February 4, 2011

Office of Water Quality Water-Quality Information Note 2011.03

Subject: QWDATA enhancements for the preparation of water-quality tables

The purpose of this Water-Quality Information Note (WaQI Note) is to announce a new QWDATA data output for publication export that will facilitate the preparation of publication-quality tables, including tables in the Annual Data Report (ADR).

Background

NWIS version 4.10 includes enhancements to QWDATA. One major enhancement is a new publication-export option. Data output with this new option includes several enhancements that will facilitate the preparation of publication-quality tables. Authors are encouraged to use this new output option when preparing water-quality tables for publication.

Water-quality tables for the ADR are prepared by running scripts that automate the data retrieval and standardize the table format. Each year, the scripts are modified to accommodate changes to the National Water Information System (NWIS) software. ADR scripts are being modified to take advantage of this new publication-export option for the Water Year 2010 Annual Data Report.

Description of new and enhanced features that aid in water-quality table preparation:

The new QWDATA publication-export option provides the same output features as the current publication-format table output plus several new features that are unique to this option. These features include:

- The ability to specify "custom" rounding, which allows for more than one type of rounding (default, user, none) for parameters in a single table.
- The ability to specify one or more specific value qualifiers in the output
- A choice of four date formats, including a text date
- Customizable column heading names that allow the use of symbols
- Automatic creation of a headnote that contains definitions of symbols and abbreviations
- Values greater than 999 that include commas (e.g., "45,300")

The QWDATA user manual describes all the features of this new option (http://nwis.usgs.gov/currentdocs/qw/QW.user.book.html).

Why these enhancements are important to use in the water-quality tables and the ADR:

The custom rounding option will allow users to publish tables that include unrounded radiochemical data with other results that are rounded, such as nutrients, major ions, organic compounds, etc. A custom rounding file that includes the radiochemical parameters affected by Office of Water Quality Technical Memorandum 2008.06 (http://water.usgs.gov/admin/memo/QW/qw08.06.html) is available from http://phoenix.cr.usgs.gov/reload/reload.html#NWISDATA.

The custom value-qualifier option will be useful for publishing data with additional qualifications, such as organics and microbiological data. Selected value qualifiers such as "c", "e", and "y" (see result comments) can be excluded, while helpful qualifiers may be supplied.

The custom column-heading option allows flexibility in how parameter names are abbreviated. Two custom column-heading files are available to users who wish to use this feature (http://phoenix.cr.usgs.gov/reload/reload.html#NWISDATA). These files contain the commonly-used parameters from the last five years. ADR scripts will use a special custom column-heading file for the most common parameters used during 2010 and will include symbols, such as mu (μ) and degree (º).

The new publication export option should allow USGS authors to prepare more informative and more readable tables of water-quality data for publication, while simultaneously reducing the amount of effort required to do so.

Questions about the new QWDATA publication export can be sent to GS-W Help QWDATA and questions about the changes to ADR scripts can be sent to GS-W ADRDEV.

WaQI Notes are archived on the Office of Water Quality web site, http://water.usgs.gov/usgs/owq/WaQI/index.html

Signed,

The Office of Water Quality
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