



## Objectives

- ▶ At the end of this lab, you should be able to:
  - ▶ Define terms.
  - ▶ Construct basic datasets in Excel and export them
  - ▶ Import datasets into R.
  - ▶ Inspect the datasets in R.
  - ▶ Be able to read graphs.
  - ▶ Determine the proper graph to use given a particular dataset/problem.
  - ▶ Construct basic graphs.

## Why R?

- ▶ It is free
  - ▶ Open source
  - ▶ What does this mean for you?
  - ▶ Where can it be found?
    - ▶ <http://www.r-project.org/>

## Why R?

- ▶ Commands are written as a script (program)
  - ▶ You will not program in this class. You will work by example.
  - ▶ You do have to know what you want (what example to follow/modify)
  - ▶ Permanent
  - ▶ Repeatable
  - ▶ Annotated
  - ▶ Cross platform
  - ▶ Record of your analysis

## Why R?

- ▶ It replaces several programs – makes organization easier. Reduces errors. Saves time moving files and correcting or formatting files.

## Why R?

- ▶ R makes publication quality figures (graphs).

### Why R

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- ▶ Awe factor



### Problems with R

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- ▶ Steep learning curve



### Problems with R

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- ▶ Command line is powerful but not friendly
  - ▶ Mouse and menus limit you, but it makes programs easy to learn.



### Problems with R

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- ▶ You need considerable knowledge to use (good and bad)
  - ▶ R
  - ▶ Statistics
  - ▶ Programming



### Problems with R

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- ▶ Fear

