



# Preseasonality

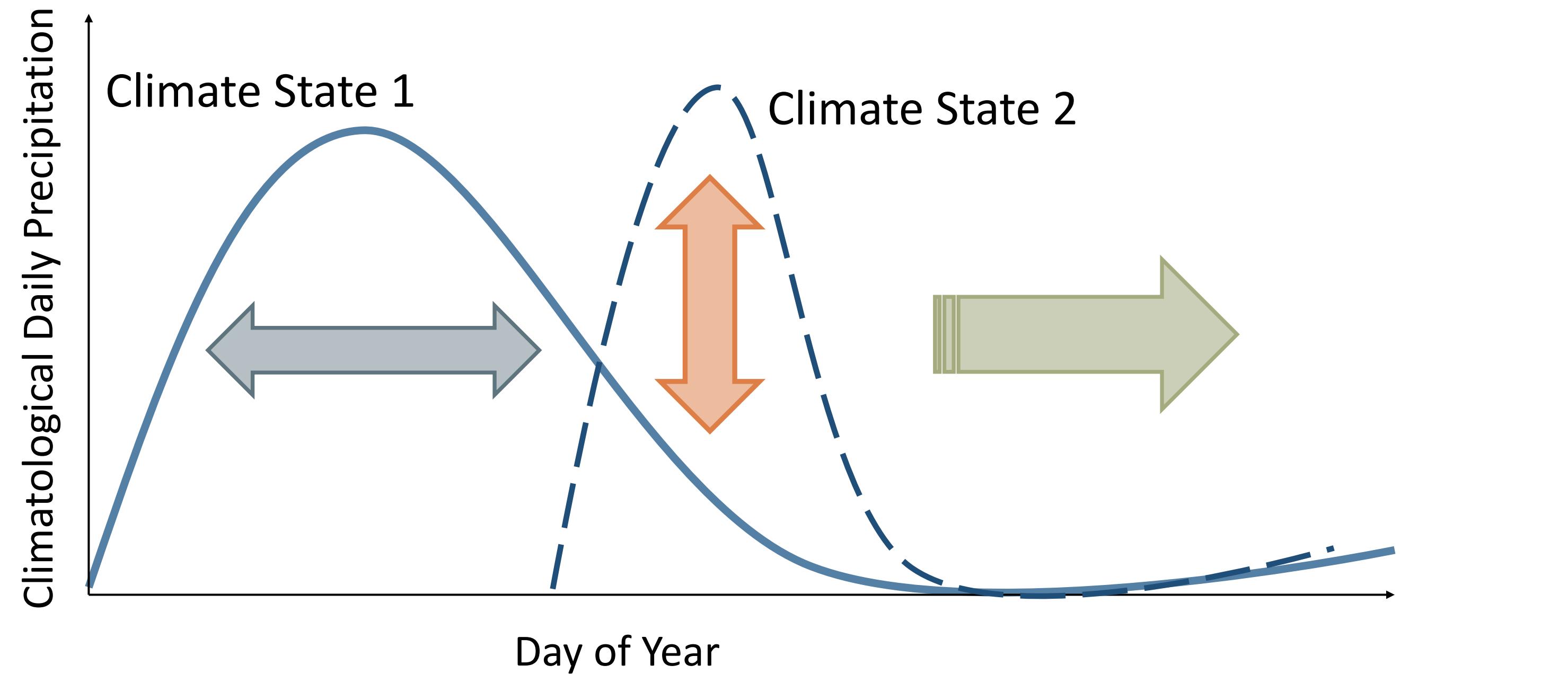
Contact Info

Gabriel Bromley<sup>1</sup>, Elinor Martin<sup>1,2</sup>

A Python package for precipitation seasonality analysis

<sup>1</sup>University of Oklahoma <sup>2</sup>South Central Climate Adaptation Science Center, Norman, OK, USA

## What is precipitation seasonality?



Climate Variability



Climate Change

To study wet and dry seasons...

They need to be defined.

## Complexities of Precipitation Seasonality

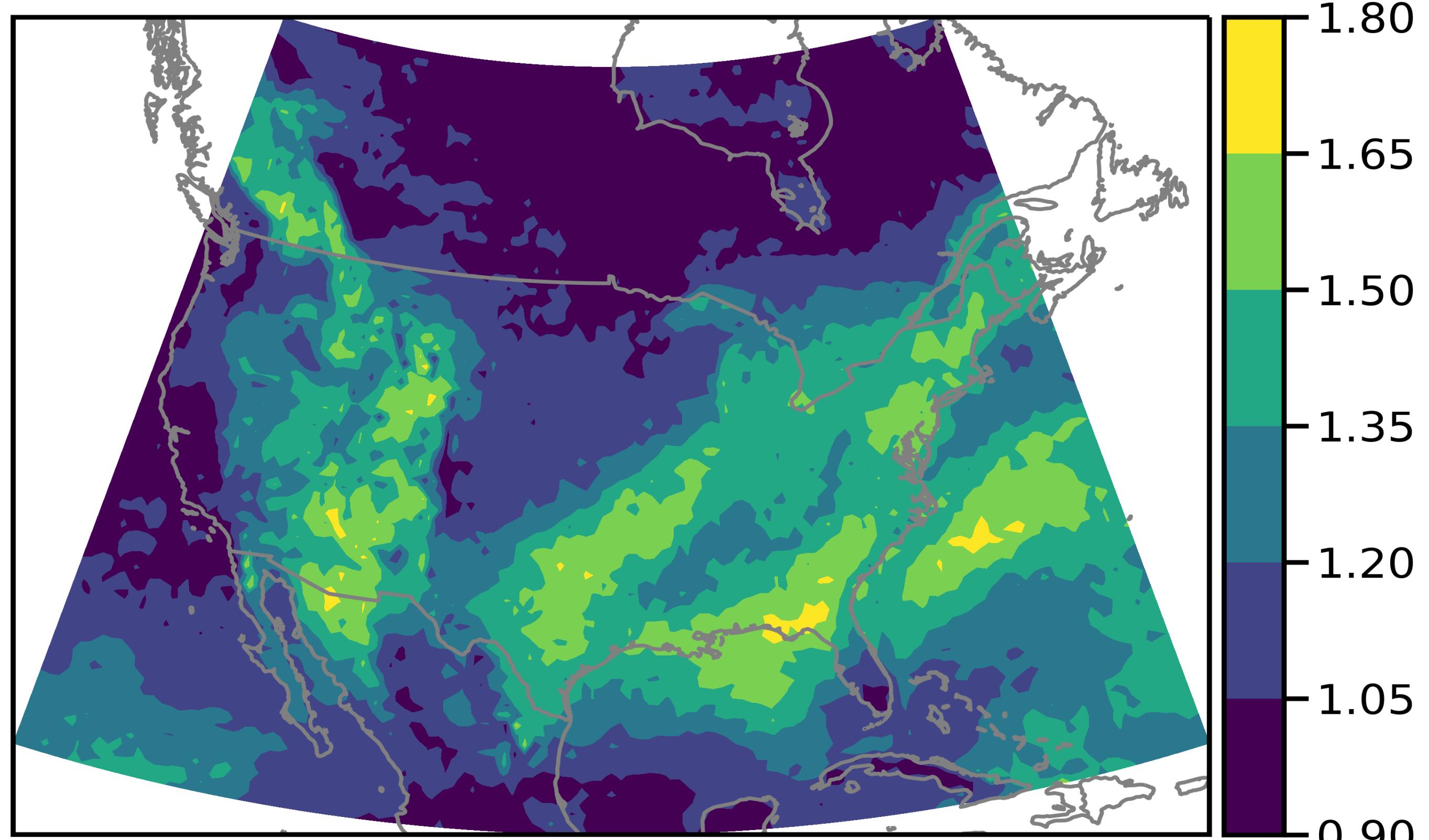
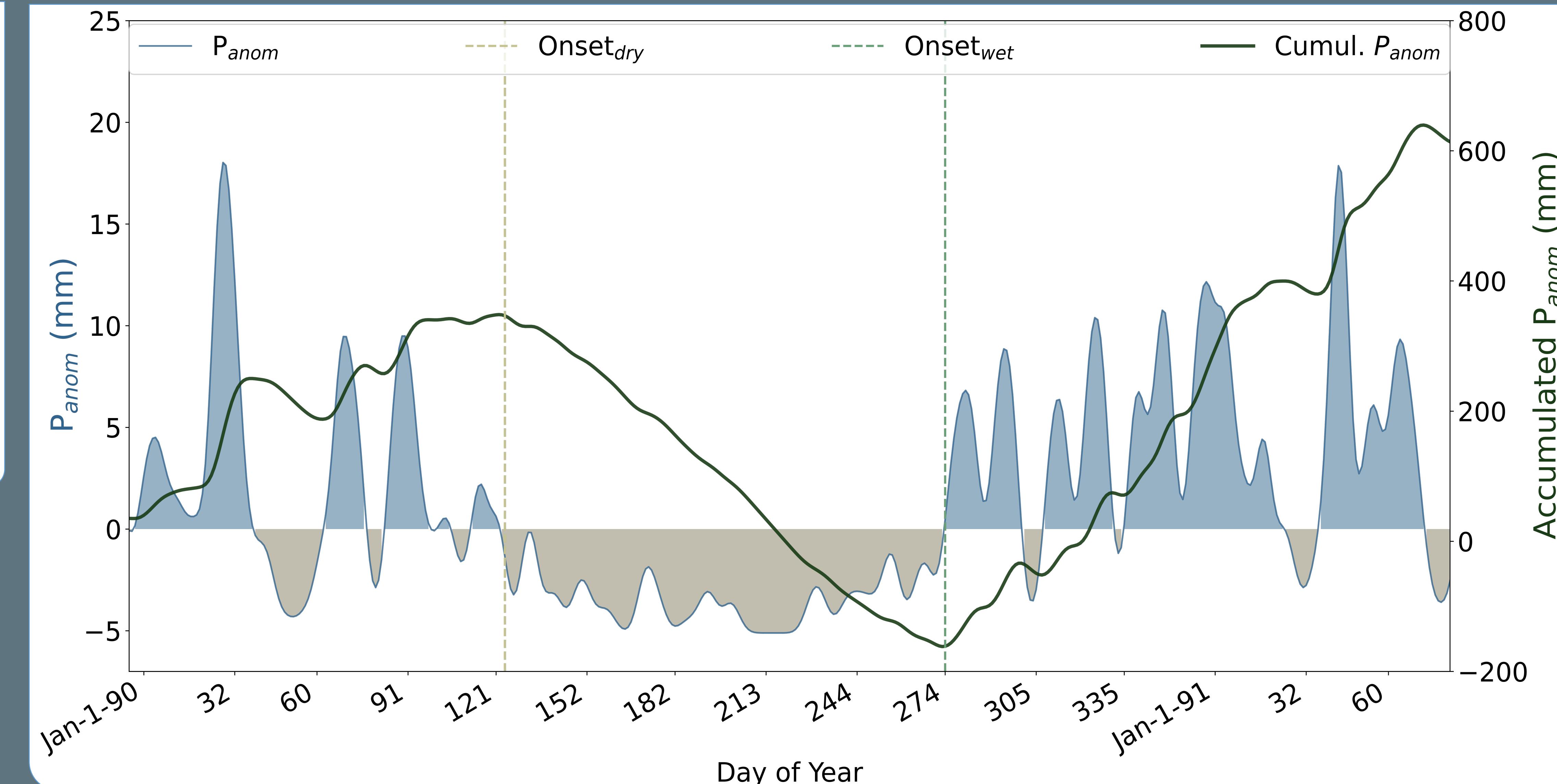


Figure 1:

Ratio of the 1<sup>st</sup> and 2<sup>nd</sup> harmonic of the annual precipitation cycle for 1979 – 2020 as an indicator an areas precipitation seasonality.

## Calculating Wet and Dry Seasons



**Figure 2:** One seasonal cycle of precipitation anomalies (Blue and Brown shading), the cumulative sum of precipitation anomalies (Green), with wet and dry season onset determined using Bombardi et al., 2017, methods.

- Data from CPC Unified Analysis
- Latitude: 10 S
- Longitude: 287 E
- Location: Central Peru

## Summary and Next Steps

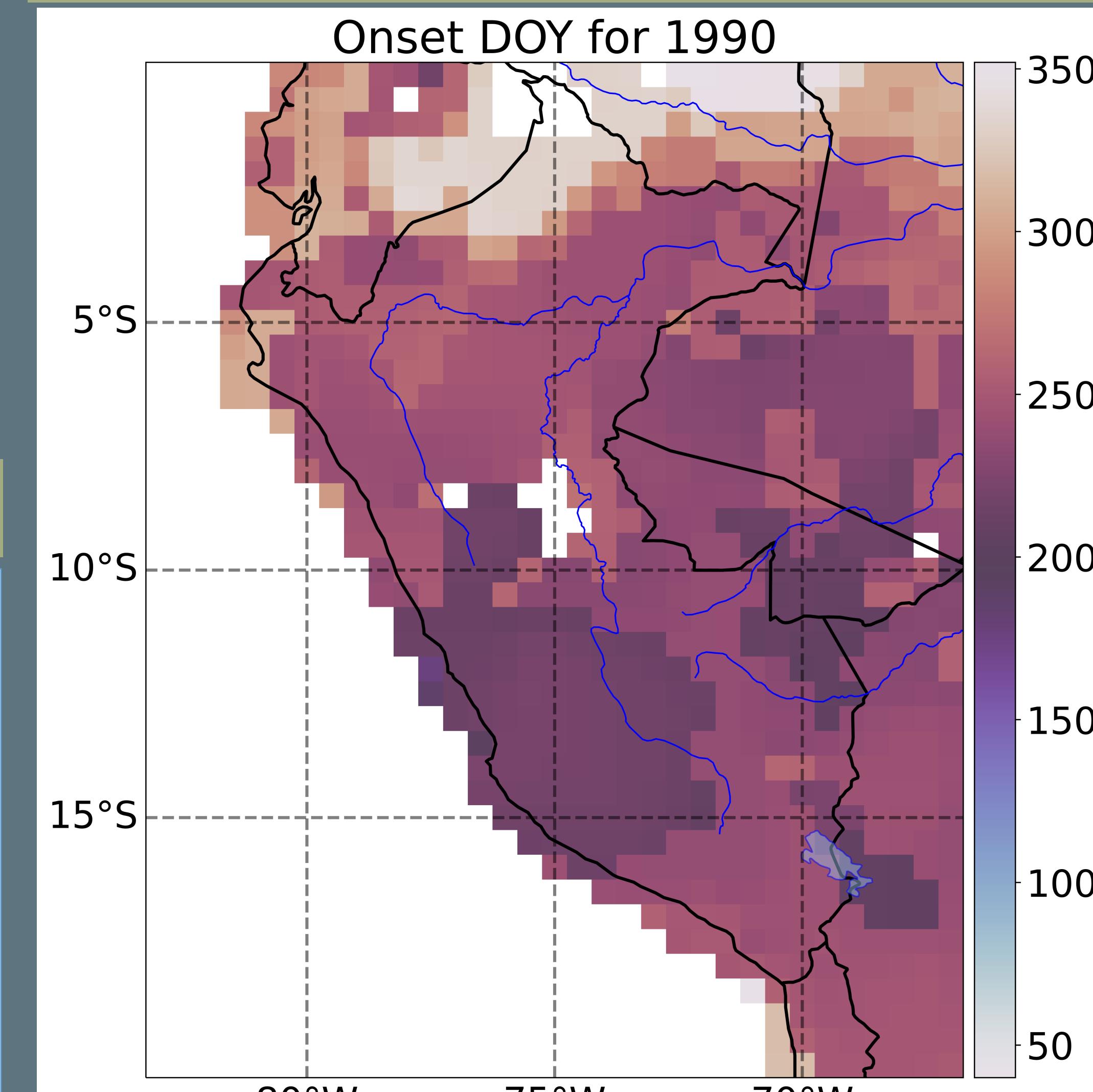


Figure 3

Wet season onset for 1990 for the Peru.

AI Statement: AI tools were consulted for the development of package internals. AI was **not** used for the development of seasonality algorithms.

Methods for determining the seasonality of precipitation are needed

Collection of existing definitions of seasonality for easier inter-comparison

## Next:

- Add more seasonality definitions
- Expand data compatibility
- Find collaborators!?



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References: <sup>1</sup>Bombardi et al. 2019; <sup>2</sup>Martinez et al. 2022; <sup>3</sup>Hersbach et al. 2020; <sup>4</sup>Chen et al. 2008; <sup>5</sup>Kay et al. 2015

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