

Progress Update 2/10

Validation of CHIRPS 2.0 and PRISM Datasets

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The Problem

Subsetting & Processing the Data

- Converting Xarray to Numpy arrays for packages - learning curve

Regridding PRISM Resolution to CHIRPS 5km

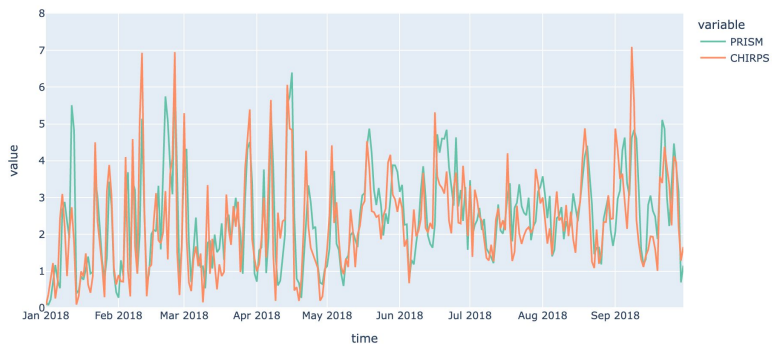
- Very long runtime (several hours)

Selected Metrics

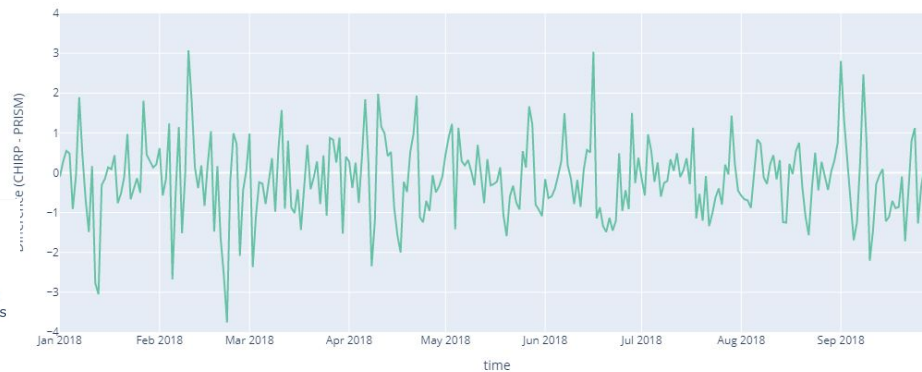
- Thresholds: 0-5mm, 5+mm
- Time series difference in Euclidean distance & MAPE

Visualizations

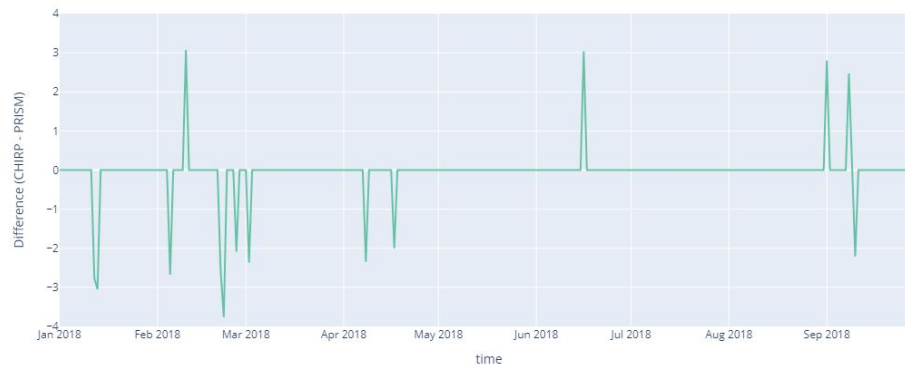
Time Series Plot



Time Series Plot



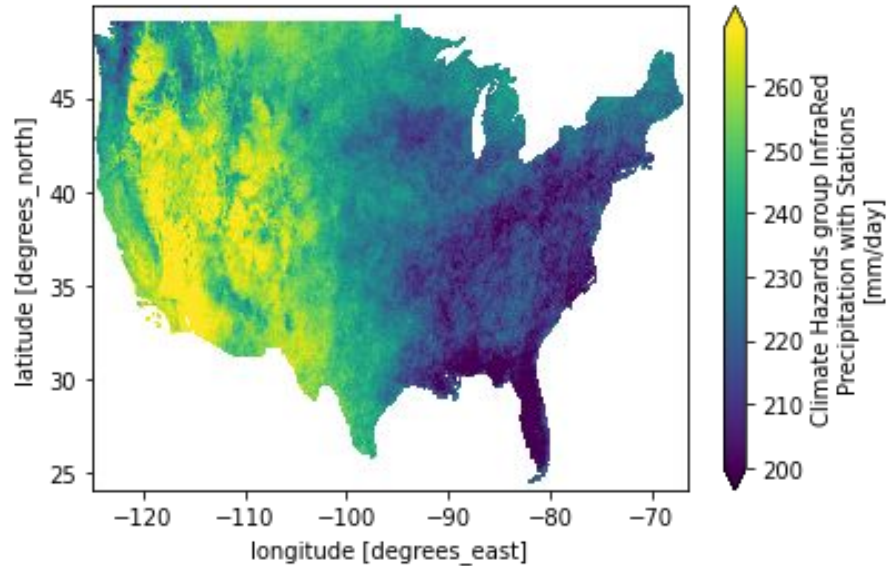
Difference with threshold = 2mm



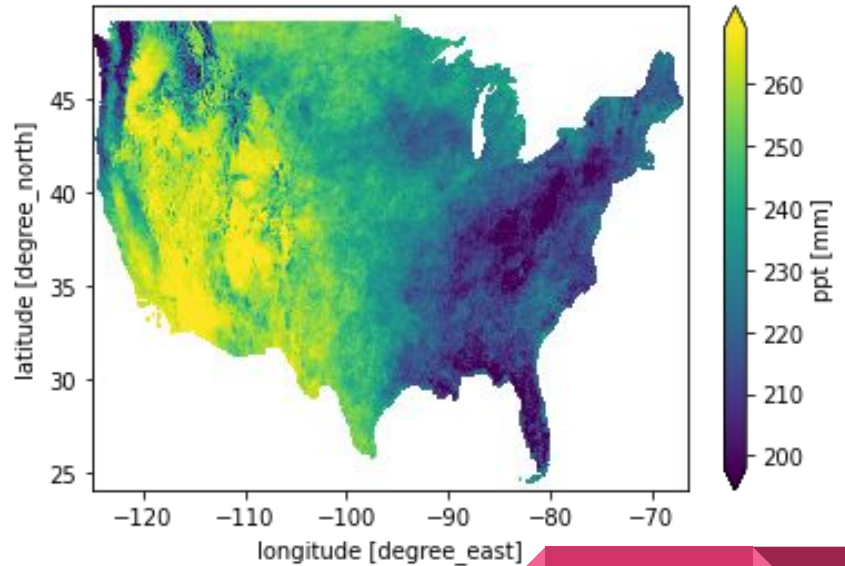
[0-5)mm Threshold

Ignore the wrong y
axis label

CHIRPS



PRISM

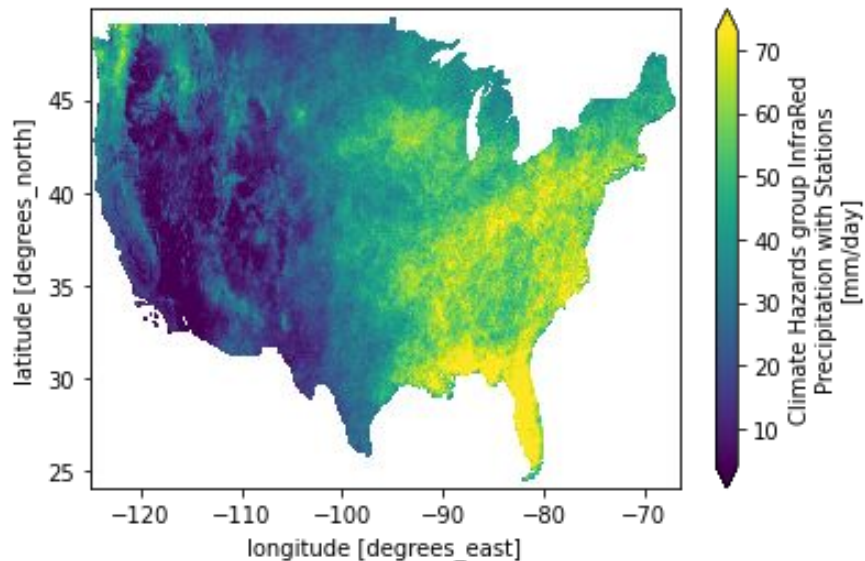


y axis represents the
number of days

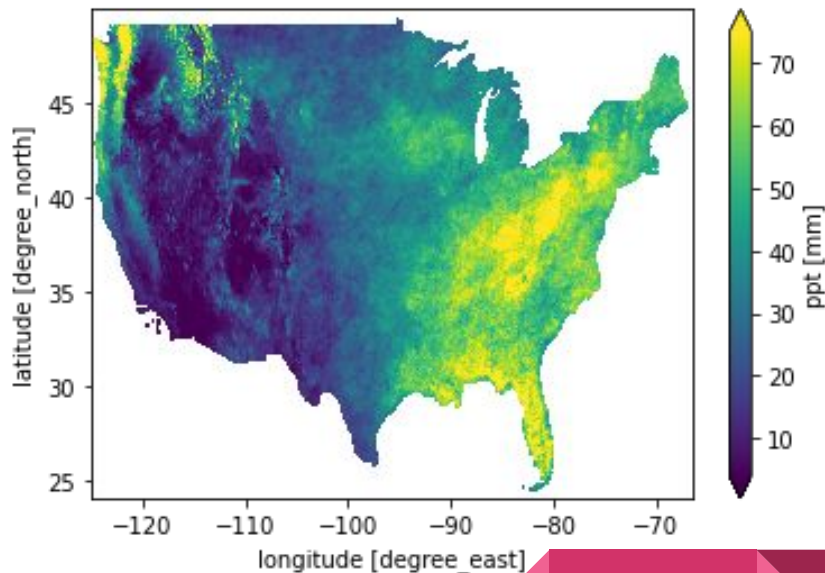
$\geq 5\text{mm}$ Threshold

Ignore the wrong y axis label

CHIRPS



PRISM

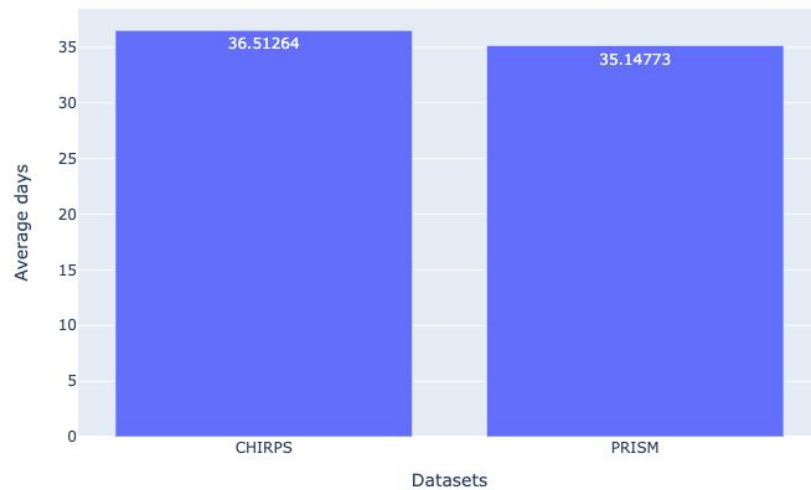


y axis represents the number of days

[0, 5)



≥ 5

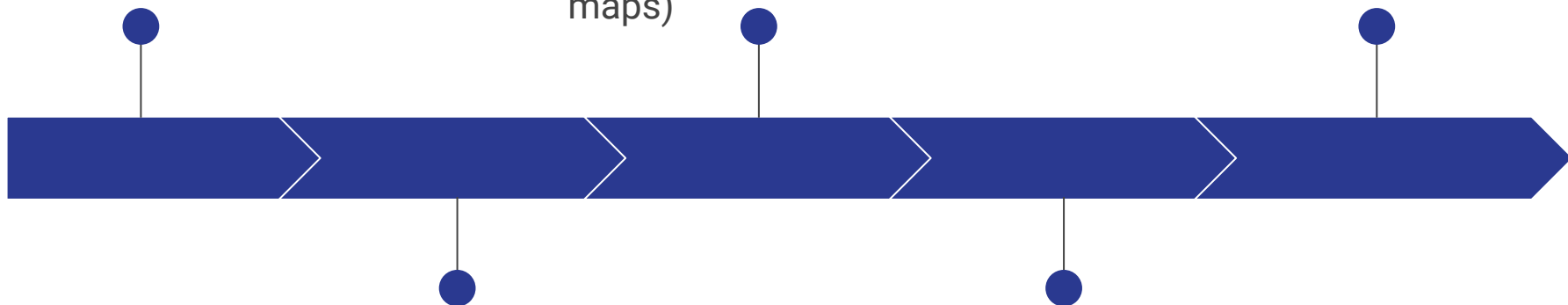


Next Steps

Continue subsetting data with Geopandas to test points within polygons

Packages to solve long-run time and scaling data (weird maps)

Find areas with most variation in annual rainfall - look at more datasets for validation



Interpolate using `scipy.interpolate.griddata` or `xarray.interp_like` - use this to compare locations in our 2 datasets

Look at length of days in areas with 0mm to get the driest areas and utilize more thresholds