Developing a Monthly Panel of Extreme Weather Experiences for Testing a Theory of Adult Age Differences in Emotional Well-being

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Older adults are more resilient to emotional impacts of disasters

- Regionally-representative survey data from the *Study of Trauma, Resilience, and Opportunity among Neighborhoods in the Gulf* (STRONG)
  - Hurricane experiences negatively impacted mental health
  - But this negative effect was less for older adults
- Two key limitations
  - Theoretical mechanisms were unmeasured
  - Only focused on hurricanes

Strough, J., Parker, A.M., Ayer, L., Parks, V., & Finucane, M.L. (2024). Aging and emotional well-being after disasters: Vulnerability and resilience. *Gerontologist*, 24, 1-11.

Leveraging a standing internet panel

- UAS provides an opportunity to add items of immediate and general interest
- Screener questions added to the UAS monthly survey (August 2024 – July 2025)
  - Any extreme weather experiences in past month (yes/no) and type
  - Any consequences of those experiences (yes/no) and type

- Each month sample individuals with different event/consequence experiences
  - Follow-on questionnaire assesses emotional coping strategies and time perspective

Current research questions

1. What are the subjective extreme weather experiences of a representative sample of US adults?
2. Do they reflect objective data on natural hazard risk?
3. What new information do subjective experience data provide?
4. Examine psychological coping during disasters and its relationships to age and well-being

Research Question 1

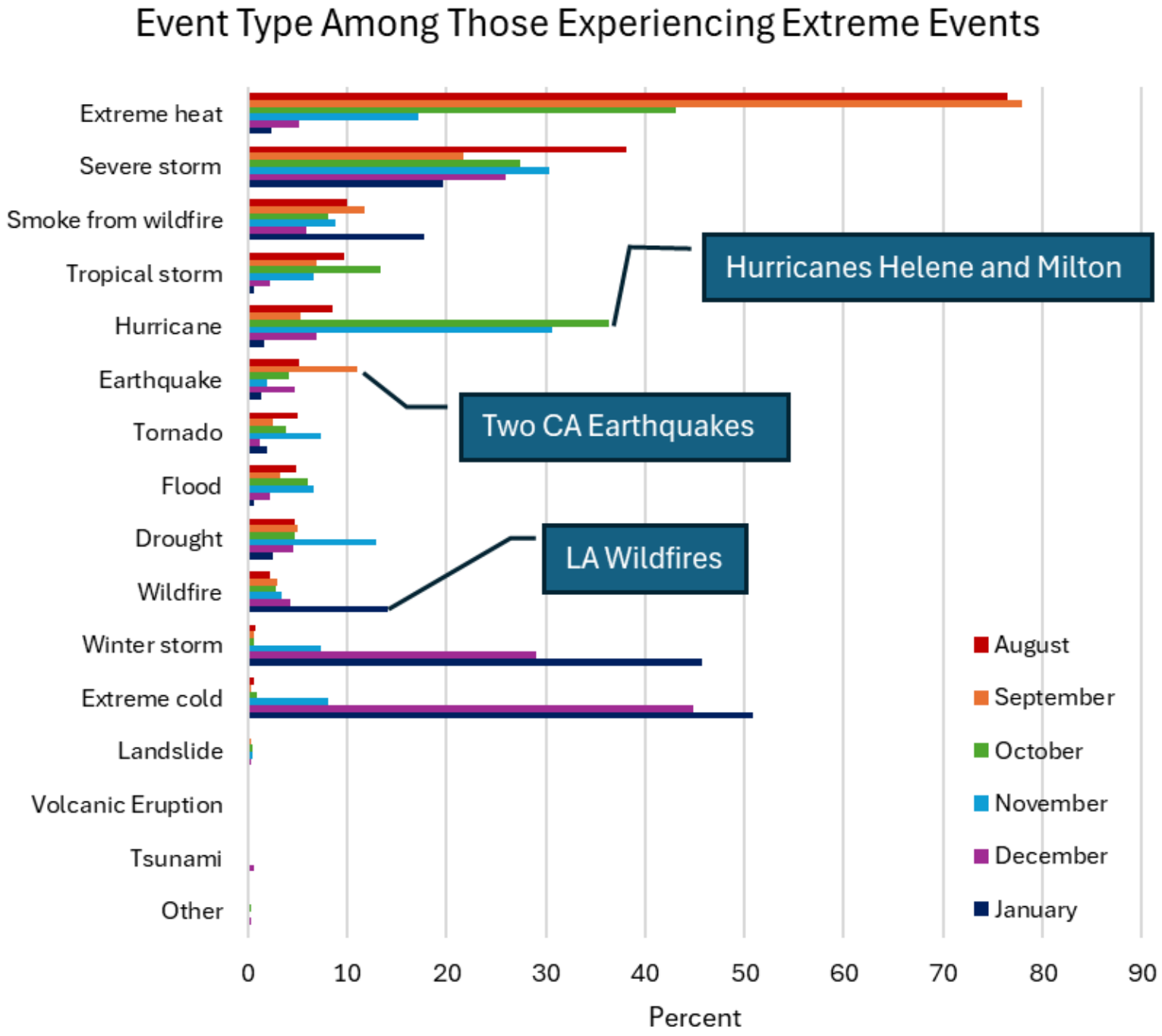
What are the subjective extreme weather experiences of a representative sample of US adults?

First five months of extreme weather experiences

	August	September	October	November	December	January	Overall
Sample size	9,906	10,157	10,092	9,418	9,022	9614	11,894
% with one or more events	27.1%	18.0%	17.1%	6.3%	5.7%	14.6%	46.3%
Among those, % with one or more consequence	29.2%	27.5%	35.4%	37.0%	27.7%	24.9%	36.3%
% with one or more consequence overall	7.9%	5.0%	6.1%	2.3%	1.6%	3.6%	16.8%

Note: Statistics are unweighted, preliminary, and subject to change.

Event Seasonality



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Research Question 2

How do subjective self-reported experiences correspond to objective data on natural hazard risk?

For a validity check, compared against historical risk estimates from FEMA's National Risk Index

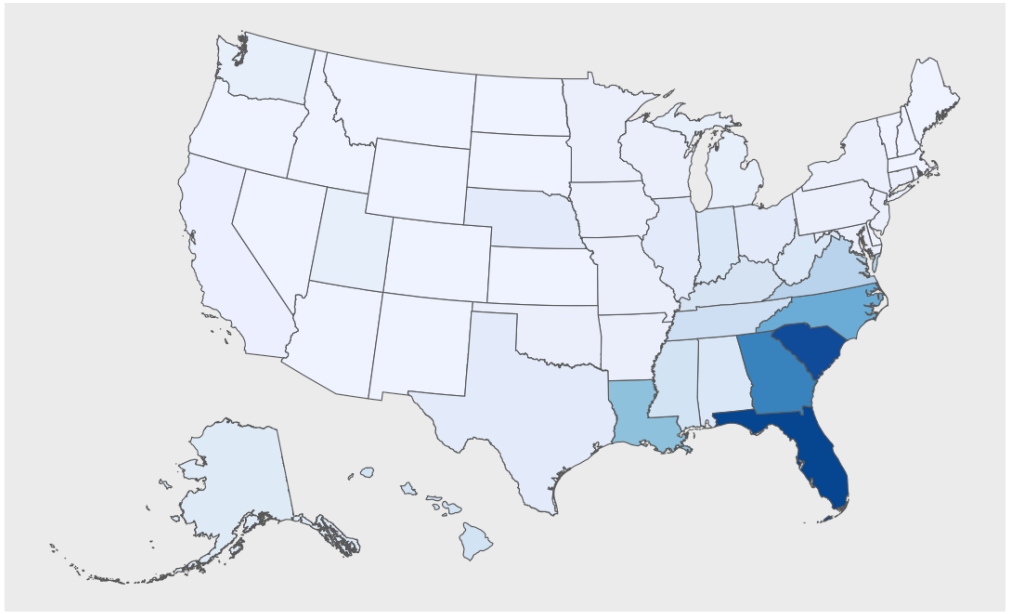
- NRI estimates available for
  - State, county, and tract
  - 19 natural hazards
- Here, interested in
  - Similarities: long-term risk
  - Differences: capture temporal idiosyncrasies

NRI Hazard	UAS Response Options
Avalanche	Landslide
Coastal Flooding	Flood
Cold Wave	Extreme Cold
Drought	Drought
Earthquake	Earthquake
Hail	Severe Storm
Heat Wave	Extreme Heat
Hurricane	Hurricane, Tropical Storm
Ice Storm	Winter Storm
Landslide	Landslide
Lightning	Severe Storm
Riverine Flooding	Flood
Strong Wind	Severe Storm
Tornado	Tornado
Tsunami	Tsunami
Volcanic Activity	Volcanic Eruption
Wildfire	Wildfire, Smoke from Wildfire
Winter Weather	Winter Storm

Hurricane self-reports clearly show Hurricanes Helene and Milton

Percentage who Reported Hurricanes or Tropical Storms by State

October and November 2024

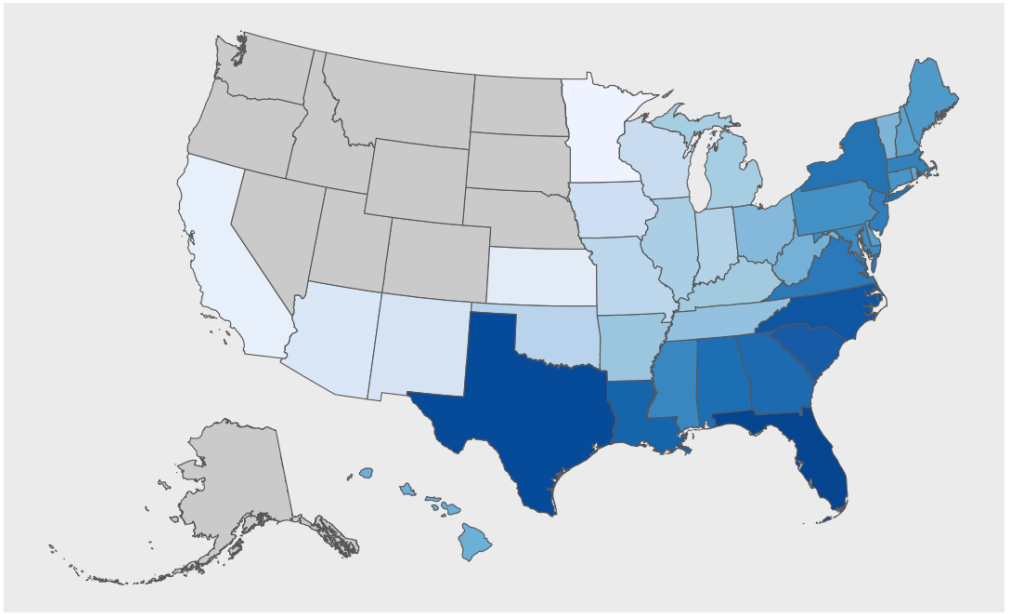


Hurricanes or Tropical Storms (%)

0 20 40 60

Source: UAS

Hurricanes Expected Annual Loss Score by State



Hurricane Expected Annual Loss Score

25 50 75 100

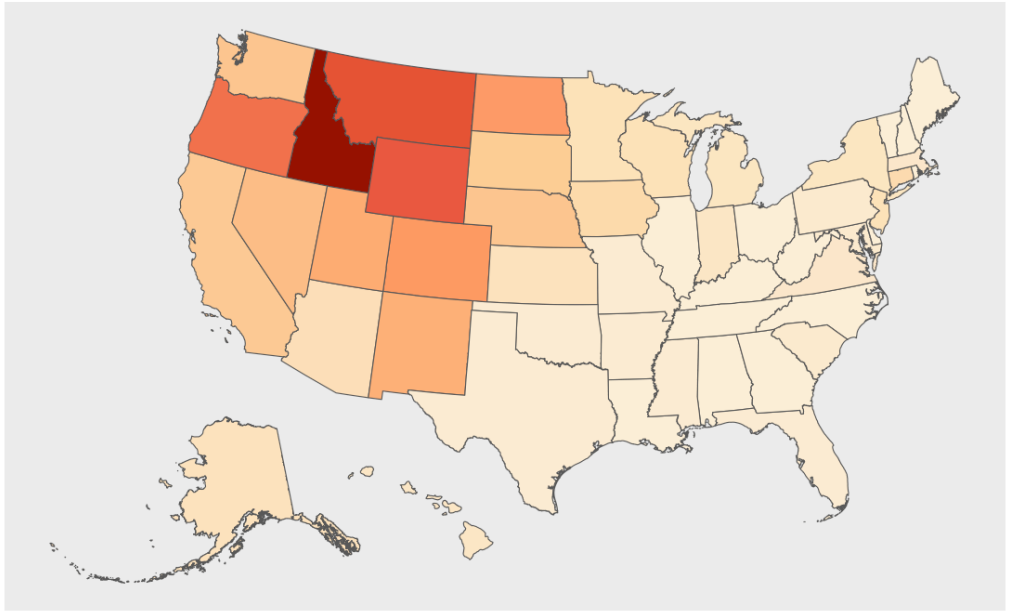
Source: NRI

Note: Statistics are unweighted, preliminary, and subject to change.

Wildfires self-reports highlight current season risk

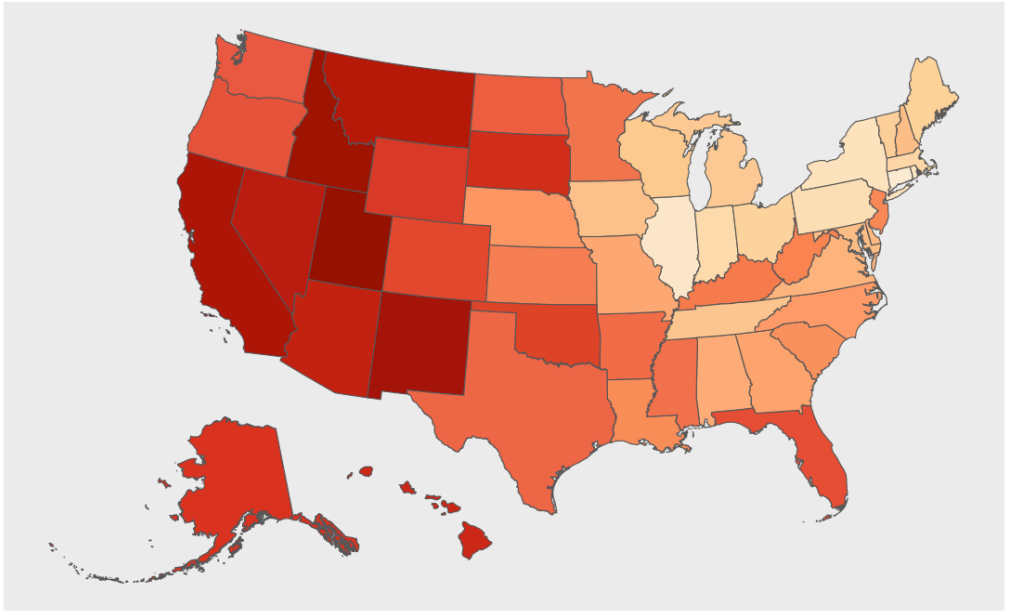
Percentage who Reported Fires or Smoke from Fires by State

Aug - Dec 2024



Source: UAS

Wildfires Expected Annual Loss Rate - National Percentile by State



Source: NRI

Note: Statistics are unweighted, preliminary, and subject to change.

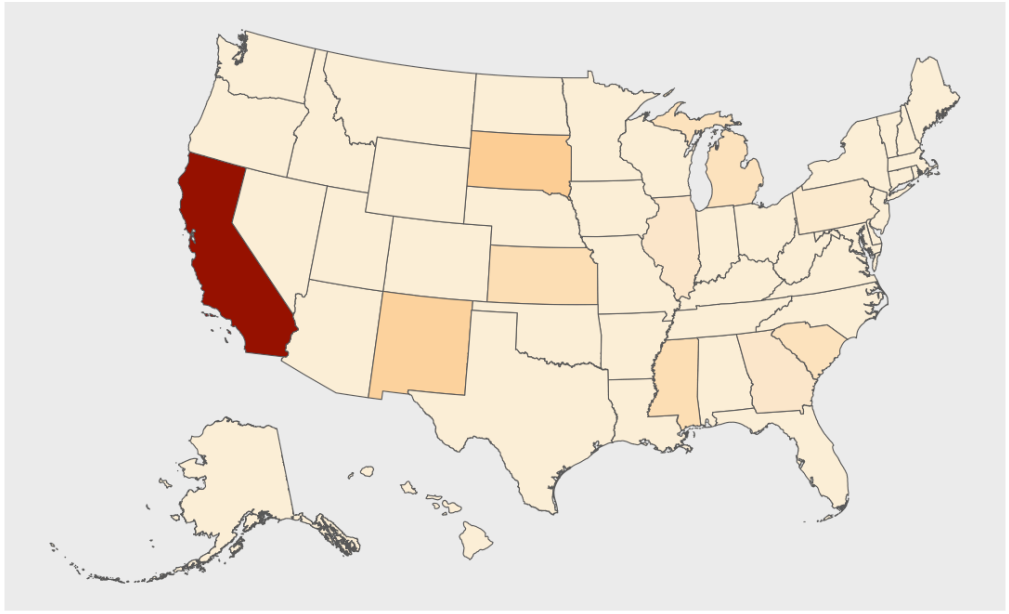
Research Question 3

What new information do subjective experience data provide?

Wildfire self-reports in January show LA wildfires

Percentage who Reported Fires or Smoke from Fires by State

Jan 2025

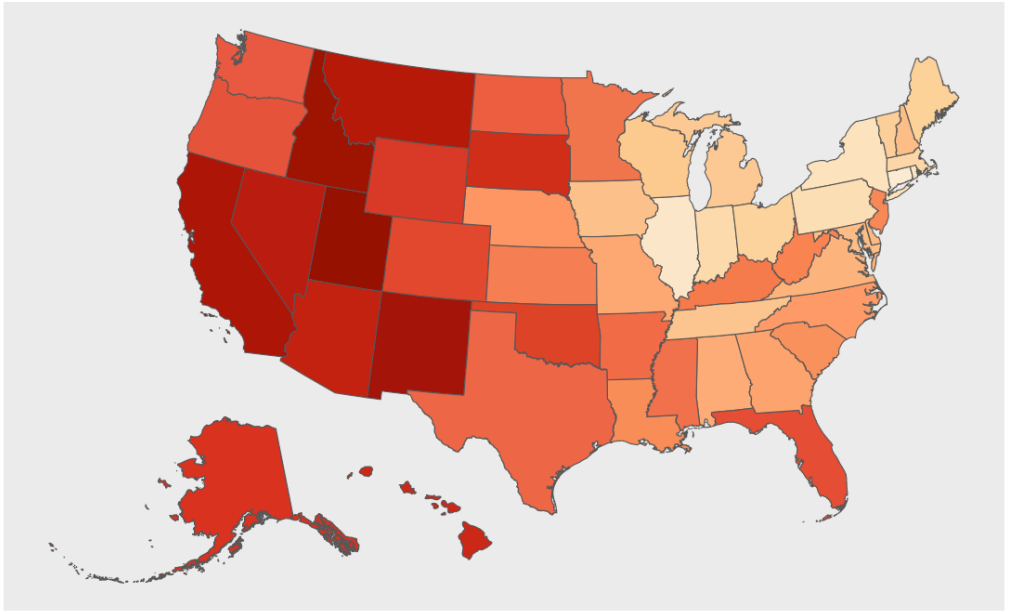


Fires or Smoke From Fires (%)

0.0 2.5 5.0 7.5

Source: UAS

Wildfires Expected Annual Loss Rate - National Percentile by State



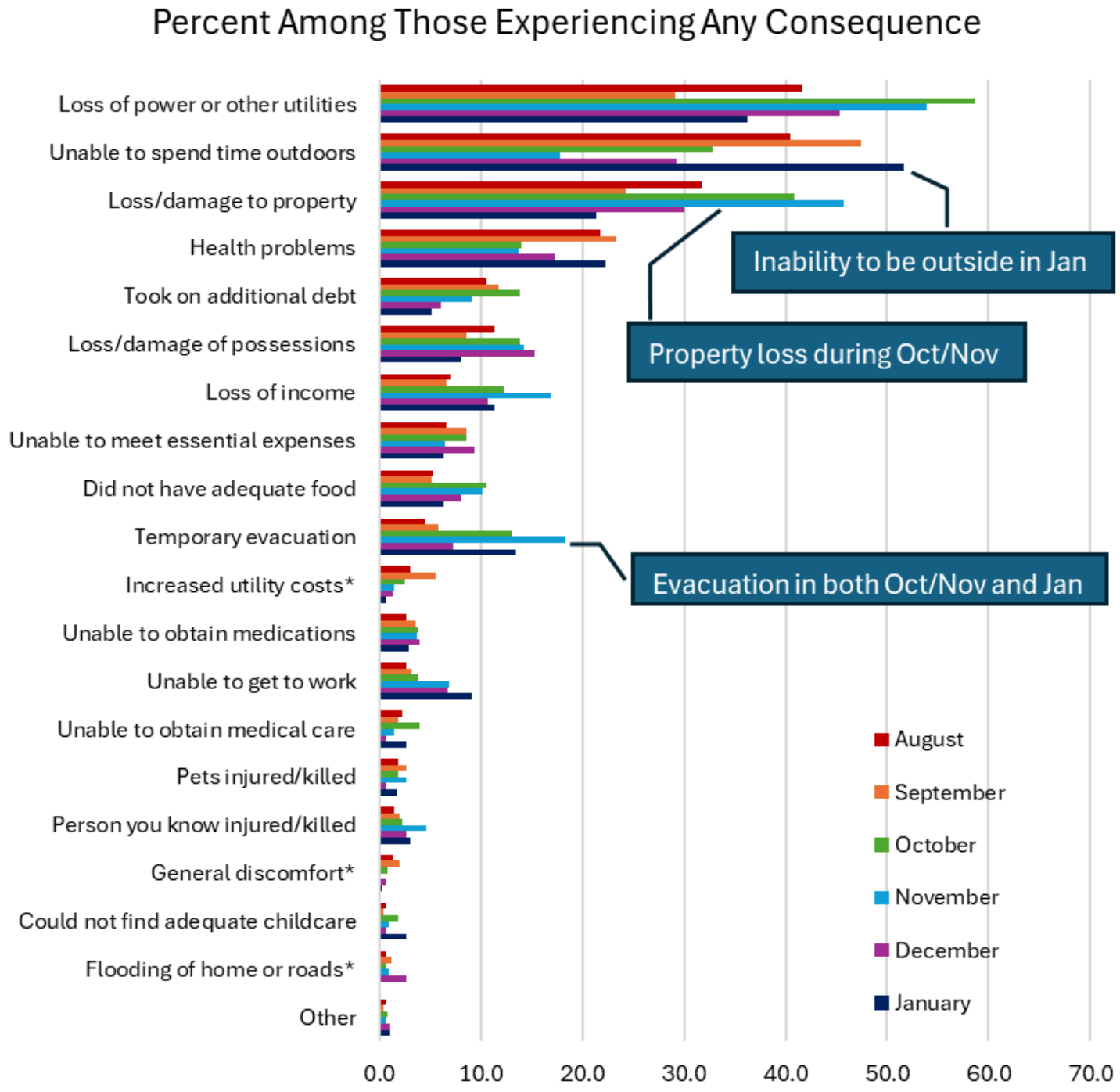
Wildfires Expected Annual Loss Rate - National Percentile

25 50 75 100

Source: NRI

Note: Statistics are unweighted, preliminary, and subject to change.

Consequence Seasonality



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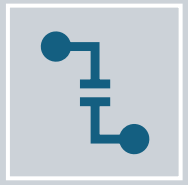
Next Steps



Use the UAS Enclave to merge responses with county-level risk assessments

Conduct predictive analyses, including seasonality, geographic risk, and individual demographics

Once all data are in, examine whether emotional coping and future time perspective help account for age differences in disaster impacts on well-being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