**Data Preparation Steps**

In preparation for statistical analysis, environmental water-quality data for selected sites are retrieved from the USGS National Water Information System database. A maximum common reporting level (CRLMAX) is chosen for the data analysis, usually the lowest reporting level that still retains the maximum amount of data for analysis. The CRLMAX and the value used for recoding nondetections are reported for each constituent in the “readme” tab of the data files and details are provided ‘details on data preparation’ link. Analysis is completed for networks with at least 10 pairs of samples. Once a CRLMAX is selected for a given constituent, all nondetections with a reporting level greater than the CRLMAX are deleted from the dataset. All nondetections and reported values less than the CRLMAX are recoded to a unique value selected to specifically represent values below the CRLMAX. The value used for recoding is typically slightly less than the CLRMAX, but its exact value does not affect the statistical analysis, which calculates results using the ranking of values relative to each other rather than using the actual values themselves. The selection of a CRLMAX and the recoding are done to make correct comparisons among nondetections and between nondetections and low-level detections; for example, if a CRLMAX of 0.2 is selected, reported results of < 0.1 and < 0.2 are recoded as 0.19 before statistical analysis so that the statistical program does not interpret these two nondetections as different values and also to distinguish both from a reported value of 0.2. Reported results of 0.17 (a detection) and < 0.2 (a nondetection) are also recoded as 0.19 before statistical analysis because it is not possible to determine if the two values differ. The CRLMAX and the value used for recoding nondetections are reported for each constituent in the “readme” tab of the data files. Data for the pesticide compounds atrazine, prometon, metolachlor, simazine, dieldrin and deethylatrazine (a degradate of atrazine) are prepared using a different method, as described in Toccalino and others (2014a). Differences in data preparation for pesticide compounds and degradates include that concentrations were adjusted for recovery and that nondetections were replaced with a single value less than the lowest detection (rather than a value less than the CRLMAX). For methyl *tert*-butyl ether, the CRLMAX was determined for each pair rather than for the entire data set.