

Affordability Considerations from Blue Lake Rancheria



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BLUE LAKE RANCHERIA

A Federally Recognized Tribal Government

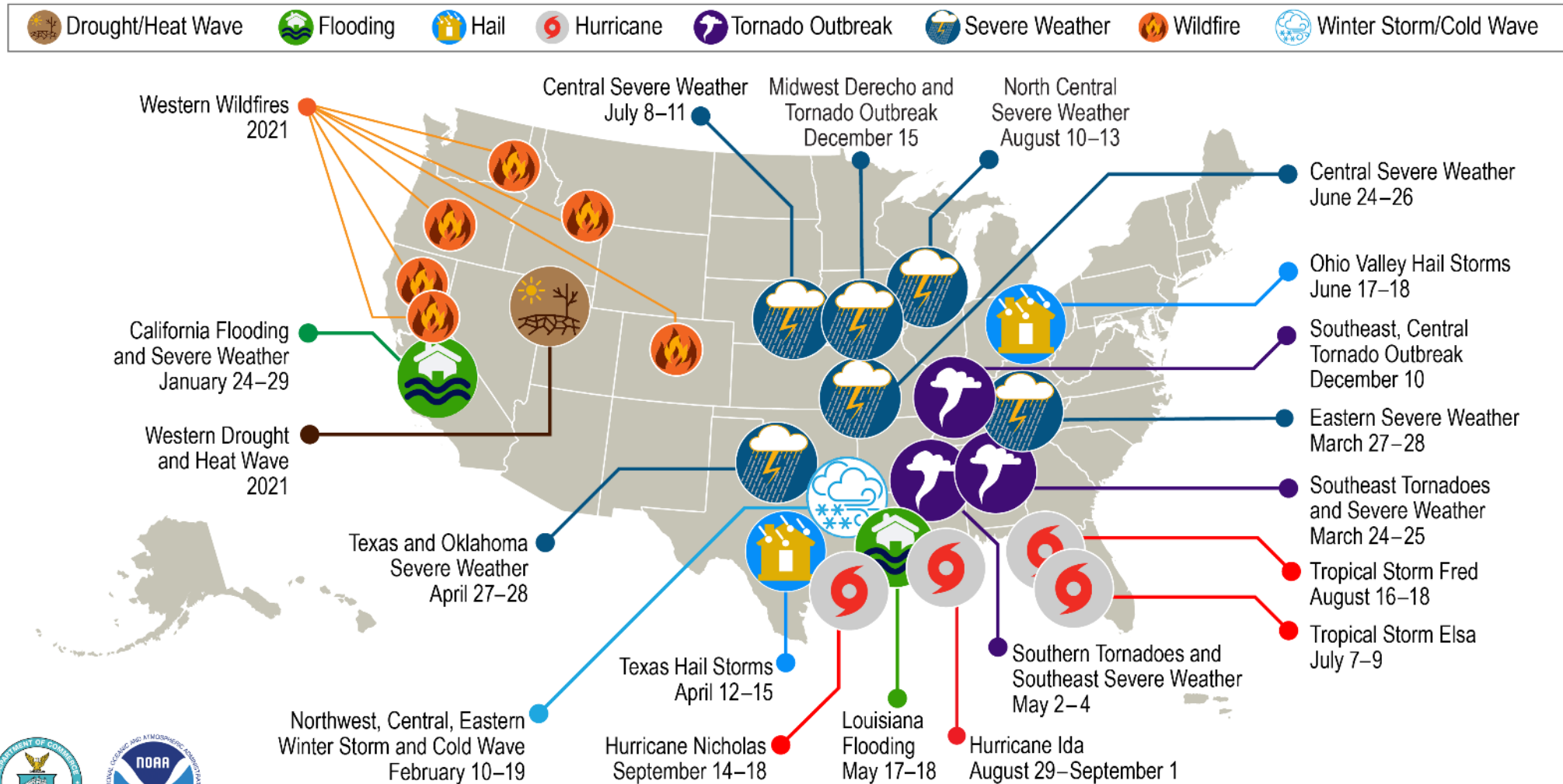
Climate Crisis Expense

2020-2021 – highest rate of billion-dollar disasters from climate and weather in U.S. ever

Much of that damage was to infrastructure, including utilities

Impacts first and most to disadvantaged, marginalized people

U.S. 2021 Billion-Dollar Weather and Climate Disasters



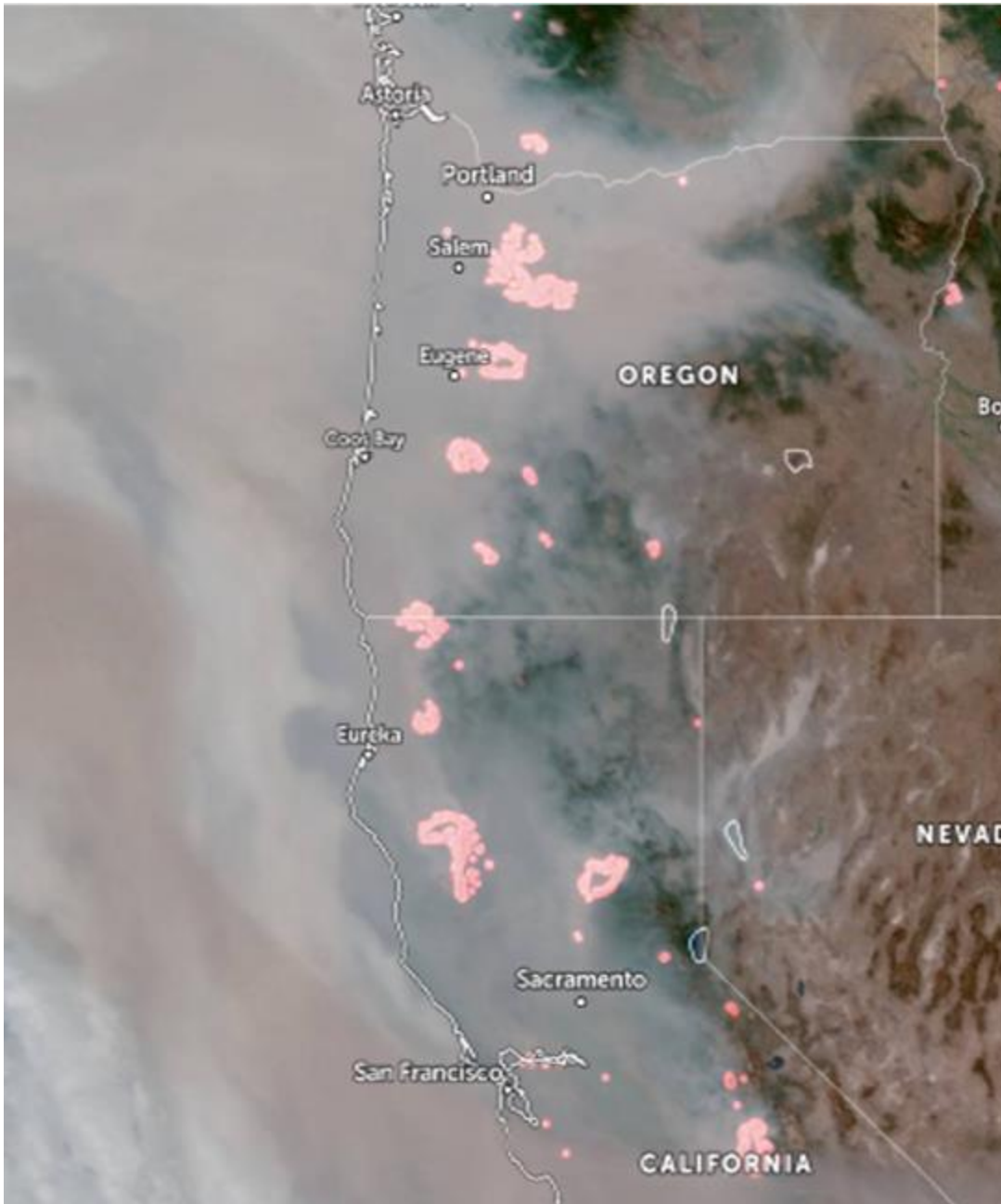
This map denotes the approximate location for each of the 20 separate billion-dollar weather and climate disasters that impacted the United States in 2021

NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2022). [Billion Dollar Climate Disasters Link](#), DOI: [Billion Dollar Climate Disasters Database](#)

Image credit zoom.earth 9/11/2020

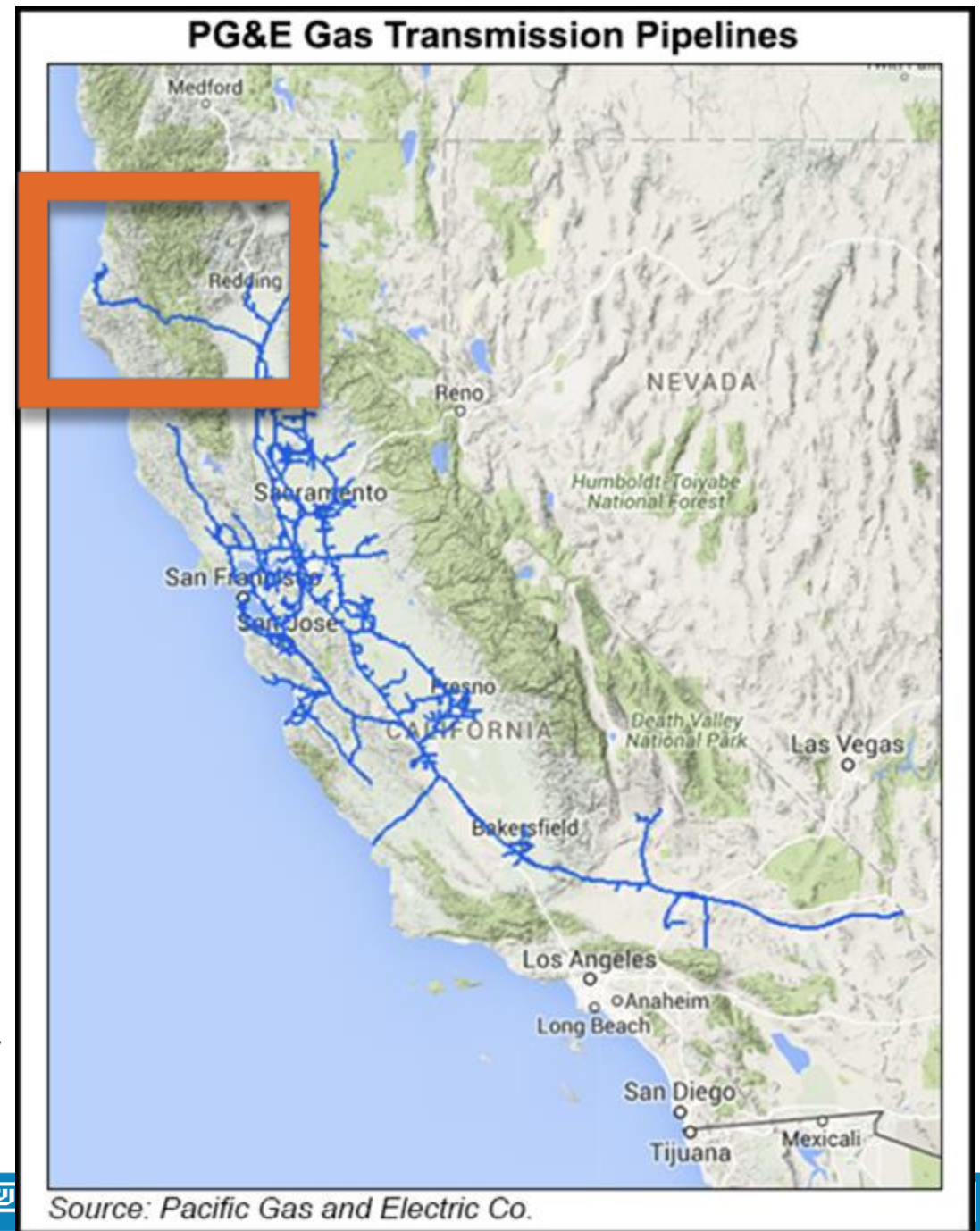
Risks and Impacts

- Increased wildfires and air pollution
- Amplified by climate emergency
- Public Safety Power Shutoffs (PSPSs)
 - Planned outages to prevent wildfires from electrical grid; projected to last 2-10 days; Predicted for the next decade
- Seeing drought, wildfire, wildfire smoke – persistent and in new areas
- ‘Heat dome’ over entire western U.S. in 2020, 2021 – extreme heat, rolling power outages; grid stress



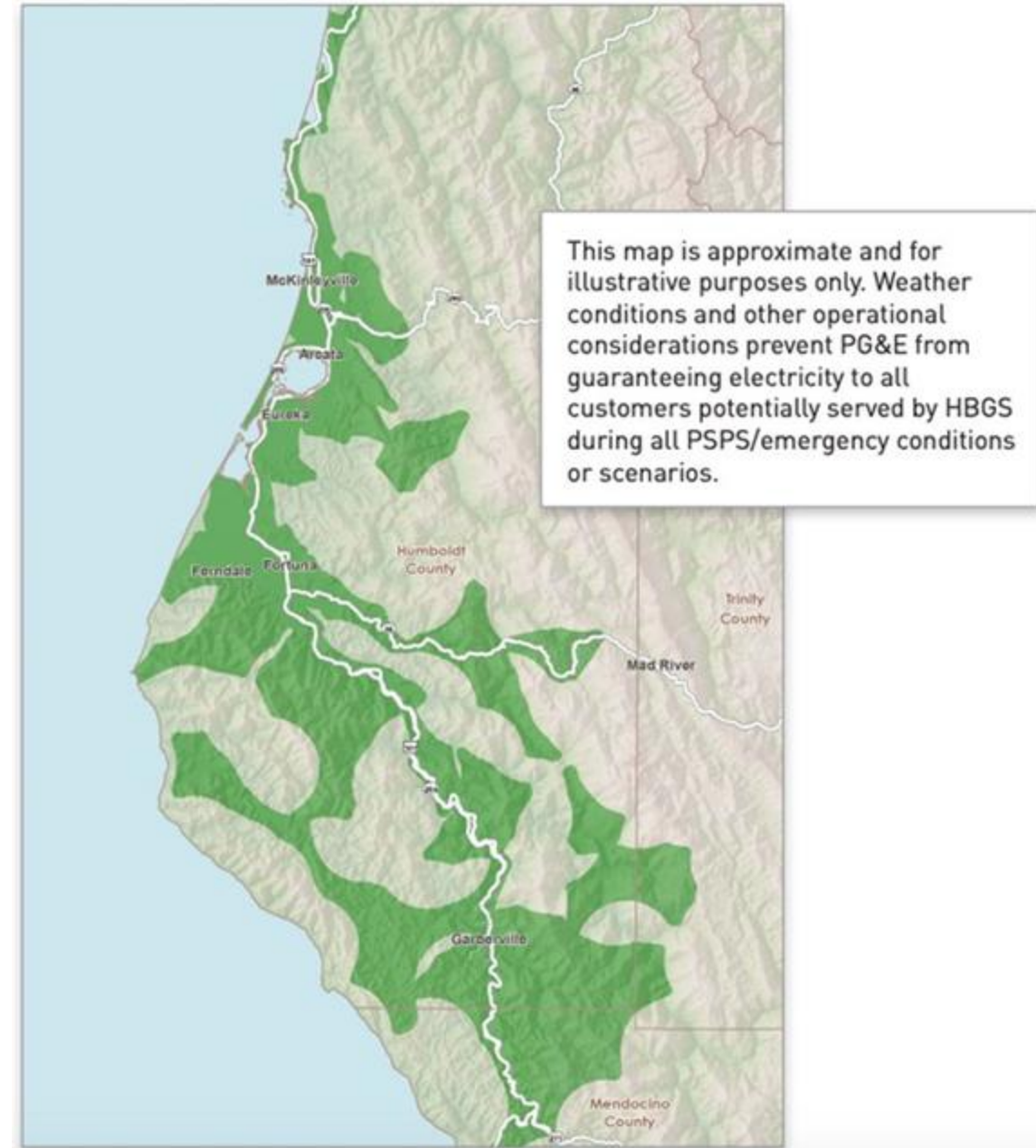
Tenuous Natural Gas Grid

- Region served by 1 x 10-inch natural gas pipeline
 - Runs through seismically unstable landscape
 - Risk of rupture and lengthy service restoration (~weeks)
- Serves region's anchor electric power plant
 - Provides most of our *actual* electrons used here
 - Located directly across from the mouth of Humboldt Bay, vulnerable to tsunami
 - Plant site will be inundated by sea level rise *and groundwater intrusion* from sea level rise by ~2050-2070
- Studies to prune natural gas infrastructure
 - CA SB 100 - Renewable and zero-carbon energy resources supply 100% of electric retail sales by 2045



Tenuous Electrical Grid

- Region is served by a single transmission line
 - With one redundant line
- Runs through wildfire country
- Import restricted to 70 megawatts, less than half the local use
 - Humboldt's typical use is 140-180 megawatts
 - Anchor natural gas plant provides most *actual* electrons
- Need cleaner and more resilient local grid
 - Humboldt grid "island" created in 2020 >>>
 - A temporary fix
 - Uses fossil fuels from elsewhere
- Inequities outside the island – Tribal Nations



Affordability Considerations

- ❁ Costs are rising, make it count: for climate-smart transitions (lowest GHG profiles + highest reliability)
- ❁ Factor in non-energy cost considerations, e.g., human health
- ❁ De-silo resource adequacy, blue sky, emergency power
 - ❖ Valuation for continuity of operations, grid services, emergency service delivery
 - ❖ Emergency power must not increase air pollution
- ❁ Tribal governments may want to exercise jurisdictional authority and utility development
 - ❖ Distribution systems, grid segmentation
 - ❖ Microgrids
- ❁ Energy efficiency
- ❁ “Connected communities”
- ❁ Technical assistance partnerships and O&M costs
- ❁ Continued R&D





Thank you.