



United States Department of the Interior
U.S. GEOLOGICAL SURVEY

Reston, Virginia 20192

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Memorandum

OFFICE OF GROUNDWATER TECHNICAL MEMORANDUM 2017.02
OFFICE OF SURFACE WATER TECHNICAL MEMORANDUM 2017.07
OFFICE OF WATER QUALITY TECHNICAL MEMORANDUM 2017.03

SUBJECT: Procedures for Identifying and Documenting Revisions to USGS Water Data

Purpose

This memo establishes new policy and procedures to identify and document revisions to U.S. Geological Survey (USGS) approved time-series and discrete water data.

Introduction

Approved data displayed on NWISWeb and (or) published in USGS information products are considered published record. Revisions are changes made to or deletions of approved data. Water Science Centers (WSCs) must revise approved data when an error is discovered that exceeds defined revision criteria as described in this memo. If an error is found that does not exceed revision criteria, a WSC may choose to revise approved data at its discretion. USGS quality assurance practices, including documented reviews of all data before they are officially approved, make the need for data revision rare.

Formal, permanent, and public notifications to end-users to document that data have been revised are fundamental to the USGS Water Mission Area (WMA) data revisions process. Appropriate documentation of revisions identifies the revised period, the date the revision was made, the previous value (for discrete data), and the basis for the decision to revise. This policy presents WMA criteria for deciding when revisions are necessary and guidance on how to qualify and document those revisions.

Prior to the release of this memorandum, revisions to most times-series data types were documented in the site manuscript as outlined in Novak (1985). Revisions to discrete water-quality data were documented in lab or field result-level comments or not at all. Revisions to discrete groundwater water-level data were documented in the record remarks ([OGW 2015.01](#))

or not at all. With this policy, revisions to time-series data and discrete water-level data must be noted in the NWIS database and information about the revision (revised period, date of revision, and rationale) must be made readily available to the public on NWISWeb. The guidance provided below assures this availability. Information about revisions to discrete water-quality data must be documented in lab or field result-level comments. The policy presented below supersedes all previous policies on water data revisions including [Novak \(1985\)](#), [Office of Surface Water Technical Memorandum 2012.07](#), and the revisions documentation section of [Office of Groundwater Technical Memorandum 2015.01](#).

Policy for Identifying Revisions

In general, revisions to approved data are required when an error is found that exceeds twice the accepted uncertainty of the data. Accepted uncertainty, as used in this memorandum, can be determined in several ways, including through mathematical procedures of uncertainty analysis; through repeated observations; based on equipment or analytical-method precision; qualitatively assigned to data using established procedures; or determined using other accepted practices.

Websites that outline specific revision criteria (by data type) and the steps required to resolve, revise, and document errors found in approved data are available here: <https://water.usgs.gov/osw/RevisionsGuidance.html>

Revision criteria for each data type generally follow the premise that approved data found in error beyond twice their accepted uncertainty must be revised. Some criteria presented for specific data types are stricter than twice their accepted uncertainty. Further, revisions of laboratory results are made at the discretion of the laboratory. For situations not covered by specific criteria outlined for each data type, revisions must be made when approved data are found to be in excess of twice the accepted uncertainty of the data in error. If the error is less than two-times the accepted uncertainty of the data, revision is optional and at the discretion of the Center.

Some time-series data are computed from surrogate data, such as streamflow computed from measured stage values and sediment concentrations computed from measured turbidity. When revisions are made to data that are subsequently used in the computation of other data, all data from the revised surrogate data value(s) through to the final computed value(s) are to be qualified as revised. Note, there may be instances when this will cause some final computed values to remain unchanged, or to change less than the revision criterion for that data type but will, however, still be qualified as revised.

The requirements for making revisions outlined above apply for all data approved after August 1, 2017. When feasible, WSCs are encouraged to follow these same requirements for data collected, computed, and approved before this date.

Policy on Documenting Revisions

All revisions made after August 1, 2017, regardless of the date of collection, computation, or approval are required to be documented in accordance with current WMA guidelines. These guidelines can be found at the Websites provided above. Where feasible, revised data values are marked as such when downloaded from NWISWeb. Statements containing essential information on revisions are available for viewing on site-level web pages on NWISWeb.

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References Cited

Novak, C.E., 1985, WRD data reports preparation guide: U.S. Geological Survey Open File Report 85-480, accessed January 9, 2017 at <http://pubs.er.usgs.gov/usgspubs/ofr/ofr85480>
Office of Surface Water [\[link\]](#)

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