# Precipitation to Radiation: Understanding and Analyzing the Impact of Precipitation on Background Radiation Across the United States

Liam Thompson (email: liam.c.thompson-1@ou.edu), Ellen Wang, Danielle Montecalvo & Kathryn Snead

University of Oklahoma, Northern Arizona University Institute for Tribal Environmental Professionals, & Environmental Protection Agency

UPLOAD LOGO

UPLOAD AUTHOR PHOTOS

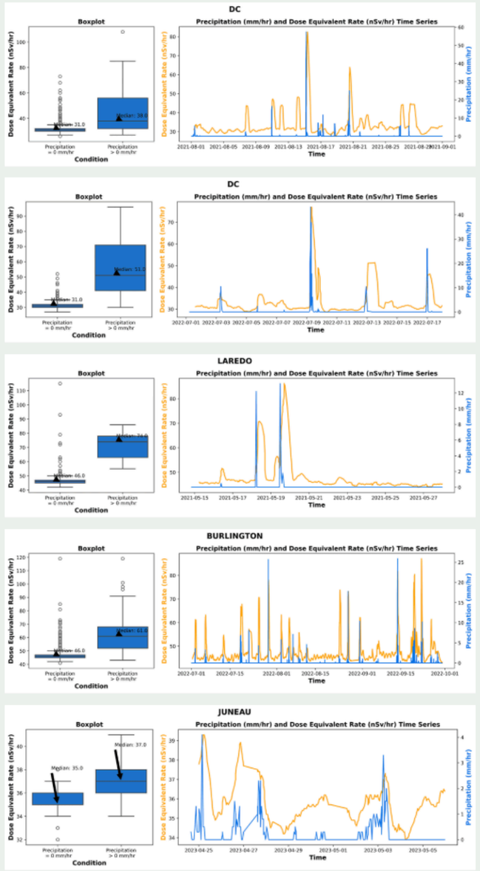
## Background

- Radiation is a natural component to everyday life on Earth
- Radiation can come from minerals, rock layers, outer space, and man-made sources
- Collectively termed background radiation
- Precipitation is **known** to cause spikes in background radiation
- Spikes are monitored by EPA's RadNet system
- Quantification of the correlation between precipitation and background radiation remains unclear

## Methodology

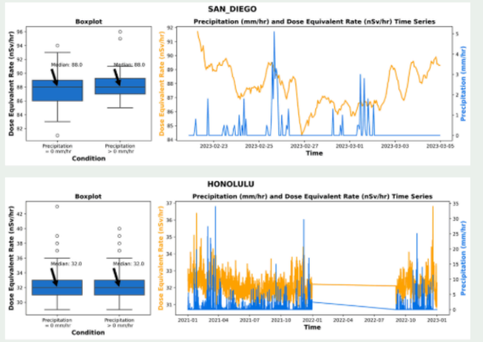
- Retrieved hourly precipitation data from NOAA NCEI sites ≤ 3 miles from RadNet site
- Project analyzed 34 RadNet sites across the U.S.
- Determined magnitude of increased background radiation after precipitation
- Created communication graphic for EPA to distribute

## Results




- Demonstrated several sites where increases in background radiation are clearly correlated with precipitation

## Where does this not work?




- Different rock layers, local

OPEN

## Acknowledgements, References, & Data

- Author recognizes and thanks the U.S. EPA Headquarters in Washington D.C. for hosting this opportunity

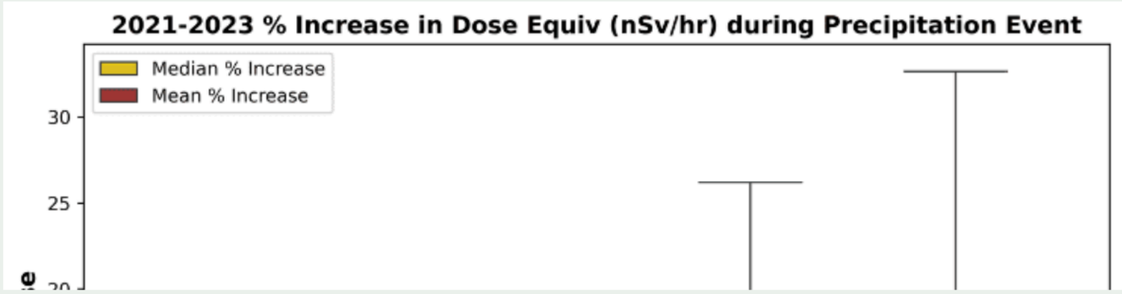
- Special thanks to my co-authors for their support and mentorship

- Extra gratitude and recognition is extended to Ellen Wang and Danielle Montecalvo for the phenomenal job they did as first-time mentors

- Institute for Tribal Environmental Professionals (ITEP), Northern Arizona

OPEN

## Highlights




OPEN