



Comparing Salamander Activity Through Temperature Humidity and Rain

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Introduction

- Amphibians have been declining across the world for several decades now.
- One of the main reasons talked about for this is climate change (Walther et al. 2002)
- Salamanders have been shown to be an important indicator species to study how an ecosystem is changing (Heyer et. Al. 2014).
- There are a variety of salamander species that can be found in Humboldt county (Figure 1 and Figure 2).
- Looked at how salamander activity varied based upon meteorological conditions
- Looked at temperature, humidity, and presence of rain

Methods

- Visual encounter surveys conducted across 30 transects that were 15 meters long in the Arcata Community Forest
- Spotlighted for salamanders for 20 minutes per transect.
- Recorded weather variables off of NOAA website



Results

- None of the studied variables were shown to have any significant influence on salamander activity.
- Temperature, humidity, and rain were shown to not be significant and not have a high enough magnitude to affect salamander activity (Figure 1 and Figure 2).

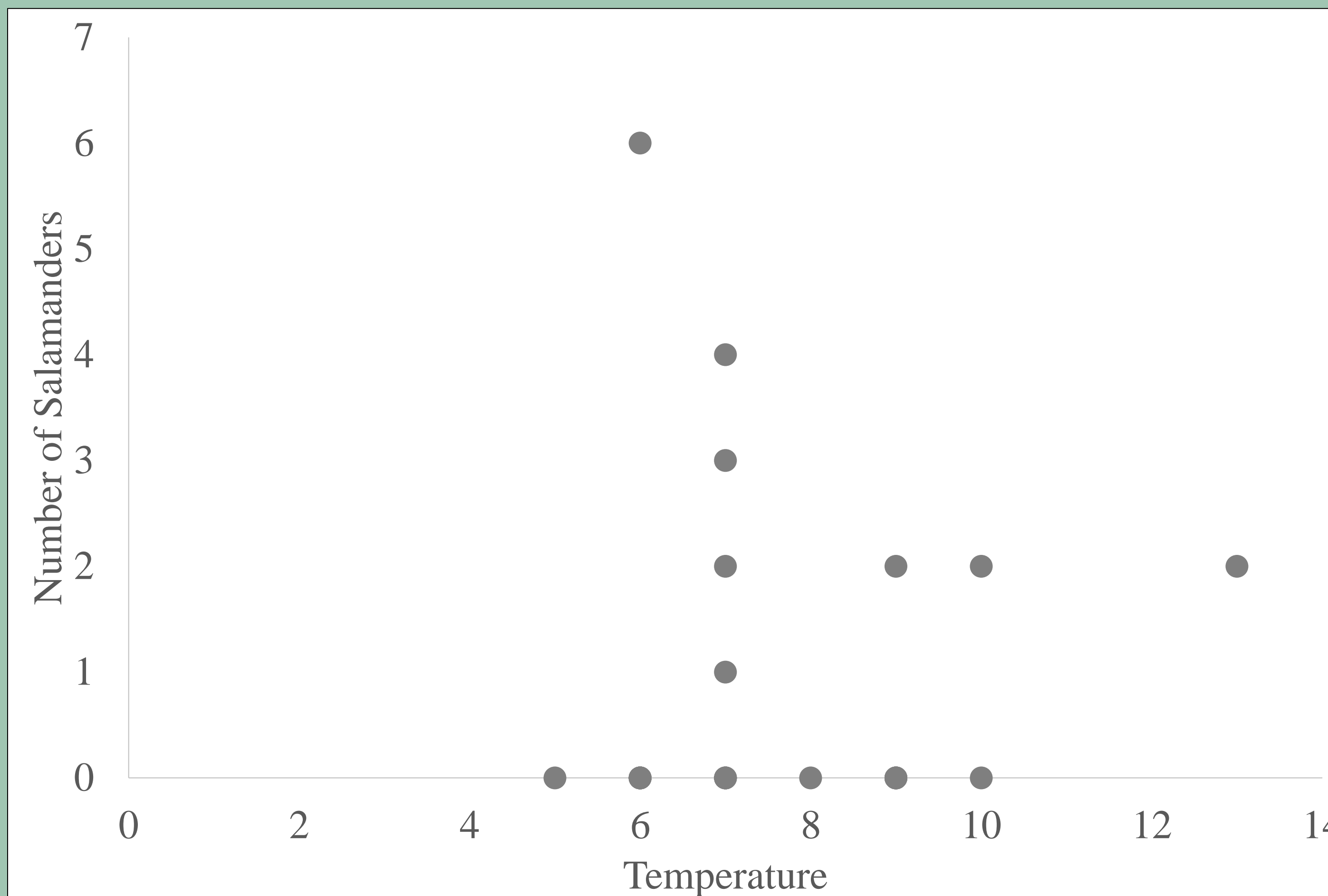


Figure 1. How the temperature at night affected the number of salamanders that were found while surveying in the Arcata Community Forest. Humidity levels followed the same pattern as temperature did.

Discussion

- There were several reasons that this lack of correlation might have been shown.
 1. Abnormally cold season could have caused salamanders to retreat
 2. Excess amount of rain could have caused issues (Hall 2022)

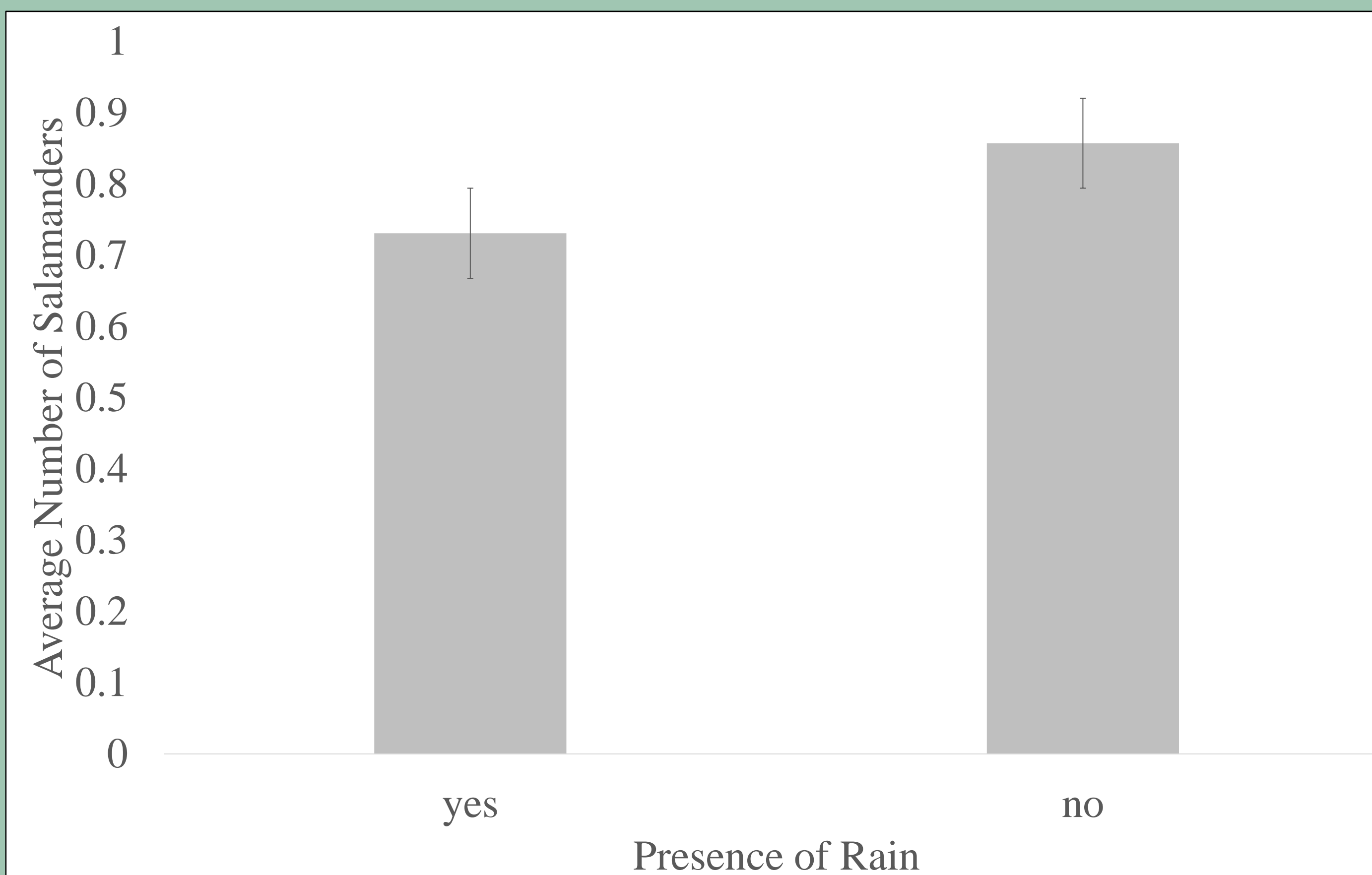


Figure 2. How the presence of rainfall during the day affected the average number of salamanders that were found while surveying the Arcata Community Forest.

References

Hall, J. M. 2022. Rains From successive hurricanes reduce nesting success of the marbled salamander (*Ambystoma opacum*). *Herpetological Conservation and Biology* 17:180-195.

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