

# Evaluating Drought and Precipitation Events for the Contiguous U.S. in Contemporary and Scenario Climates using Object-Oriented Analysis

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# Motivation and Methods

Comparison of model events versus observed events.

MODE Time Domain (MTD):

- ▶ Tracks 3-D space-time objects.
- ▶ Objects are viewed as drought events.
- ▶ Statistics of event characteristics.

Multi-year drought events:

- ▶ 3-year Standardized Precipitation Index.

Observations and Models:

- ▶ CRU and PRISM (1981-2010).
- ▶ CESM-LE (1981-2010, 2011-2040, 2041-2070, and 2071-2099).

Six SREX regions: focus is on northeast U.S.

# Results

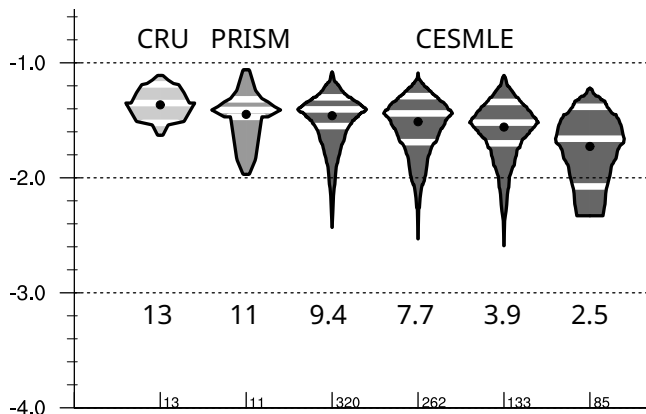


Figure 1: Violin plot of ENA-N P-10<sup>th</sup> drought intensity. Solid dots (white bars) represent the mean (quartiles).

# Takeaways and Further Work

- ▶ MODE Time Domain is useful to determine objects.
- ▶ Gather statistics on behavior of events from objects.
- ▶ Northeast U.S.: decreasing number of drought events, and increasing intensity.
- ▶ Self Organizing Map of circulation statistics.
- ▶ Publication.