Nov 18, 2024

Data Visualization

Week 7. Visualizing time series

Reminder

Relations can be interpreted through two dimensions:

● direction

● strength

Visualization options:
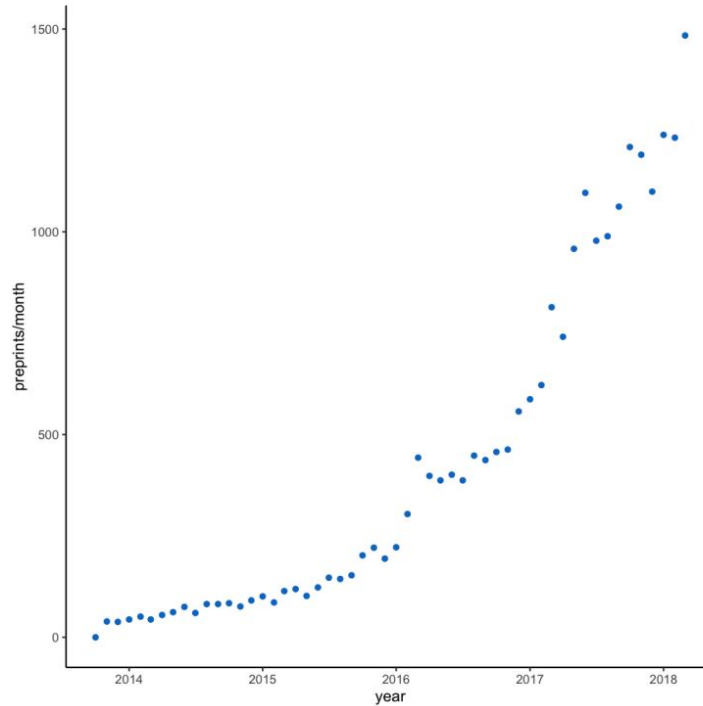
● scatter plot

● scatter matrix

● correlogram

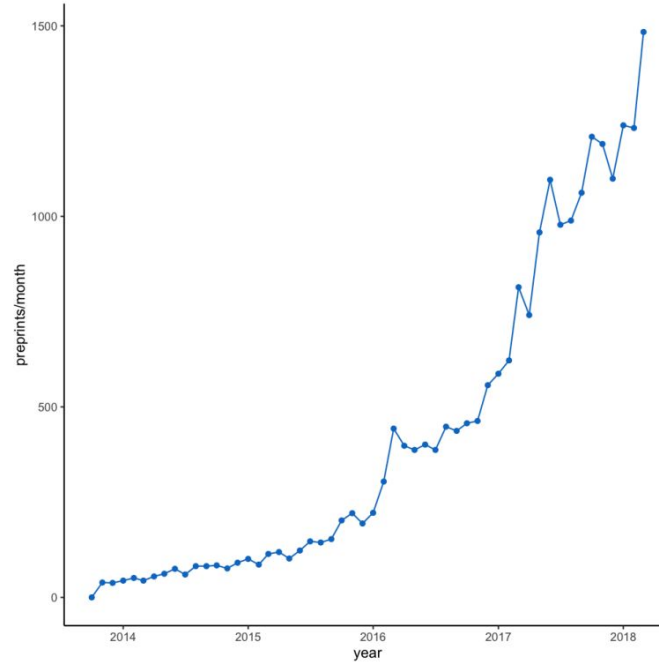# Introduction

What is time series?

A time series is a collection of data points ordered by time.

• They are observed in a sequential order.

• They are used in various disciplines, especially in signal processing, econometrics, and statistics.
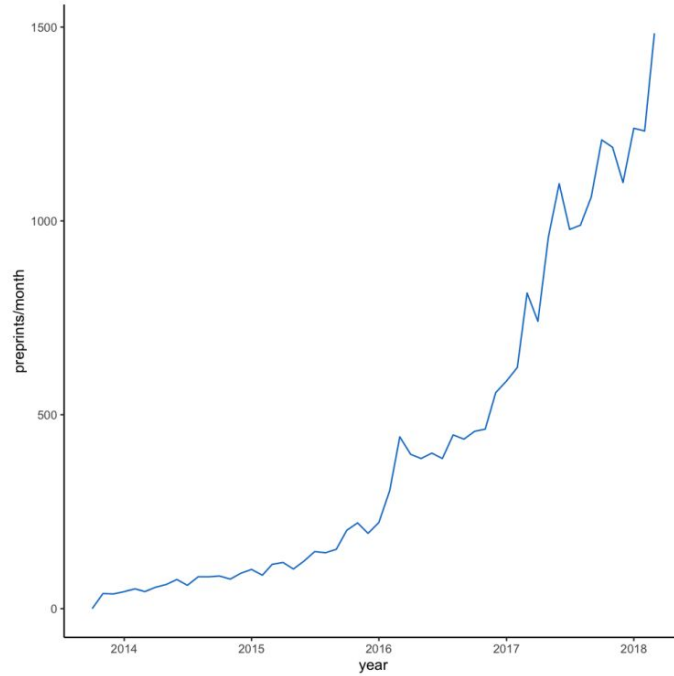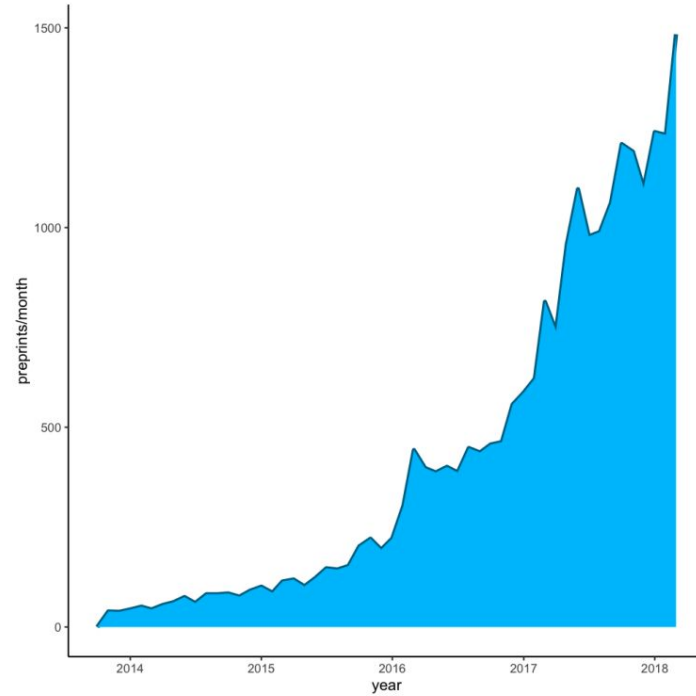
Visualizing time series
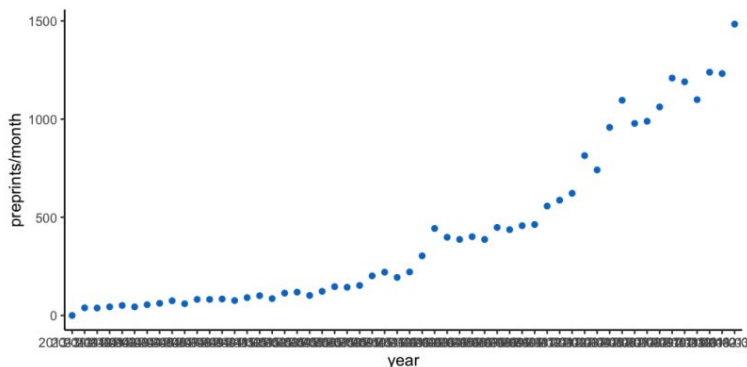
Visualizing time series

Visualizing time series

Visualizing time series

To do

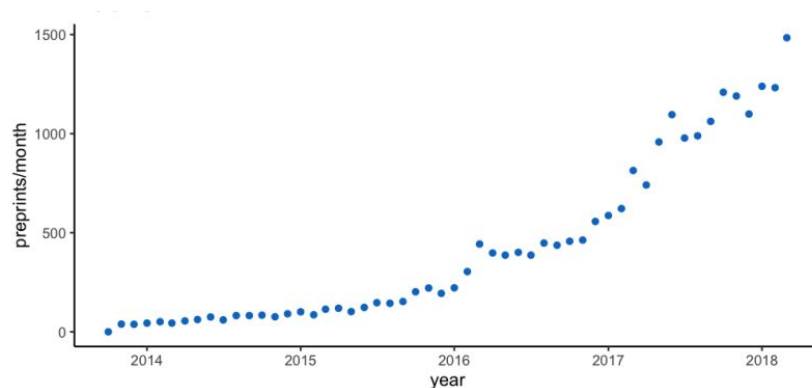It is recommended to start the plot from the zero point to make it easier to perceive the area under the curve.
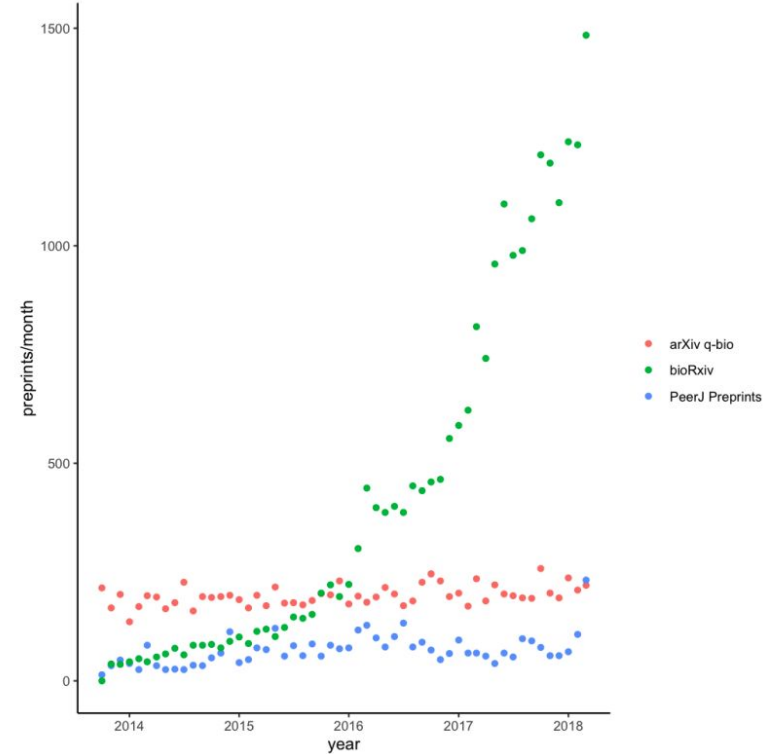
In R, the variable representing time must be in **date format**. If it is not, the variable should be used within the `as.Date()` function to convert it.
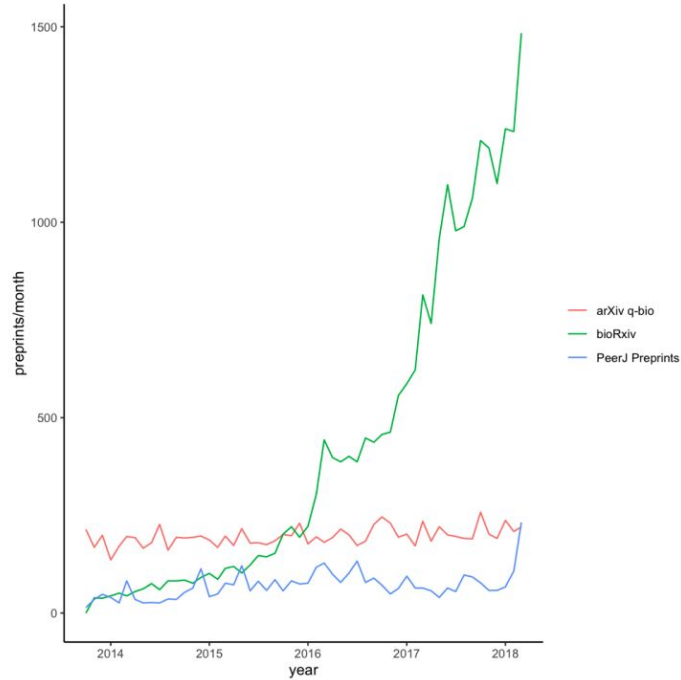
Visualizing time series

Visualizing multiple time series on the same plot is a commonly used strategy to compare them or observe their changes together.
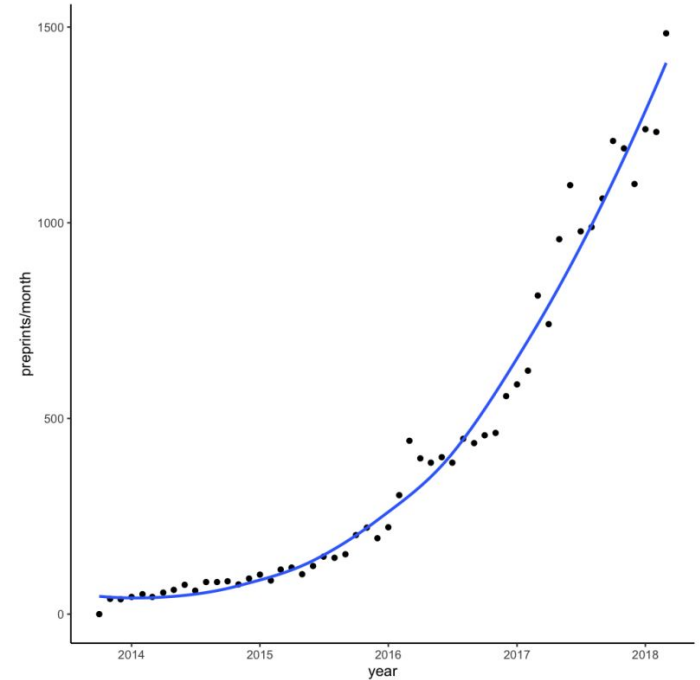
Visualizing time series

Visualizing time series

Trend line is used to visualize the overall trend shown by a time series.

Reference

The notes and plots in the presentation are compiled from Claus O. Wilke's book, *Fundamentals of Data Visualization*.