

Weekly Updates (09/19/24)

HATS



PRESENTED BY:

Rafa Tagulao

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Original Paper ↘



Histogram Anomaly Time Series

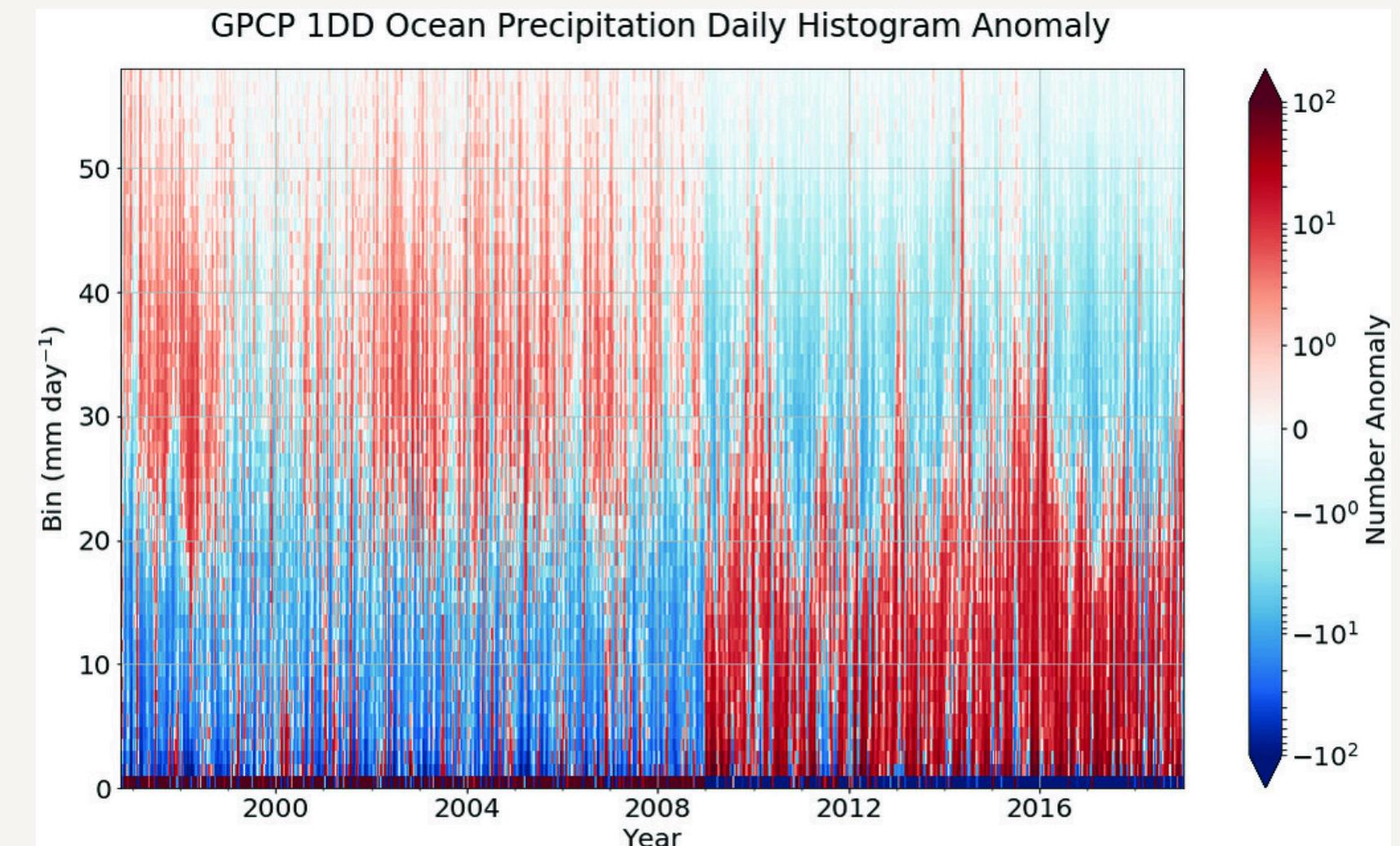
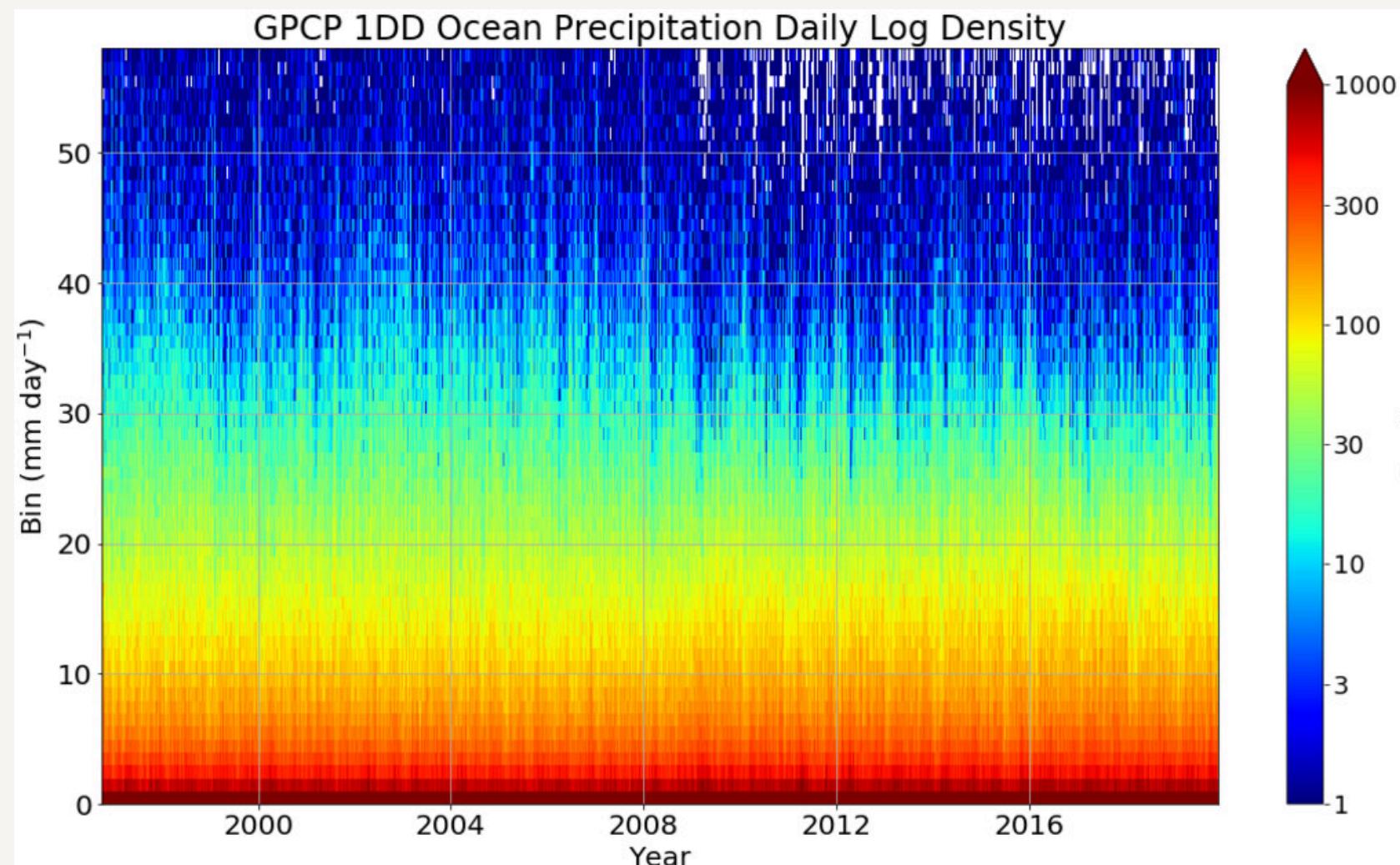
A Compact Graphical Representation of Spatial Time Series Data Sets

Gerald L Potter, George J. Huffman, David T. Bolvin,
Michael G. Bosilovich, Judy Hertz, and Laura E. Carriere

- used MERRA-2 and GPCP One-Degree Daily (1DD) precipitation estimates
- rather than averaging over space time, created a time series display of histograms for each increment of data (daily)
- created histogram time series and the histogram anomaly time series

Original Paper ↴

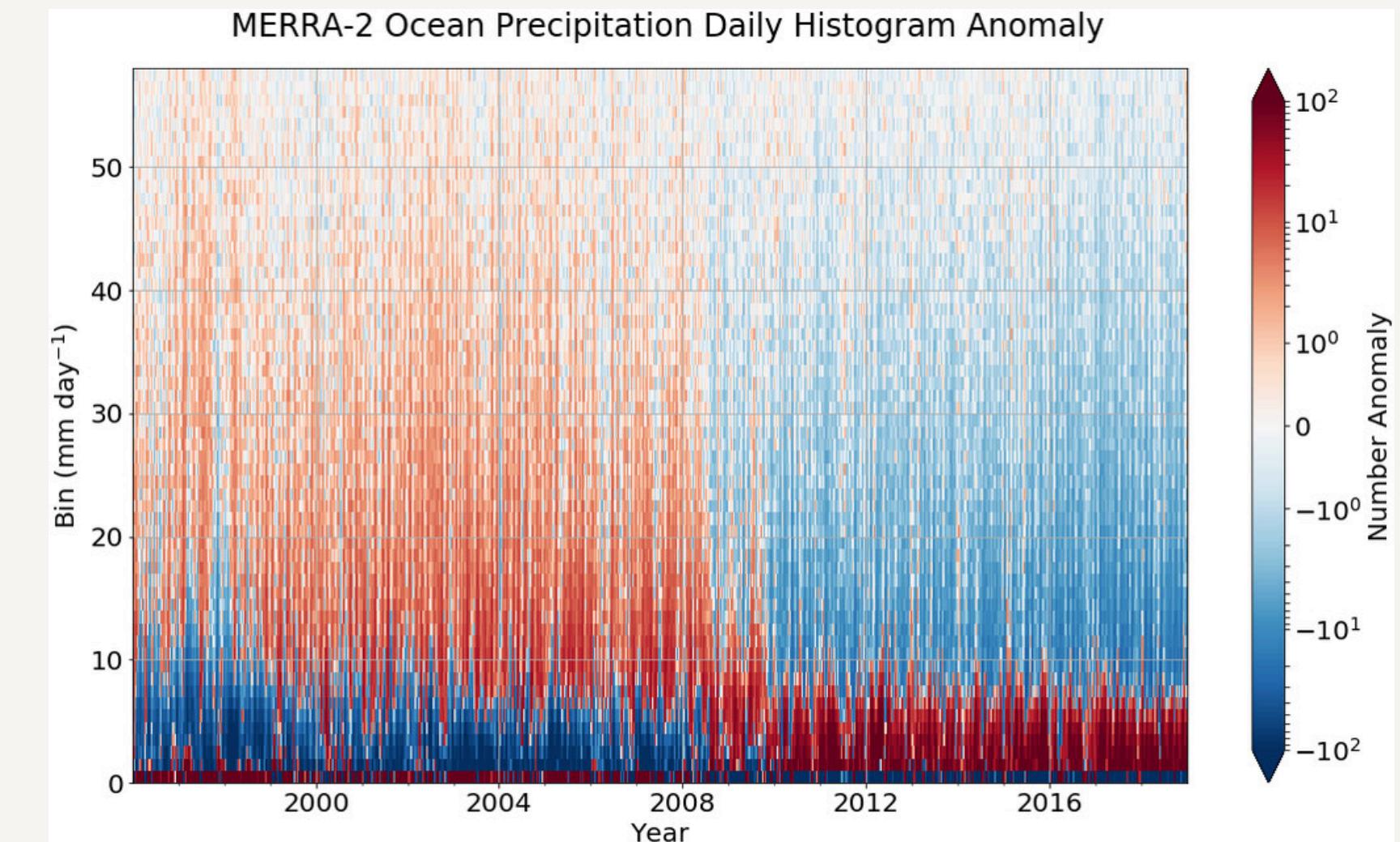
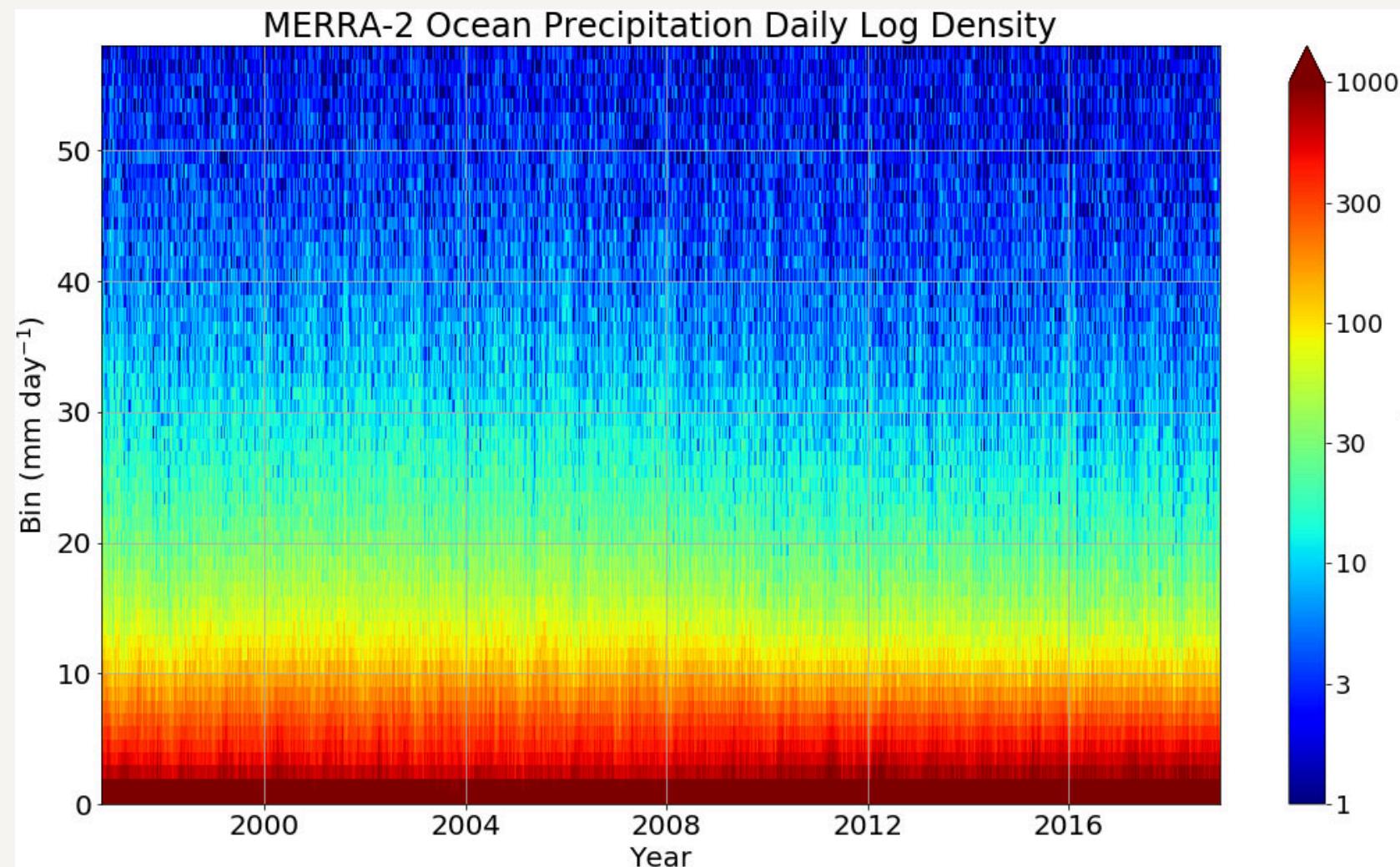
GPCP Results



- shift in the tail of the distribution starting around 2009
- more low precipitation amounts and fewer high precipitation amounts

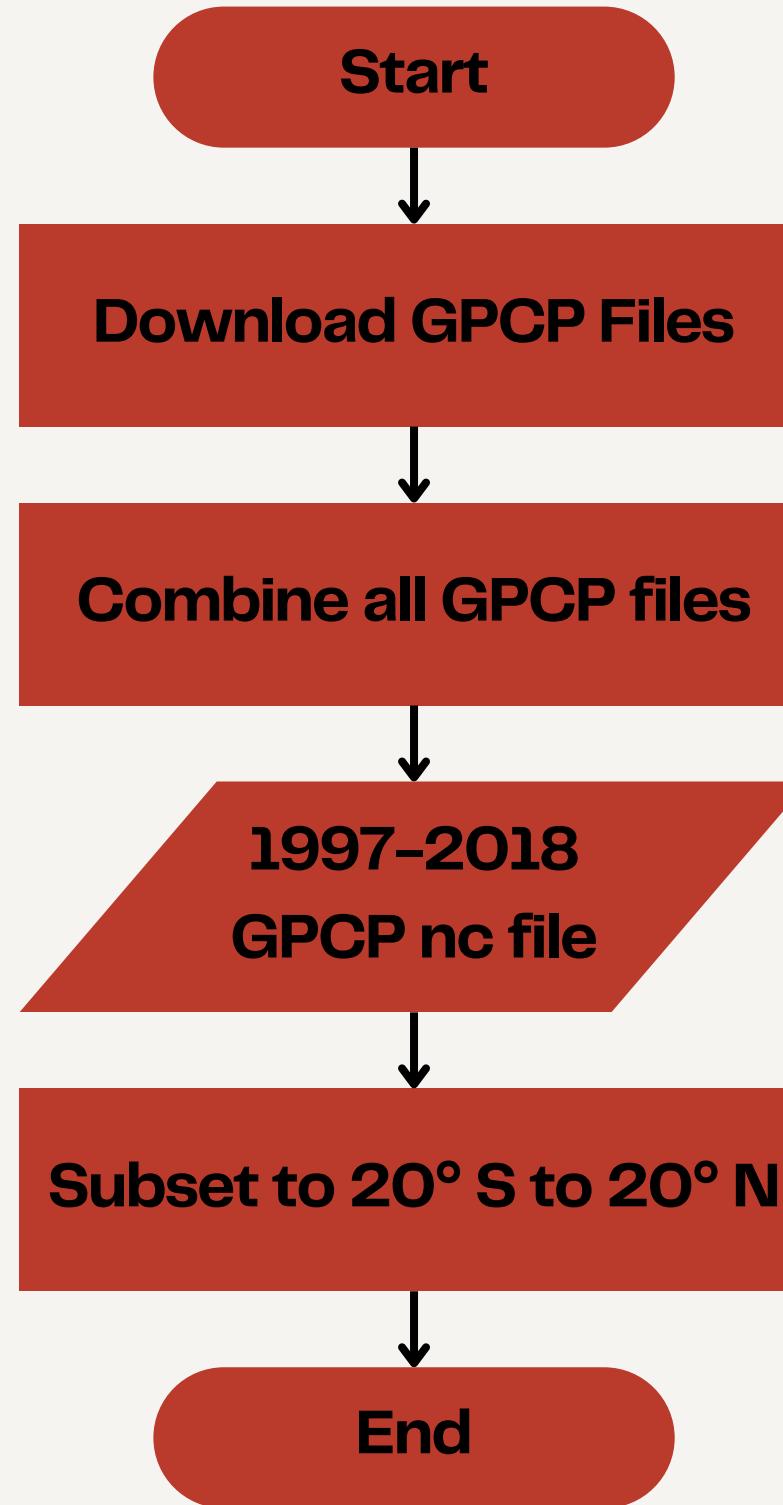
Original Paper ↴

MERRA-2 Results



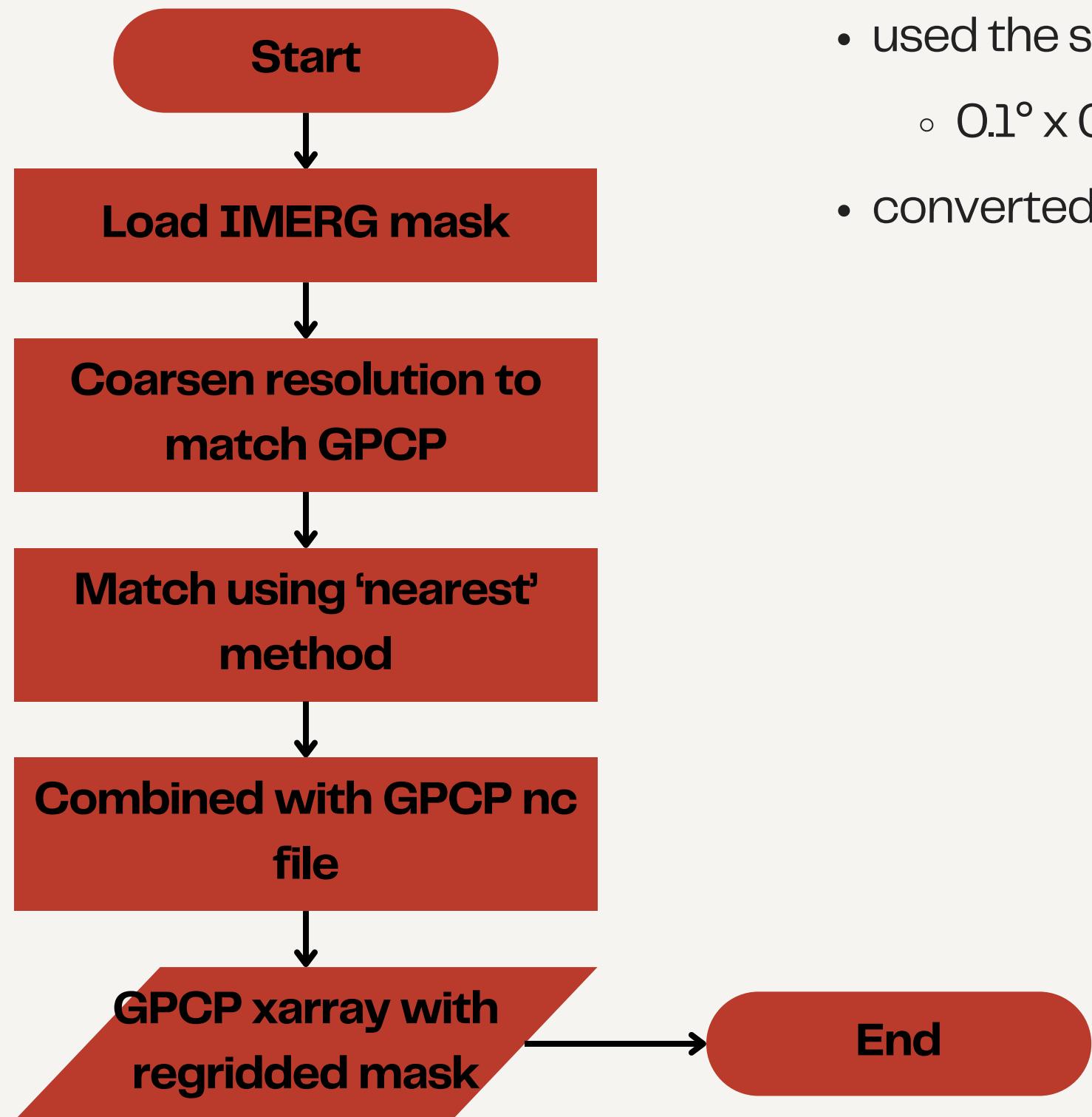
- shift starting around 2008–09
- even larger increase in light precipitation counts starting in 2008–09

GPCP ↴



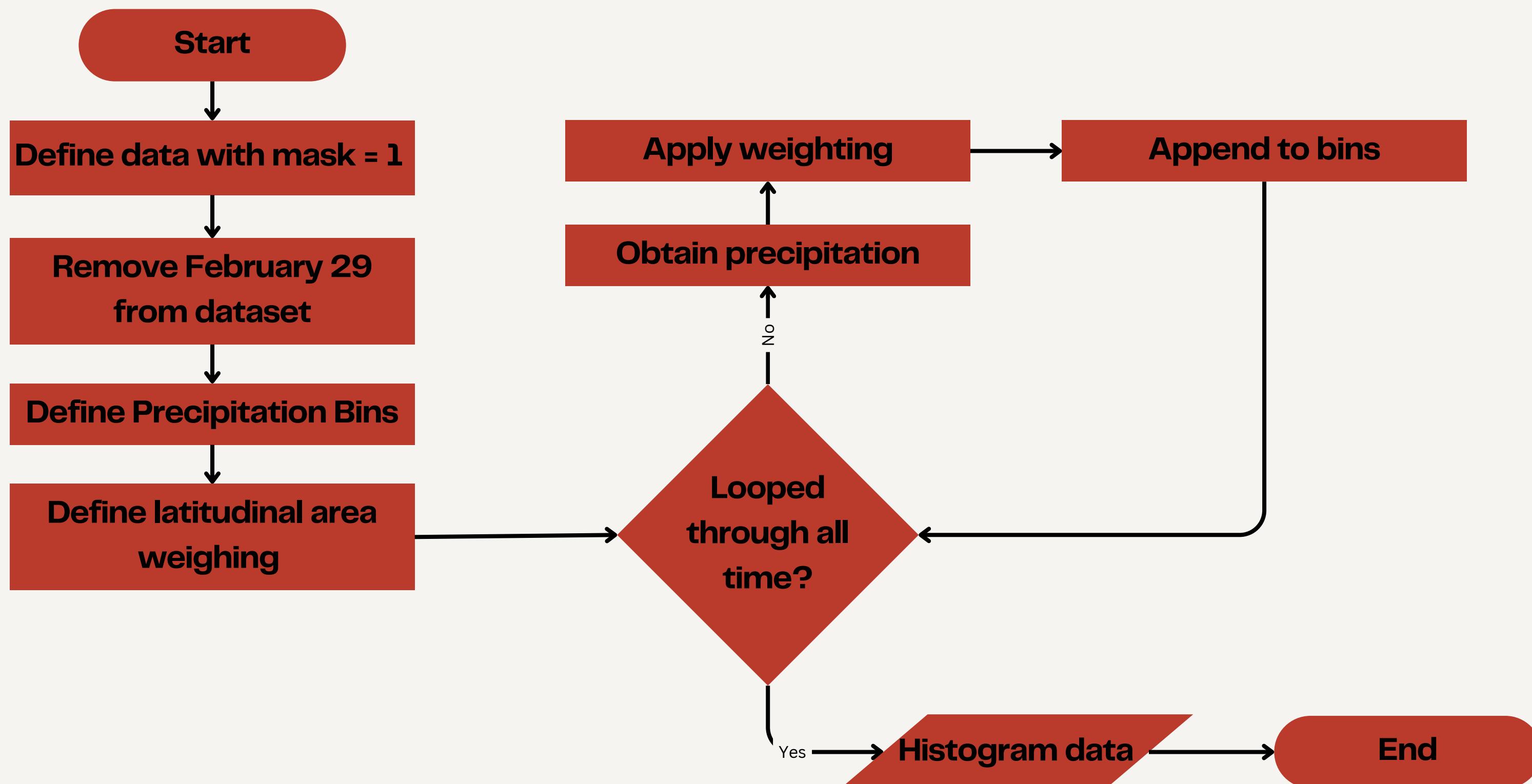
- 1996 is incomplete (starts in October)
 - started with 1997 instead so coverage is 1997–2018
- Total of 8035 files

Mask ↴

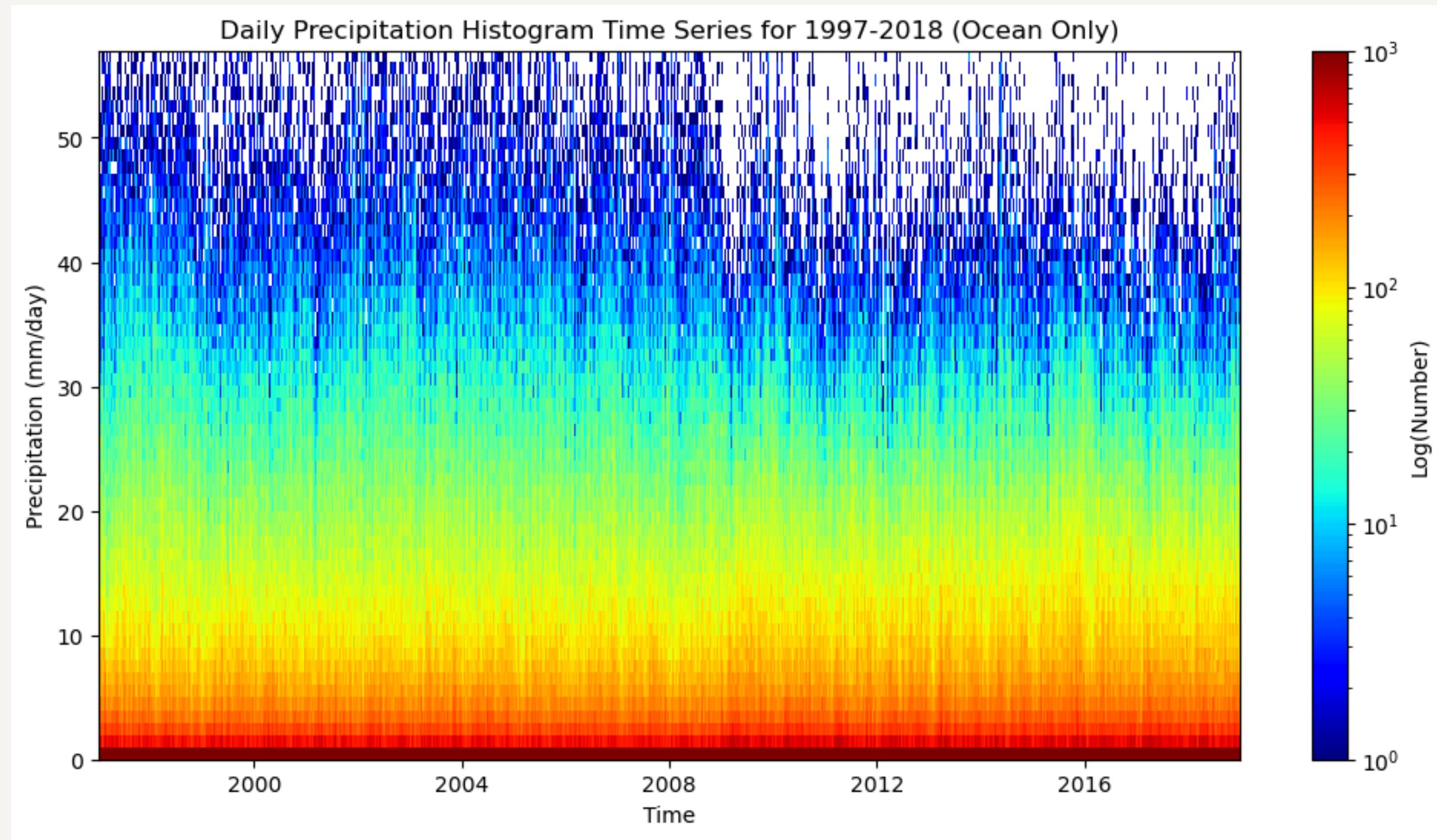


- used the same IMERG Mask (percent of water surface)
 - $0.1^\circ \times 0.1^\circ$ spatial resolution
- converted to $1^\circ \times 1^\circ$ with min()

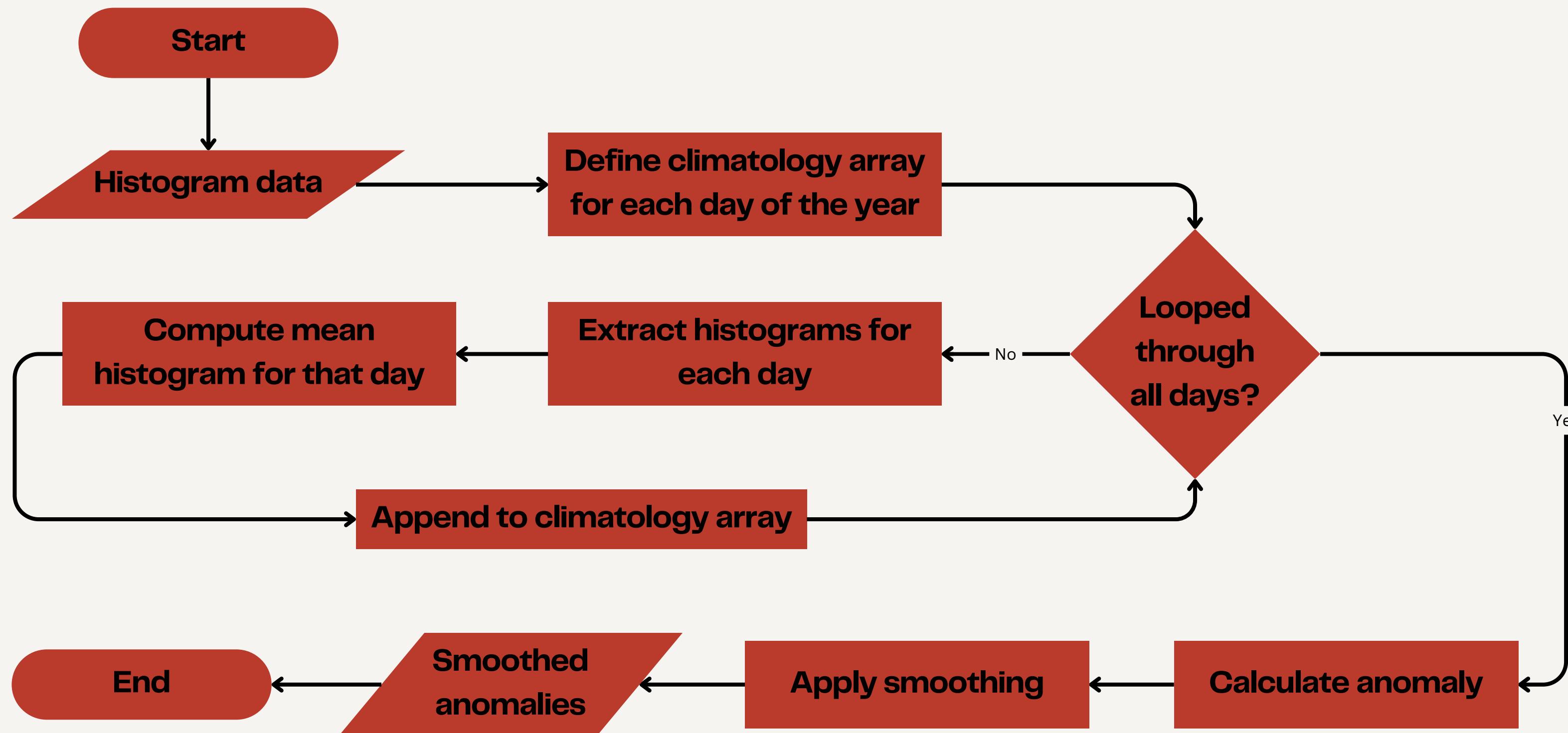
Histogram Time Series ↴



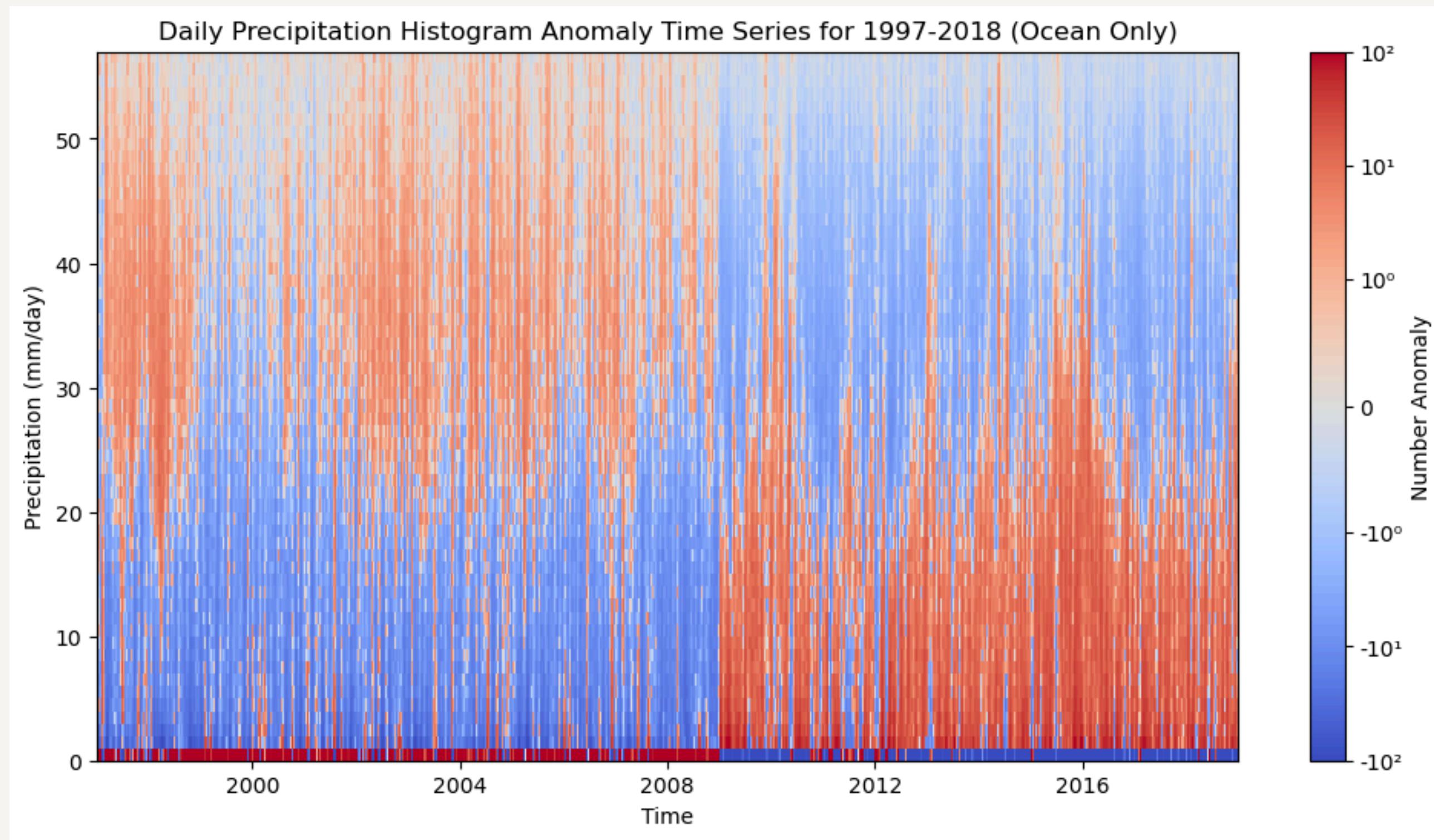
Histogram Time Series ↴



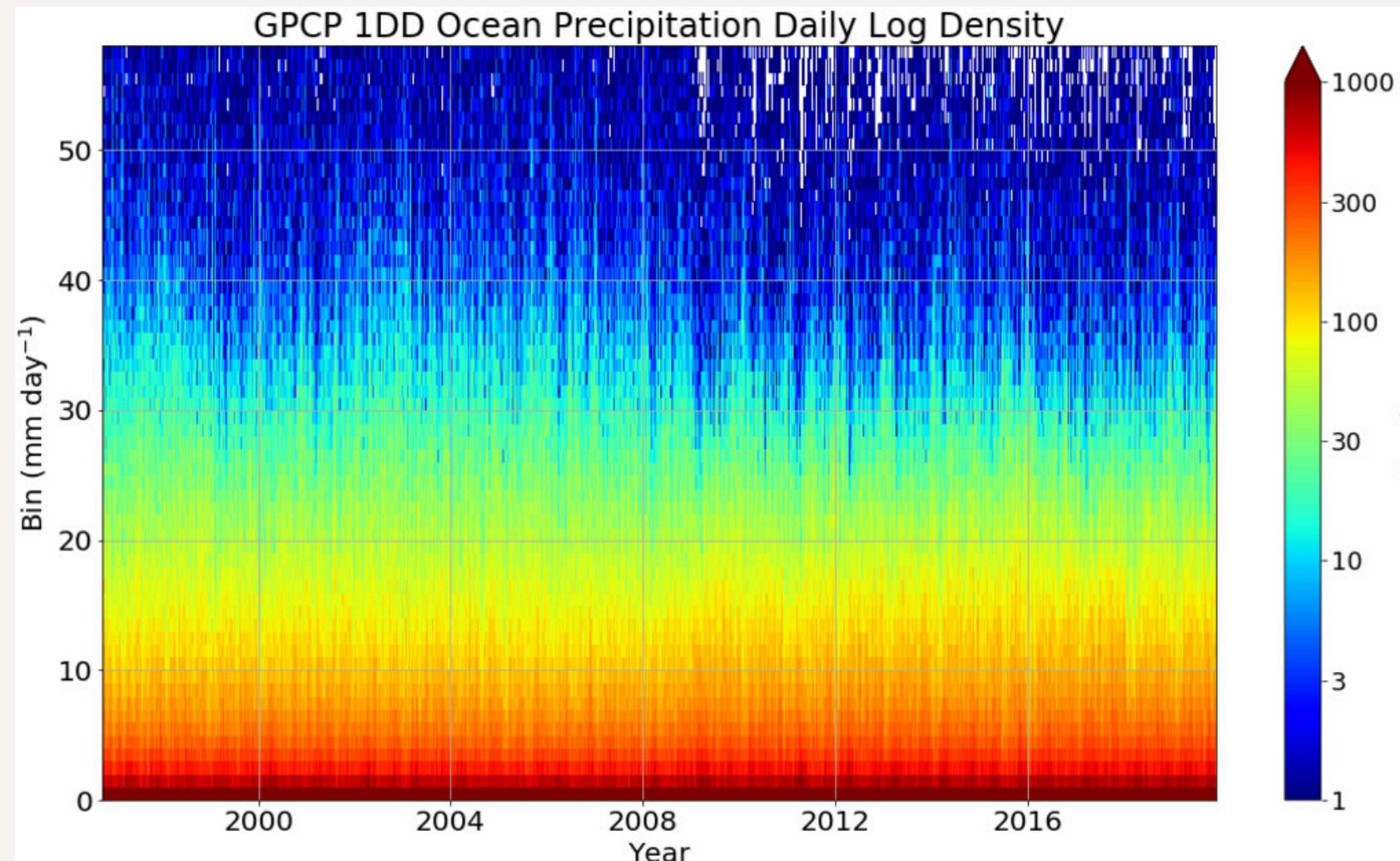
Histogram Anomaly Time Series



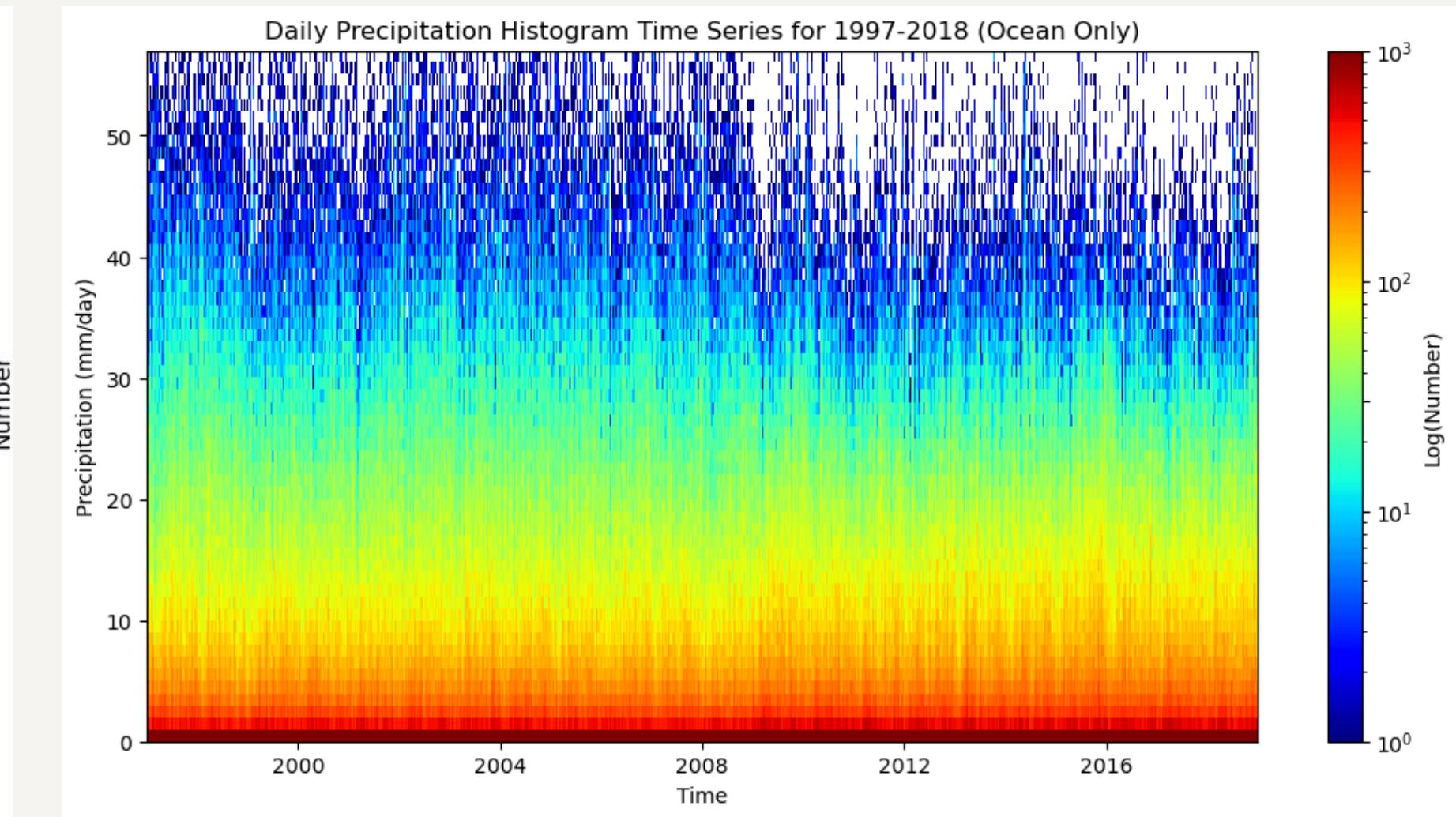
Histogram Anomaly Time Series



Comparison ↴

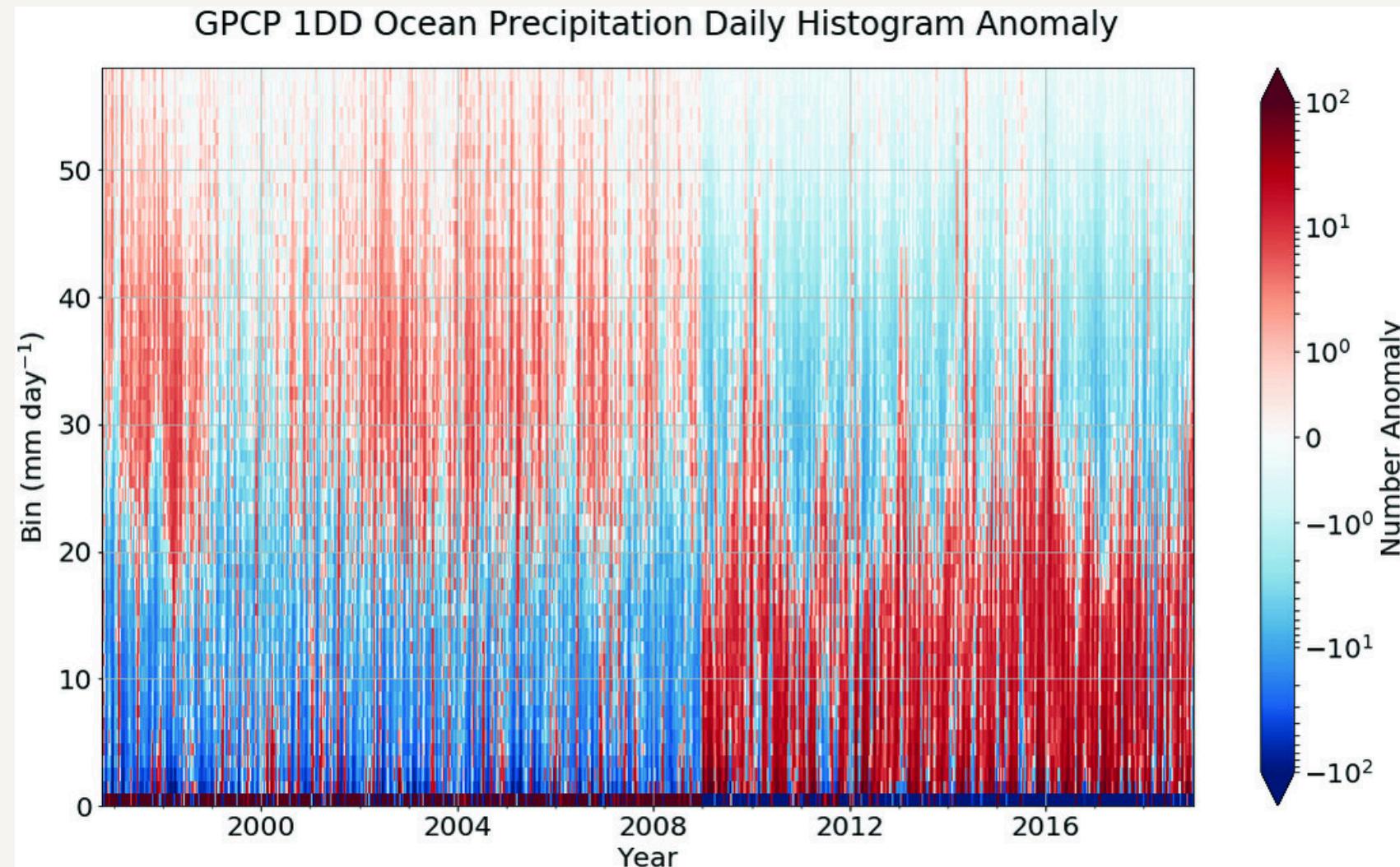


Original Paper

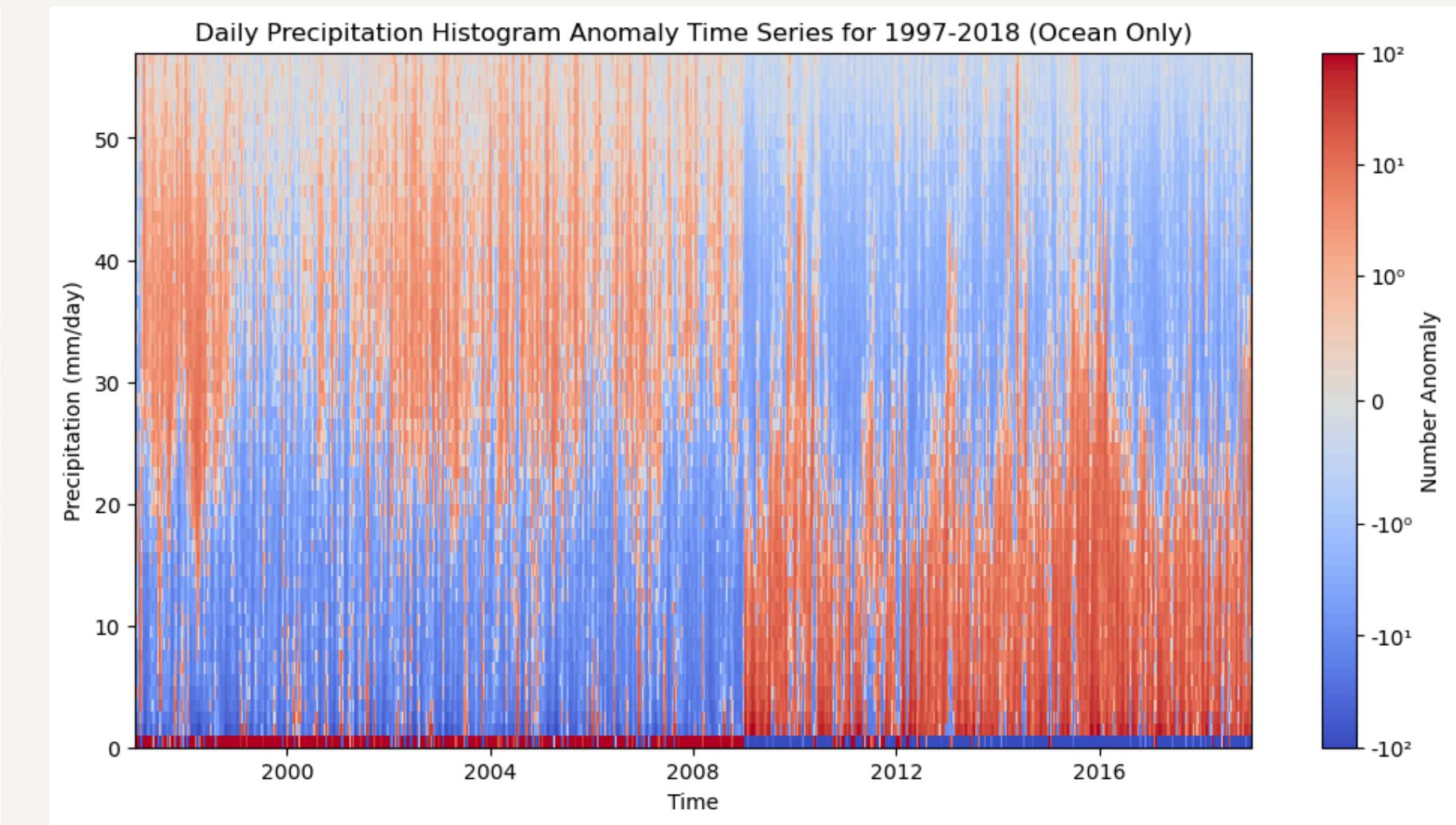


Replicated Methodology

Comparison ↴



Original Paper



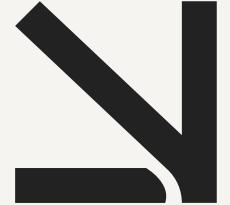
Replicated Methodology

Concerns ↴

- Some inconsistencies in the data
 - perhaps masking issues
 - latitudinal weighing issues

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