Weekly summary report

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Hi class,

I have uploaded the slides from today's class (class15.ppt)

In the end, you'll find some instructions what R-scripts and new data files you should download from the web pages.
http://www.atmos.albany.edu/facstaff/timm/ATM315spring14/R/

For next week's homework, summarize the what we learned about correlations, linear regressions and scatter plots.

Focus on the following aspects:

(1) Take a look at how the linear regression line is calculated (see also http://www.atmos.albany.edu/facstaff/timm/ATM315spring14/introductory_course_statistics.pdf Chapter 12)
Make sure you understand the connection between correlation and the slope of the linear regression line.
Also, explain why the intercept of the regression line with the y-axis is depending on the correlation.

(2) Review some of the experimental results we have done on Tuesday.
Describe how changing the variance of the errors (added to the y sample values) affect the correlation coefficient and the slope of the estimated regression line.

(3) Compare also how accurate the estimated regression line fits the underlying true linear functional relationship when you change the (a) sample size, or (b) the error variance relative to the variance of the samples in the y-dimension.

(4) Review from today's class the examples of misleading graphical representations of data. If you have another example you recently saw in the news or social media, which fits into the category 'worst graph ever' please describe (with reference to sources and a figure if possible). Otherwise pick on of the shown examples and explain what is wrong with the figure and how it should be presented instead.

(5) Any comments and feedback.

OET

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