Temperature data aggregation with 'aggfly'

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Here I present some first applications of the 'aggfly' package.

1 Data

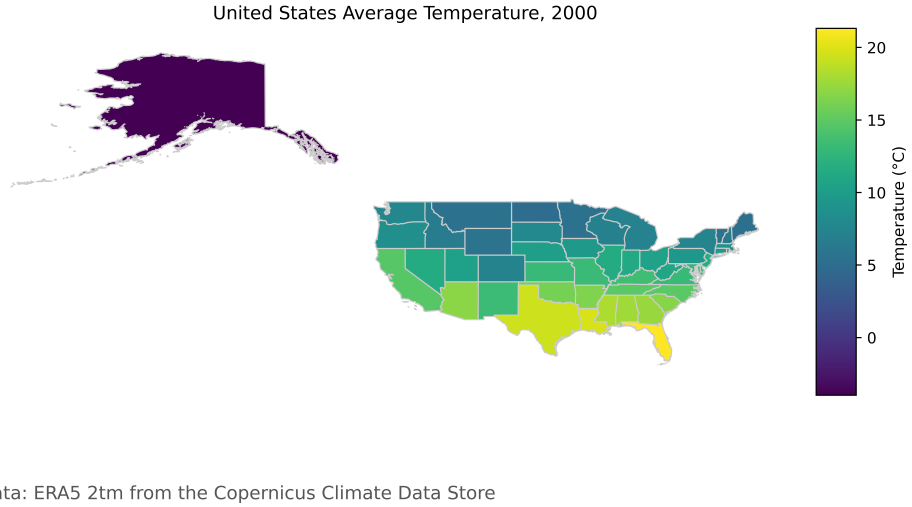
Data on temperature levels is retrieved from the Copernicus Climate Data Store.

The variable of interest, 2tm, is the temperature of air at 2m above the surface of land, sea or inland waters. 2m temperature is calculated by interpolating between the lowest model level and the Earth's surface, taking account of the atmospheric conditions. This parameter has units of kelvin (K) but is converted to degrees Celsius (°C) by subtracting 273.15 for the sake of this exercise.

2 Map of the average temperature in US States, 2000

The area-weighted average temperature for each US state is shown below.

Figure 1

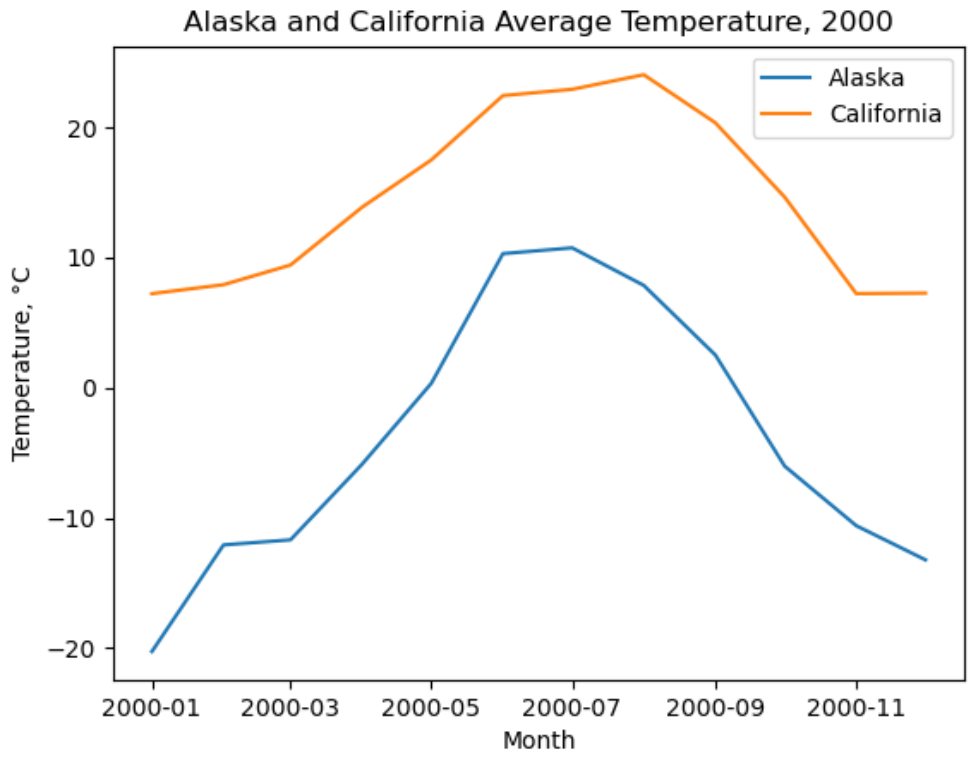


3 Time series of average temperature in Alaska and California, 2000

3.1 Evolution of monthly temperatures

The time series of average monthly temperatures for Alaska and California is shown below.

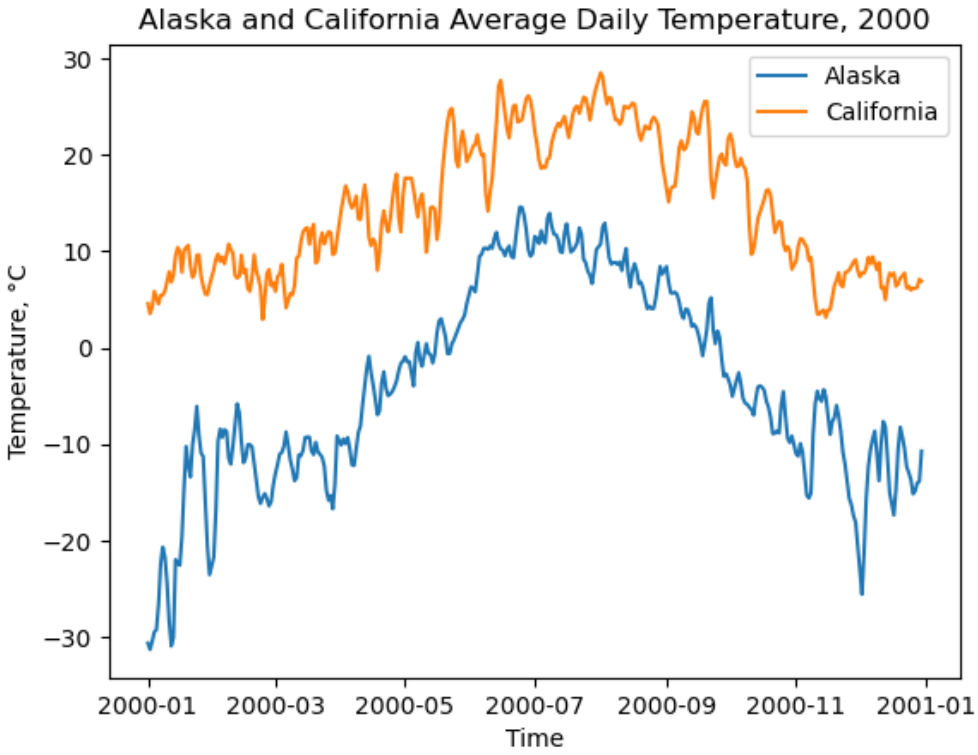
Figure 2



3.2 Evolution of daily temperatures

The time series of daily monthly temperatures for Alaska and California is shown below.

Figure 3



4 Statistics

- Sum
- Average
- Standard deviation
- Maximum
- Minimum
- Degree days
- Binning transformation
- Quantiles?
- ?