Environmental Studies
Guide for Tables and Figures

I. Designing Tables
Tables are used to report data in a concise manner. The clarity of your table indicates the clarity of the thought behind it!

Tables should not be used in the following circumstances
• When you want to show a trend. A graph is better for this purpose.
• Simply for displaying “raw data”. When data can be easily summarized with descriptive statistics such as means and standard errors, it is better to include them in the text in that manner.
• When the concept shown (e.g., presence or absence, treated or untreated) can be easily stated in a sentence or two.

General Rules for Table Construction
• Number tables consecutively and separately from figures.
• The table must have a title legend with sufficient descriptive information so that the reader can interpret the table without having to refer to the text. Place the title legend above the table.
• Make the table self-explanatory and easy to read by thoughtful arrangement of rows and columns.
• Avoid the use of vertical lines whenever possible. Columns can be denoted by the use of horizontal lines below column headings and by spacing between the columns.
• Try not to leave blank spaces in tables. It is usually possible to fill every blank by making a simple distinction between an observation giving a zero reading (0) and a missing observation (-).
• When mean values are given, give also the number of observations from which they are derived. Often a measure of variability (typically standard error) is also given (e.g., 260.1±16.3, n=60).
• When numbers are given as percentages or converted in some other way, state clearly in the title legend what the conversion is and what the original data are.
• When giving measurements, use the correct number of decimal places and be consistent. Be sure to provide units for all measurements.

II. Designing Figures
Figures are used to display trends and relationships. They express simply and graphically what can often only be written at great length.

General Rules for Figure Construction
• Number figures consecutively and separately from tables.
• The figure must have a title legend with sufficient descriptive information so that the reader can interpret the figure without having to refer to the text. Place the title legend under the figure.
• Label each axis with units of measurement. Instead of simply labeling the axis as "Time", it should read "Time (seconds)".
• The independent variable is generally placed on the X-axis (horizontal), the dependent variable on the Y-axis.
• Quantities increase as they progress away from the origin. It is best, where possible, to have the origin at the point 0,0 (X=0, Y=0) unless it wastes too much space.
• Distinguish between different sets of observations by using different symbols or lines. Avoid including too many different sets of observations in one figure, creating a figure that is difficult to read.
• As much as possible, the figure should be approximately square and not disproportionately exaggerated in one direction or the other.
• When designing two (or more) figures that will be compared, be sure to use the same range of values on the axes to make comparisons easier.