CLIMATE RISK ASSESSMENT AND RESILIENCE PLANNING IN COLORADO PRISONS

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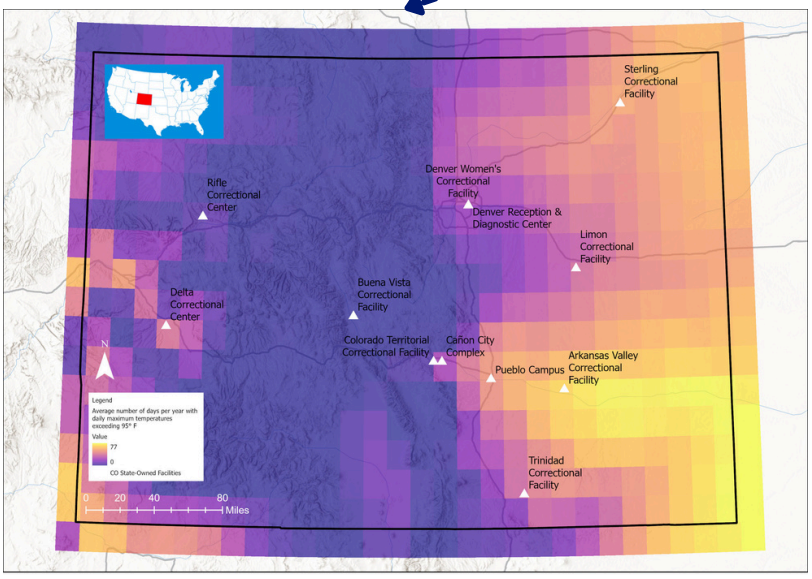
COLORADO
Climate Action

COLORADO
Department of Corrections

PROJECT BACKGROUND

Incarcerated populations are on the front lines of climate hazards as global environmental conditions become more extreme. Prison facilities function as small municipalities, providing life-sustaining services including medical services, dining, laundry, heating, cooling, air filtration, recreation, and more. Unlike municipalities, however, prisons are rarely able to evacuate during climate emergencies. Instead, they must defend in place against hazards, and the impacts from those hazards can be life-threatening.

The Colorado Department of Corrections (CDOC) manages 19 prison facilities across the state, and each facility faces a unique mix of climate hazards, as well as distinct vulnerabilities due to the nature of their population and infrastructure. This study analyzes the climate risks that each facility faces and recommends mitigation strategies to ameliorate the harms arising from these risks.



Extreme Heat and State Correctional Facilities in Colorado (2°C Warming Scenario)

Map showing extreme heat, measured by number of days per year above 95°F (data from Colorado Governor's Office of Climate Preparedness)

PURPOSE

- Analyze climate hazards and facility vulnerabilities to determine which Colorado Department of Corrections (CDOC) facilities face the greatest climate risk
- Help the CDOC prioritize mitigation interventions to protect inmate and staff safety
- Communicate to internal and external stakeholders key needs and opportunities for resilience

METHODOLOGY

Hazard Analysis

- Design and release facility manager survey
- Map state-wide climate data in GIS
- Interview subject matter experts

Vulnerability Analysis

- Visit prison facilities
- Conduct stakeholder engagement with staff
- Analyze population data
- Analyze facility data

Risk Mitigation Recommendations

- Identify best practices in resilience planning
- Prioritize recommendations based on existing CDOC needs and resources

DELIVERABLES

- Vulnerability and hazard **data tables**
- **GIS maps** of statewide climate hazards and CDOC prison facilities
- **Risk matrix** comparing climate hazards and facility vulnerabilities
- **Comprehensive report** with facility-level risk mitigation recommendations and information
- **Presentation** to CDOC executive team

	Extreme Heat	Drought	Flood	Wildfire	Extreme Storms	Chronic Air Quality*
High Operational Capacity						
High Security Level						
Inmate Population Health						
Staffing Capacity						
Vulnerable Water Supply						
Vulnerable Energy Infrastructure						
Significant Outdoor Activities						
Aging Air Cooling/ Filtration Infrastructure						
Key:	Low Concern		Medium Concern		High Concern	

Right: Risk matrix showing intersections of hazard (horizontal axis) and vulnerability (vertical axis)

FINDINGS

- **Drought and extreme heat** are the most widespread climate hazards affecting CDOC facilities
- **Interactions between worsening hazards** add complexity to resilience planning
- **Workforce acquisition, retention, and development** is essential to operational resilience
- Mitigation efforts should focus on **improving staffing capacity, maintaining and upgrading HVAC equipment, and hardening energy infrastructure**

RECOMMENDATIONS

- **Prioritize funding** for infrastructure improvements at highest-risk facilities
- **Harden infrastructure** against fire, flood, and energy loss
- Develop overall **organizational capacity** and **institutional memory**
- Create and implement an extreme weather **outdoor labor standard** and a **smoke readiness plan**

IMPACT

- CDOC implementation of recommendations including an extreme weather outdoor labor standard, a system-wide smoke readiness plan, and a Wildland Urban Interface (WUI) fire policy
- Presentation to a national group of sustainability leaders from the federal government and from state Departments of Corrections from across the country

KEY LEARNINGS AND TAKEAWAYS

- Prisons are complex systems, with many unique services and programs
- Climate hazards interact in interesting ways, posing complications for planning
- Resilience planning is complex and still a fairly nascent field that requires buy-in from key stakeholders

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