



SENATE ENERGY, UTILITIES AND COMMUNICATIONS:

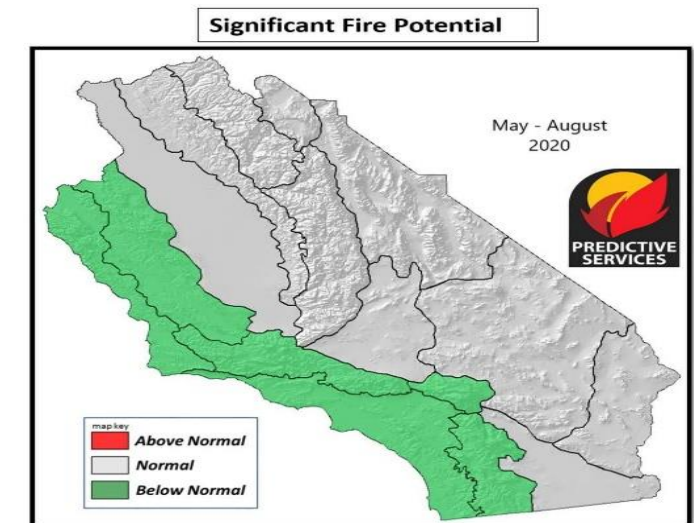
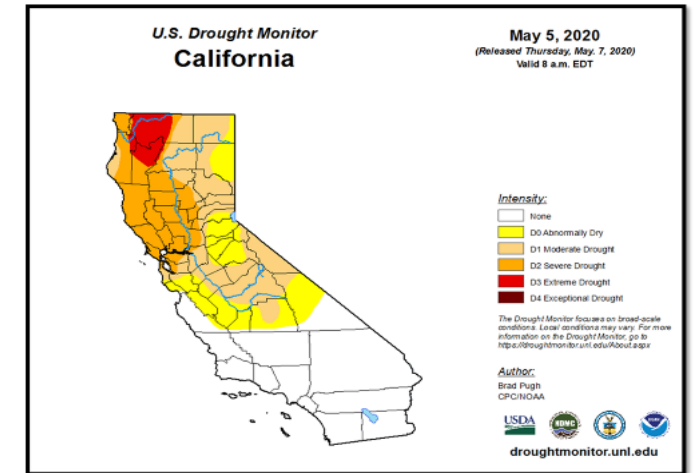
A Focus on Wildfires, Power
Shutoffs, and COVID-19: Are
Electric Utilities Prepared for the
Wildfire Season

June 4, 2020



2020 Summer and Fire Season Outlook

- Southern California is not currently under drought conditions, though northern California is experiencing significant drought
- Elevated Fire Potential Index conditions likely developing this month and increasing into July
- Official fire agency forecasts are predicting below normal “*Significant Fire Potential*” through August
- Small grass fires are beginning to occur, fires in grass will increase in size and frequency through June
- Live fuel moistures have shown significant gains and are near their annual peak, with seasonal declines expected through the summer
- 2-4 Red Flag Warnings are likely late Sept-Nov



WMP Objectives



1. Continue to Reduce Wildfire Risk

2. Reduce or Eliminate PSPS Impacts

System Hardening

❖ 135 miles of strategic undergrounding

❖ 145 miles of overhead hardening including Covered Conductor

Situational Awareness

❖ 30 more weather stations in 2020

❖ Enhance alert SDG&E camera network

Enhanced Vegetation and Fuels Management

❖ 51,000 trees - 25' clearances

❖ Fuels Management – complete 1,500 poles

PSPS Enhancements – Sectionalizing Devices

❖ 30 switches to further reduce number of customers that experience PSPS

Microgrids (New)

❖ 7 microgrids to provide power to communities impacted by PSPS

Advanced Protection

❖ Enable 20 substations with capabilities to support early detection of faults

Customer Resiliency Programs (New)

❖ 4,630 generators - Generator Grant Program – PSPS MBL customers

Whole House Generators (New)

❖ 900 generators provide whole house generators - PSPS customers

PSPS Potential Impact Reductions

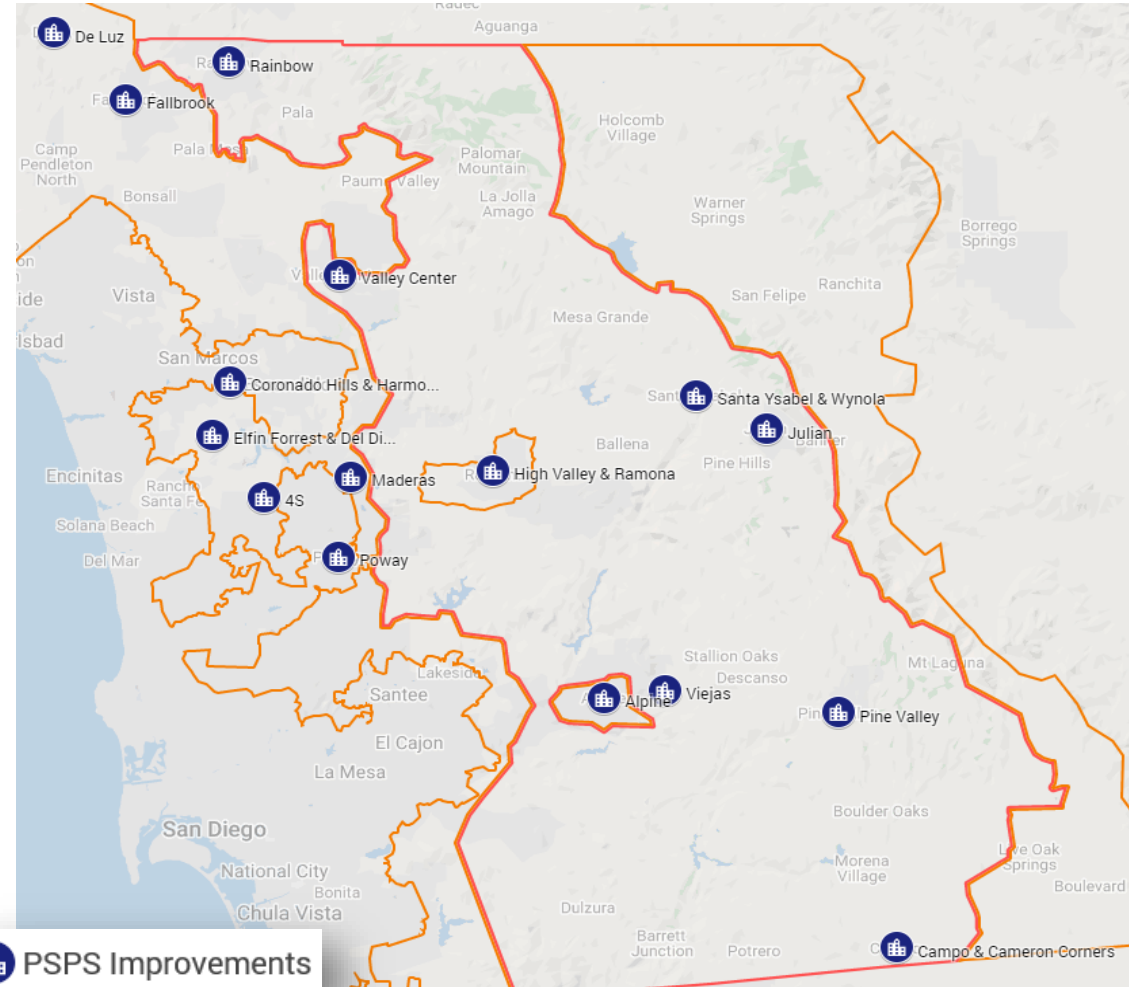


Solutions		Impact Reduction (confirmed/weather dependent*)
23	Sectionalizing Devices	6,324 / 10,950*
24	Weather Stations	
2.1	Miles of Undergrounding	18**
2	Reconfigurations / Operations	75 / 453*
2	Microgrids	15
100	Local Generation	100
PSPS Reduction by October 2020		6,442 / 11,158*

- 6 Schools
- 3 Fire Stations
- 0 Police Stations
- 0 Hospitals
- 47 Communication Sites
- 6 Water Facilities

Solutions		Impact Reduction (confirmed/weather dependent*)
27	Sectionalizing Devices	6,324 / 11,595*
26	Weather Stations	
11	Miles of Undergrounding	1,412**
2	Reconfigurations / Operations	75 / 453*
4	Microgrids	245
300	Local Generation	300
Overall PSPS Reductions		8,914 / 14,865*

- 10 Schools
- 8 Fire Stations
- 1 Police Stations
- 1 Hospitals
- 62 Communication Sites
- 8 Water Facilities



*Some mitigations have PSPS reductions that are weather dependent

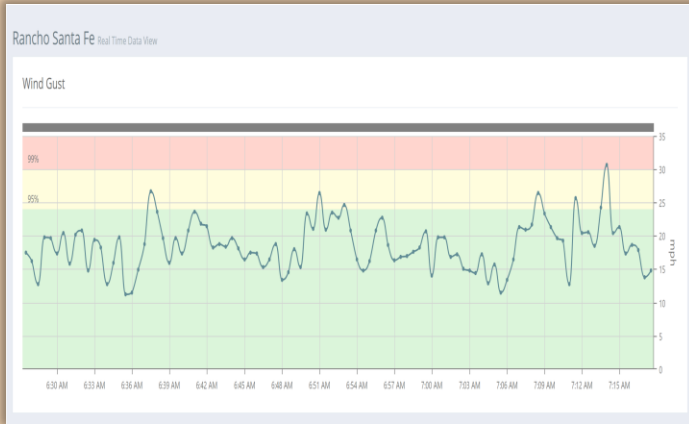
** Securing easements and environmental impacts may delay some of the undergrounding

Situational Awareness – Fire Safe 3.0

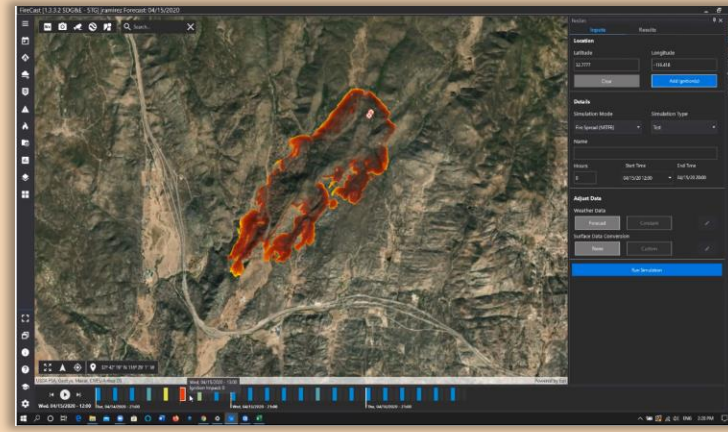


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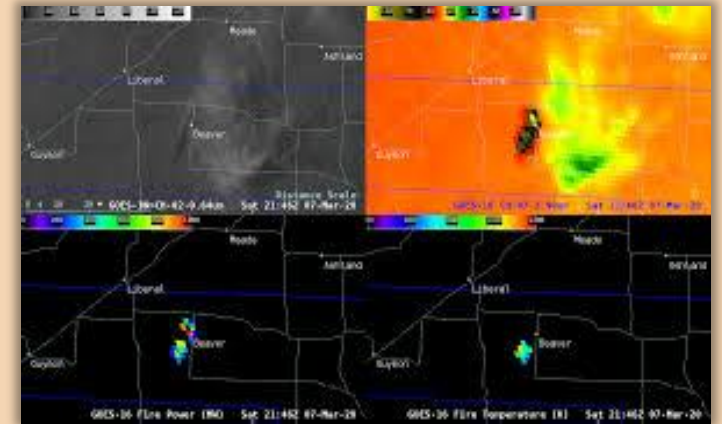
30 Additional Weather Stations – enabling 30-second data reporting



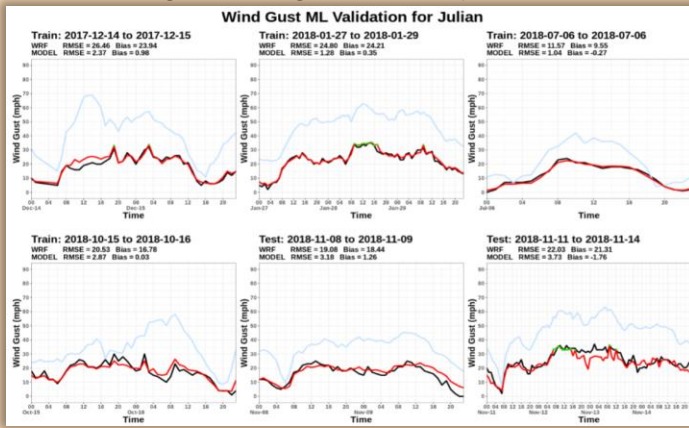
Improved Wildfire Modeling – new fuels, vegetation & fire growth algorithms



Satellite Wildfire Detection – fire alert notifications in 20-30 seconds



AI-Based Forecasting System – improving alerting capability



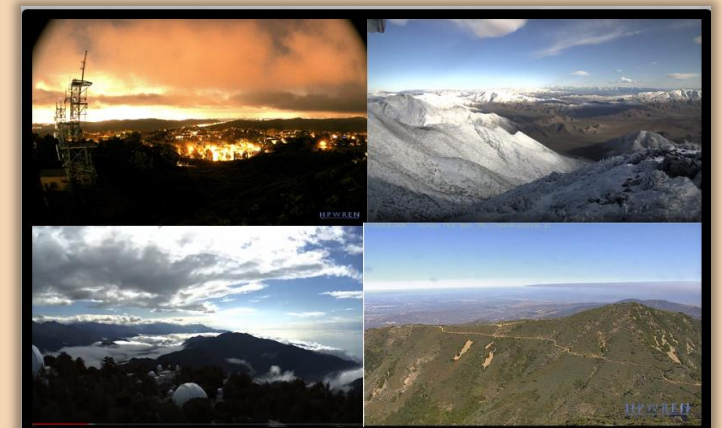
New Academic Partnerships – moving fire science forward

Fire Weather Research Laboratory
San José State University

SDSC SAN DIEGO SUPERCOMPUTER CENTER

SCRIPPS INSTITUTION OF OCEANOGRAPHY UC San Diego

Additional Cameras – increasing real-time situational awareness



Aerial Inspection, Patrol and Firefighting Enhancements

- Supporting PSPS
 - H145 Airbus dual engine helicopter
 - H135 Airbus dual engine helicopter (new in 2020)
 - Call-When-Needed (CWN) helicopter available within 24 hours
 - Additional CWN as needed through Helistream- sole patrol flight providers due to experience on SDG&E system

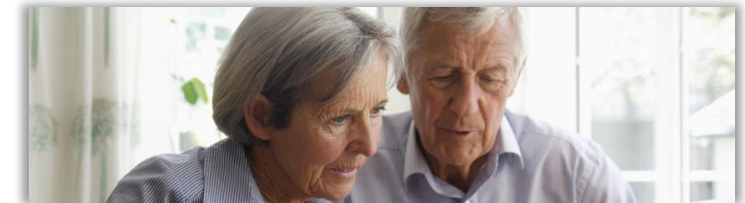
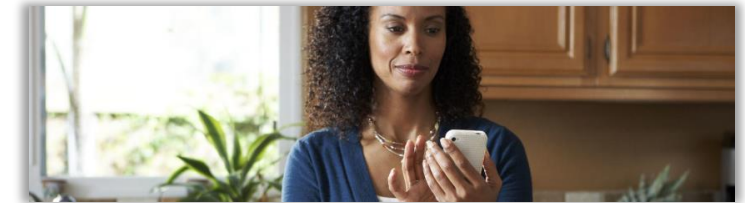
- Firefighting Helicopters
 - Erickson Air Crane
 - UH-60 Blackhawk
 - Additional back-up UH-60 Blackhawk- ensures no interruption of response capability due to maintenance requirements (new in 2020)



Pandemic PSPS Preparations

Additional PSPS planning and preparedness to ensure COVID-19 will not compromise our ability to operate safely this wildfire season

- Conducted company-wide assessment to ensure a PSPS event can be planned and executed effectively while social distancing
- Planning fully remote pandemic-specific trainings and exercises this summer
- Operational plans have been refined to create a safer COVID-19 work environment:
 - Health screenings at operating centers
 - Single cars/trucks deployed, when possible
 - Appropriate PPE implemented (field work and customer service)
 - Sequestration of system operators
 - Separation of critical PSPS response staff
- Modified outreach materials are being prepared for the PSPS Mobile Application, PSPS website, Town Hall Meetings and Wildfire Resiliency Fairs
- Engaging with all Medical Baseline Customers and existing critical facilities to ensure updated contact information
- Developing contingency plans to facilitate drive-thru Community Resource Centers during PSPS events



Questions



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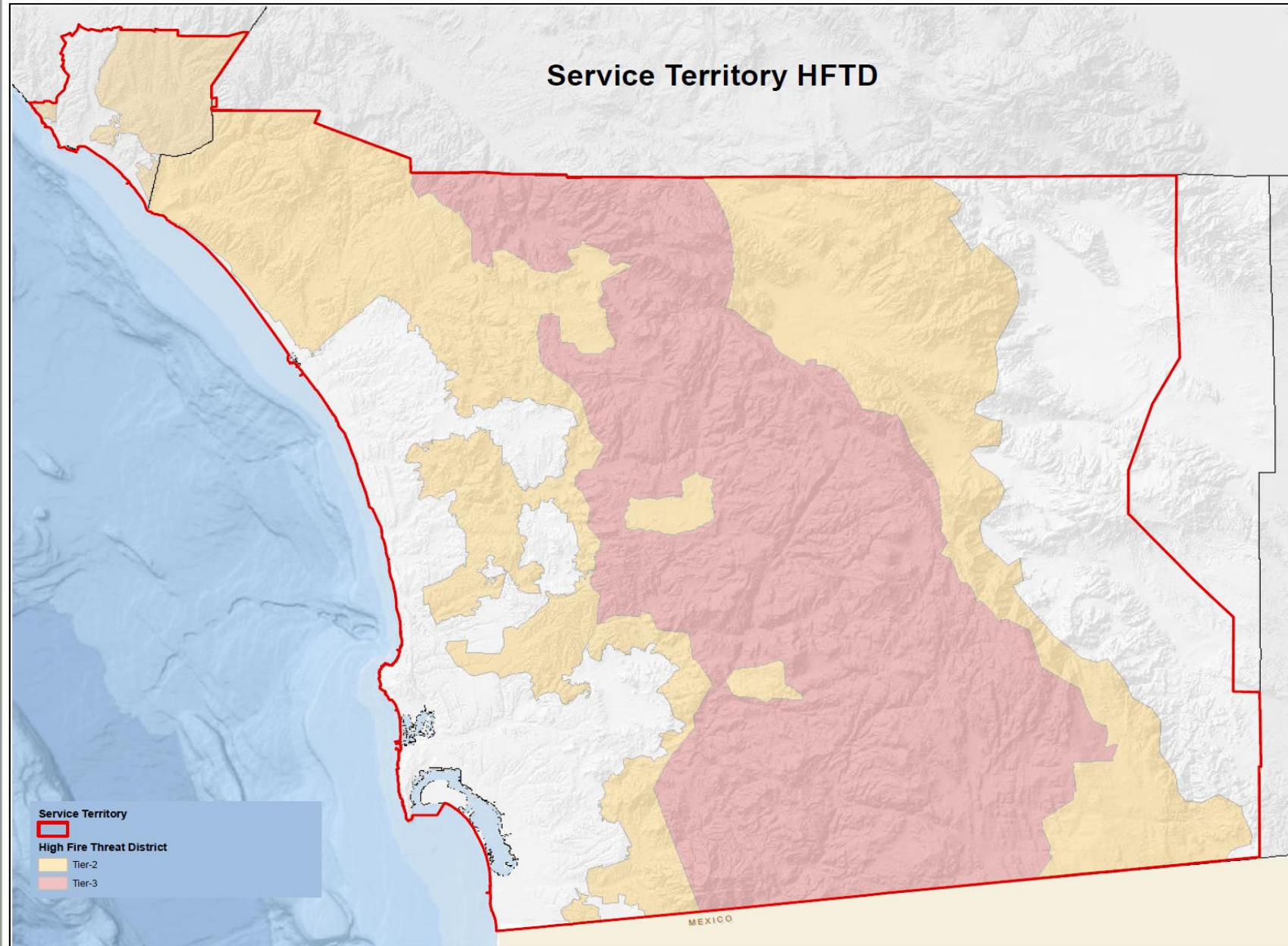


Wildfire Risk in SDG&E's Service Area



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Service Territory HFTD



64%

Service territory area in HFTD*

3,500

Overhead miles in HFTD

206K

Customers in HFTD

191

Weather stations and 30 additional ones planned in 2020

61%

Service territory underground

53%

Inventory trees in HFTD

* HFTD – High Fire Threat District

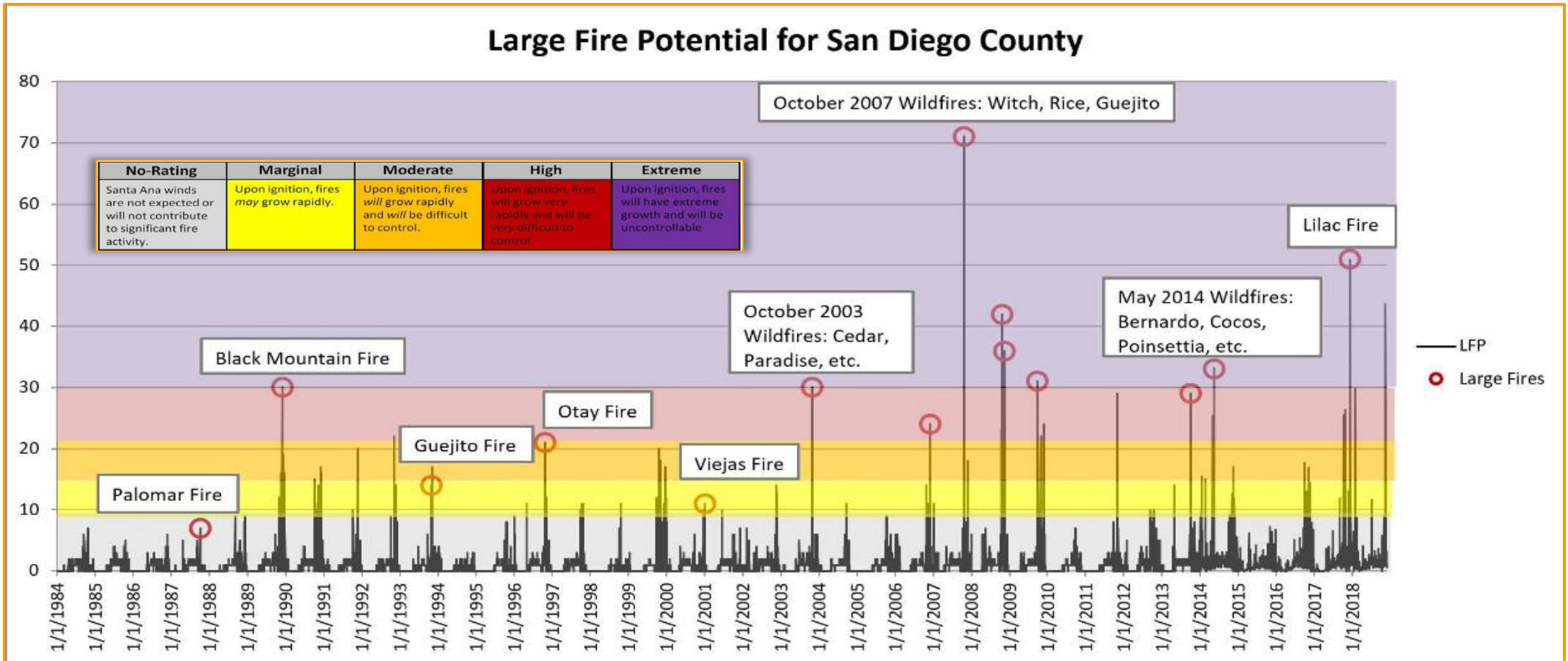
Build a Better Business

Impacts of Climate Change on Wildfire Risk



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Climate change and rising temperatures has led to a longer and more common wildfire season in California. Since 2000, the state has experienced 15 of the 20 most destructive fires in its history.



2020 WMP Additional Activities (New in 2020)



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1. Continue to Reduce Wildfire Risk



2. Reduce or Eliminate PSPS Impacts

PSPS Mitigation Engineering Solutions Team

- ❖ Focus team developed a risk assessment model allowing for a segment-by-segment analysis of circuits prone to PSPS to identify various mitigation efforts that will reduce wildfire impact and reduce or eliminate the impacts of shutoffs to customers

Fire Science and Innovation Lab

- ❖ Lab to bring together leading thinkers and problem solvers in academia, government, and community
- ❖ Create forward looking solutions to prevent ignitions, mitigate the impact of fires, and ultimately build a more resilient region

Circuit Risk Index (CRI)

- ❖ Identify at-risk infrastructure by extrapolating asset failure analytics
- ❖ Estimates likelihood of an equipment-related ignitions
- ❖ Quantify risk into a single metric tied to isolation points

Private LTE Network

- ❖ Install 25 base stations in 2020 to enhance the reliability of SDG&E's wireless communication network
- ❖ Foundational to Advanced Protection, specifically falling conductor protection

Drone Assessments

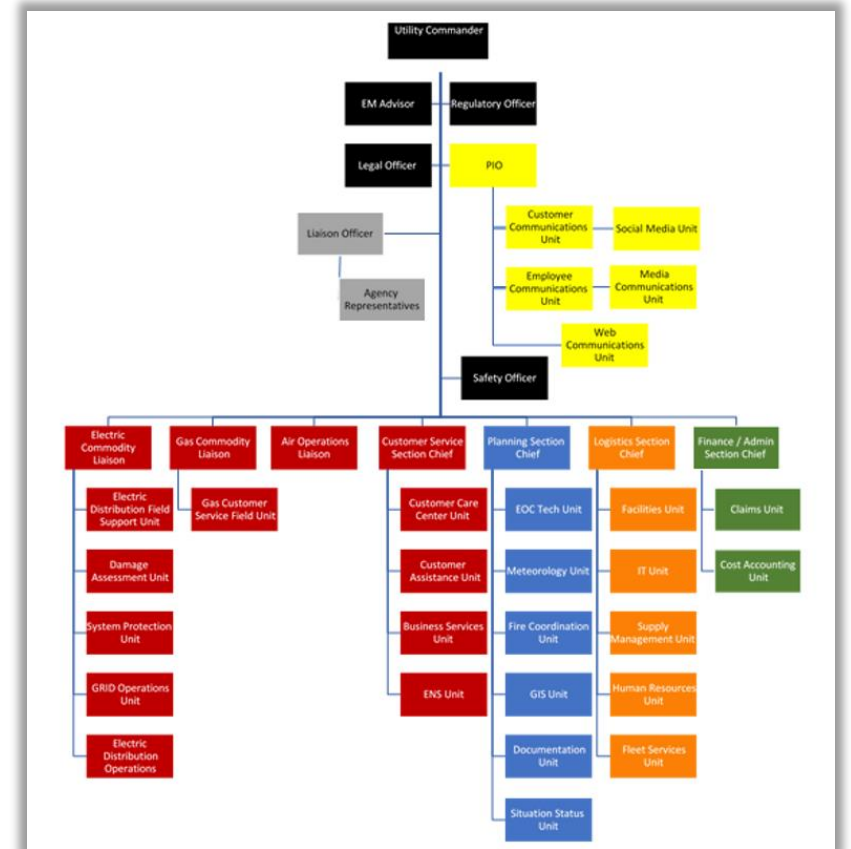
- ❖ Use drones to inspect distribution and transmission infrastructure within HFTD Tier 2 & Tier 3

Pandemic PSPS Preparations



Implementing additional PSPS planning and preparedness to ensure the pandemic will not compromise our ability to operate safely

- Conducted internal continuity assessment to ensure a PSPS event can be planned and executed effectively
- Updating all internal PSPS processes and procedures to include pandemic planning
- Conducting additional pandemic-specific trainings and exercises to include:
 - Internal exercises and tabletops
 - External trainings with wildfire stakeholders, local governments and tribes
- Creating a remote EOC activation response plan
- Reviewing and designing all PSPS-related IT systems for remote support
- Added newly identified medical facilities and shelters to the SDG&E critical facilities list
- Engaging with all existing critical facilities to ensure updated contact information



Pandemic PSPS Preparations - Operations



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Enhancing operational response to keep our employees and communities safe

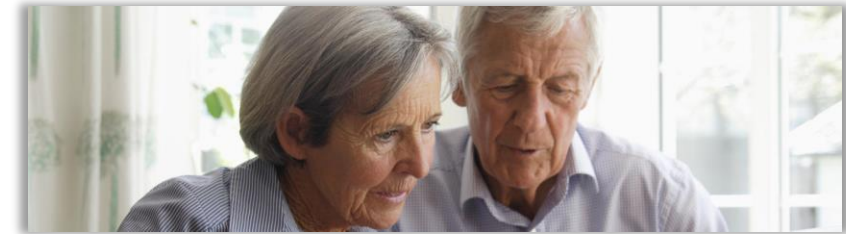
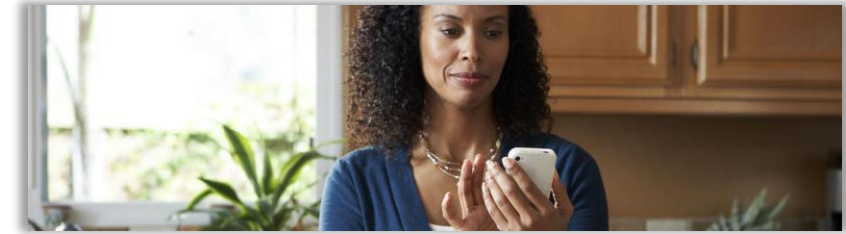
- Refine plans to create a safer COVID-19 work environment:
 - Health screenings and antibody testing, as available
 - Single cars/trucks, when possible
 - Appropriate PPE (field work and customer service)
 - Sequestration of system operators
 - Separation of critical PSPS response staff
- Securing additional air resources to support PSPS operations
- Continued use of external resources and contractors to support PSPS operations
- Will continue to work closely with public safety partners to ensure data-driven PSPS decision making, prioritizing community safety



Pandemic PSPS Preparations – Outreach

Implementing enhanced community preparedness, planning and outreach

- Outreach and coordination with local government and fire community stakeholders will incorporate pandemic PSPS planning
- Implemented a campaign to make contact with all Medical Baseline (MBL) Customers living in the High Fire Threat District
 - Updated contact information will support ongoing preparedness initiatives
- PSPS Mobile Application will enable additional community outreach capability
- Update PSPS website and outreach materials to include COVID-19 Preparedness
- Wildfire Resiliency Fairs are becoming a drive-thru service and Town Hall Meetings are being turned into Community Webinars



Pandemic PSPS Preparations – Customer Resource Support

SDG&E remains committed to supporting customers and communities during PSPS

- Developing contingency plans to facilitate drive-thru Community Resource Centers
- Social distancing and CDC guidelines will be followed to ensure safety
- Drive-thru resources include:
 - Preparedness materials (safety tips)
 - Ice, water, snacks
 - Car power-inverter
 - Small solar-powered batteries and radios



Pandemic PSPS Preparations - Exercises



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SDG&E is actively developing COVID-19 specific exercises to test a remote PSPS response

- Multiple scenarios are being considered, including an active wildfire in addition to PSPS and pandemic.
- Technology platforms and communication strategies have been established to support a remote PSPS response.
- Technology requirements, including system resiliency and redundancy have been created for all potential responders.
- Technology surveys are being finalized with all EOC responders to identify IT related vulnerabilities.
- Any IT related vulnerabilities will be addressed in June in preparation for an internal exercise schedule beginning in July.
- Coordination with external agencies is ongoing in preparation for a larger, region-wide exercise scheduled for September.



Community Resource Center COVID-19 Enhancements

Original CRC Plan

- SDG&E initiated its CRC program in the fall of 2018 and has continued to evolve the program based upon community feedback and observed needs. SDG&E coordinates CRCs in collaboration with facility owners to provide PSPS impacted residents a safe, energized location that assists customers with temporary needs and up-to-date outage information.
- In 2019 SDG&E added information centers to the program as a direct result of feedback from communities that did not experience a PSPS event, but desired PSPS related information. In total, SDG&E offers 8 CRCs and two information centers across the region.
- Resources offered include bottled water, Wi-Fi, light snacks, small device charging, restrooms, ice, water for animals, and up to date outage information.

Covid-19 CRC Plan

- Social Distancing protocols to include routine cleaning and sanitizing of all commonly touched surfaces, facial coverings required, security to monitor and limit in/out traffic, visual markers for adequate social distancing, and pre-packaged supplies for contactless hand-off.
- Drive through CRC protocol for added public safety and full contactless operation will be leveraged if required by CDC guidelines.
- Resources offered will include all of the current state resources with the addition of small-scale cellular charging power bank and 12 Volt DC to 120 Volt AC power inverter to charge devices while in a vehicle.
- The Covid-19 plan is flexible and scalable based upon the needs of the actual event and authority having jurisdiction guidelines.

CRC Resources

LOCATION	WIFI CONNECTION	ICE	SNACKS	CHARGING STATION	BOTTLED WATER	ROUTINE SANITIZING
Descanso Branch Library	✓	✓	✓	✓	✓	✓
Lake Morena Community Church	✓	✓	✓	✓	✓	✓
Potrero Community Center	✓	✓	✓	✓	✓	✓
Pine Valley Improvement Club	✓	✓	✓	✓	✓	✓
Whispering Winds Catholic Camp	✓	✓	✓	✓	✓	✓
Jacumba Highland Community Center	✓	✓	✓	✓	✓	✓
Dulzura Community Center	✓	✓	✓	✓	✓	✓
Warner Springs Resource Center	✓	✓	✓	✓	✓	✓
Valley Center Branch Library	✓	✓	✓	✓	✓	✓
Ramona Branch Library	✓	✓	✓	✓	✓	✓

Wildfire Safety Fairs & Open House Enhancements

Original WSF Plan

- 6 Wildfire Safety Fairs in back country communities
- 5 Open Houses + support partner requested participation in externally coordinated wildfire events

COVID-19 WSF Plan

- 3 Drive through Wildfire Safety Fairs in back country communities + 2 pending site confirmation.
- Series of 4 Webinars beginning in June + continue to support requested participation in externally coordinated wildfire webinar events

Wildfire Resilience Q&A Webinars & Drive-Thru Fairs



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Wildfire Resilience Q&A Webinars

5:00pm – 6:30pm

- We are working internally with RPA and External Affairs and externally with Fire Safe Councils, CAL Fire, CERTs on promoting the webinars.
 - June 23rd
 - June 25th
 - June 30th
 - July 2nd

Drive-Thru Wildfire Safety Fairs

10:00am – 12:00pm

- Many internal groups and external partners (211, Red Cross, CAL Fire, CNF, Animal Service, CERT, BLM, Forest Service, County Fire) are involved in the fairs.
 - Ramona - July 11th
 - Julian - July 18th -
 - Valley Center - August 22nd (still tentative)
 - Mountain Empire - September 12th
 - Alpine/Viejas - September 26th

Climate Change Vulnerability Assessment



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SDG&E is conducting a full electric system vulnerability study to identify any climate change related threats

- 18-month process initiated in 2020
- System-wide asset-level vulnerability assessment with ICF
- Examine a multitude of climate hazards
 - Temperature, wildfire, extreme precipitation, sea level rise, etc.
- Iterative and updated for new science

