Climate Nevada - Climate Action NV

Below is the future wildfire section from the Nevada Climate Initiative Climate Strategy report. Read this section and compare this prediction of future wildfire in Nevada to the one you created. The full version of this report can be viewed at, climateaction.ng.gov/policies/climate-nv/#.

WILDFIRE RISK

During the period 1984-2017, 4 of the 5 years with the largest area burned have occurred since 2005.

Wildfire risk is influenced by land use, habitat, weather, and climate (Westerling et al., 2003) and regardless of risk, every wildfire needs some sort of ignition. Ignition is usually either human-caused (e.g., campfires, unextinguished cigarettes) or natural (e.g., lightning). Weather conditions prior to fires explain 27-43% of the variations in the area burned in the Great Basin (Pilliod et al., 2017), highlighting how climate can synergistically act with other factors to increase wildfire risk. When a wet winter is followed by a dry spring and

summer, it is likely that more area will burn, suggesting that a seasonal drought is a larger factor that multi-year droughts in the Great Basin (Pilliod et al., 2017). During the period 1984-2017, 4 of the 5 years with the largest area burned have occurred since 2005 (Figure 17). Fire also creates a reinforcing feedback loop whereby cheatgrass more-commonly occurs and is more prevalent after fires, but it also increases fire risk (BradleY- et al., 2018; Williamson et al., 2020). However, on the decadal timescale, if there is not a recurrence of fire, native sagebrush has been shown to return to areas once dominated by cheatgrass (Morris & Leger,. 2016).

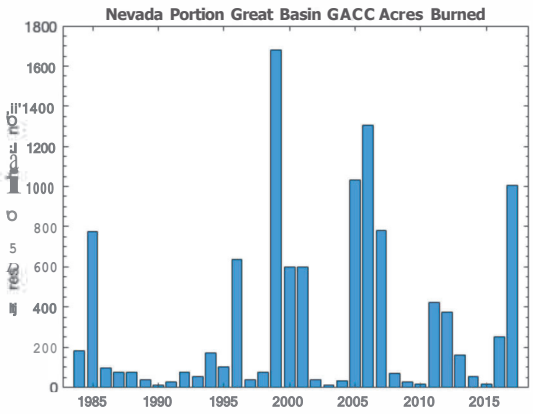

Figure 17. Acres burned in 1,000s of acres for large fires for the Nevada portion of the Great Basin Geographic Area Coordination Center (GACC), the focal point for coordinating the mobilization of resources for wildland fire. Large fires are defined as those of 1,000 acres or more in extent. Data from the Monitoring Trends in Burn Severity: https://www.mtbs.gov/.

Spring and summer evaporative demand increases the wildfire risk by faster drying of vegetation. Evaporative demand in both seasons is projected to increase by 5-15% in the near term.

Changes in climate can affect the fire risk largely through variations in drying and warming. As mentioned above, winter precipitation is projected to increase throughout Nevada, which can increase wildfire risk through more vegetation and fuels growth (particularly grasses and small shrubs). Spring and summer evaporative demand increases the wildfire risk by faster drying of vegetation. Evaporative demand in both seasons is projected to increase by 5-15% in the near term (McEvoY- et al.,.

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2020). Moreover, the number of days with extreme evaporative demand each summer, which is largely indicative of increases in extreme temperatures, is projected to increase by 25-35 days (out of 92 possible days, or about 30% of the time) in the near term (Figure 18). By the end of the century the number of days with extreme evaporative demand is projected to increase by 10-20 days or more, depending on the GHG emissions scenario.

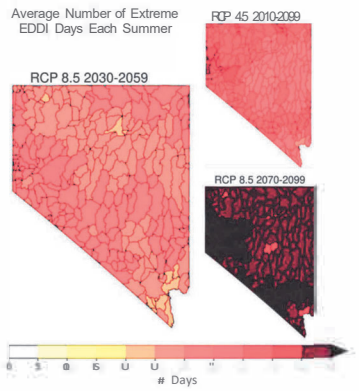

Figure 18. As in Fig. 7, but for near-term changes in the number of days with extreme (top 5% of all days) evaporative demand, indicative of fire weather conditions (left side) and for long-term changes (right side). The days are identified based on the 2-week Evaporative Demand Drought Index (EDDI). (More details in McEvoy et al., 2020 and Hobbins et al., 2016). Wildfire risks (as indicated by this measure) increase dramatically across the State.

In addition to wildfire's direct risk to residential and commercial properties, infrastructure, and to business operations, wildfire can pose widespread risks to life and public health. Smoke from wildfires can travel hundreds of miles, impacting the health of Nevadans well beyond the immediate threat from the fire itself (Moeltner et al., 2013). Wildfire smoke is associated with respiratory issues and hospitalization, especially for the elderly and children under four (Delfino et al., 2009). Emergency room visits for those with asthma increase as a result of wildfire smoke as well (Kiser et al., 2020).

REDUCING CLIMATE CHANGE THREATS TO NEVADANS

The most-effective way to forestall or reduce the projected impacts of climate change is to help minimize climate changes themselves. Nevada is actively pursuing reductions in GHG emissions (mitigation) and is poised to also take on climate change preparedness and adaptation to build the resilience of its sectors and communities.

To this end, one aspect of this effort would be increasing technical capacity at the state level for climate-informed decision-making, including increased in-house climate exP-ertise. These resources and expertise can be focused on working directly with state agencies and counties to support the development of climate resilience strategies designed to reduce the impacts of climate change on Nevada's economy, communities, and ecosystems.