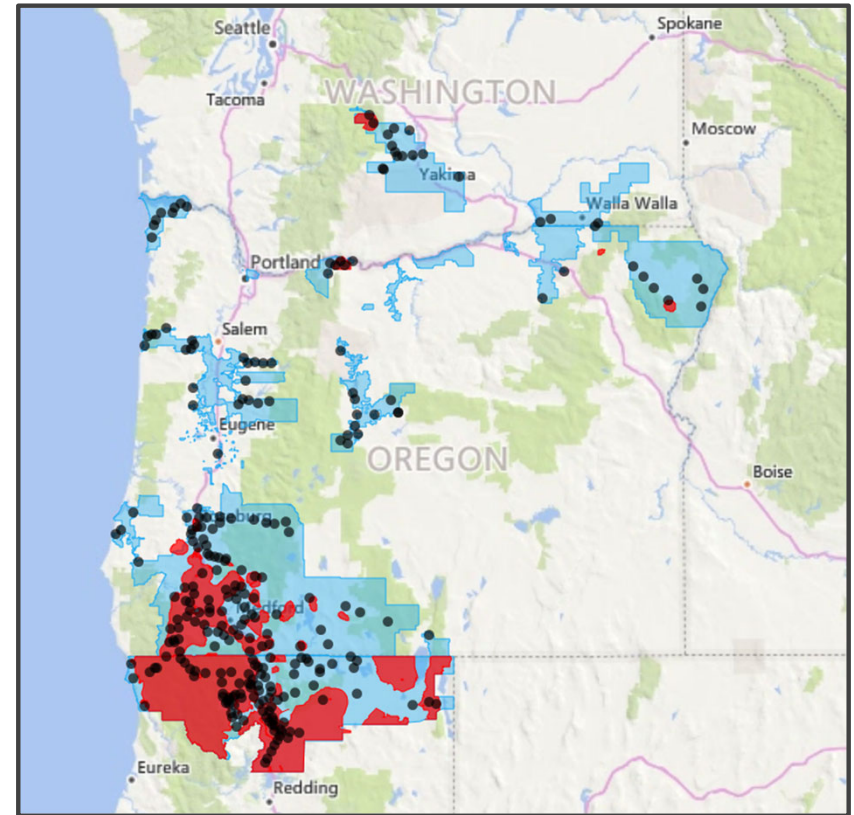
Pacific Power Service Territory Climatology



As of Labor Day 2020, **23 Weather Stations** were installed to monitor weather conditions and model the impact to the electrical infrastructure



As of 2023, **272 Weather Stations** are installed to monitor weather conditions and model the impact to the electrical infrastructure



Service territory noted in blue; Fire High Consequence Area (FHCA) noted in red; black dots are weather stations

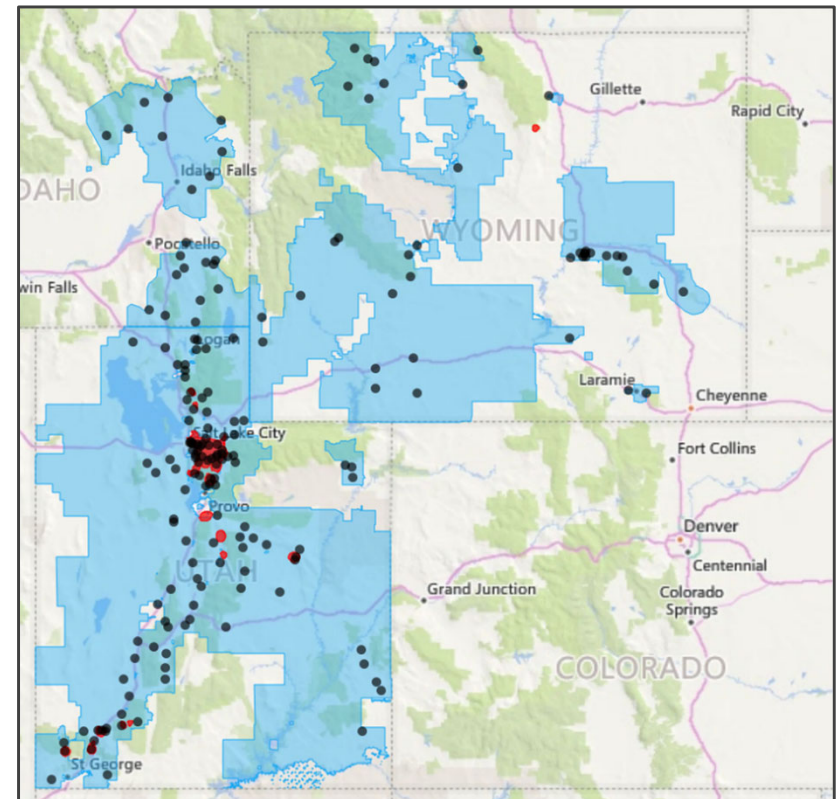
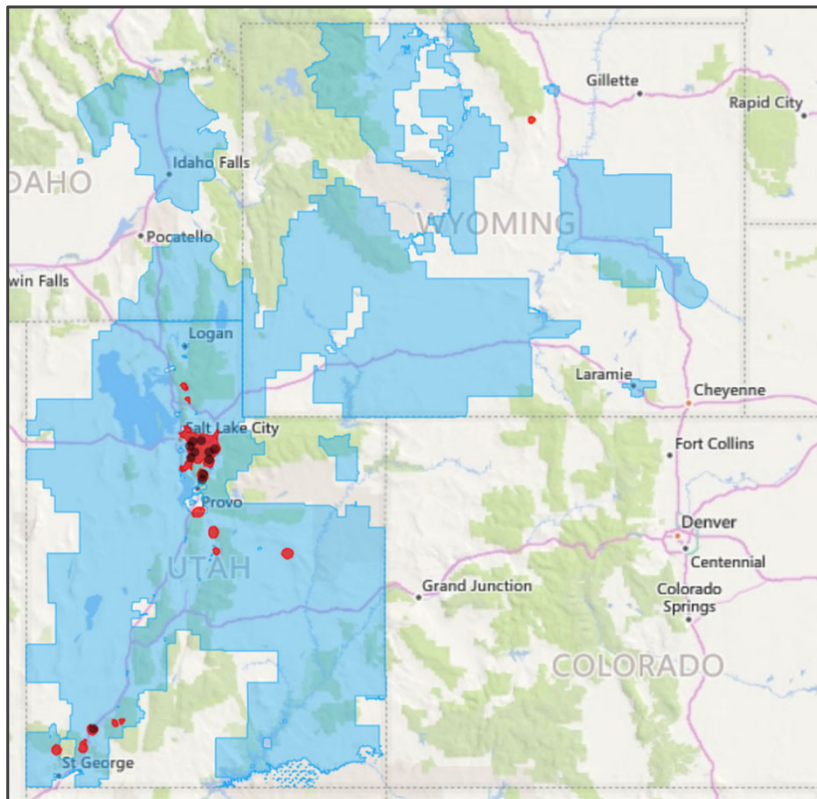
Over 100 weather stations are planned to be installed over the next three years to aid in refining weather models in areas where the geographic terrain conditions require a dense network of weather stations to provide insights at a very granular circuit level

Rocky Mountain Power Service Territory Climatology



As of Labor Day 2020, **11 Weather Stations** were installed to monitor weather conditions and model the impact to the electrical infrastructure

As of 2023, **182 Weather Stations** are installed to monitor weather conditions and model the impact to the electrical infrastructure



Service territory noted in blue; FHCA noted in red; black dots are weather stations

Over 75 weather stations are planned to be installed over the next three years to aid in refining weather models in areas where the geographic terrain conditions require a dense network of weather stations to provide insights at a very granular circuit level

Wildfire and Extreme Weather Mitigation Plans



• Emergency Management

- Expanded the emergency management team to provide additional community outreach and 24/7 monitoring, developing an overall strategy to improve training, communication and response
- Increased coordination and collaboration with federal, state and local emergency management/response teams

• Risk Modeling

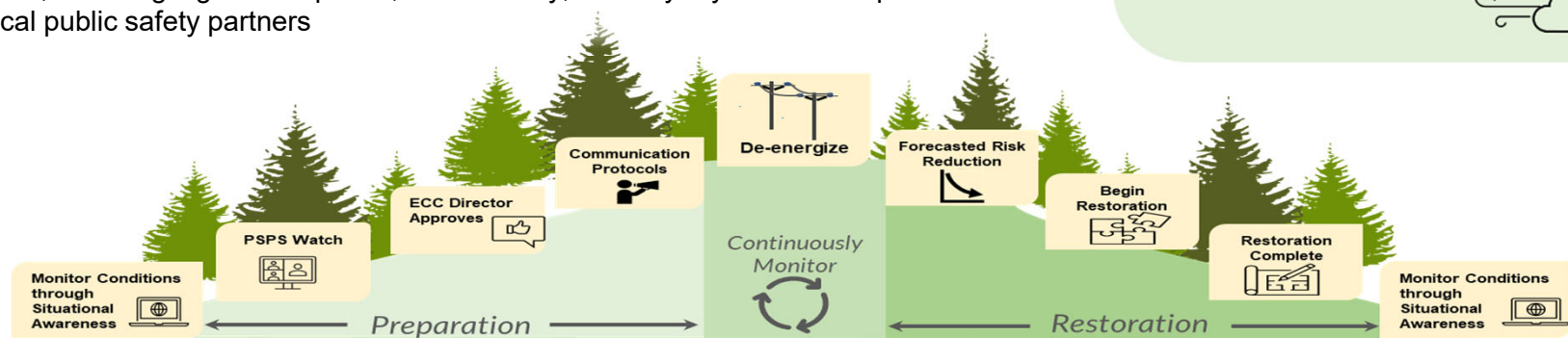
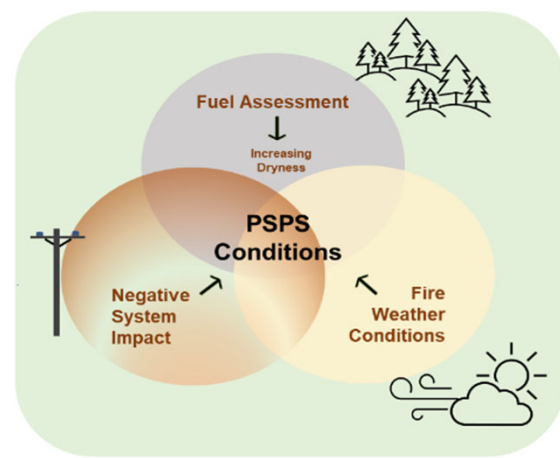
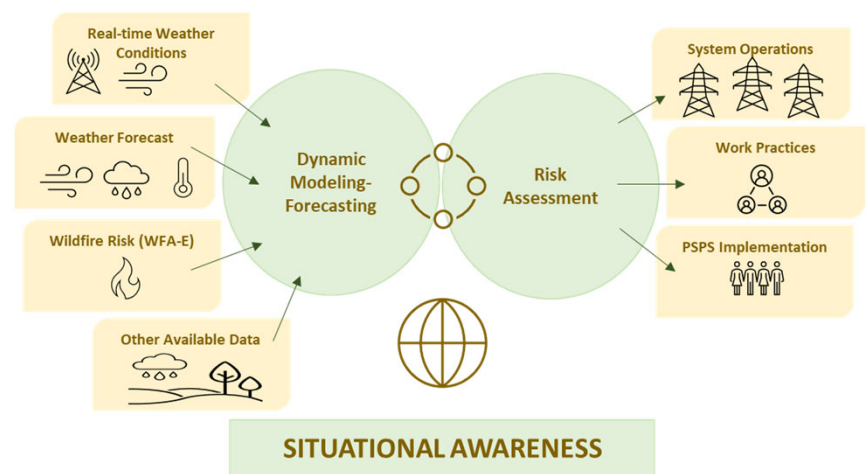
- Expanded the use of Technosylva's Wildfire Analyst-Enterprise (WFA-E) model. WFA-E uses meteorological and environmental forecast data to map out wildfire potential, behavior and consequence across the landscape
- Finalizing development of Technosylva's Wildfire Risk Reduction Module to complement existing situational awareness models and inform long-term planning and project prioritization beginning in fourth quarter 2023

• EFR Protection Settings

- Expanded use of more sensitive protection settings for fault detection during elevated fire weather conditions that signal devices to open rapidly and limit the amount of arc-energy (heat) present in a fault event

• Public Safety Power Shutoff (PSPS) Program

- PacifiCorp may de-energize power lines as a preventative measure during periods of the greatest wildfire risk. This practice is commonly known as a Public Safety Power Shutoff, or PSPS
- The decision to implement a PSPS is based on extreme weather and area conditions, including high wind speeds, low humidity, critically dry fuels and input from local public safety partners



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Elevated Fire Risk Settings



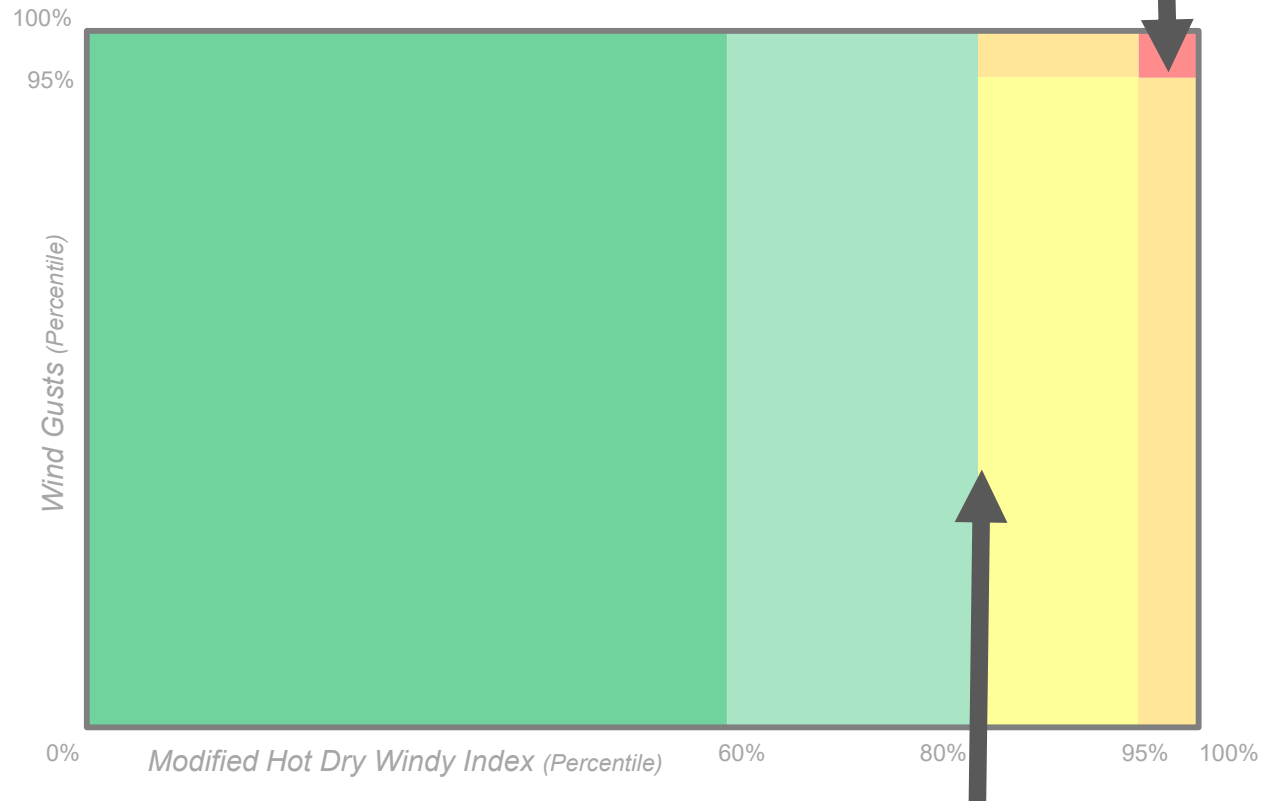
The proactive deployment of EFR settings is based on 30 years of utility related wildfires in the western U.S. and the weather conditions at the time of those fires

WILDFIRE IMPACT

0% Damage to Structures or Injuries in Green and Yellow Areas






98%

Of catastrophic fires occur in the Red Area, which is Public Safety Power Shutoff conditions



EFR Is enabled when weather conditions reach **yellow for a given area** and stay on for FHCA throughout the fire season. Providing a safety buffer between enablement and when wildfire impacts are historically experienced

- During the peak of the 2023 fire season **24% of all overhead circuits** were placed in EFR settings
- EFR settings are **enabled across the service territory**; well in advance of weather conditions that have historically been related to catastrophic fires
- PacifiCorp is still analyzing the data from the 2023 fire season to measure effectiveness; other utilities in California have experienced a **68% reduction in ignitions** from fast trip settings

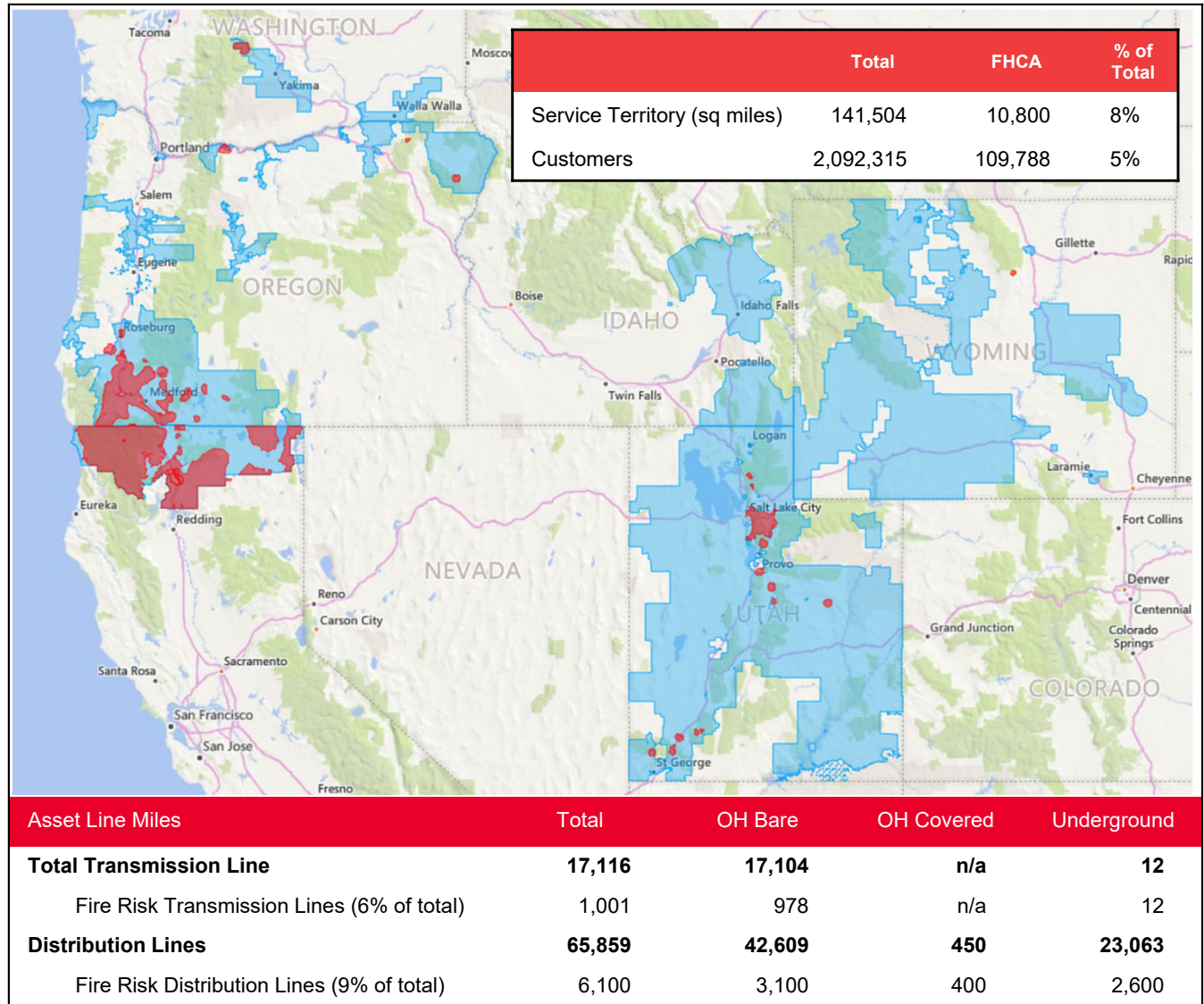
 Non-Fire Season	 Significant Fire Risk
 Low Fire Risk	 Extreme Fire Risk
 Elevated Fire Risk	

Wildfire Mitigation Across Service Territory



- The **entire service territory** has risk modeling conducted and is monitored for fire weather conditions that trigger operational practices
- EFR:** settings activated for devices when that area reaches elevated weather conditions for the fire season
- Capable of conducting **Public Safety Power Shutoffs** anywhere required based on weather conditions across service territory
- Vegetation Trimming:** Oregon & California transitioning to 3-year trimming cycle by the end of 2024. All other states have already transitioned to a 3-year cycle
- Annual Inspections:** Conduct annual line and vegetation inspections within the FHCA with accelerated correction timelines

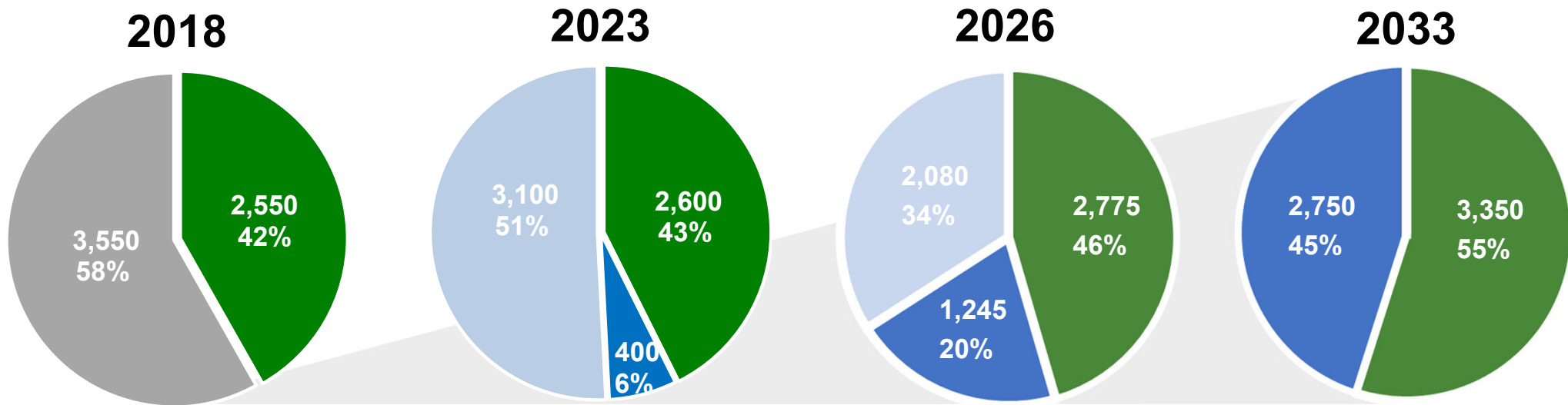
Service territory noted in blue and identified FHCA noted in red*



Wildfire Mitigation Covered Conductor / Undergrounding



PacifiCorp has significantly reduced the risk of wildfire by deploying nearly 450 miles of new covered conductor and strategic undergrounding for its distribution lines to date, and will have completed 66% of the 6,100 miles in Fire High Consequence Areas by 2026



6,100 miles

in Fire High Consequence Areas

Bare Overhead Miles

Underground Miles

New Covered Conductor Miles

Bare Overhead mitigated by system automation / non-expulsion fuses

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Wildfire Policies and Procedures



PacifiCorp has a suite of wildfire policies and procedures that are used to trigger operational practices including EFR settings, PSPS, de-energization and re-energization

Policy	Description	Highlights
Governing Wildfire Policy	This policy addresses the company’s cross-departmental approach to monitoring conditions related to wildfire risk and adjusting daily operations of transmission and distribution system assets, including network restoration, during identified periods of elevated fire risk	<ul style="list-style-type: none"> • Daily evaluation of fire risk across entire service territory • Notes cross-departmental procedures based on fire risk; such as EFR, patrols and re-energization authority
Wildfire Encroachment and De-Energizing Assets	This procedure addresses initial assessment and associated operational actions, communication to senior leadership, monitoring, and criteria for de-energization of assets when encroachment of wildfire threatens system or safety of emergency response personnel	<ul style="list-style-type: none"> • 24 / 7 Monitoring • All fires within 10 miles of assets are evaluated for impact to system and fire growth • Fires within a specified distance of assets (based on voltage and material) results in immediate de-energization
Operating <i>Transmission</i> Assets During Periods of Elevated Risk	This procedure outlines operating the bulk electric system and sub-transmission system during times of fire risk as identified by meteorology for each of PacifiCorp’s operating districts	<ul style="list-style-type: none"> • Disabling reclosing / no manual reclose • Re-energization authority after a transmission line has opened • Patrol requirements before energizing
Operating <i>Distribution</i> Assets During Periods of Elevated Risk	The procedure outlines operating the distribution system during times of fire risk; such as, EFR setting activation, procedures for patrol and step restoration, and authority required to restore based on identified wildfire risk	<ul style="list-style-type: none"> • EFR settings • Outage restoration authority • Patrol requirements before energizing
PSPS Execution Playbook	The playbook outlines the steps associated with conducting a public safety power shutoff; including risk monitoring, deploying resources, customer notifications, de-energization, line patrols and re-energization	<ul style="list-style-type: none"> • Describes inputs to the decision-making process • Notification processes for before, during and after an event